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

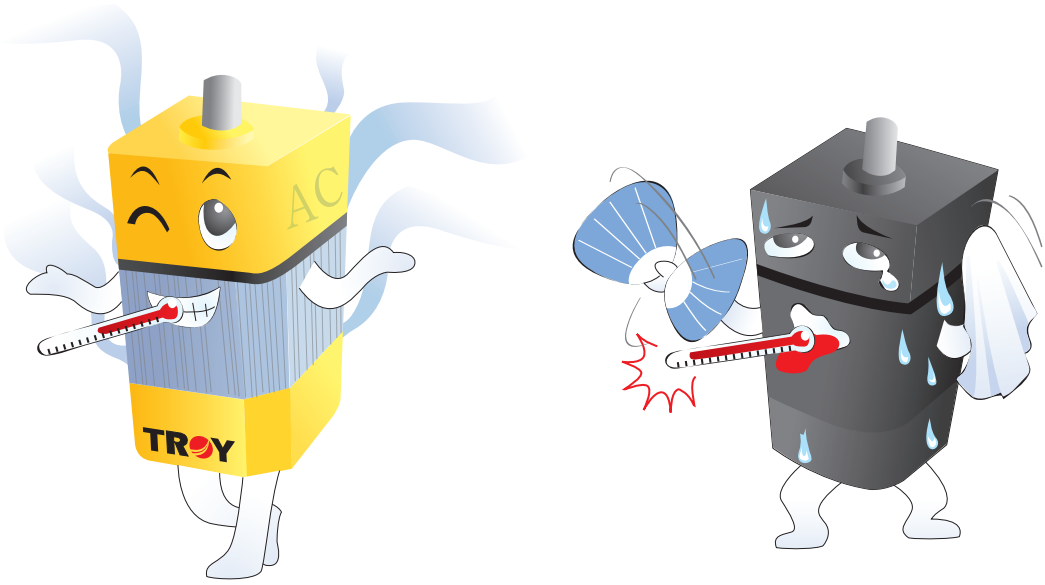
Taiwan patent

China patent

Certificate

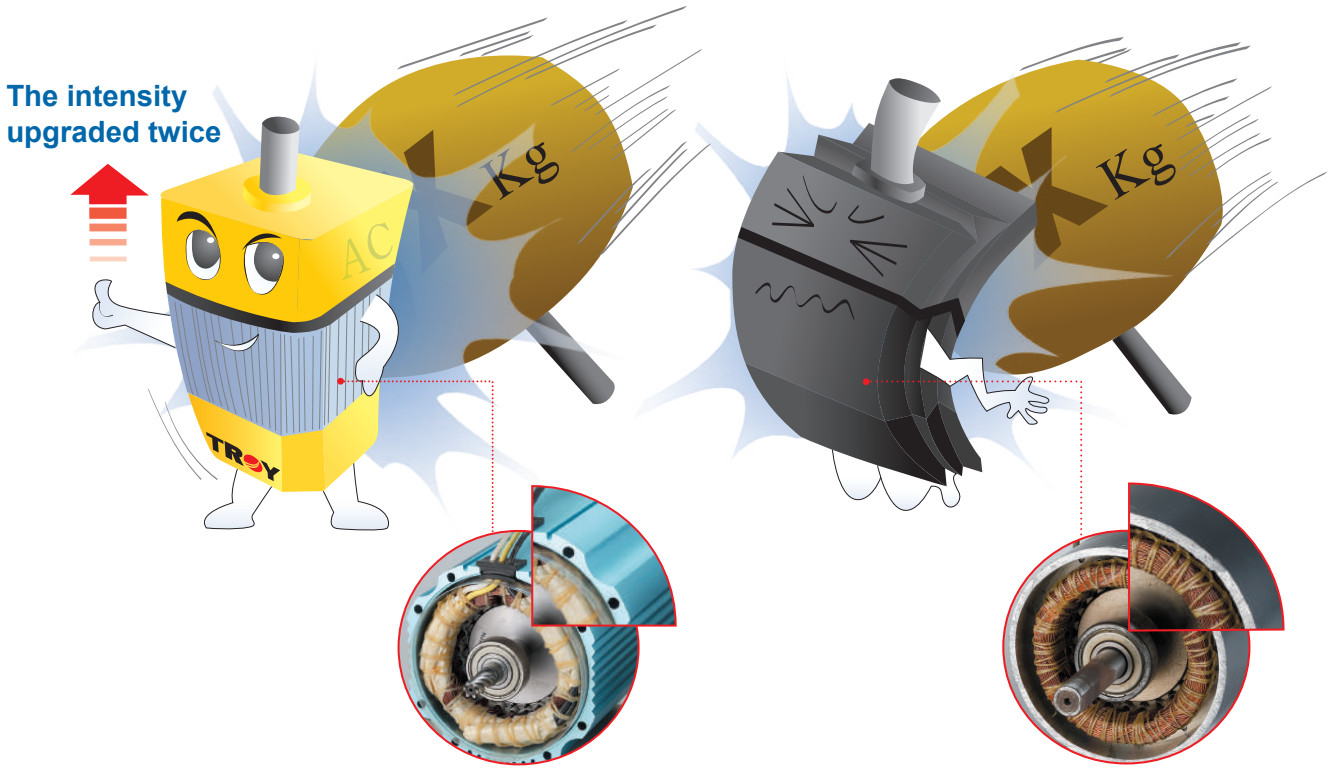
Features of Moter Construction

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

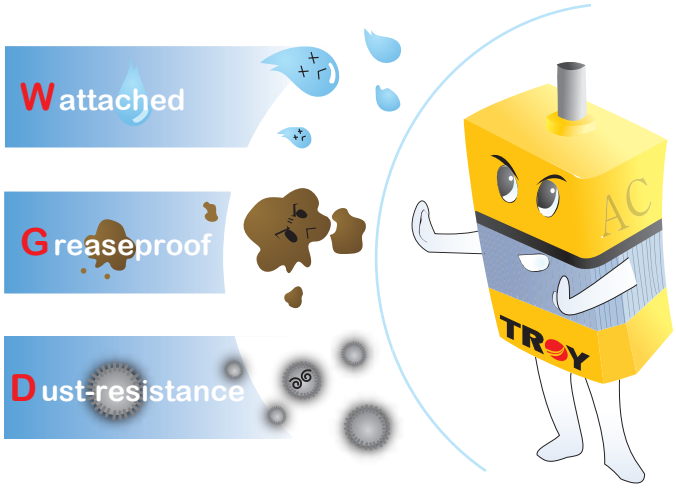


- Intensifying design of TROY motor and the intensity upgraded double.

Features 3 The Maximum Permissible Torque Can Reach to 40 Nm

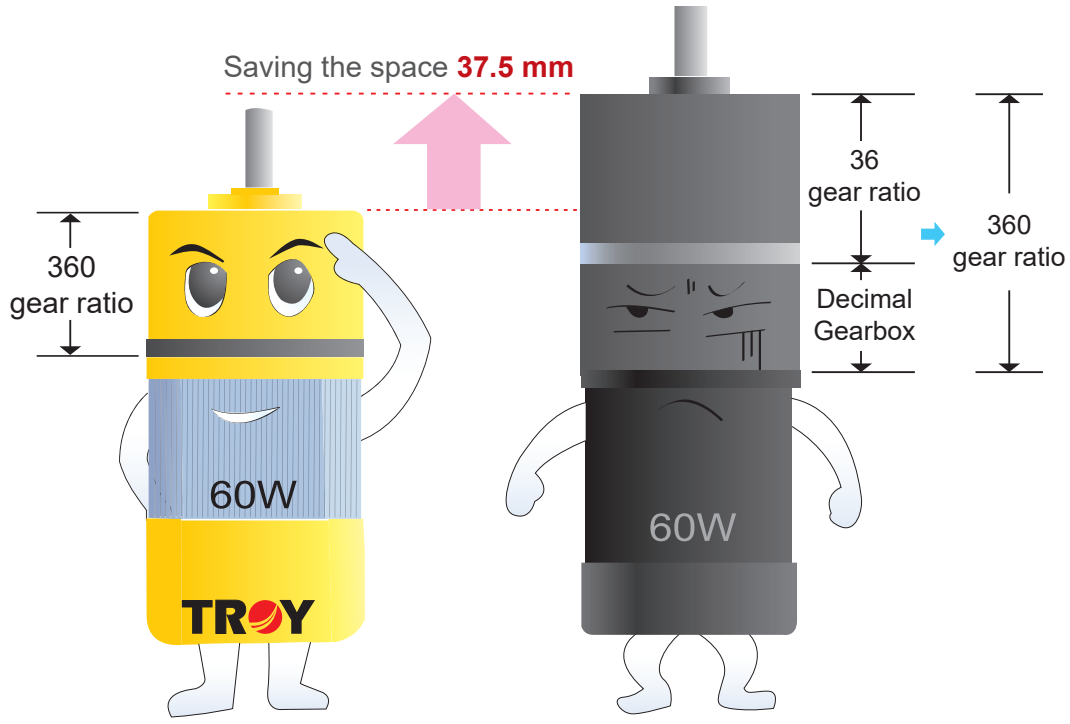
- The maximum permissible 40Nm when 9A□ high intensity Gearbox is attached.

Features 4 Greaseproof, Watertight, Dust-Resistance



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

Features 5 Saving the Spaces

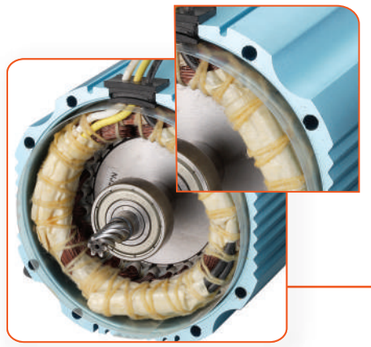


- The innovative design of Gearbox with high gear ratio which can save the space that middle Gearbox attached.

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.

