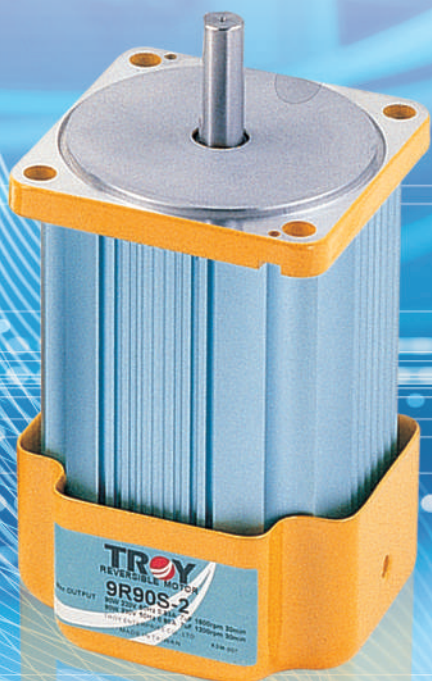


Company Profile



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

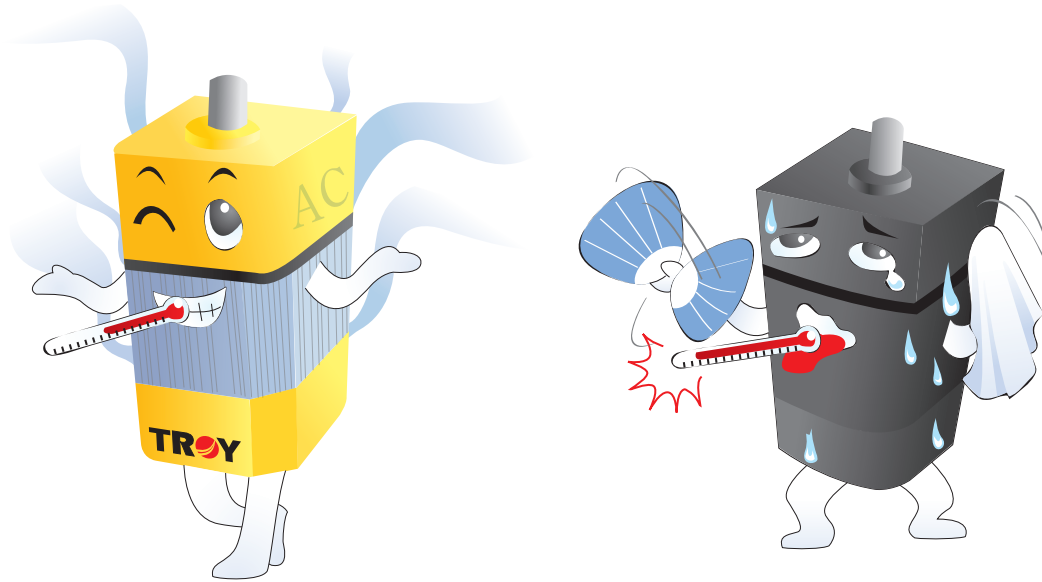


China patent



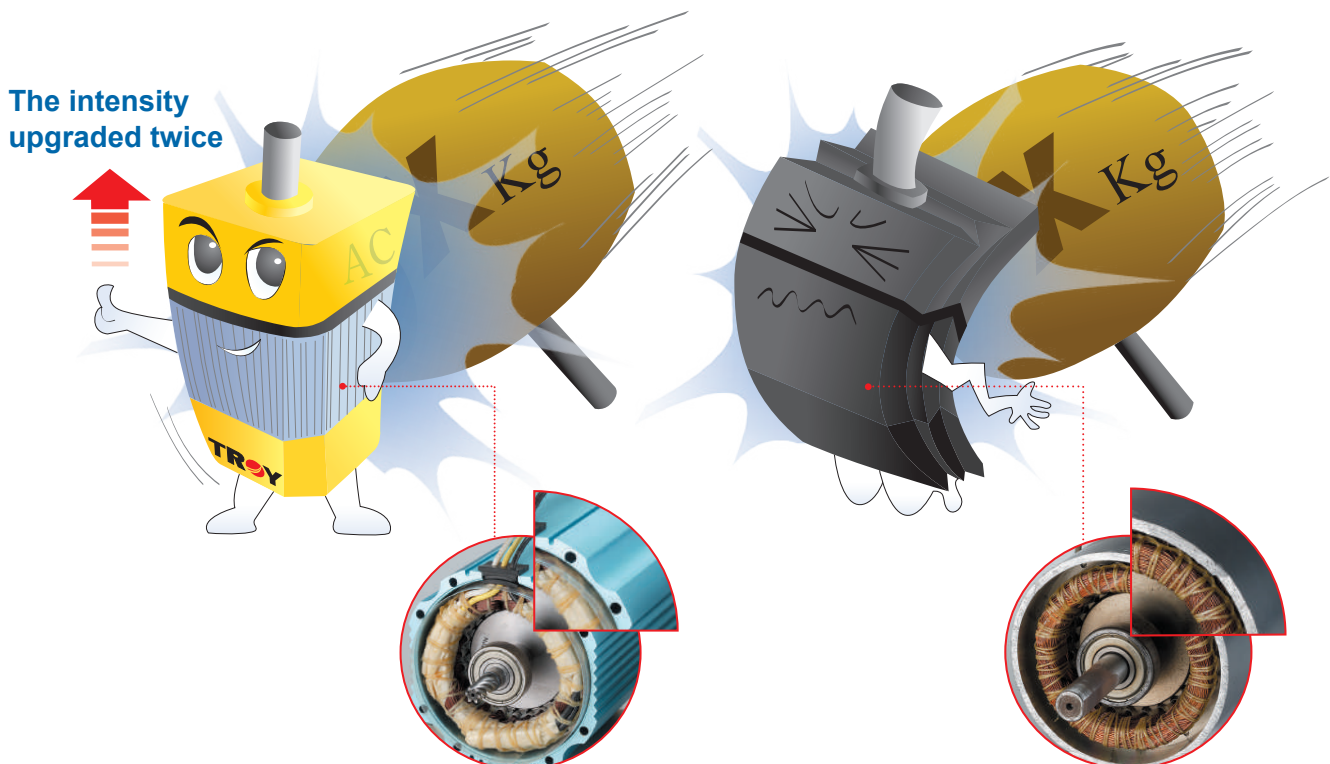
 Certificate

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

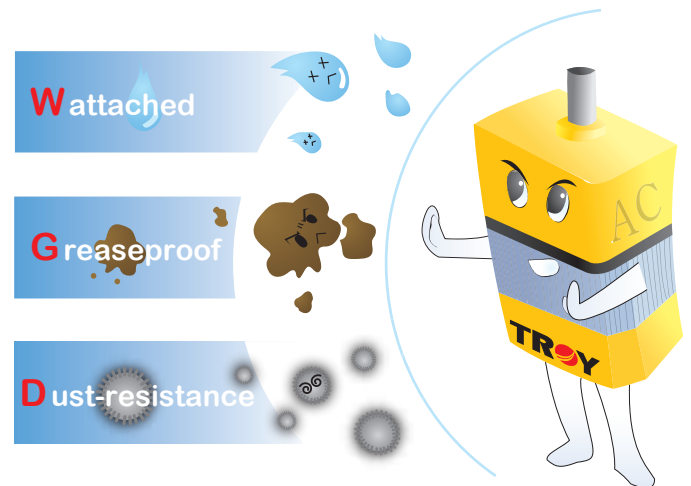
The Maximum Permissible Torque Can Reach to 40 Nm



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

Features 4

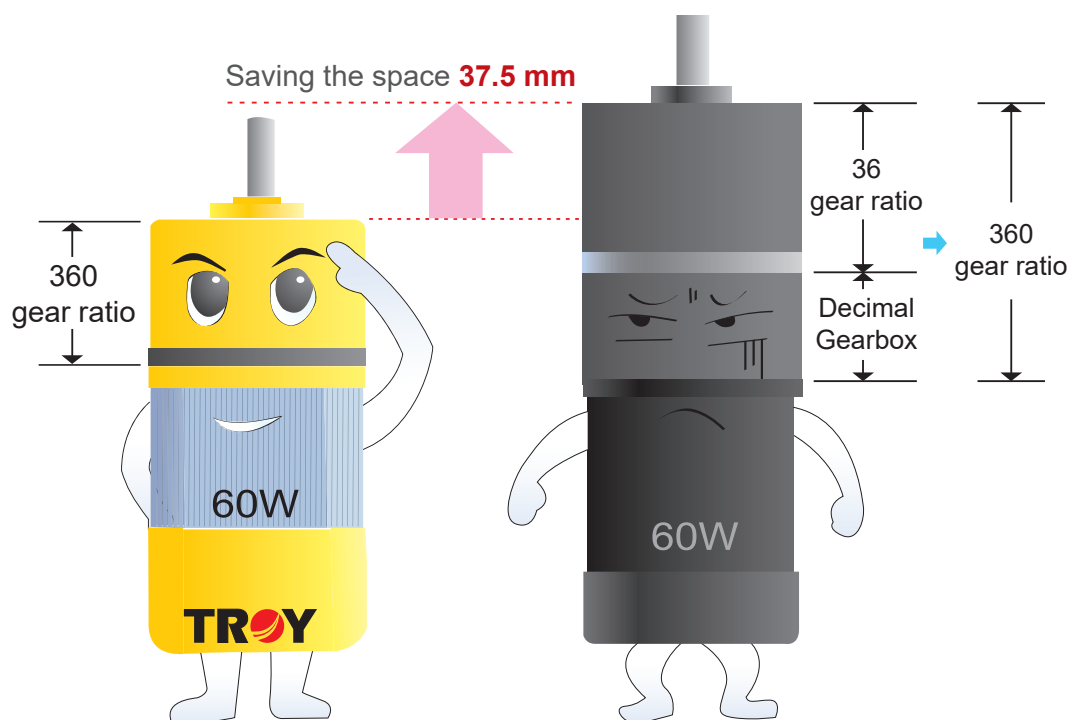
Greaseproof, Watertight, Dust-Resistance



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

