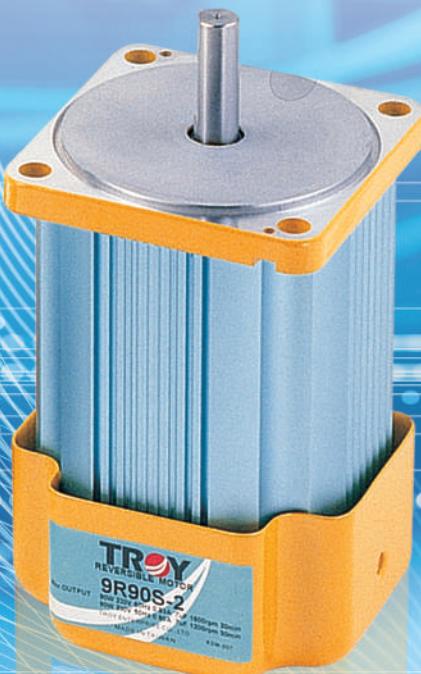


# Company Profile



Quality, Technic, Service of TROY



TROY Enterprise Co., Ltd. specializes in the designing and manufacturing of Motors, Motor drivers, Motor controllers and Gearbox series.

ISO9001 and ISO14001 was introduced into the company to establish a **customer-oriented service system** to fulfill the quality policy " Providing the customers with good products and services ". In 1999, we passed the audit conducted by TÜV Germany and got certificates of ISO9001 and ISO14001. We got the certificate of ISO9001 of year 2015 version again in 2017.

TROY is a creativity and idea company which places importance on system development. Based on our capability , we will continue our commitment to innovate and support you in finding the proper products for your application. With our belief **Quality, Technic, and Service**, we can always meet your demand and be your best partner.

German patent



Taiwan patent

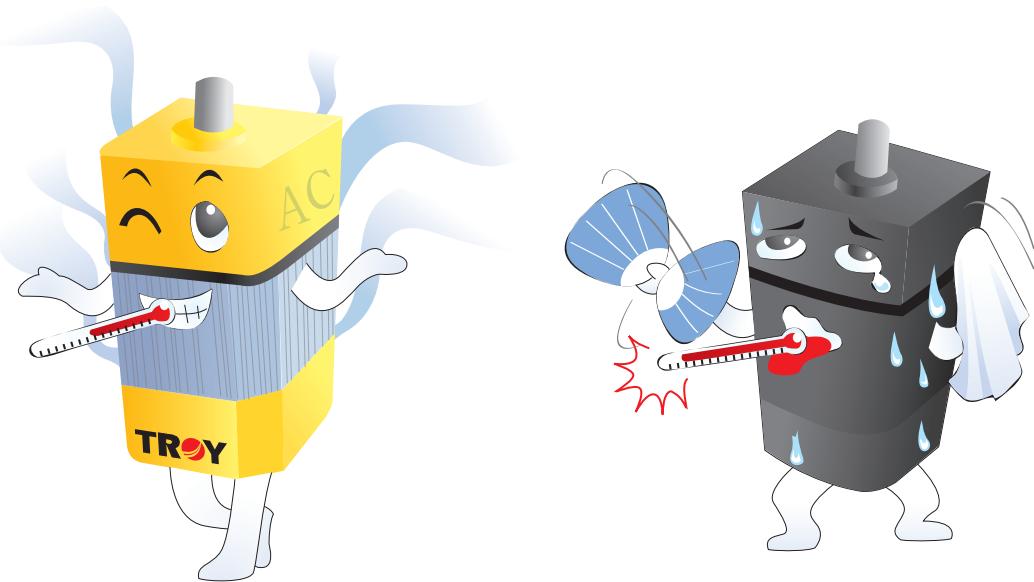


China patent



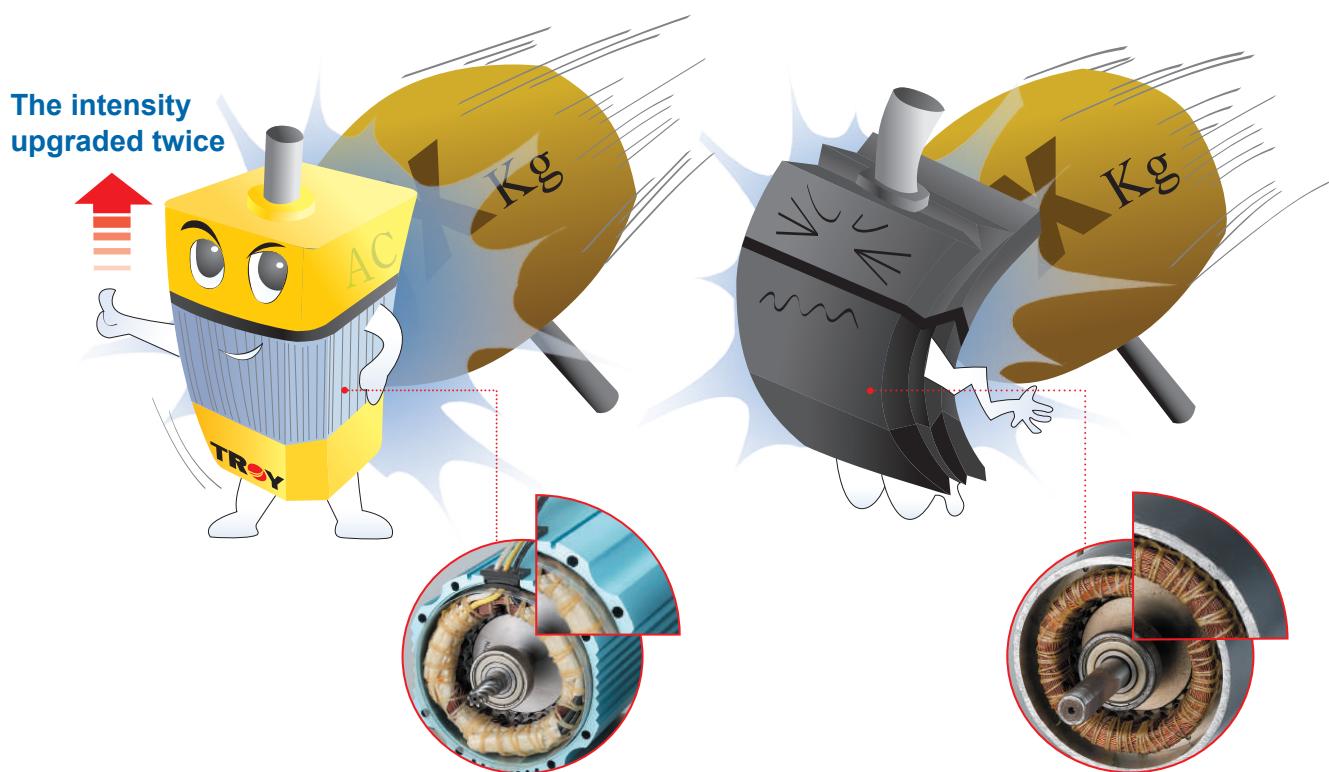
# Certificate

### Features 1 Excellent Heat Dissipation Effect



- Unique case design and special surface treatment to accelerate heat dissipation.

### Features 2 The Intensity of Construction Upgraded Double



- Intensifying design of **TROY** motor and the intensity upgraded double.