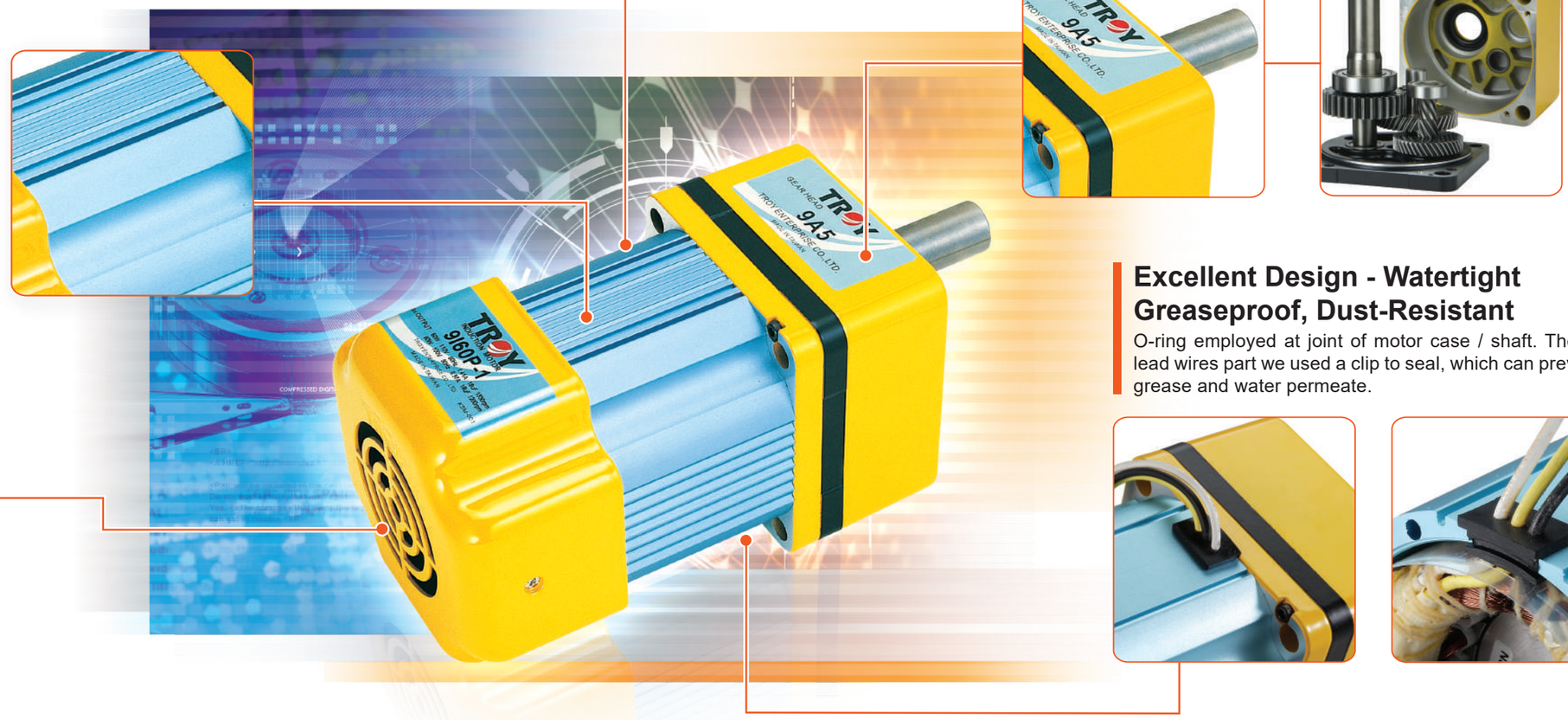


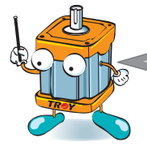
Motor Construction of Intensifying Type

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.

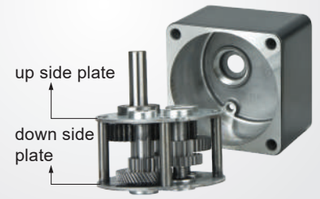




New Color

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.

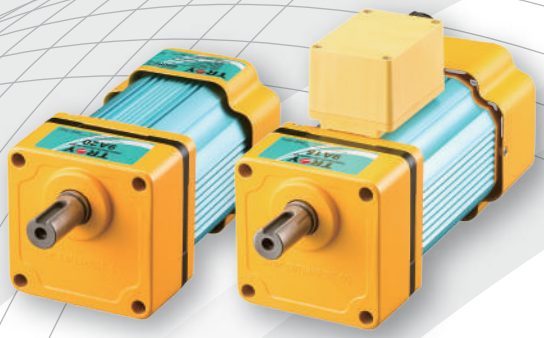
The Gearbox of High Intensity Type

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

TROY

Electromagnetic Brake Motor

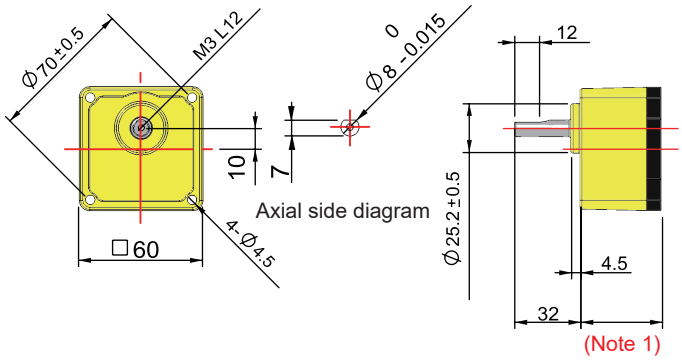
Speed Control Motor
Component Package Type

Speed Control Motor
Separated Type

Gearbox's Specs of Universal Type

■ Dimension of Shaft Ø8, Ø10, Ø12, Ø15

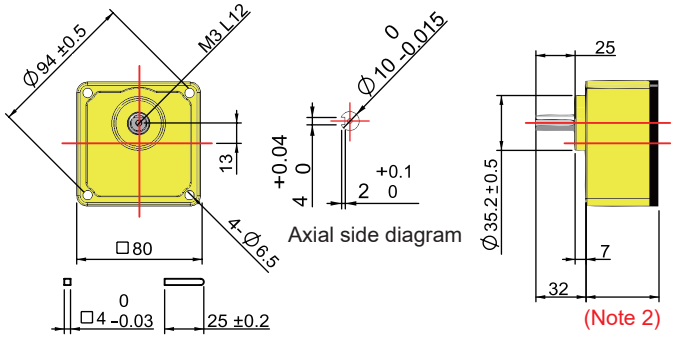
Model: 6A□N with Shaft NØ8 Unit：mm



∗(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

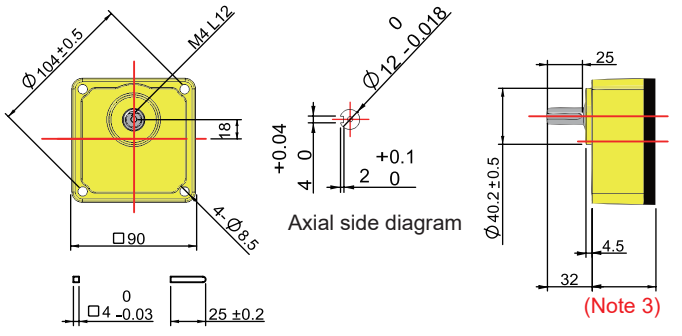
Model: 8A□N with Shaft NØ10 Unit：mm



∗(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

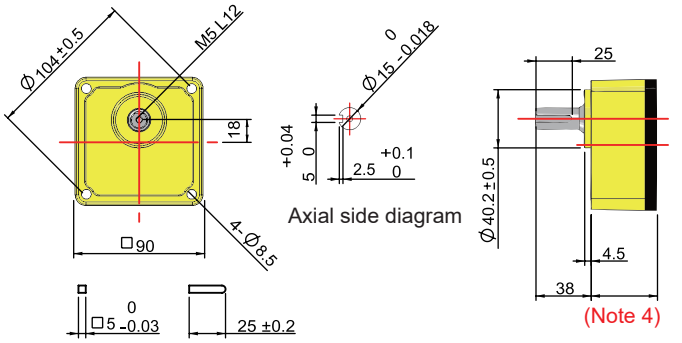
Model: 9A□N with Shaft NØ12 Unit：mm



∗(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

Model: 9A□U with Shaft NØ15 Unit：mm



∗ (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

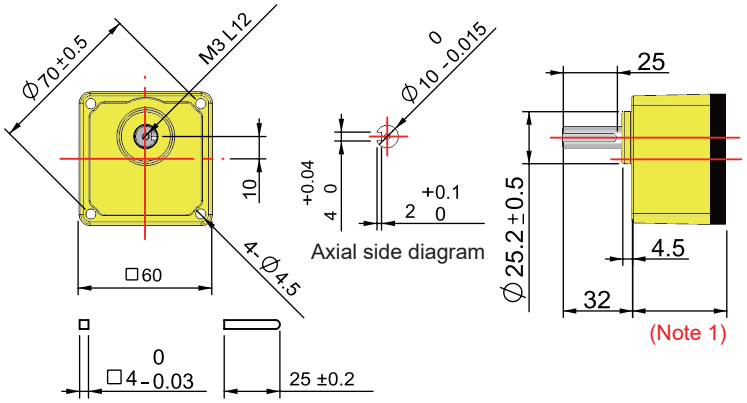
∗ The figure above dimension tolerance values are not labeled a general machining tolerances, the control mode, refer to P.8, others have marked tolerance values according to the drawing labeled based.