Features 5

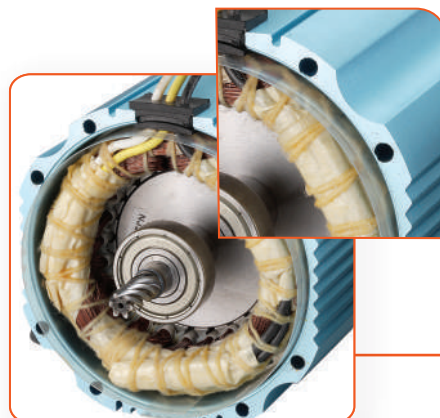
Saving the Spaces



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

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.

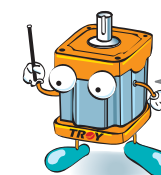


Motor Construction of Intensifying Type

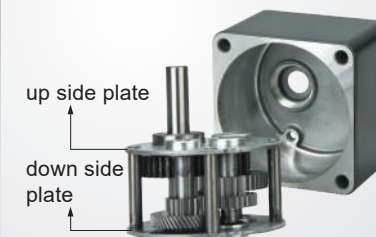
The motor case and the housing of motor rear made by aluminum which strengthened. The intensity of structure of the motor could be upgrade double. We can meet Your needs for high output torque and high intensity of construction.