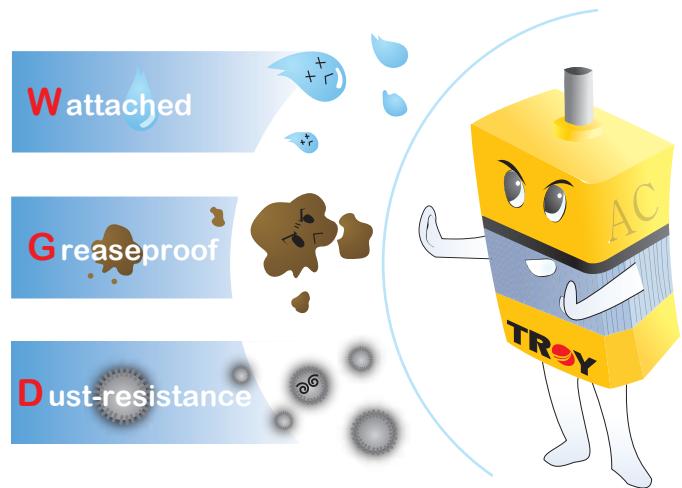
## Features 3

The Maximum Permissible Torque Can Reach to 40 Nm



## Features 4

Greaseproof, Watertight, Dust-Resistance

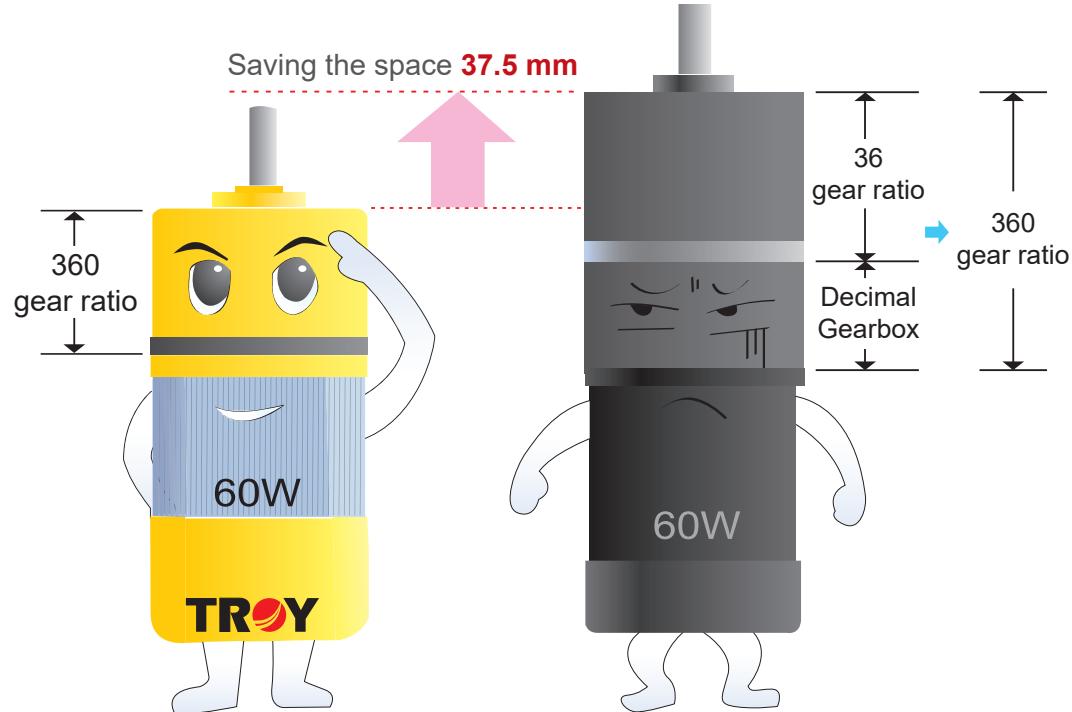


The maximum permissible 40Nm when 9A high intensity Gearbox is attached.

The AC Induction Motor conform to the IEC standard IP54. They are ideal for applications which need high performance with safety.

## Features 5

Saving the Spaces

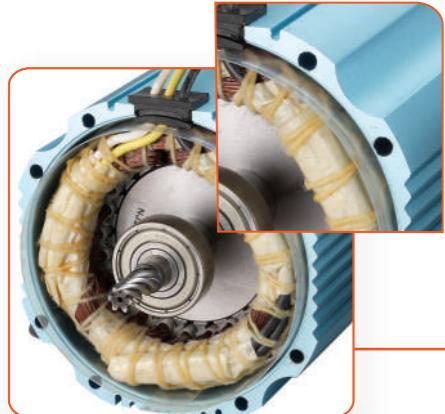


The innovative design of Gearbox with high gear ratio which can save the space that middle Gearbox attached.

## Features of Construction

### Innovation

We have professional experience in making brushless motor. At the same time we aimed at the shortcomings of AC induction motor in the market. What we want you to be surprised by the various purposes from AC induction motor is our reforming and designing with innovation.



### Motor Construction of Intensifying Type

The motor case and the housing of motor rear made by aluminum which strengthened. The intensity of structure of the motor could be upgrade double. We can meet Your needs for high output torque and high intensity of construction.

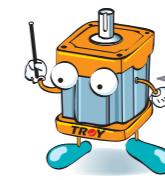
### Low Temperature

- ◆ The motor case adopts all-wrapped wavy type with thermal solution key groove and anodizing which can help the thermal solution more quickly.
- ◆ The blades of motor 60W/90W designed specially. Not only increase the flow of air, but also decrease the noise and temperature.



### New Color

Our color of motor is different from the common color-black and gray. We introduced the color of Europe products and we want to break through the traditional appearance and bring a colorful new vision to you.



### Traditional Gearbox



The plate connected by rivet X 4pcs and the intensity of structure fragile.

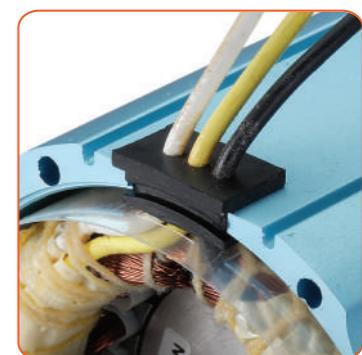
### The Gearbox of High Intensity Type

All series of gearbox case and bearing are made by aluminum. The load structure of gear wheel was strengthened and attached with the powerful gear wheel. The max permissible torque can achieve to 40 Nm which can fit your needs – High output torque and high permissible intensity of the gearbox.



### Excellent Design - Watertight Greaseproof, Dust-Resistant

O-ring employed at joint of motor case / shaft. The motor lead wires part we used a clip to seal, which can prevent the grease and water permeate.