Gearbox's Specs of Standard Type

■ Dimension of Shaft Ø10, Ø15, Ø18

Model: 6A☐ with Shaft Ø10

Unit：mm

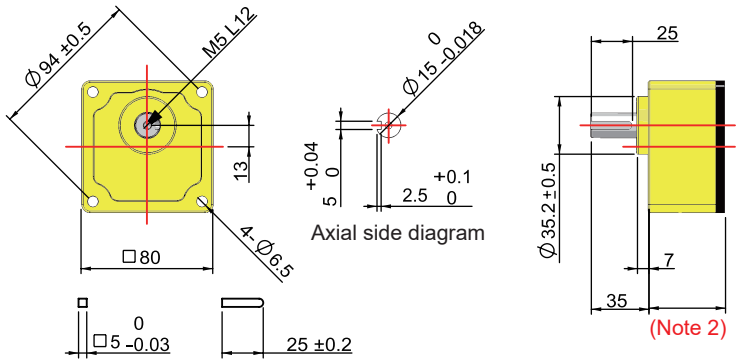


∗(Note 1)

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

Unit：mm

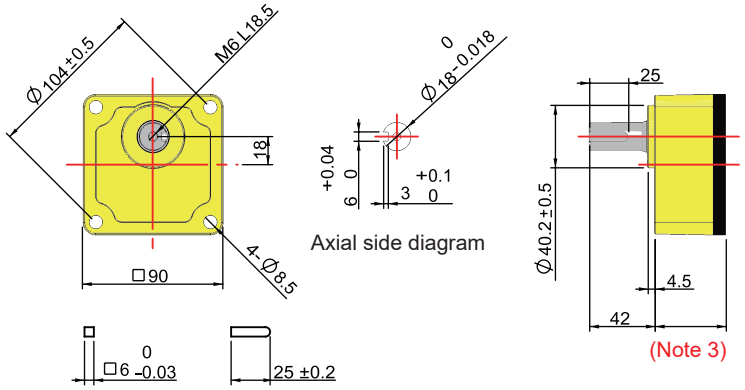


∗(Note 2)

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

Unit：mm



∗(Note 3)

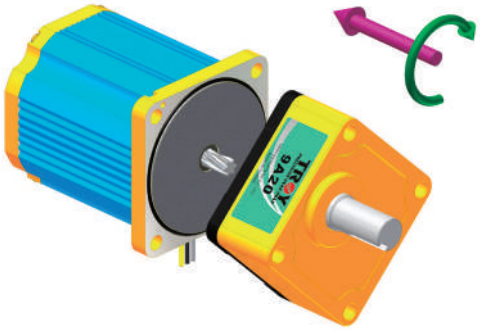
9A☐ Gearbox Length/Weight		
Gearbox's Model	Length (mm)	Weight (g)
9A3~9A20	45.5	1170
9A25~9A100	58.5	1520
9A120~9A360	64.5	1610

∗ 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.

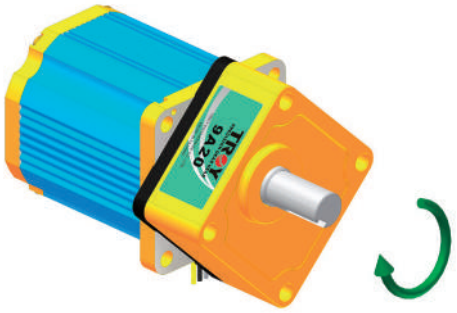
Connection of Motor and Gearbox

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.

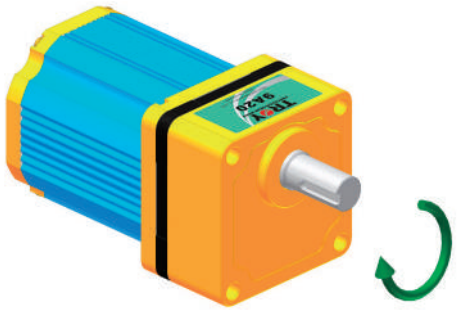
(Step 1) The distance between the motor and Gearbox around 35mm, 45°included angle.



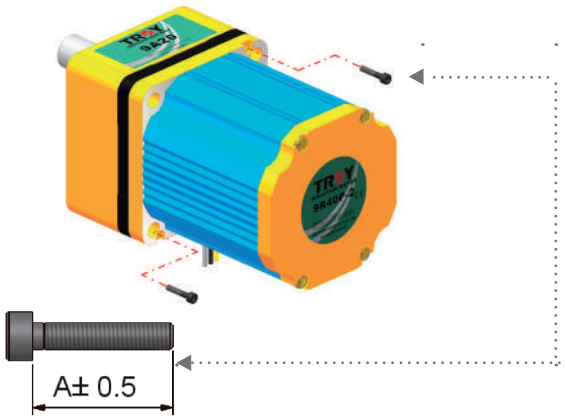
(Step 2) Gearbox connected with Motor in clockwise direction, 35°included angle.



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



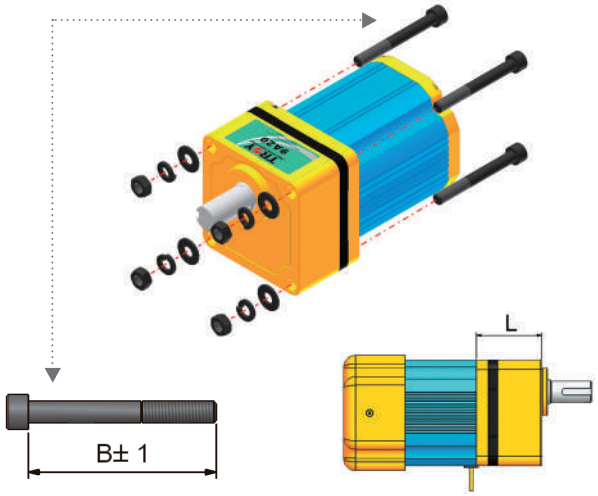
(Step 4) Using screws x 2 pcs(attachment) to secure the Motor and Gearbox.



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 (B)mm	Gearbox+ Motor Bracket (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.

Symbol Description

1. CE

: **Europe Safety Certification**

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

2. c US : **USA and Canadan 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. RoHS : **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(PBDEs) 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. TP : **Built-in Overheat Protection Device (Auto Return Type)**

Overheat protection ON：120℃ ± 8℃
Overheat protection OFF：71.5℃ ± 4℃
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℃ (Single phase and 3 phase 220V / 230V: -10~+40℃), ambient humidity 85% or less. Controller: Ambient temperature 0~+40℃, 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 referance 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.

Product Number Code

Motor

9 I 60 P □ □ - 2 □ E

Motor frame size
6：60mm sq.
8：80mm sq.
9：90mm sq.

I：Induction Motor
R：Reversible Motor
T：Torque Motor

Motor output
3：3W
6：6W
10：10W
20：20W
25：25W
40：40W
60：60W
90：90W
135：135W

S：Round shaft
P：Pinion shaft

None：Lead wire type
B：Terminal box type
U：Speed control-Unit type
V：Speed control-Component package type

F：Independent fan type

Power input
1：Single phase AC110~115V 60Hz
2：Single phase AC220~230V 60Hz
2□E：Single phase AC230V 50Hz
3：3 phase AC230V 60Hz
3□E：3 phase AC230V 50Hz
8：3 phase AC380V 60Hz
8E：3 phase AC380V 50Hz

M：Electromagnetic brake type

None：60Hz
E：50Hz

Gearbox

9 A 5 U

Motor frame size
6：60mm sq.
8：80mm sq.
9：90mm sq

Gearbox for AC induction Motor

Gear ratio

3：1/3	18：1/18	100：1/100
3.6：1/3.6	20：1/20	120：1/120
5：1/5	25：1/25	150：1/150
6：1/6	30：1/30	180：1/180
7.5：1/7.5	36：1/36	200：1/200
9：1/9	50：1/50	250：1/250
10：1/10	60：1/60	300：1/300
12.5：1/12.5	75：1/75	360：1/360
15：1/15	90：1/90	

None：6A□ series with shaftØ10mm
8A□ series with shaftØ15mm
9A□ series with shaftØ18mm
N：6A□ series with shaftØ8mm
8A□ series with shaftØ10mm
9A□ series with shaftØ12mm
U：9A□ series with shaftØ15mm

Controller

T S □ 3 2 - □ - □

TROY

U：Speed Controller-Unit type
S：Speed Controller-Component package type
E：Speed Controller-Component package type
(With internal speed control function)

None：Standard type
D：With speed indicator (Only for TU series)

Drive current
2：2A
3：3A
5：5A

Power input
1：Single phase AC100~115V 50/60Hz
2：Single phase AC200~230V 50/60Hz

P：Standard type
(For TS1□ series)

None：Standard type
HR：High response type
(For TS3□ series)
SSSD：Slow start / Slow down
(For TS3□, TS1□ series)

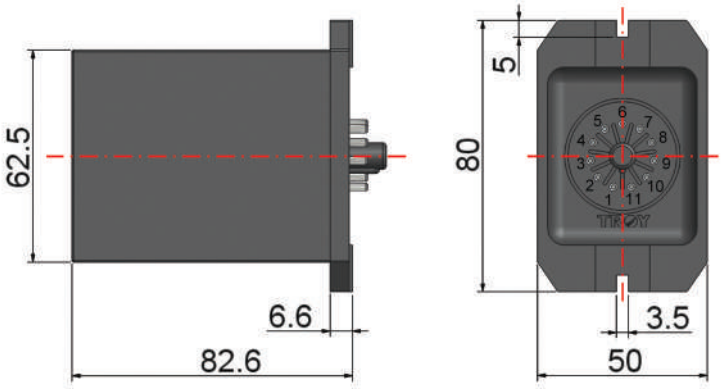
Torque Motor TP51.TP52
Torque Controller

Specs

Model	TP51		TP52	
Specification Certification	RoHS		RoHS	
Power Input (V)	Single phase AC100~115		Single phase AC200~230	
Power Requency (Hz)	50	60	50	60
Drive Current (A)	5			
Drive Power	Max.40W			
Voltage Adjustment Range(V)	AC10~110		AC35~200	
Ambient Temperature	0~+40℃			
Ambient Humidity	Max.85%RH			
Dimension (mm)	82.6(L) × 50(W) × 80(H)			
Weight (g)	98.5			