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.

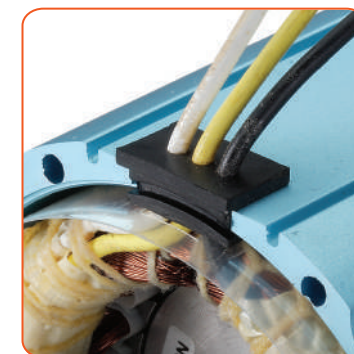
Low Temperature

- ◆ 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.

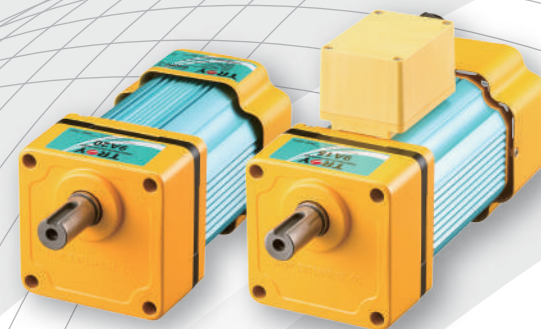


Excellent Design - Watertight Greaseproof, Dust-Resistant

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



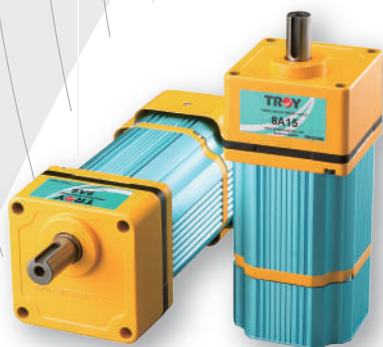
AC Reversible Motor
Lead Wire Type · Terminal Box Type



Torque Motor



Electromagnetic Brake Motor



Speed Control Motor
Separated Type



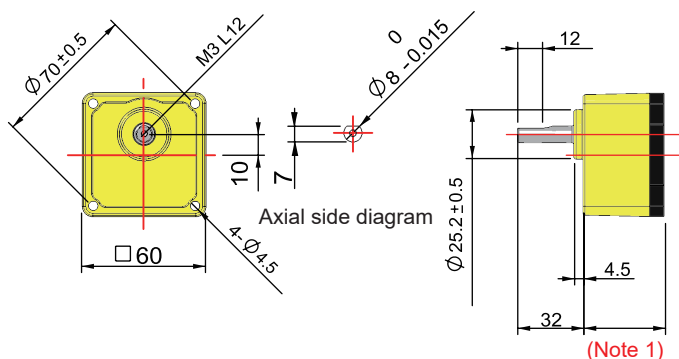
Speed Control Motor
Component Package Type



■ Dimension of Shaft Ø8, Ø10, Ø12, Ø15

Model: 6A□N with Shaft NØ8

Unit : mm

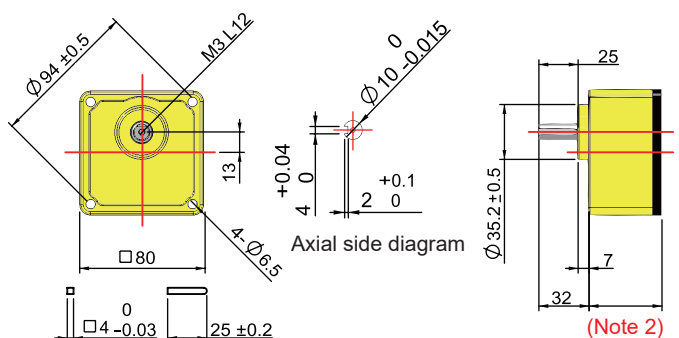


*(Note 1)

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

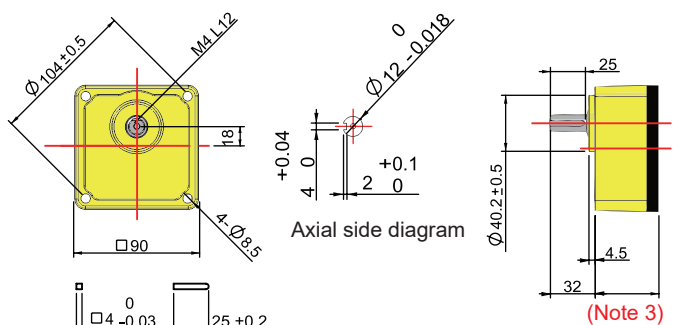


*(Note 2)

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

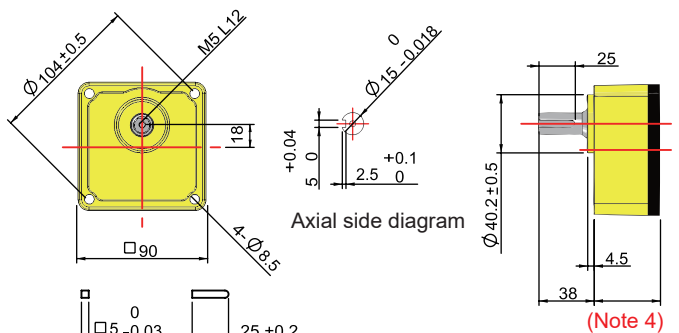


*(Note 3)

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)