**... Quality, Technic, Service**



AC Induction Motor  
Lead Wire Type · Terminal Box Type



Torque Motor



AC Reversible Motor  
Lead Wire Type · Terminal Box Type



Electromagnetic Brake Motor



Speed Control Motor  
Component Package Type



Speed Control Motor  
Separated Type

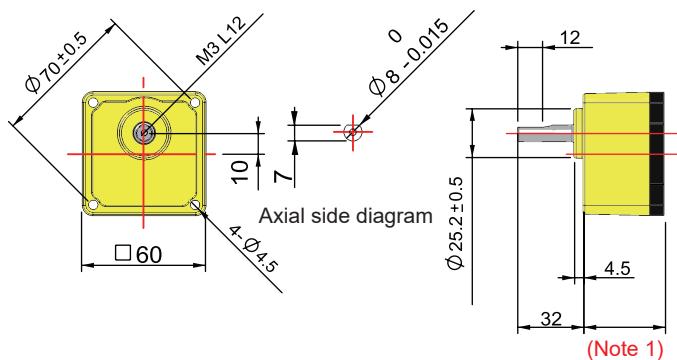


## Gearbox's Specs of Universal Type

### ■ Dimension of Shaft Ø8, Ø10, Ø12, Ø15

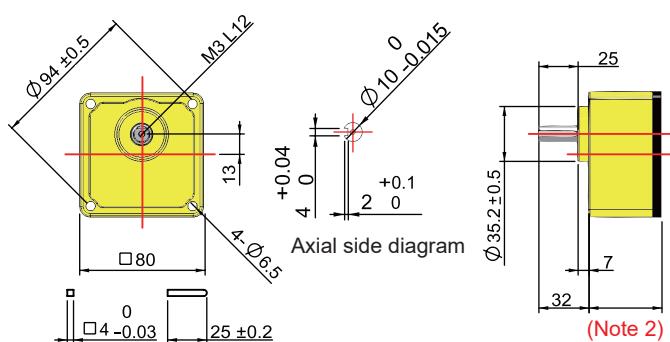
Model: 6A□N with Shaft NØ8

Unit : mm



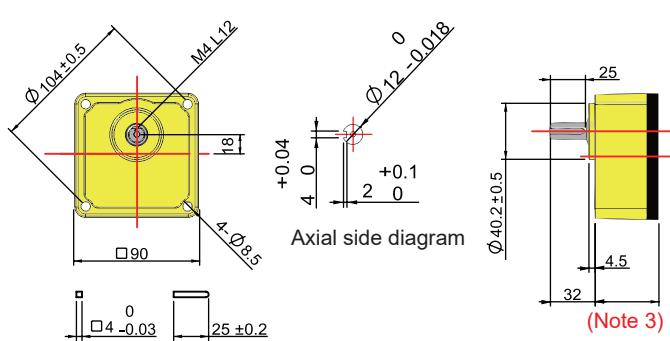
Model: 8A□N with Shaft NØ10

Unit : mm



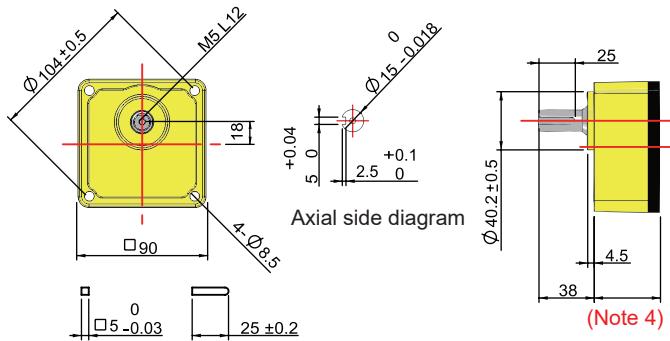
Model: 9A□N with Shaft NØ12

Unit : mm



Model: 9A□U with Shaft NØ15

Unit : mm



\*(Note 1)

### 6A□N Gearbox Length/Weight

Gearbox's Model	Length (mm)	Weight (g)
6A3N~6A100N	39.5±0.5	400
6A120N~6A360N	43.5±0.5	440

\*(Note 2)

### 8A□N Gearbox Length/Weight

Gearbox's Model	Length (mm)	Weight (g)
8A3N~8A100N	46.5±0.5	830
8A120N~8A360N	50.5±0.5	890

\*(Note 3)

### 9A□N Gearbox Length/Weight

Gearbox's Model	Length (mm)	Weight (g)
9A3N~9A20N	45.5±0.5	1120
9A25N~9A100N	58.5±0.5	1470
9A120N~9A360N	64.5±0.5	1560

\* (Note 4)

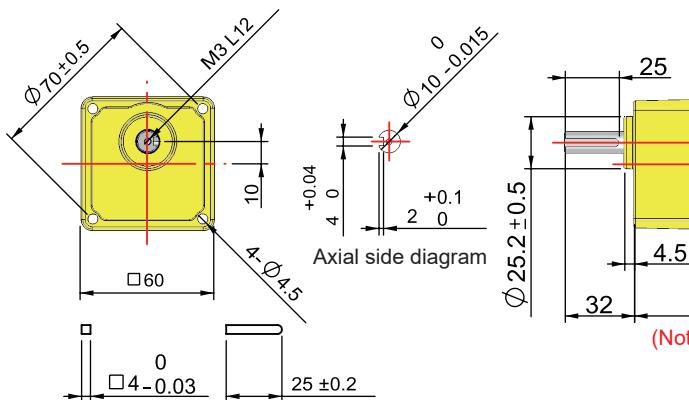
### 9A□U Gearbox Length/Weight

Gearbox's Model	Length (mm)	Weight (g)
9A3U~9A20U	45.5±0.5	1150
9A25U~9A100U	58.5±0.5	1500
9A120U~9A360U	64.5±0.5	1590

\* The figure above dimension tolerance values are not labeled a general machining tolerances, the control mode, refer to P.8, others have marked tolerance values according to the drawing labeled based.

### ■ Dimension of Shaft Ø10, Ø15, Ø18

Model: 6A□ with Shaft Ø10

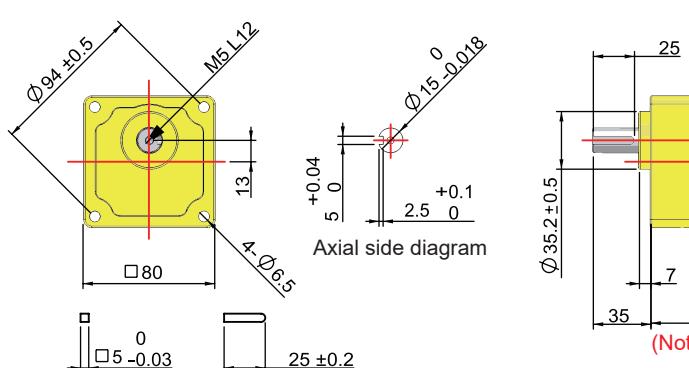


\*(Note 1)

#### 6A□ Gearbox Length/Weight

Gearbox's Model	Length (mm)	Weight (g)
6A3~6A100	39.5	400
6A120~6A360	43.5	440

Model: 8A□ with Shaft Ø15

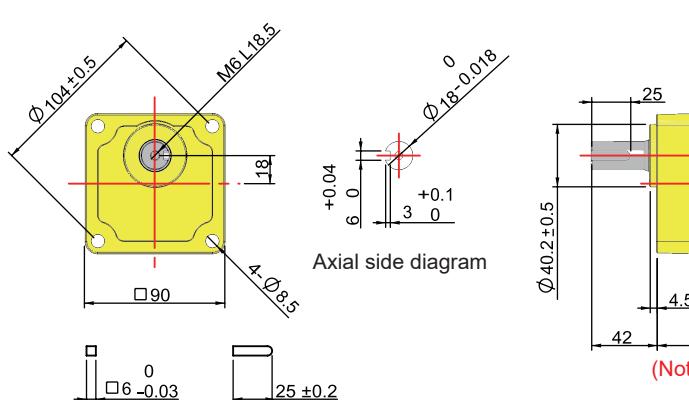


\*(Note 2)

#### 8A□ Gearbox Length/Weight

Gearbox's Model	Length (mm)	Weight (g)
8A3~8A100	46.5	880
8A120~8A360	50.5	940

Model: 9A□ with Shaft Ø18



\*(Note 3)

#### 9A□ Gearbox Length/Weight

Gearbox's Model	Length (mm)	Weight (g)
9A3~9A20	45.5	1170
9A25~9A100	58.5	1520
9A120~9A360	64.5	1610

\* The figure above dimension tolerance values are not labeled a general machining tolerances, the control mode, refer to P.8, others have marked tolerance values according to the drawing labeled based.

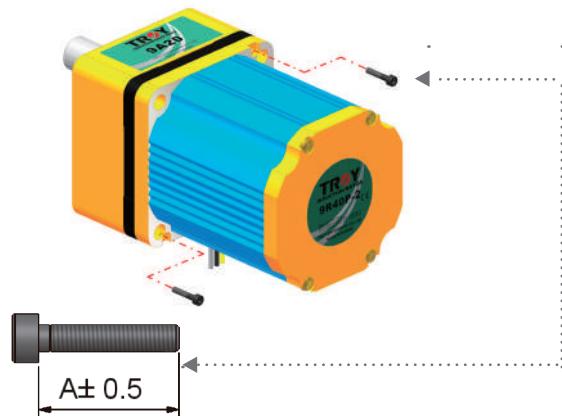
## Connection of Motor and Gearbox

- Please install the Motor and Gearbox as the following diagram. When installing the Motor with Gearbox, please avoid the gear part of Motor shaft to collided the metal plate or gear.

(Step 1) The distance between the motor and Gearbox around 35mm, 45°included angle.



(Step 4) Using screws x 2 pcs(attachment) to secure the Motor and Gearbox.



(Step 2) Gearbox connected with Motor in clockwise direction, 35°included angle.