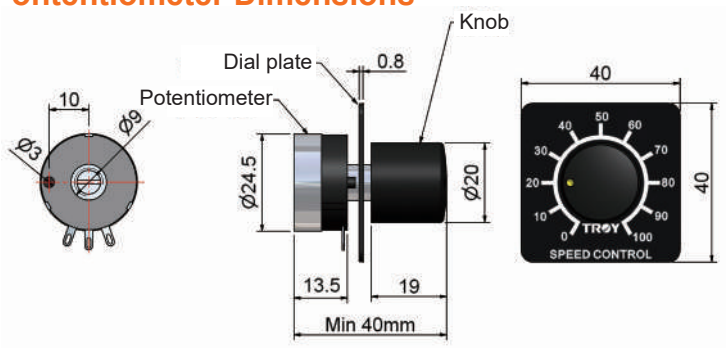
Dimension

Unit : mm

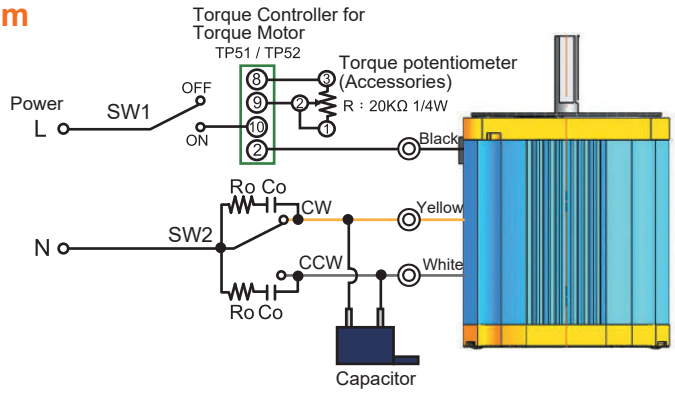


※ Flush mounting socket is sold separately.

External Speed Pontentiometer Dimensions



Wiring Diagram



* 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.

Torque Motor TP5F Torque Controller

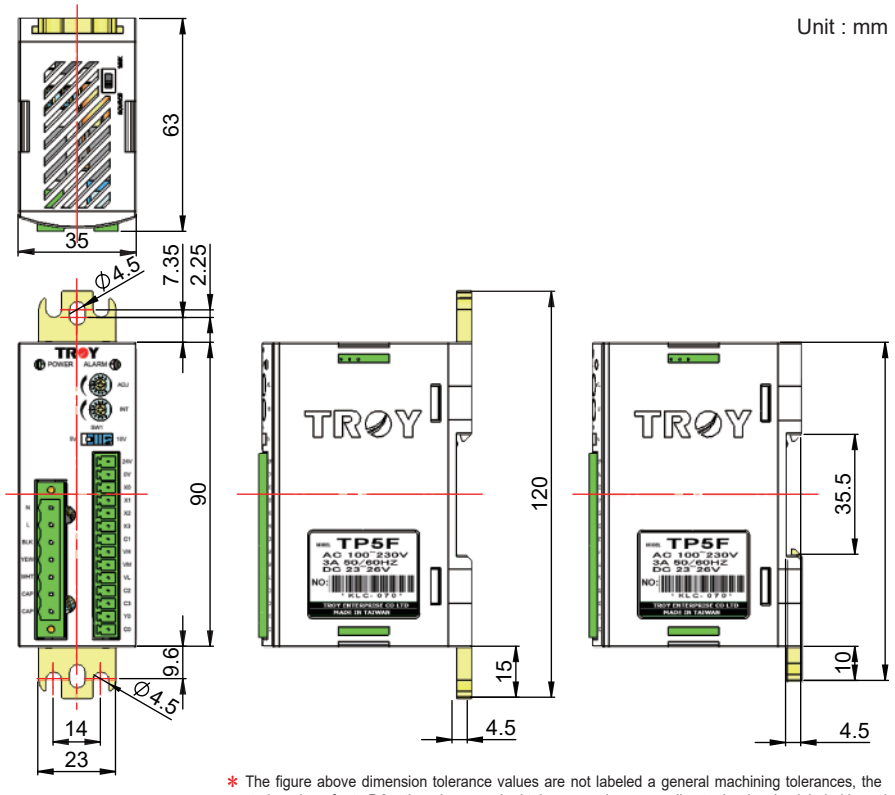
Specs

Model	TP5F	
Specification Certification	–	
AC Power Voltage(V)	Single phase AC100~230※	
DC Power Voltage(V)	DC23~26	
Power Requency (Hz)	50	60
Drive Current (A)	3	
Drive Ability	20W or less	
Function	●Instant counter revolution. ●Torque trimming setting. ●ALARM-RESET	●VR internal torque control, VR external torque control. ●Motor overheat protection detection (ALARM output).
Ambient Temperature	0~+40℃	
Ambient Humidity	Max.85%RH	
Dimension (mm)	90(L) X 35(W) X 63(H)	
Weight (g)	120	

※ Please according to the value of the AC power supply voltage input the motor to choose the value of the AC power voltage input the controller.

Dimension

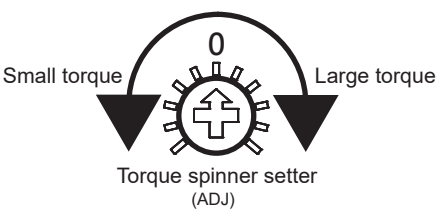
Unit : mm

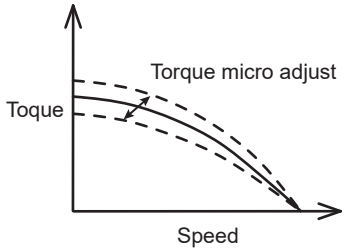


※ The figure above dimension tolerance values are not labeled a general machining tolerances, the control mode, refer to P.8, others have marked tolerance values according to the drawing labeled based.

Torque Setting for Fine Adjustment Device Operation Introducing

Because of the torque Controller, torque Motors, capacitors somewhat error, when it compensates and corrects the error, it can be used to fine-tune the torque setter (Adjust).



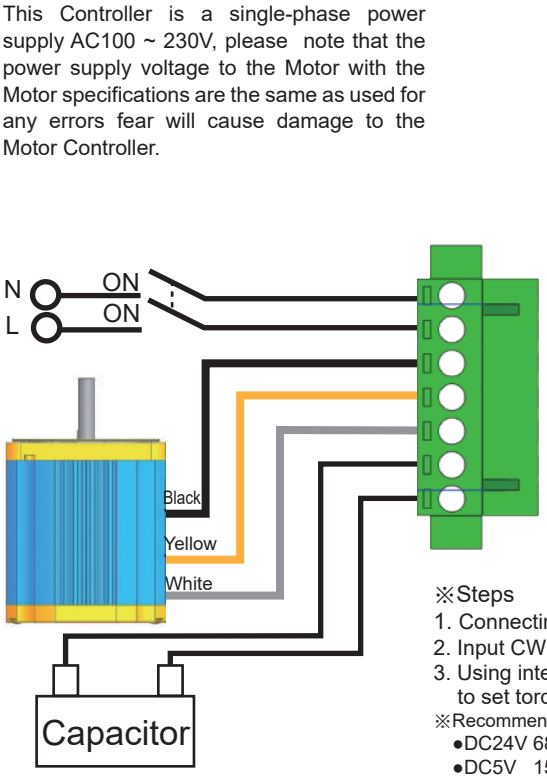


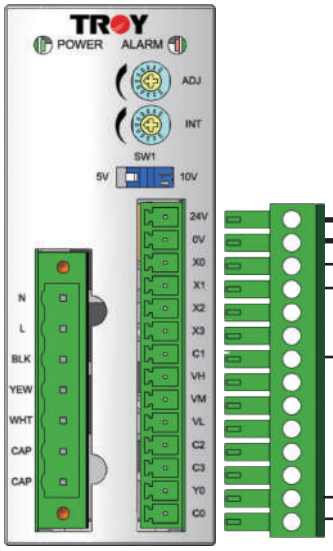
■ Wiring Diagram

◆ Power Circuit Terminal Wiring

Note

This Controller is a single-phase power supply AC100 ~ 230V, please note that the power supply voltage to the Motor with the Motor specifications are the same as used for any errors fear will cause damage to the Motor Controller.



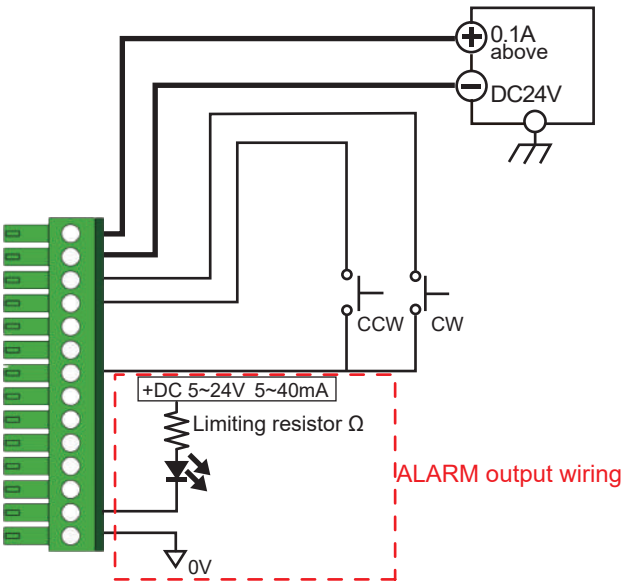


※Steps
1. Connecting AC, DC power.
2. Input CW or CCW signal.
3. Using internal torque setter (INT) to set torque.

※Recommending limiting resistor value
- ●DC24V 680Ω~ 4.7kΩ(2W).
- ●DC5V 150Ω~1.0kΩ(0.5W).

◆ The Basic Operation of Wiring

This wiring is set through internal torque setter.