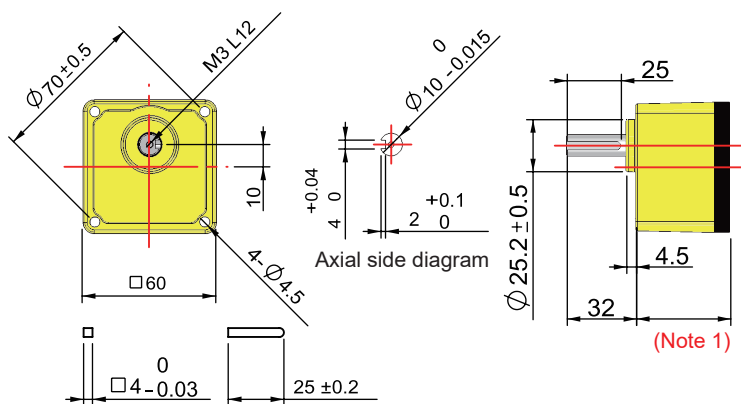
9A□U Gearbox Length/Weight		
Gearbox's Model	Length (mm)	Weight (g)
9A3U~9A20U	45.5±0.5	1150
9A25U~9A100U	58.5±0.5	1500
9A120U~9A360U	64.5±0.5	1590

* 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.

■ Dimension of Shaft Ø10, Ø15, Ø18

Model: 6A□ with Shaft Ø10

Unit : mm



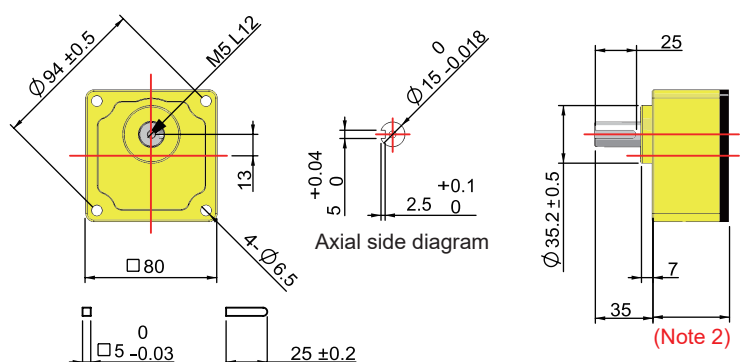
*(Note 1)

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



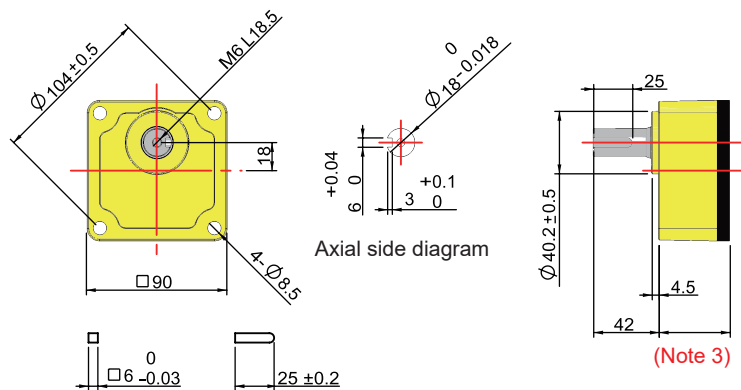
*(Note 2)

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

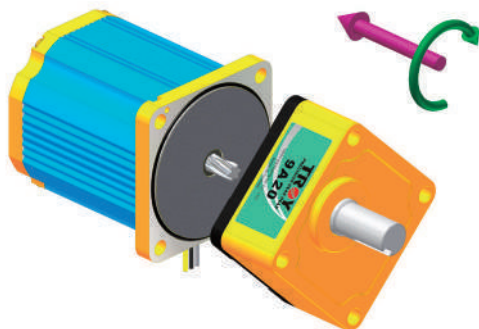
Gearbox's Model	Length (mm)	Weight (g)
9A3~9A20	45.5	1170
9A25~9A100	58.5	1520
9A120~9A360	64.5	1610

* 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.

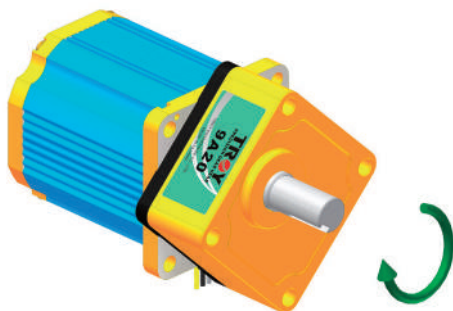
Connection of Motor and Gearbox

- 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.

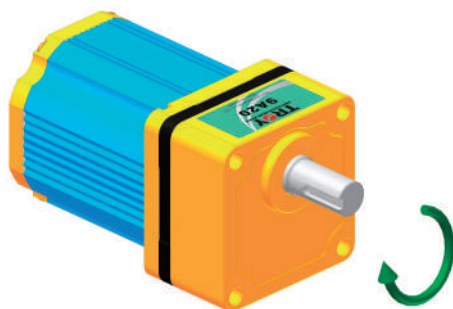
(Step 1) The distance between the motor and Gearbox around 35mm, 45°included angle.



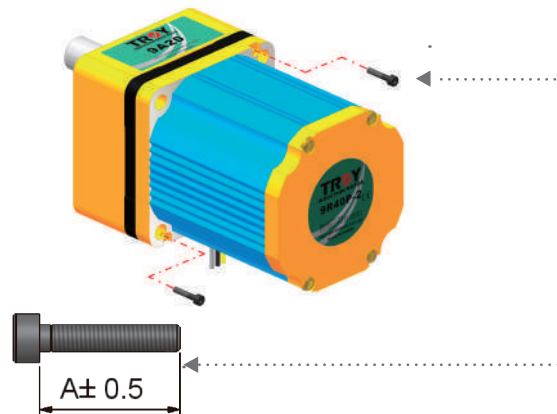
(Step 2) Gearbox connected with Motor in clockwise direction, 35°included angle.