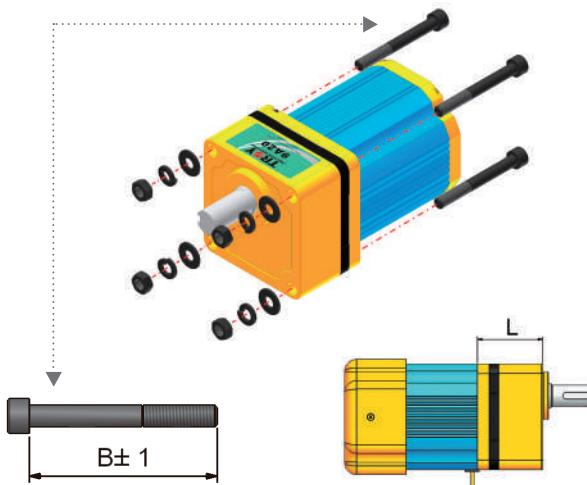
(Step 3) Gearbox face to the Motor flange and rotated in clockwise direction and make sure that Motor and Gearbox connected already.



Model	Screw Specs	Length (A) mm
6A□(N)	M2P0.4	8
8A□(N)	M3P0.5	8
9A□(N)	M3P0.5	12

◎ Mounting small screws are included with gearbox.

(Step 5) "Installation of mounting plate": Securing the Motor and Gearbox with screws x 4pcs.



Model	Screw Specs	Screw Length	Gearbox+ Motor Bracket
		(B)mm	(L)mm
6A3(N)~6A100(N)	M4P0.7	60	47.5
6A120(N)~6A360(N)		70	51.5
8A3(N)~8A100(N)	M6P1.0	70	54.5
8A120(N)~8A360(N)		75	58.5
9A3(N)~9A20(N)	M8P1.25	75	55.5
9A25(N)~9A100(N)		90	68.5
9A120(N)~9A360(N)		95	74.5

◎ Mounting screws are included with gearbox.

### 1. : Europe Safety Certification



The machine selling to the Europe must accordance with Europe safety standards and mark on the CE or TÜV.

### 2. : USA and Canadian Safety Certification

Regconized by cTÜVus Rheinland and indicated the product meets American & Canadian safety requirements. The product that can selling to the USA and CANADA .

### 3. : China Compulsory Certification System Certificated

All the products import / export to the China for selling or producing. They must accordance with CCC certificated and marked on CCC.

### 4. : Restriction of Hazardous Substances

RoHS, the European Union Directive 2002/95/EC, on the restriction of the use of certain hazardous substance apply to any equipment for use or import into an EU member state beginning July 2006. The restricted substance include: Lead(Pb), Mercury(Hg), Cadmium(Cd), hexavalent Chromium Cr(VI), Polybrominated biphenyls(PBBs) and Polybrominated diphenyl ethers(PB-DEs) must conform to the maximum concentration value.

(Request for the RoHS certification, please contact with the local seller.)

### 5. **IP54** : IP(Ingress Protection) : ratings are defined as levels of sealing effectiveness of electrical enclosures against intrusion from foreign bodies (tools, dirt etc) and moisture.

**IP5X** : Protected against dust under normal condition that may harm equipment.

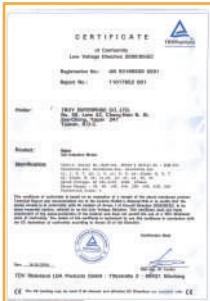
**IPX4** : Describes the level of protection from liquids, distance of 300-500mm and the direction of the turn on the water speed of 10 liters / min for 10 minutes.

### 6. : Built-in Overheat Protection Device (Auto Return Type)

Overheat protection ON :  $120^{\circ}\text{C} \pm 8^{\circ}\text{C}$

Overheat protection OFF :  $71.5^{\circ}\text{C} \pm 4^{\circ}\text{C}$

When Motor because of some reason to caused the overheat. The protection device activated and Motor stop run. After the temperature drop, the protect device off and Motor return to run. Please turn off the power before inspection.



(1)



(2)



(3)



(4)



(5)

### ■ Precaution for Motor Use and Install

1. Motor: Ambient tempertaure -10~+50°C (Single phase and 3 phase 220V / 230V: -10~+40°C), ambient humidity 85% or less. Controller: Ambient temperature 0~+40°C, ambient humidity 85% or less.
2. Area not exposed to direct sun and free from excessive water, oil, dust.
3. Area not subject to continuous vibration or excessive shocks and free from excessive corrosive gas, flammable gas.
4. Installation: Motor can install at horizontal or vertical direction.
5. When connecting a load to the Motor, align the centers of the Motor's output shaft and load shaft. The improper align will cause the vibration and shorten the life time of both Motor and Gearbox. More further will cause the mechanical fatigue and damage.
6. When install the coupling, pulley, gear onto the shaft of Motor or Gearbox. Don't apply excessive force by using a hammer or similar tool.
7. Connection with Load
 

Motor shaft: Securing it with 2 screws through the mounting holes provided and become 90° then t secure the machinery on the shaft tightly.

Gearbox shaft: It tightened by key slot and designed by tolerance h7. When installing the machinery please reserve the "Parallel Key" for assemble and secure the machinery with screws on the shaft.
8. The dimensions which are not marked tolerance values belong to general tolerance. The reference guideline figure of processing general tolerance is as below :

Standard Tolerance Grades IT14

Dimension	Tolerance Value
>0	0.3
>6	0.5
>30	0.7
>80	0.9
>120	1.0
>180	1.2
>250	1.3
>315	1.4
>400	1.6
>1000	2.0

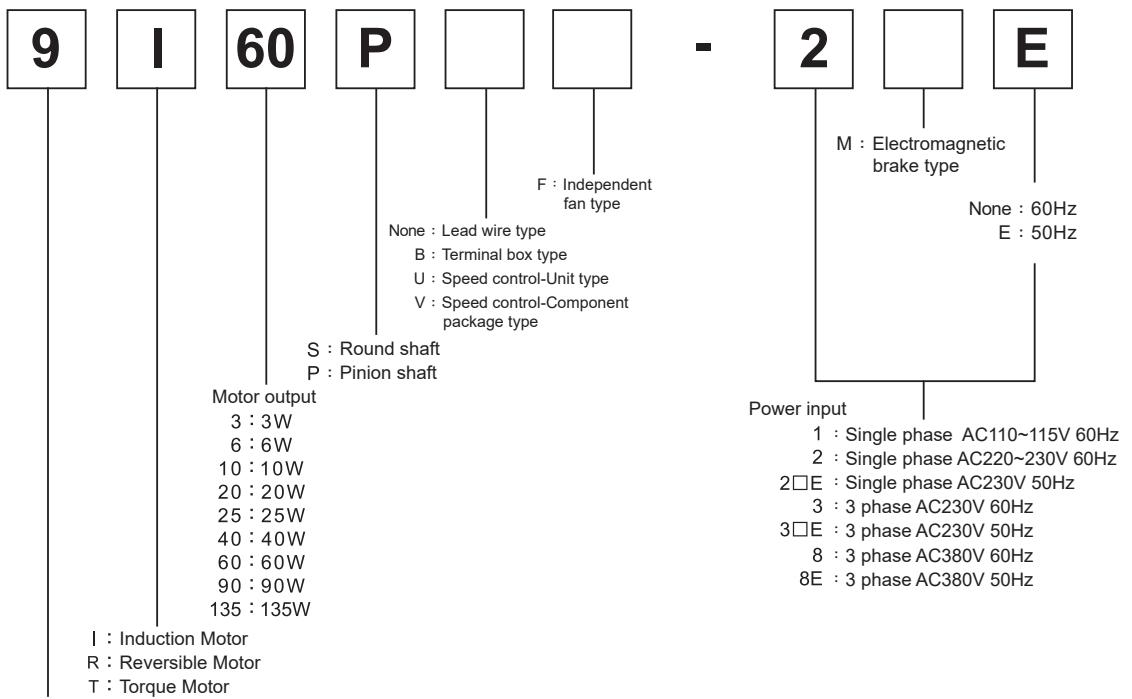
Unit : mm

\*For more details please refer to the "Motor Dimension".