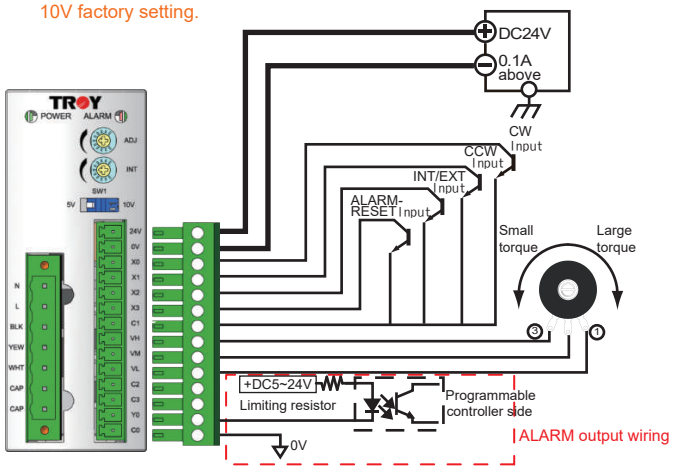
CWinput	CCWinput	Motor Action
ON	OFF	Forward
OFF	ON	Reverse
ON	ON	Stop

■ Input Logical Wiring Chart

◆ Input SINK Logic - with External Torque Setter Wiring Operation

With accessories DBVR-20kΩ, do external torque setter operated; SOURCE input mode also can be used with an external torque setter.

※Make sure that the external voltage selector switch is set at 5V, 10V factory setting.



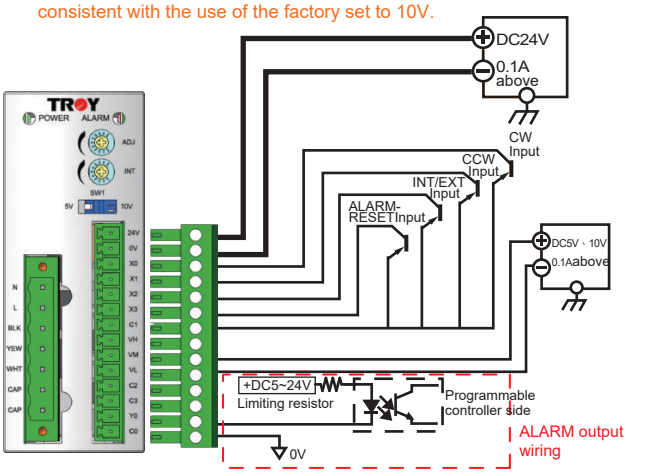
※Steps
1. Connecting AC,DC power.
2. Setting input signal INT / EXT to ON.
3. Setting CW input or CCW input to ON. (Both are ON, Motor stops)
4. Adjust the torque through the external torque setter.(Clockwise torque is large, counterclockwise is small.)
5. Can use the input signal INT / EXT switch, do two power torque setting to link AC, DC.
6. If the external switching voltage switch set to 10V,it will cause the Motor torque can not reach the maximum.

External Torque Setting Terminal	Torque Controller Terminal
3	VH
2	VM
1	VL

◆ Input SOURCE Logic - with External DC Voltage Wiring operation

According to an external 10V DC voltage DC5V or using torque input mode can also be set to SINK with external DC voltage.

※Please confirm whether the external voltage selector switch is consistent with the use of the factory set to 10V.



※Steps
1. The 5V, 10V switch is set to 5V or 10V side. (Appearearences set to 10V.)
2. Connecting AC, DC power.
3. Setting input signal INT / EXT to ON.
4. Setting CW input or CCW input to ON.(Both are ON, Motor stops.)
5. Through external DC voltage adjustment torque, the torque is increased to increase the voltage and reduce the smaller.
6. Can use the input signal INT / EXT switch, make two torque setting.

Signal Line	Torque Controller Terminal
+	VM
−	VL

Torque Motor 3W

■ Specs

Motor Output		3W					
Round Shaft Type		6T3S-1		6T3S-2		6T3S-2E	
Pinion Shaft Type		6T3P-1		6T3P-2		6T3P-2E	
Specification Certification		c UL, CCC, RoHS, e, IP54		CE, CCC, RoHS, e, IP54		CE, CCC, RoHS, e, IP54	
With the Controller Model		TP51,TP5F		TP52,TP5F		TP52,TP5F	
Capacity of Capacitor (μF)		6.5		1.5		1.5	
Use Freeze [when restraint] (min)		5	Continuous	5	Continuous	5	Continuous
Power Input (V)		Single phase AC110	Single phase AC60	Single phase AC220	Single phase AC115	Single phase AC230	Single phase AC115
Power Frequency (Hz)		60				50	
Starting Torque (Nm)		0.07	0.03	0.07	0.03	0.07	0.02
Maximum Output Power(W)		3.5	1.2	3.5	1.2	3	0.8
Maximum Output	Rotational Speed(r/min)	900		900		750	
	Torque(Nm)	0.04	0.01	0.04	0.01	0.04	0.01
	Electric Current(A)	0.42	0.26	0.22	0.13	0.24	0.10
	Power Input(W)	45	15	45	14	50	10
Ambient Temperature		-10~+50℃					
Ambient Humidity		Max.85%RH					

※1 Nm = 10.19716 Kgcm

■ Permissible Overhung Load / Permissible Thrust Load

Round Shaft Type

Model	Permissible Overhung Load(Unit : kg f)		Permissible Thrust Load (Unit : kg f)
	10mm from shaft end	20mm from shaft end	
6T3S-□	5	11	Permissible thrust load do not exceed the weight of Motor 1/2. If exceed the rated weight will decrease the service life of Motor. Please using indirect transmission machinery such as coupling, belt, chain. As the applications which will need the thrust load.

Pinion Shaft Type(Gearbox Attached)

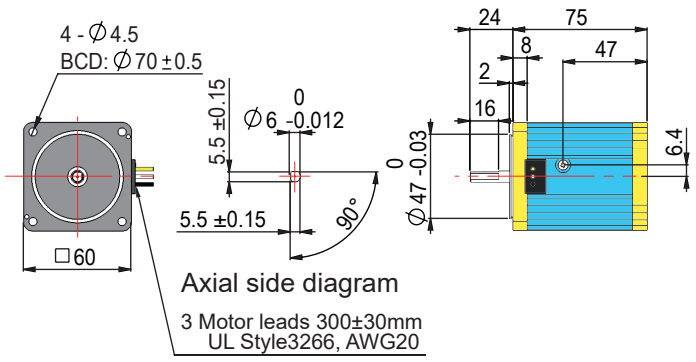
Model	Gear Ratio	Permissible Overhung Load(Unit : kg f)		Permissible Thrust Load (Unit : kg f)
		10mm from shaft end	20mm from shaft end	
6T3P-□	3, 3.6, 5	10	15	3
	6, 7.5, 9, 10, 12.5, 15, 18, 20	15	20	
	25, 30, 36, 50, 60, 75, 90, 100, 120, 150, 180, 200, 250, 300, 360	20	30	

※1： The Gearboxs of all series have RoHS, e certificates.

Dimensions

Round Shaft Type 6T3S-□

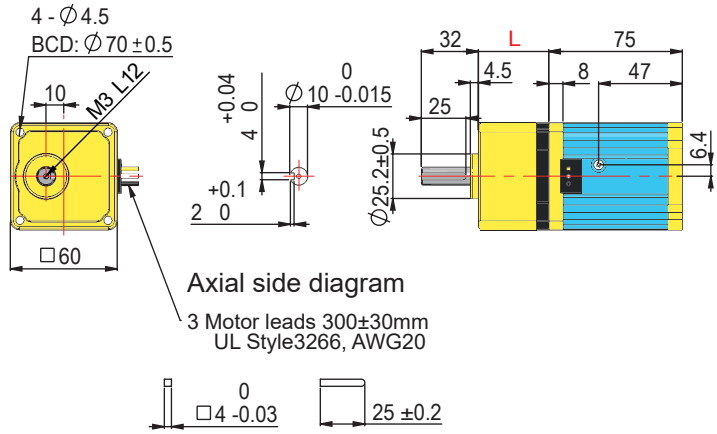
Motor Weight : 1180g



Pinion Shaft Type 6T3P-□+6A□

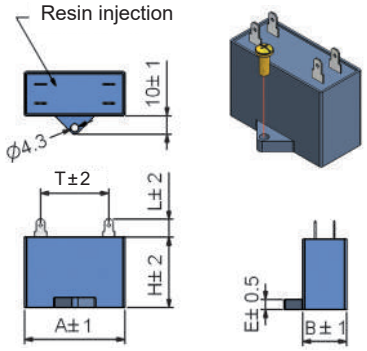
Unit : mm

Motor Weight : 1170g+W



Capacitor Dimensions

(Single phase motors only)



＊6A pinion shaft type 6A3~360, the spec of Gearbox " L" length and weight "W" as following :

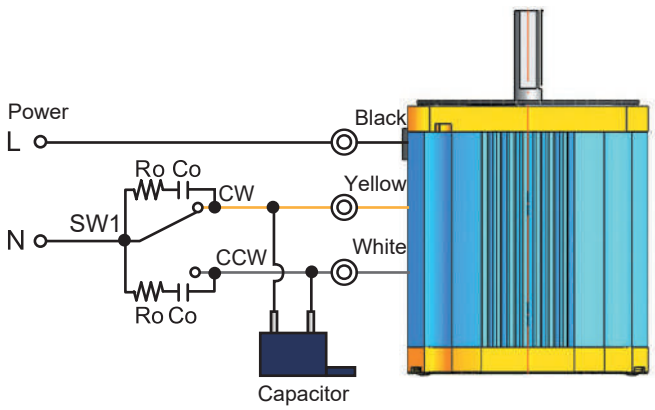
6A□Gearbox Length/Weight		
Model	Length (mm)	Weight (g)
6A3~6A100	39.5	400
6A120~6A360	43.5	440

※ We also have Gearbox 6A□N with shaft Ø8. For details please refer to the P.4.