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



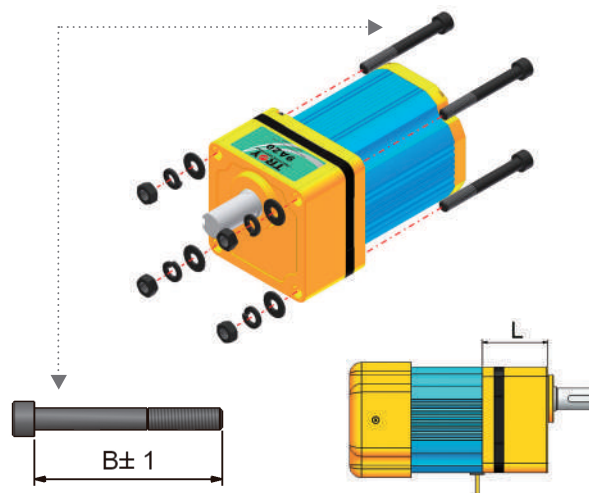
(Step 4) Using screws x 2 pcs(attachment) to secure the Motor and Gearbox.



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	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. **CE** : Europe Safety Certification



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

2. **cTUVus** : USA and Canadian Safety Certification



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

3. **CCC** : 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 : $120^{\circ}\text{C} \pm 8^{\circ}\text{C}$

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

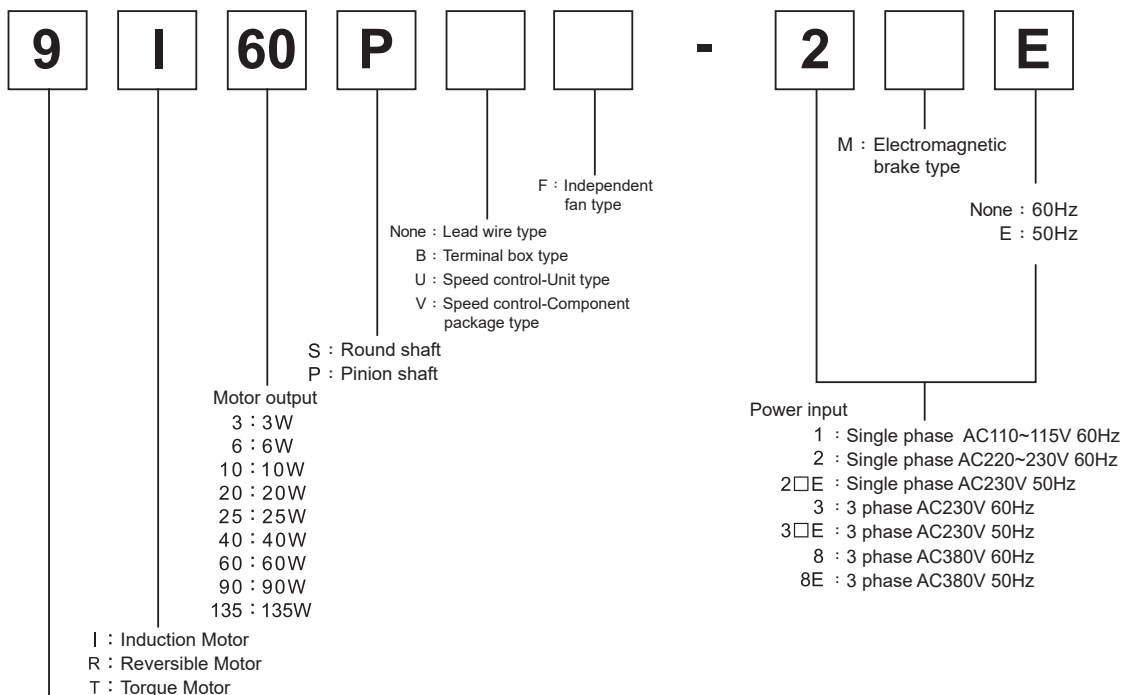
Dimension	Tolerance Value
>0	0.3
>6	0.5
>30	0.7
>80	0.9
>120	1.0
>180	1.2
>250	1.3
>315	1.4
>400	1.6
>1000	2.0

Unit : mm

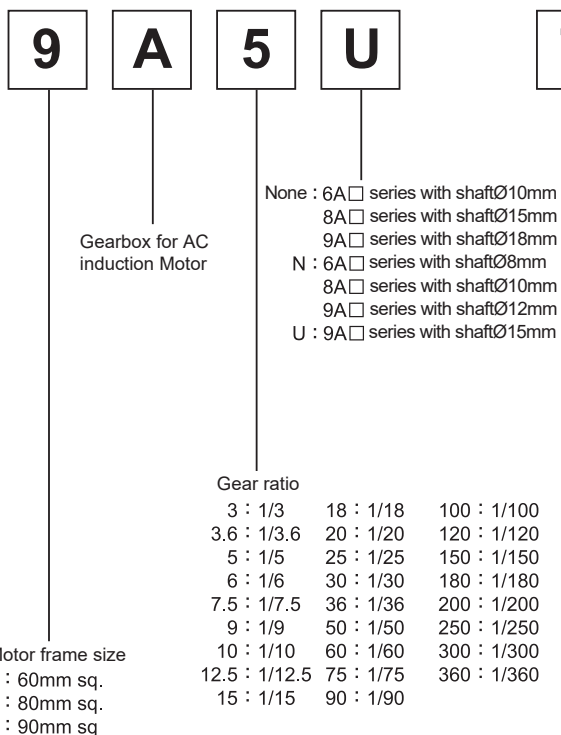
*For more details please refer to the "Motor Dimension".