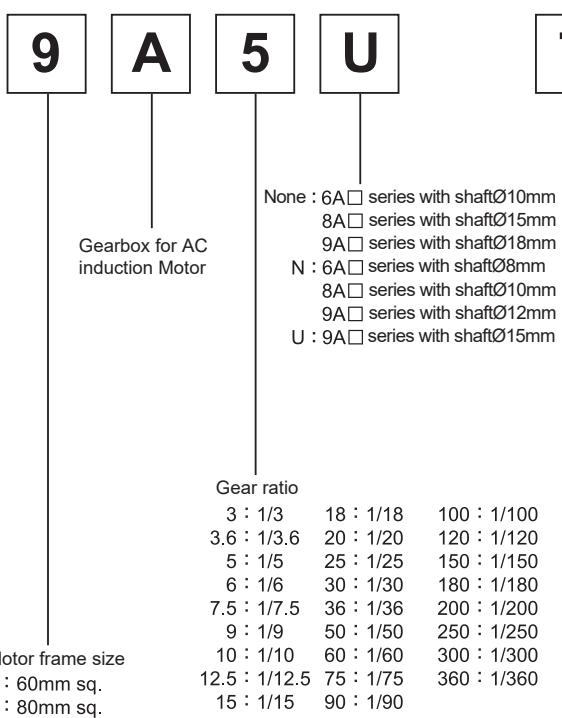
\*The product is subject to design modification for performance improvement without prior notice.

For more details please contact with your local seller.

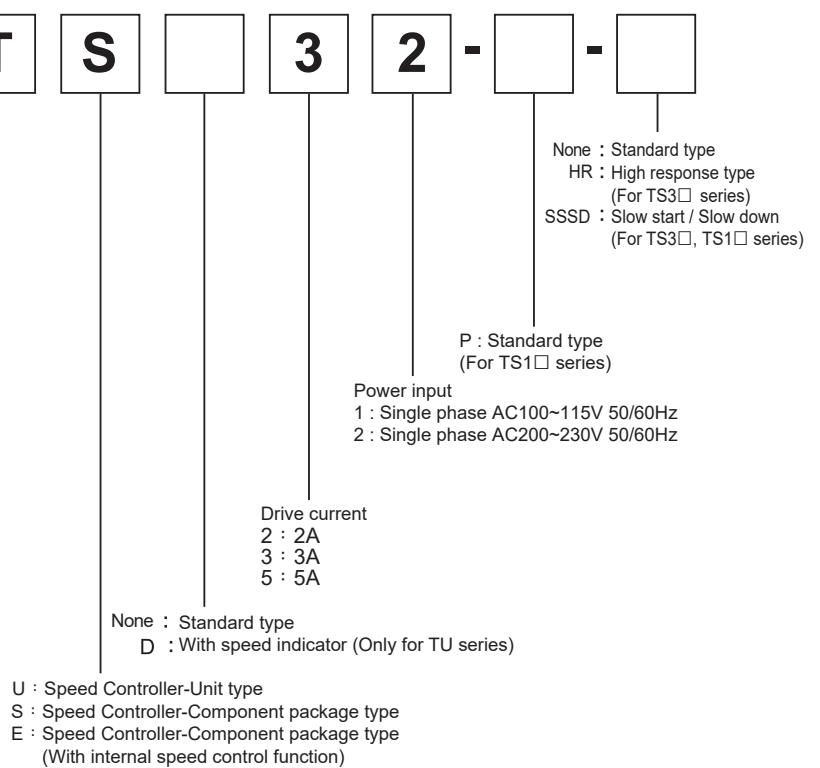
### Motor



### Gearbox



### Controller





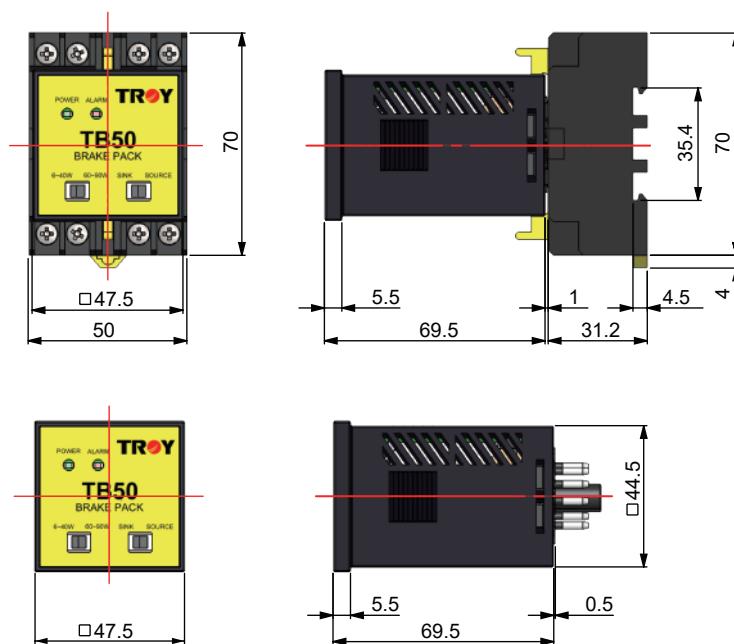
### ■ Specs

Model	TB50	
Specification Certification	—	
AC Power Voltage(V)	Single phase AC100~230※	
DC Power Voltage(V)	DC23~26	
Power Frequency (Hz)	50	60
Drive Current (A)	3	
Brake Current Time(Sec)	about 0.5	
Drive Ability	90W or less	
Function	<ul style="list-style-type: none"> <li>• Instant stop</li> <li>• Counter revolution</li> <li>• Electromagnetic brake lift</li> <li>• Motor overheat protection detection (ALARM output)</li> </ul>	
Ambient Temperature	0~+40°C	
Ambient Humidity	Max.85%RH	
Dimension (mm)	47.5(L) X 47.5(W) X 69.5(H)	
Weight (g)	104	

※ Please select the input power according to the Motor input power specifications.

### ■ Dimension

Unit : mm

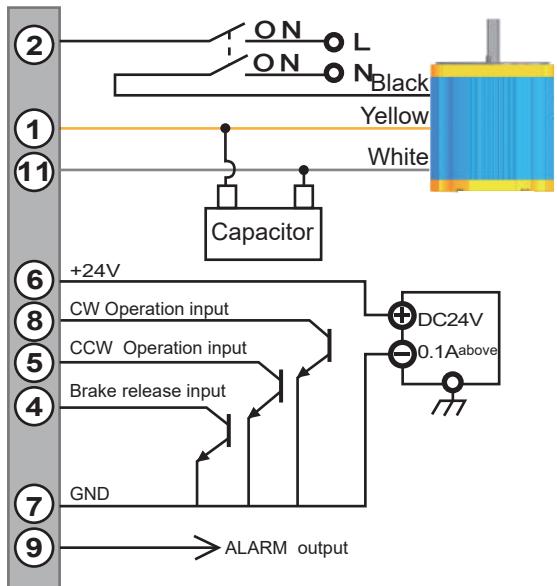


※ Foot Controller is non-accessory, it should order additionally.