Capacity of Capacitor (μF/VAC)	A	B	H	L	T	E
6.5/250	48	17	27	9	34	5
1.5/450	38	17	26	9	24	5

＊ 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



Torque Motor 10W

Specs

Motor Output	10W					
Round Shaft Type	8T10S-1		8T10S-2		8T10S-2E	
Pinion Shaft Type	8T10P-1		8T10P-2		8T10P-2E	
Specification Certification	c UL, CCC, RoHS, e, IP54		CE, CCC, RoHS, e, IP54		CE, CCC, RoHS, e, IP54	
With the Controller Model	TP51,TP5F		TP52,TP5F		TP52,TP5F	
Capacity of Capacitor (μF)	10		2.5		2.5	
Use Freeze [when restraint] (min)	5	Continuous	5	Continuous	5	Continuous
Power Input (V)	Single phase AC110	Single phase AC60	Single phase AC220	Single phase AC115	Single phase AC230	Single phase AC115
Power Frequency (Hz)	60				50	
Starting Torque (Nm)	0.21	0.07	0.21	0.07	0.22	0.07
Maximum Output Power(W)	12	3.3	12	3.3	10	2.8
Maximum Output: Rotational Speed(r/min)	900		900		750	
Maximum Output: Torque(Nm)	0.13	0.04	0.13	0.04	0.13	0.04
Maximum Output: Electric Current(A)	0.74	0.45	0.39	0.24	0.45	0.18
Maximum Output: Power Input(W)	80	25	80	25	90	20
Ambient Temperature	-10~+50℃					
Ambient Humidity	Max.85%RH					

※ 1 Nm = 10.19716 Kgcm

Permissible Overhung Load / Permissible Thrust Load

Round Shaft Type

Model	Permissible Overhung Load(Unit : kg f)		Permissible Thrust Load (Unit : kg f)
	10mm from shaft end	20mm from shaft end	
8T10S-□	9	14	Permissible thrust load do not exceed the weight of Motor 1/2. If exceed the rated weight will decrease the service life of Motor. Please using indirect transmission machinery such as coupling, belt, chain. As the applications which will need the thrust load.

Pinion Shaft Type(Gearbox Attached)

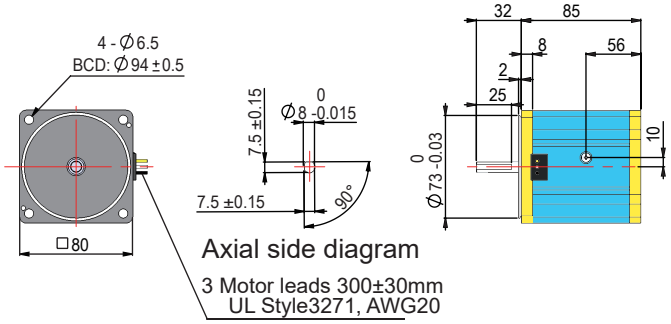
Model	Gear Ratio	Permissible Overhung Load(Unit : kg f)		Permissible Thrust Load (Unit : kg f)
		10mm from shaft end	20mm from shaft end	
8T10P-□	3, 3.6, 5	20	25	5
	6, 7.5, 9, 10, 12.5, 15, 18, 20	30	35	
	25, 30, 36, 50, 60, 75, 90, 100, 120, 150, 180, 200, 250, 300, 360	45	55	

※1： The Gearboxs of all series have RoHS, e certificates.

Dimensions

Round Shaft Type 8T10S-□

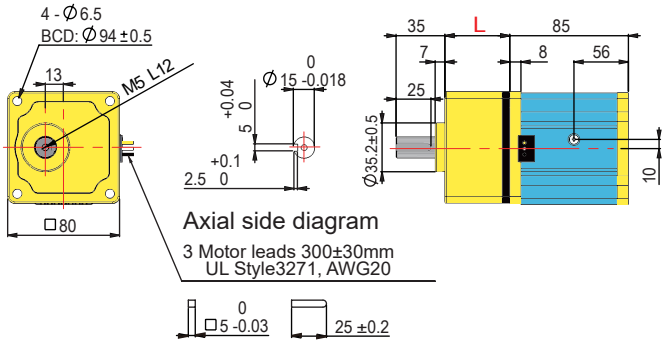
Motor Weight : 2050g



Pinion Shaft Type 8T10P-□+8A□

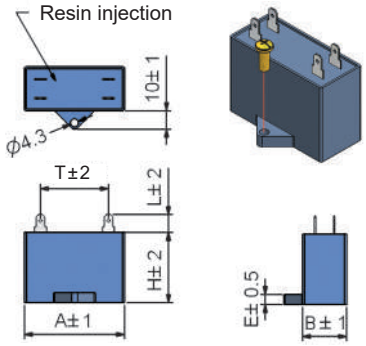
Unit : mm

Motor Weight : 2030g+W



Capacitor Dimensions

(Single phase motors only)



* 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.

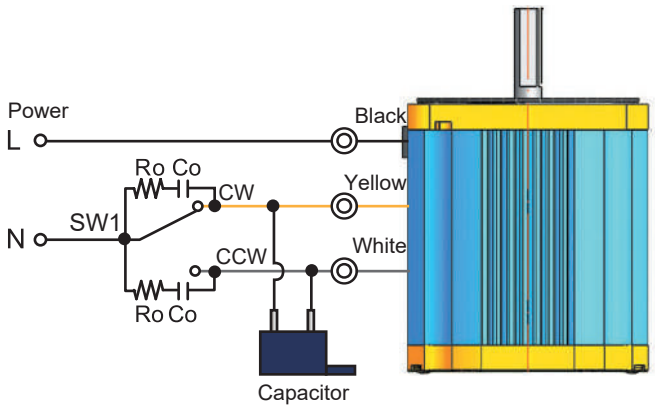
＊8A pinion shaft type 8A3~360, the spec of Gearbox " L" length and weight "W" as following :

8A□Gearbox Length/Weight		
Model	Length (mm)	Weight (g)
8A3~8A100	46.5	880
8A120~8A360	50.5	940

※ We also have Gearbox 8A□N with shaft Ø10. For details please refer to the P.4.

Capacity of Capacitor (μF/VAC)	A	B	H	L	T	E
10/250	49	21	31.5	8	38	5
2.5/450	48	17	27	9	34	5

Wiring Diagram



Torque Motor Standard Type
Independent Fan Type 20W

Specs

Motor Output	20W					
Round Shaft Type	9T20S(F)-1		9T20S(F)-2		9T20S(F)-2E	
Pinion Shaft Type	9T20P(F)-1		9T20P(F)-2		9T20P(F)-2E	
Specification Certification	c UL us, CCC, RoHS, e, IP54		CE, CCC, RoHS, e, IP54		CE, CCC, RoHS, e, IP54	
With the Controller Model	TP51,TP5F		TP52,TP5F		TP52,TP5F	
Capacity of Capacitor (μF)	12		3		3	
Use Freeze [when restraint] (min)	5	Continuous	5	Continuous	5	Continuous
Power Input (V)	Single phase AC110	Single phase AC60	Single phase AC220	Single phase AC115	Single phase AC230	Single phase AC115
Power Frequency (Hz)	60				50	
Starting Torque (Nm)	0.27	0.09	0.28	0.09	0.35	0.11
Maximum Output Power(W)	18	6	20	6	20	6
Maximum Output – Rotational Speed(r/min)	900		900		750	
Maximum Output – Torque(Nm)	0.2	0.07	0.21	0.06	0.26	0.07
Maximum Output – Electric Current(A)	0.82	0.49	0.50	0.23	0.50	0.27
Maximum Output – Power Input(W)	82	29	92	30	101	33
Ambient Temperature	-10~+50℃					
Ambient Humidity	Max.85%RH					

※9T20S-□/9T20P-□is standard type, 9T20SF-□/9T20PF-□is independent fan type.

※1 Nm = 10.19716 Kgcm

Permissible Overhung Load / Permissible Thrust Load

Round Shaft Type

Model	Permissible Overhung Load(Unit : kg f)		Permissible Thrust Load (Unit : kg f)
	10mm from shaft end	20mm from shaft end	
9T20S(F)-□	14	20	Permissible thrust load do not exceed the weight of Motor 1/2. If exceed the rated weight will decrease the service life of Motor. Please using indirect transmission machinery such as coupling, belt, chain. As the applications which will need the thrust load.

Pinion Shaft Type(Gearbox Attached)

Model	Gear Ratio	Permissible Overhung Load(Unit : kg f)		Permissible Thrust Load (Unit : kg f)
		10mm from shaft end	20mm from shaft end	
9T20P(F)-□	3, 3.6, 5	50	60	15
	6, 7.5, 9, 10, 12.5, 15, 18, 20	60	70	
	25, 30, 36, 50, 60, 75, 90, 100, 120, 150, 180, 200, 250, 300, 360	70	80	

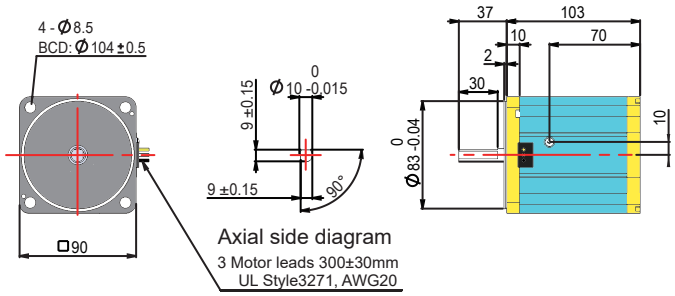
※1： The Gearboxs of all series have RoHS, e certificates.