*The product is subject to design modification for performance improvement without prior notice.
 For more details please contact with your local seller.

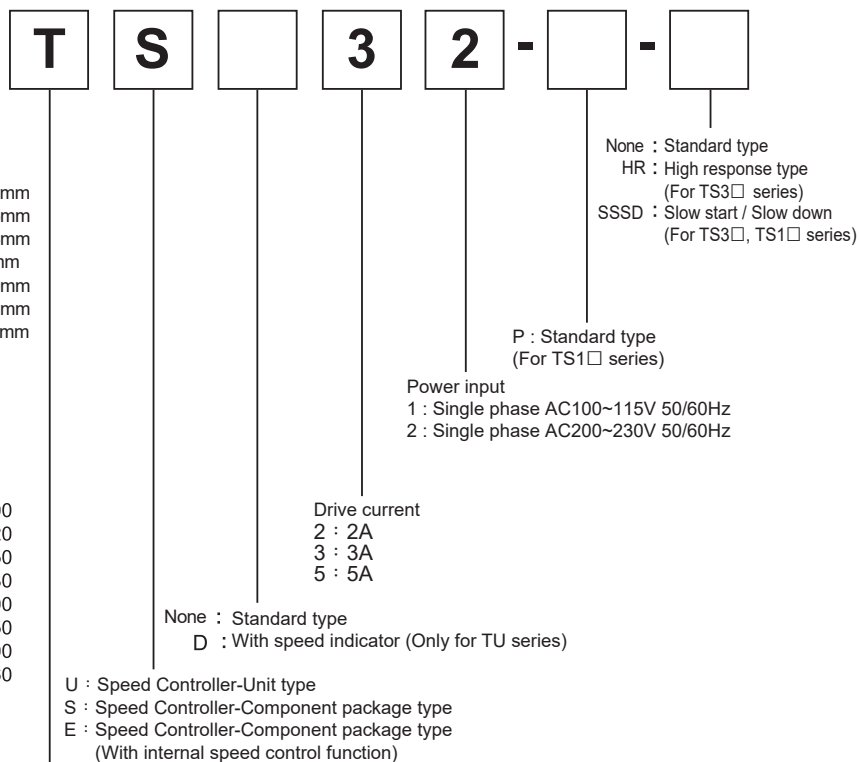
Motor



Gearbox



Controller



Speed Control Motor Unit Type Speed Controller TU / TUD Series

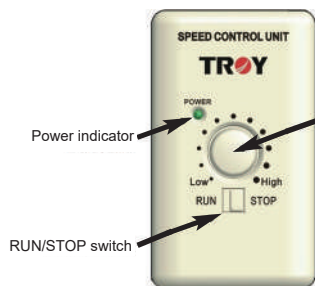


■ Specs

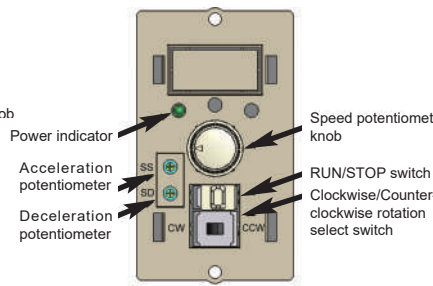
Type	Standard Type / Speed Display Type		Standard Type / Speed Display Type	
Model	TU31 / TUD31		TU32 / TUD32	
Specification Certification	—		TU32 :	
Power Input (V)	Single phase AC100~115		Single phase AC200~230	
Power Frequency (Hz)	50	60	50	60
Current (A)	3			
Drive Power	Max 90W			
Variable Speed Range(r/min)	90~1400	90~1700	90~1400	90~1700
Functions	Regular type : Speed control, Instantaneous brake stop, Slow start, Slow stop Speed indication type : Speed control, Instantaneous brake stop, Slow start, Slow stop, Speed display, Electro-gear ratio setting			
Ambient Temperature	0~+40°C			
Ambient Humidity	Max.85%RH			
Dimensions (mm)	100(L) × 60(W) × 99(H)			
Weight (g)	TU31 • TU32 : 180 / TUD31 • TUD32 : 192			