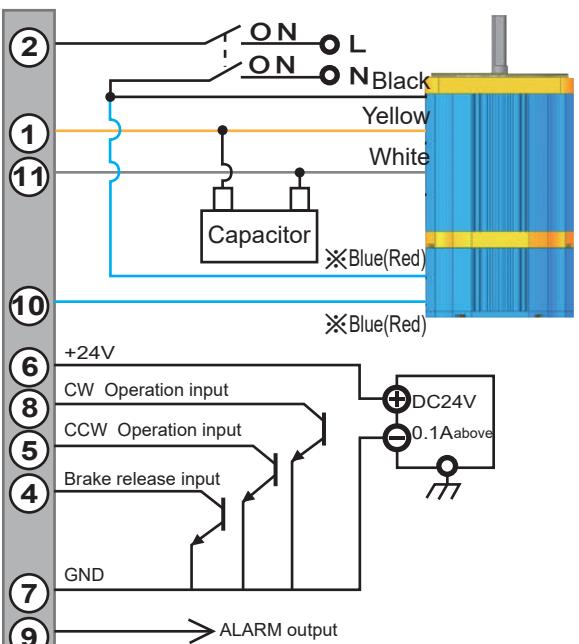
\* The figure above dimension tolerance values are not labeled a general machining tolerances, the control mode, refer to P.8, others have marked tolerance values according to the drawing labeled based.

## ■ Wiring Diagram

### ◆ Induction Motor / Reversible Motor - SINK Mode Wiring Diagram

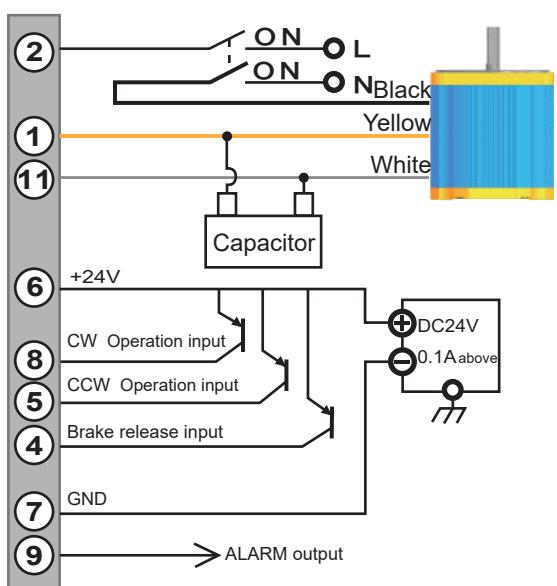


### ◆ Electromagnetic Brake Motor - SINK Mode Wiring Diagram

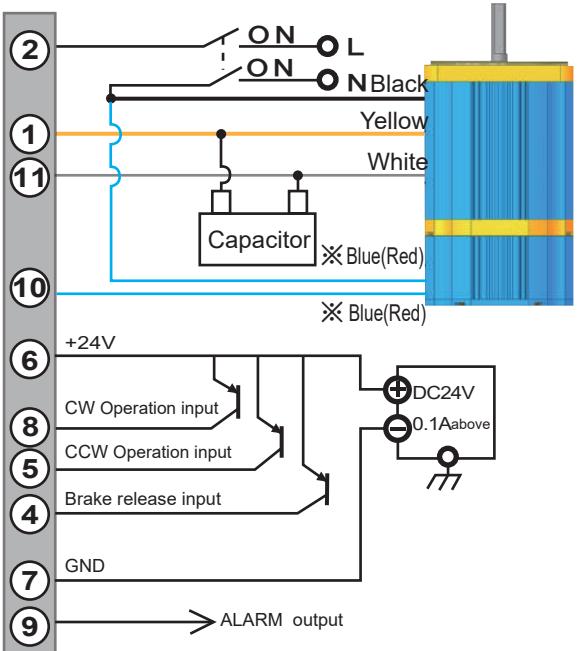


※ When the Motor is 100 ~ 115V, electromagnetic brake leads are blue; when the Motor is 200~ 230V, electromagnetic brake lead is red.

### ◆ Induction Motor / Reversible Motor - SOURCE Mode Wiring Diagram



### ◆ Electromagnetic Brake Motor - SOURCE Mode Wiring Diagram



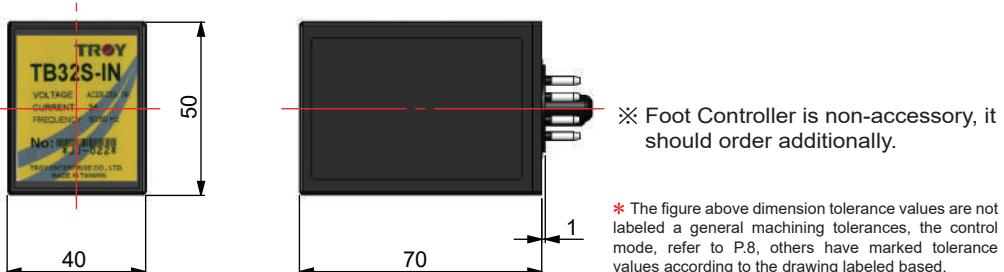
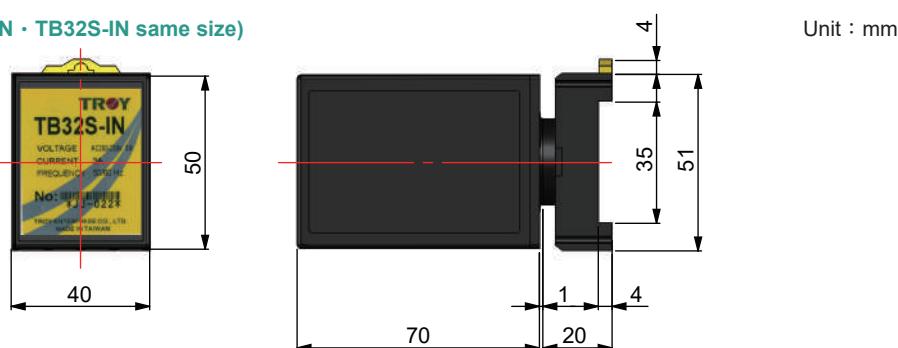
※ When the Motor is 100 ~ 115V, electromagnetic brake leads are blue; when the Motor is 200~ 230V, electromagnetic brake lead is red.



### ■ Specs

Model	TB32-IN	TB32S-IN
Specification Certification		—
AC Power Voltage(V)	Single phase AC200~230	Three phase AC200~230
Drive Current (A)		≤ 3
Brake Current Time (sec)		About 0.5
Drive Ability	Induction Motor : Max 135W(90W, 135W need to connect braking resistor) Reversible Motor : Max 60W	Max 90W (60W, 90W need to connect braking resistor)
Function	• Instant stop	
Ambient Temperature		0~+40°C
Ambient Humidity		Max.85%RH
Dimension (mm)		50(L) X 40(W) X 70(H)
Weight (g)		88

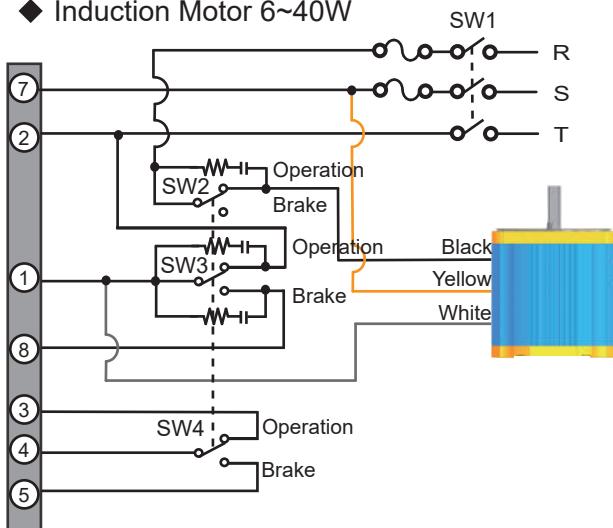
### ■ Dimension (TB32-IN • TB32S-IN same size)



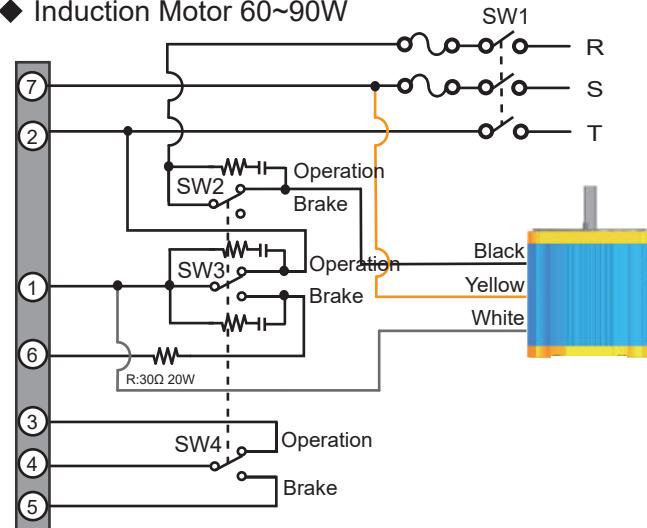
\* The figure above dimension tolerance values are not labeled a general machining tolerances, the control mode, refer to P.8, others have marked tolerance values according to the drawing labeled based.