Dimensions

◆ Standard Type

Round Shaft Type 9T20S-□

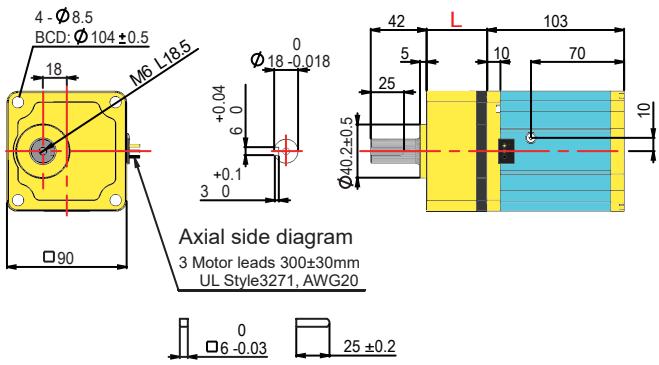
Motor Weight : 3100g



Unit : mm

Pinion Shaft Type 9T20P-□+9A□

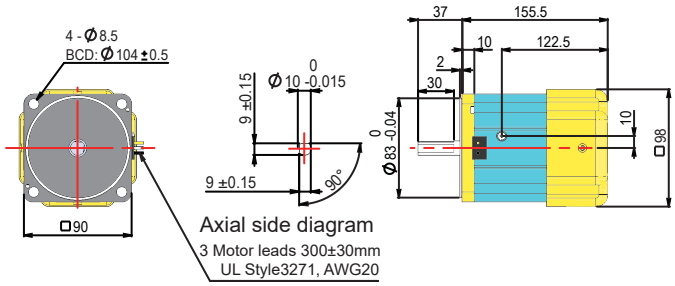
Motor Weight : 3080g+W



◆ Independent Fan Type

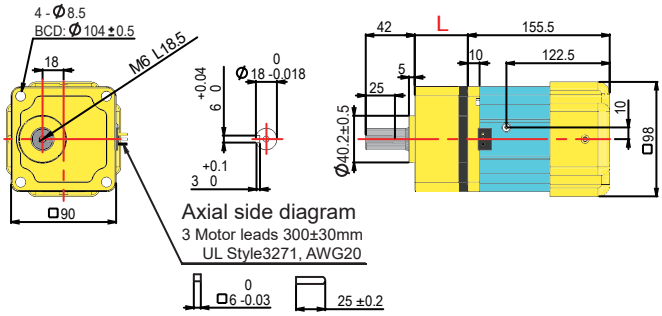
Round Shaft Type 9T20SF-□

Motor Weight : 3365g

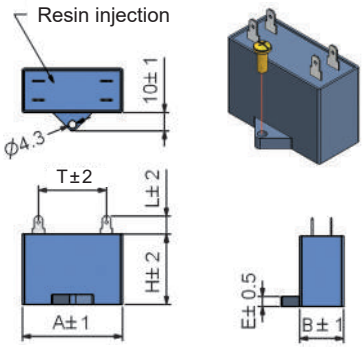


Pinion Shaft Type 9T20PF-□+9A□

Motor Weight : 3345g+W



Capacitor Dimensions (Single phase motors only)



* 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.

＊9A pinion shaft type 9A3~360, the spec of Gearbox " L" length and weight "W" as following :

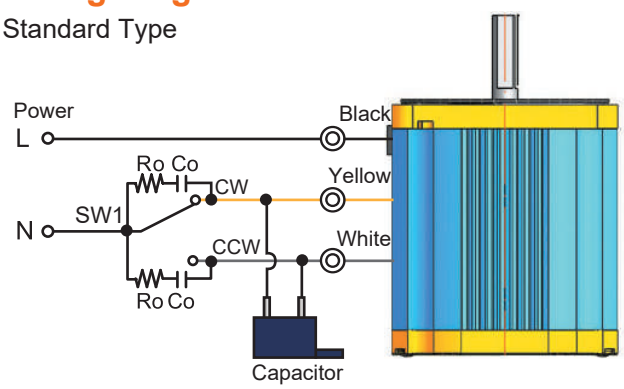
9A□Gearbox Length/Weight		
Model	Length (mm)	Weight (g)
9A3~9A20	45.5	1170
9A25~9A100	58.5	1520
9A120~9A360	64.5	1610

※ We also have Gearbox 9A□N with shaft Ø12. For details please refer to the P.4.

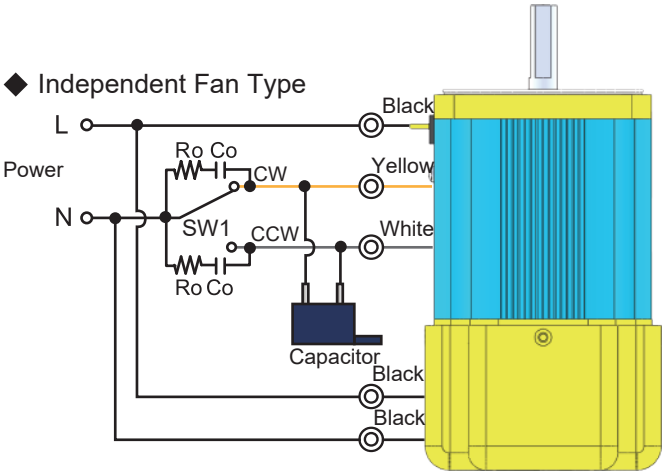
Capacity of Capacitor (μF/VAC)	A	B	H	L	T	E
12/250	50	22	35	9	34	5
3/450	48	19	29	9	34	5

Wiring Diagram

◆ Standard Type



◆ Independent Fan Type



Torque Motor Standard Type
Independent Fan Type 40W

Specs

Motor Output	40W					
Round Shaft Type	9T40S(F)-1		9T40S(F)-2		9T40S(F)-2E	
Pinion Shaft Type	9T40P(F)-1		9T40P(F)-2		9T40P(F)-2E	
Specification Certification	c UL CCC RoHS IP54		CE CCC RoHS IP54		CE CCC RoHS IP54	
With the Controller Model	TP51		TP52		TP52	
Capacity of Capacitor (μF)	30		7		7	
Use Freeze [when restraint] (min)	5	Continuous	5	Continuous	5	Continuous
Power Input (V)	Single phase AC110	Single phase AC60	Single phase AC220	Single phase AC115	Single phase AC230	Single phase AC115
Power Frequency (Hz)	60				50	
Starting Torque (Nm)	0.85	0.2	0.85	0.2	0.9	0.2
Maximum Output Power(W)	40	10	40	10	40	9
Maximum Output — Rotational Speed(r/min)	900		900		750	
Maximum Output — Torque(Nm)	0.67	0.1	0.67	0.1	0.74	0.11
Maximum Output — Electric Current(A)	2.30	1.30	1.20	0.70	1.50	0.70
Maximum Output — Power Input(W)	240	76	248	79	280	80
Ambient Temperature	-10~+50℃					
Ambient Humidity	Max.85%RH					

※9T40S-☐/9T40P-☐is standard type, 9T40SF-☐/9T40PF-☐is independent fan type.

※1 Nm = 10.19716 Kgcm

Permissible Overhung Load / Permissible Thrust Load

Round Shaft Type

Model	Permissible Overhung Load(Unit : kg f)		Permissible Thrust Load (Unit : kg f)
	10mm from shaft end	20mm from shaft end	
9T40S(F)-☐	24	27	Permissible thrust load do not exceed the weight of Motor 1/2. If exceed the rated weight will decrease the service life of Motor. Please using indirect transmission machinery such as coupling, belt, chain. As the applications which will need the thrust load.

Pinion Shaft Type(Gearbox Attached)

Model	Gear Ratio	Permissible Overhung Load(Unit : kg f)		Permissible Thrust Load (Unit : kg f)
		10mm from shaft end	20mm from shaft end	
9T40P(F)-☐	3, 3.6, 5	50	60	15
	6, 7.5, 9, 10, 12.5, 15, 18, 20	60	70	
	25, 30, 36, 50, 60, 75, 90, 100, 120, 150, 180, 200, 250, 300, 360	70	80	

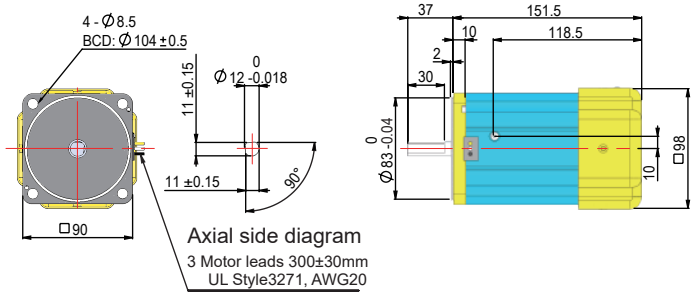
※1： The Gearboxs of all series have RoHS certificates.

■ Dimensions

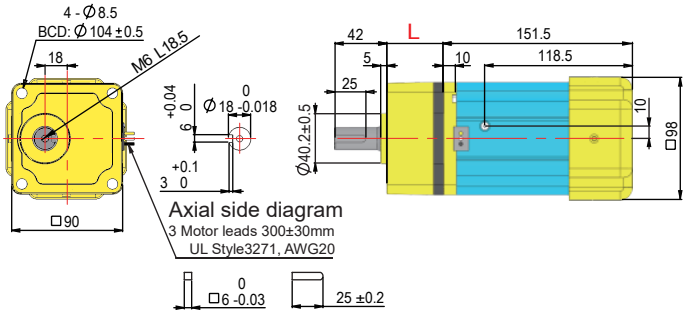
◆ Standard Type

Round Shaft Type 9T40S-□ Motor Weight : 4100g

Unit : mm

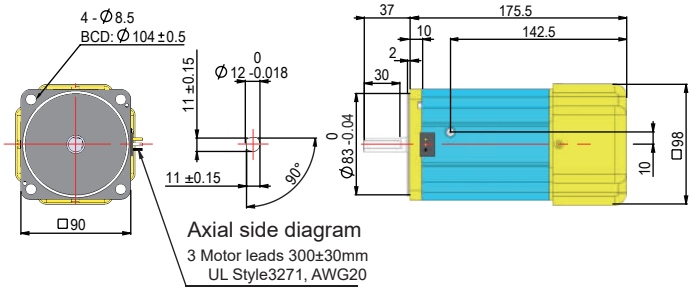


Pinion Shaft Type 9T40P-□+9A□ Motor Weight : 4070g+W

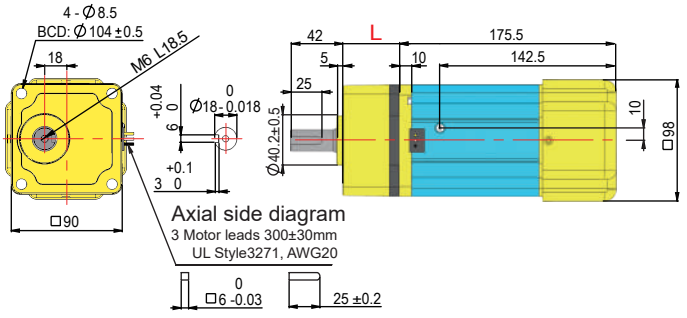


◆ Independent Fan Type

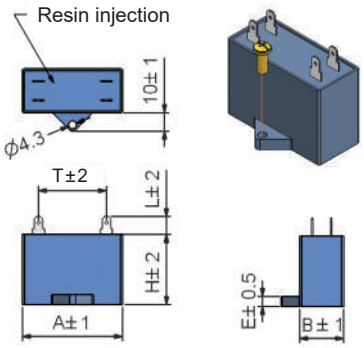
Round Shaft Type 9T40SF-□ Motor Weight : 4365g



Pinion Shaft Type 9T40PF-□+9A□ Motor Weight : 4335g+W



■ Capacitor Dimensions (Single phase motors only)



* 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.