■ Functions of Panel

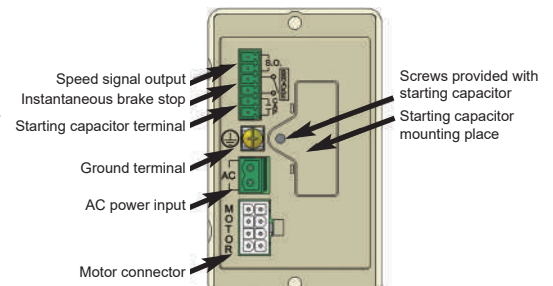
◆ TU31 • TU32



Speed Controller Front

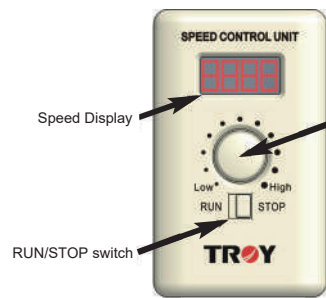


When Front Panel is Removed

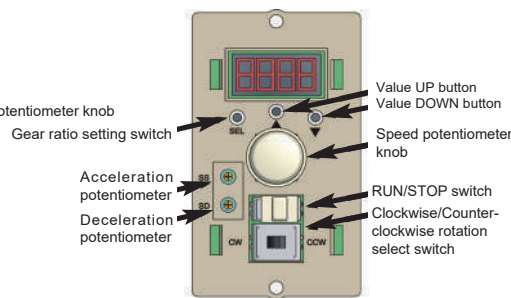


Speed Controller Rear Panel

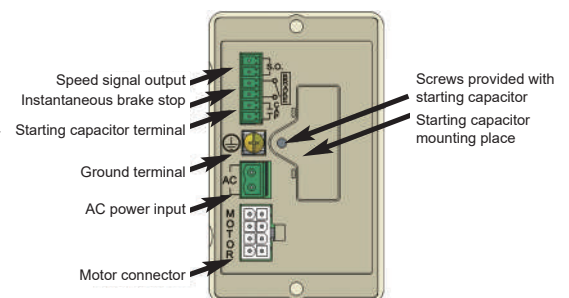
◆ TUD31 • TUD32



Speed Controller Front



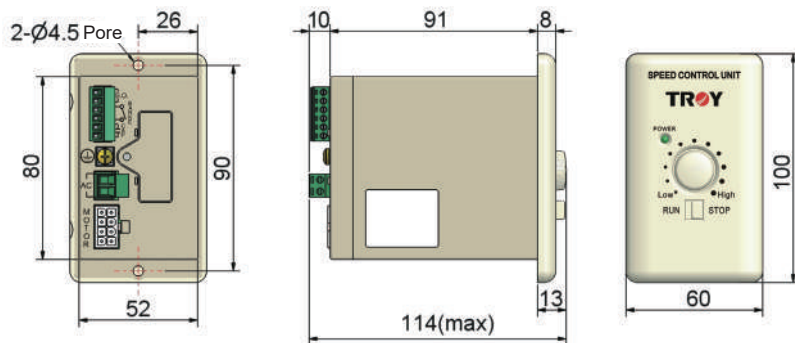
When Front Panel is Removed



Speed Controller Rear Panel

■ Dimensions

◆ TU31 • TU32 • TUD31 • TUD32

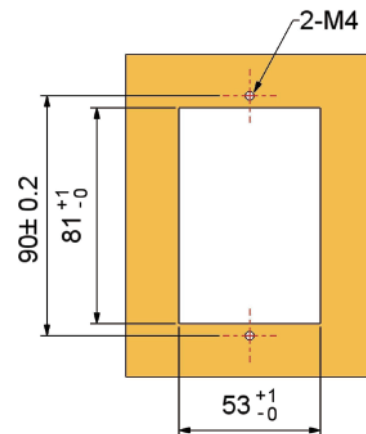


* The figure above dimension tolerance values are not labeled a general machining tolerances, the control mode, refer to P.8, others have marked tolerance values according to the drawing labeled based.