### ■ TB32S-IN Wiring Diagram

#### ◆ Induction Motor 6~40W

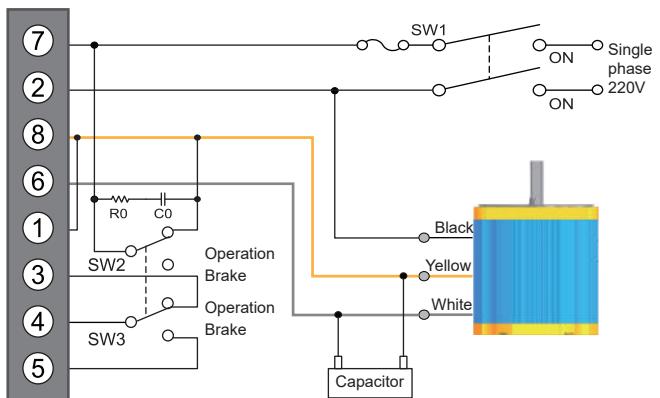


#### ◆ Induction Motor 60~90W

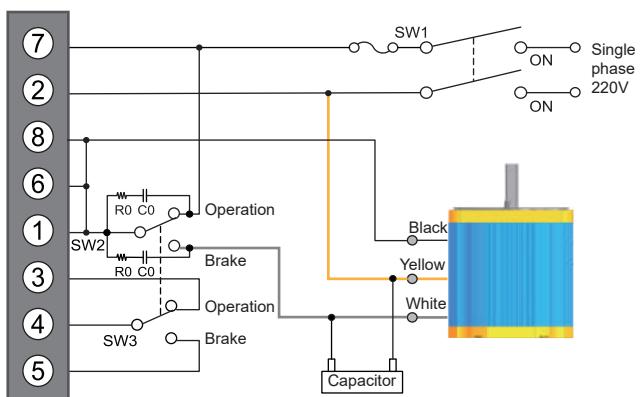


## ■ TB32-IN Wiring Diagram

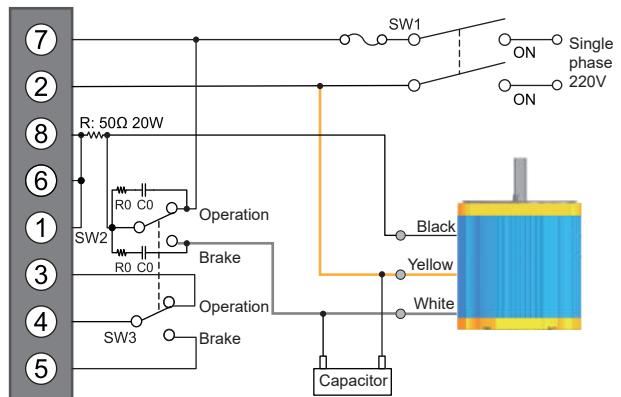
### ◆ Induction Motor 6~25W



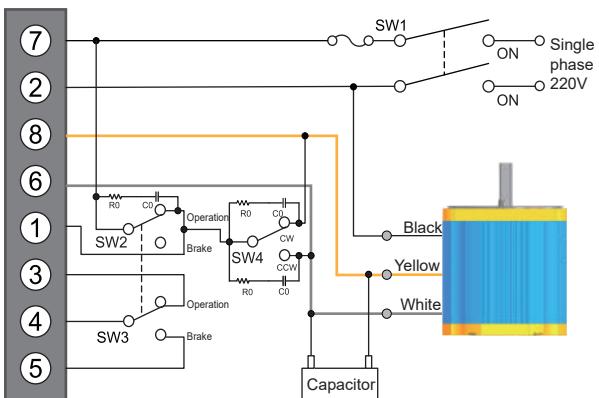
#### ◆ Induction Motor 40~60W



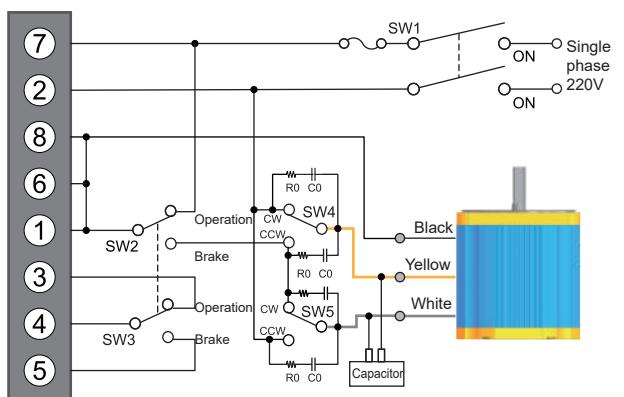
### ◆ Induction Motor 90~135W



◆ Reversible Motor 6~25W



◆ Reversible Motor 40~60W



# Product Recommendation Sheet

## ■ Mechanism: Operation of Large Index Table

Date dd / mm / yy

Name:	Contact Person:	Department / Title:
TEL:	FAX:	Application:
Power Input: <input type="checkbox"/> Single phase AC ___ V <input type="checkbox"/> 3 phase AC ___ V <input type="checkbox"/> DC ___ V		
Frequency: ___ Hz		

### Activated mode:

Single direction operating continuously →  Rated speed  Regulated speed (Range: \_\_\_ rpm~ \_\_\_ rpm)  
 Single direction run, stop, run, stop → Activated time: \_\_\_ Second/Sequence, Stop time: \_\_\_ Second/Sequence; Run, stop total \_\_\_ Sequence/Minute  
 Clockwise / counterclockwise repeated → CW: \_\_\_ Second/Sequence, Stop: \_\_\_ Second/Sequence; CCW: \_\_\_ Second/Sequence, Stop: \_\_\_ Sequence/Minute

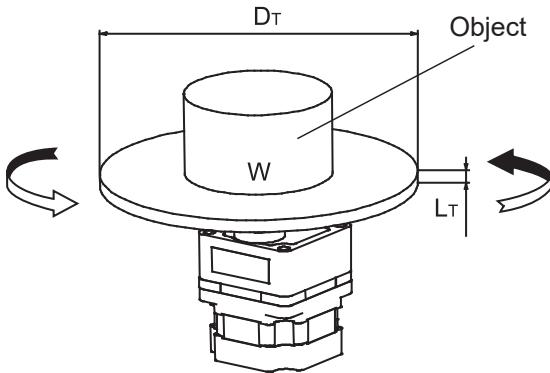
Required motor: AC induction motor:  Induction  Reversible  Speed control  Magnetic brake  Torque

DC brushless motor:  BMS Series  BS Series  SBS Series  UBS Series  DBS Series  Magnetic brake Series

Stepper motor:  2 phase  3phase  5phase

### 【Mechanism reference】

### 【Please sketch your actual transmission part of mechanism】



### 【Drive mechanism and operating data】

Object mass	W = _____ kg
Index table diameter	DT = _____ cm
Width	LT = _____ cm
Material	$\rho$ = _____
Positioning angle *(Note)	$\theta$ = _____ deg
Positioning time *(Note)	T <sub>0</sub> = _____ sec
Stopping accuracy	± _____ mm

\*(Note): Please enter the max speed.

### Recommendation products (Selected specs) :

\* Leave blank for any unclear items and send this form by fax, We will select the suitable products for you as soon as possible.