* 9A pinion shaft type 9A3~360, the spec of Gearbox " L" length and weight "W" as following :

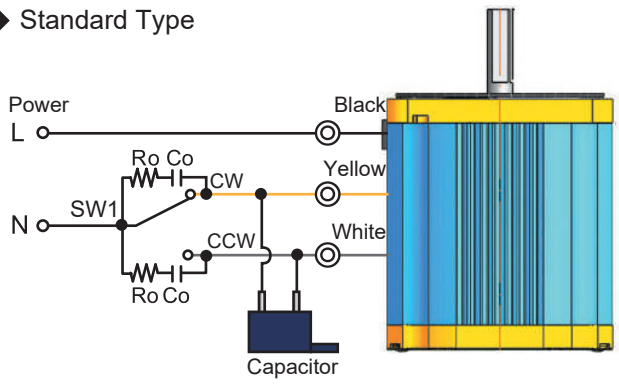
9A□Gearbox Length/Weight		
Model	Length (mm)	Weight (g)
9A3~9A20	45.5	1170
9A25~9A100	58.5	1520
9A120~9A360	64.5	1610

※ We also have Gearbox 9A□U with shaft Ø15. For details please refer to the P.4.

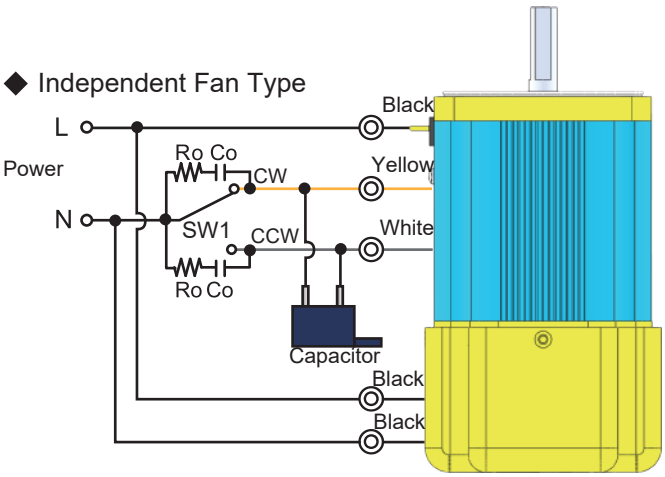
Capacity of Capacitor (μF/VAC)	A	B	H	L	T	E
30/250	59	40	40	12	44	4
7/450	57.5	25	39	8	44	4

■ Wiring Diagram

◆ Standard Type



◆ Independent Fan Type



Product Recommendation Sheet

■ Mechanism: Operation of Large Index Table Date dd / mm / yy

Name:	Contact Person:	Department / Title:
TEL:	FAX:	Application:	Area:

Power Input: ☐ Single phase AC _____V ☐3 phase AC_____V ☐DC_____ V Frequency: Hz

Activated mode:

☐Singe 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

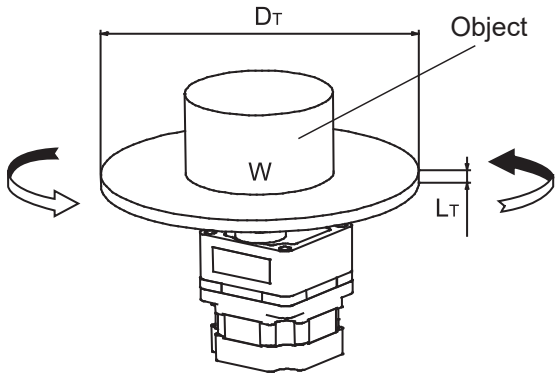
☐Clockwise / counterclockwise repeated → CW:___Second/Sequence,Stop:___Second/Sequence :CCW:___Second/Sequence,Stop:___Sequence/Minute

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	D_T = _____ cm
Width	L_T = _____ cm
Material	ρ = _____
Positioning angle *(Note)	θ = _____ deg
Positioning time *(Note)	T_O = _____ 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 wil select the suitable products for you as soon as possible.

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Product Recommendation Sheet

■ Mechanism: Lead Screw Date dd / mm / yy

Name:	Contact Person:	Department / Title:
TEL:	FAX:	Application:	Area:

Power Input: ☐ Single phase AC _____V ☐3 phase AC_____V ☐DC_____ V Frequency: Hz

Activated mode:

☐Singe 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

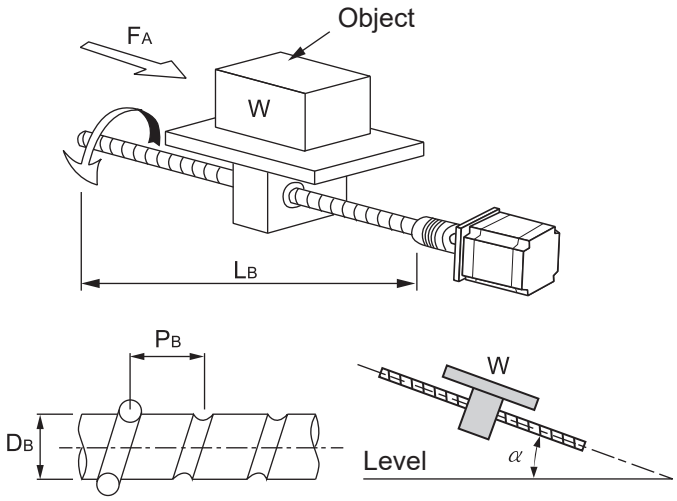
☐Clockwise / counterclockwise repeated → CW:___Second/Sequence,Stop:___Second/Sequence :CCW:___Second/Sequence,Stop:___Sequence/Minute

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 μ =	_____
Screw angle	α = _____deg	Positioning distance *(Note)	L = _____cm
Screw shaft diameter	D_B = _____cm	Positioning time *(Note)	T_O = _____sec
Screw length	L_B = _____cm	Push / Pull force	F_A = _____kg
Screw pitch	P_B = _____cm	Stopping accuracy	±_____mm
Material	ρ = _____		
Screw efficiency	η = _____		
Internal frictional coefficient of pilot pressure nut	μ_0 = _____		

*(Note): Please enter the max speed.

Recommendation products (Selected specs) :

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

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Product Recommendation Sheet

■ Mechanism: Belt and Pulley Date dd / mm / yy

Name:	Contact Person:	Department / Title:
TEL:	FAX:	Application:	Area:

Power Input: ☐ Single phase AC _____V ☐3 phase AC_____V ☐DC_____ V Frequency: Hz

Activated mode:

☐Singe 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

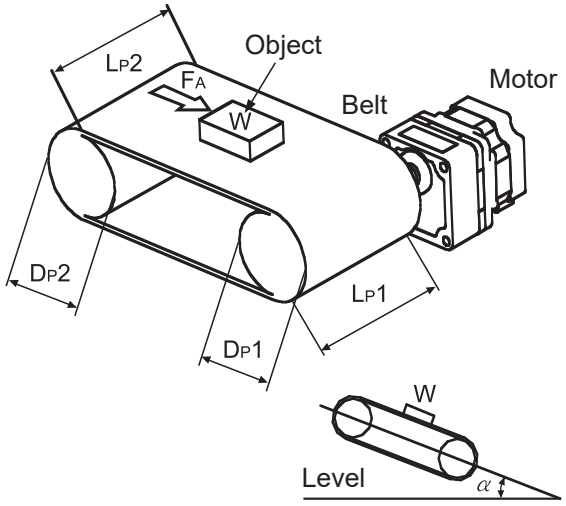
☐Clockwise / counterclockwise repeated → CW:___Second/Sequence,Stop:___Second/Sequence :CCW:___Second/Sequence,Stop:___Sequence/Minute

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

Screw angle α = _____ deg

(Connecting to the motor)

Pulley diameter DP1 = _____ cm

Width LP1 = _____ cm

Material ρ 1 = _____

Pulley diameter DP2 = _____ cm

Width LP2 = _____ cm

Material ρ 2 = _____

Belt, pulley efficiency η = _____

Frictional coefficient of sliding surfaces μ = _____

Positioning distance *(Note) L = _____ cm

Positioning time *(Note) TO = _____ sec

Push / Pull force FA = _____ kg

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 wil select the suitable products for you as soon as possible.

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Product Recommendation Sheet

■ Mechanism: Others Date dd / mm / yy

Name:	Contact Person:	Department / Title:	
TEL:	FAX:	Application:	Area:
Power Input: ☐ Single phase AC _____V ☐3 phase AC_____V ☐DC_____ V			Frequency: Hz

Activated mode:

☐Singe 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 wil select the suitable products for you as soon as possible.

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