# Product Recommendation Sheet

## ■ Mechanism: Lead Screw

Date dd / mm / yy

Name:	Contact Person:	Department / Title:
TEL:	FAX:	Application:
Power Input: <input type="checkbox"/> Single phase AC ____ V <input type="checkbox"/> 3 phase AC ____ V <input type="checkbox"/> DC ____ V		
Frequency: ____ Hz		

### Activated mode:

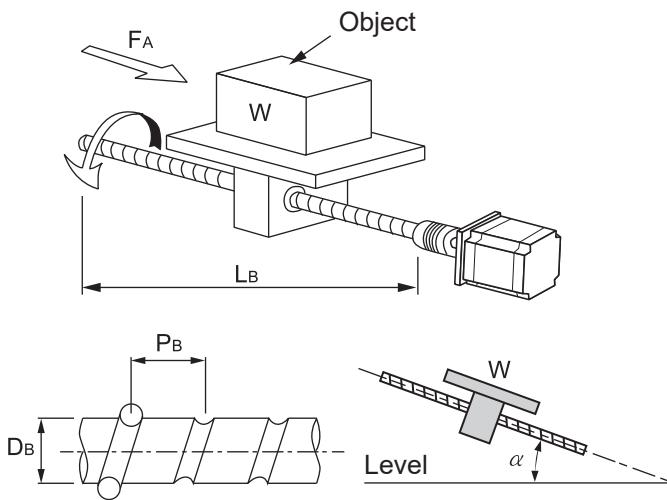
Single direction operating continuously →  Rated speed  Regulated speed (Range: \_\_\_\_ rpm ~ \_\_\_\_ rpm)  
 Single direction run, stop, run, stop → Activated time: \_\_\_\_ Second/Sequence, Stop time: \_\_\_\_ Second/Sequence; Run, stop total \_\_\_\_ Sequence/Minute  
 Clockwise / counterclockwise repeated → CW: \_\_\_\_ Second/Sequence, Stop: \_\_\_\_ Second/Sequence; CCW: \_\_\_\_ Second/Sequence, Stop: \_\_\_\_ Sequence/Minute

Required motor: AC induction motor:  Induction  Reversible  Speed control  Magnetic brake  Torque

DC brushless motor:  BMS Series  BS Series  SBS Series  UBS Series  DBS Series  Magnetic brake Series

Stepper motor:  2 phase  3phase  5phase

### 【Mechanism reference】



### 【Please sketch your actual transmission part of mechanism】

### 【Drive mechanism and operating data】

Work + Table mass	W = _____ kg	Frictional coefficient of sliding surfaces $\mu$ = _____
Screw angle	$\alpha$ = _____ deg	Positioning distance * (Note) L = _____ cm
Screw shaft diameter	D_B = _____ cm	Positioning time * (Note) T_0 = _____ sec
Screw length	L_B = _____ cm	Push / Pull force F_A = _____ kg
Screw pitch	P_B = _____ cm	Stopping accuracy $\pm$ _____ mm
Material	$\rho$ = _____	
Screw efficiency	$\eta$ = _____	
Internal frictional coefficient of pilot pressure nut	$\mu_0$ = _____	* (Note): Please enter the max speed.

### Recommendation products (Selected specs) :

\* Leave blank for any unclear items and send this form by fax, We will select the suitable products for you as soon as possible.

# Product Recommendation Sheet

## ■ Mechanism: Belt and Pulley

Date dd / mm / yy

Name:	Contact Person:	Department / Title:
TEL:	FAX:	Application:
Power Input: <input type="checkbox"/> Single phase AC ___ V <input type="checkbox"/> 3 phase AC ___ V <input type="checkbox"/> DC ___ V		
Frequency: ___ Hz		

### Activated mode:

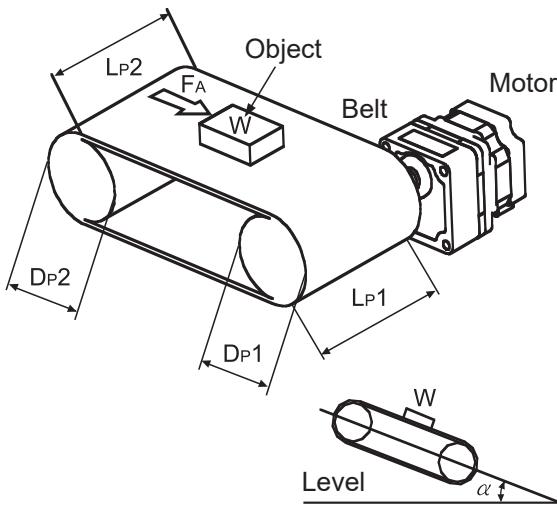
Single direction operating continuously →  Rated speed  Regulated speed (Range: \_\_\_ rpm~ \_\_\_ rpm)  
 Single direction run, stop, run, stop → Activated time: \_\_\_ Second/Sequence, Stop time: \_\_\_ Second/Sequence; Run, stop total \_\_\_ Sequence/Minute  
 Clockwise / counterclockwise repeated → CW: \_\_\_ Second/Sequence, Stop: \_\_\_ Second/Sequence; CCW: \_\_\_ Second/Sequence, Stop: \_\_\_ Sequence/Minute

Required motor: AC induction motor:  Induction  Reversible  Speed control  Magnetic brake  Torque

DC brushless motor:  BMS Series  BS Series  SBS Series  UBS Series  DBS Series  Magnetic brake Series

Stepper motor:  2 phase  3phase  5phase

### 【Mechanism reference】



### 【Please sketch your actual transmission part of mechanism】

### 【Drive mechanism and operating data】

Work + Table + Pulley mass	W = _____ kg	Belt, pulley efficiency	$\eta$ = _____
Screw angle	$\alpha$ = _____ deg	Frictional coefficient of sliding surfaces	$\mu$ = _____
(Connecting to the motor)		Positioning distance * (Note)	L = _____ cm
Pulley diameter	Dp1 = _____ cm	Positioning time * (Note)	T <sub>0</sub> = _____ sec
Width	Lp1 = _____ cm	Push / Pull force	F <sub>A</sub> = _____ kg
Material	$\rho$ 1 = _____	Stopping accuracy	± _____ mm
Pulley diameter	Dp2 = _____ cm	* (Note): Please enter the max speed.	
Width	Lp2 = _____ cm		
Material	$\rho$ 2 = _____		

### Recommendation products (Selected specs) :

\* Leave blank for any unclear items and send this form by fax, We will select the suitable products for you as soon as possible.

# Product Recommendation Sheet

## ■ Mechanism: Others

Date dd / mm / yy

Name:	Contact Person:	Department / Title:	
TEL:	FAX:	Application:	Area:
Power Input: <input type="checkbox"/> Single phase AC ___ V <input type="checkbox"/> 3 phase AC ___ V <input type="checkbox"/> DC ___ V		Frequency: ___ Hz	

### Activated mode:

Single direction operating continuously →  Rated speed  Regulated speed (Range: \_\_\_ rpm~ \_\_\_ rpm)  
 Single direction run, stop, run, stop → Activated time: \_\_\_ Second/Sequence, Stop time: \_\_\_ Second/Sequence; Run, stop total \_\_\_ Sequence/Minute  
 Clockwise / counterclockwise repeated → CW: \_\_\_ Second/Sequence, Stop: \_\_\_ Second/Sequence; CCW: \_\_\_ Second/Sequence, Stop: \_\_\_ Sequence/Minute

Required motor: AC induction motor:  Induction  Reversible  Speed control  Magnetic brake  Torque

DC brushless motor:  BMS Series  BS Series  SBS Series  UBS Series  DBS Series  Magnetic brake Series

Stepper motor:  2 phase  3phase  5phase

### 【Drive mechanism and operating data】

Use the space below to draw the outline of your drive mechanism and fill in the operating conditions required.

### Recommendation products (Selected specs ) :

\* Leave blank for any unclear items and send this form by fax, We will select the suitable products for you as soon as possible.