■ Mounting dimensions

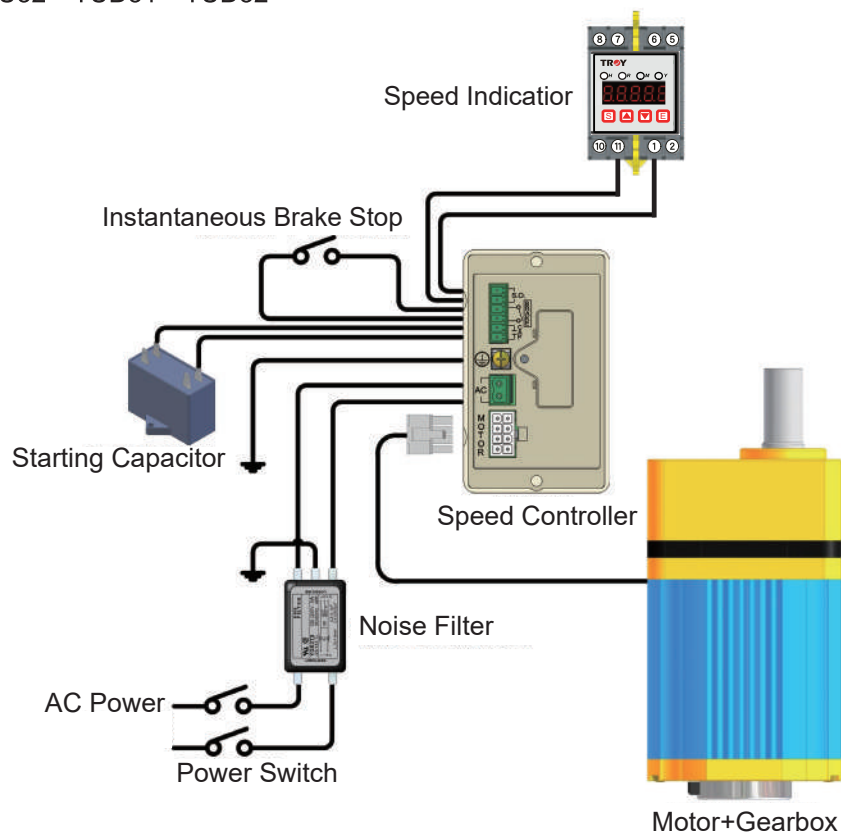
Unit : mm

◆ TU31 • TU32 • TUD31 • TUD32



■ Wiring Diagram

◆ TU31 • TU32 • TUD31 • TUD32



■ Extension Cables Specs

Model	CU-010	CU-020	CU-030	CU-050
Length (m)	1	2	3	5
Weight (g)	141	260	382	617

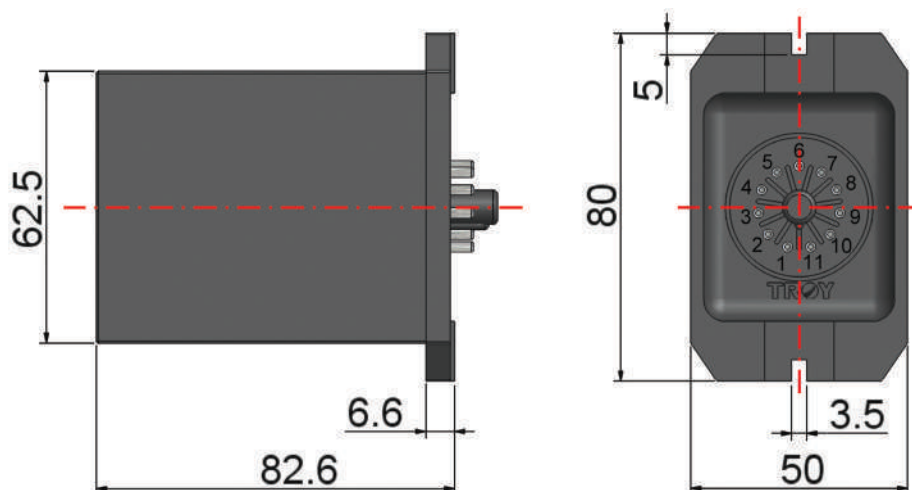


■ Specs

Type	Standard Type / High Response Type/ Slow Start, Slow Stop Type		Standard Type / High Response Type/ Slow Start, Slow Stop Type	
Model	TS31 / TS31-HR / TS31-SSSD		TS32 / TS32-HR / TS32-SSSD	
Specification Certification	RoHS		RoHS	
Power Input (V)	Single Phase AC100~115		Single Phase AC200~230	
Power Frequency (Hz)	50	60	50	60
Current (A)	3			
Drive Power	Max.90W			
Variable Speed Range(r/min)	90~1400	90~1700	90~1400	90~1700
Ambient Temperature	0~+40℃			
Ambient Humidity	Max.85%RH			
Dimensions (mm)	82.6(L) × 50(W) × 80(H)			
Weight (g)	152			

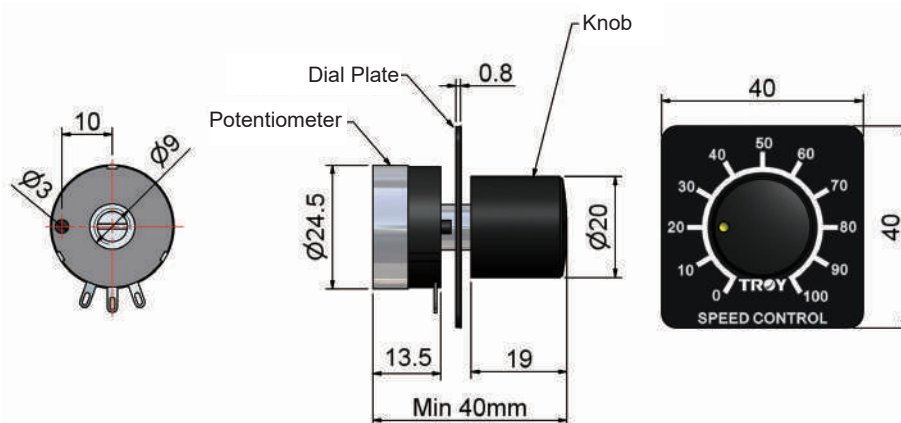
■ Dimensions

Unit : mm



※Flush mounting socket is sold separately.

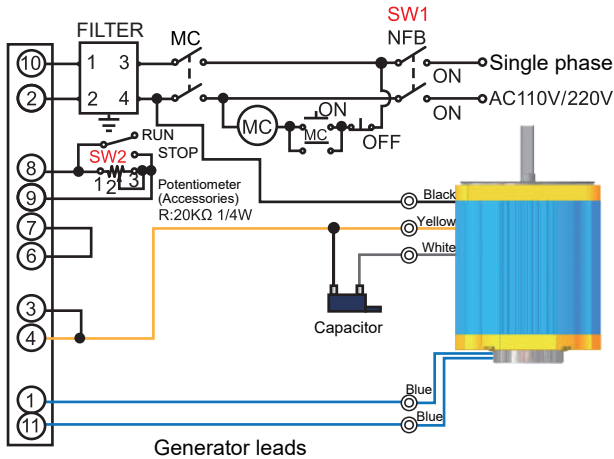
■ External Speed Potentiometer Dimensions



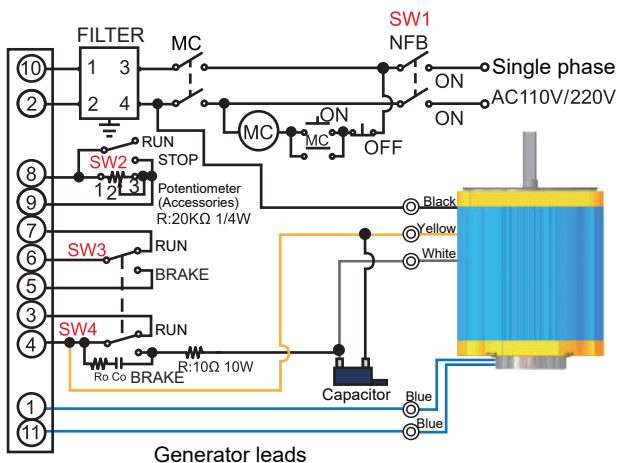
* The figure above dimension tolerance values are not labeled a general machining tolerances, the control mode, refer to P.8, others have marked tolerance values according to the drawing labeled based.

■ Wiring Diagram

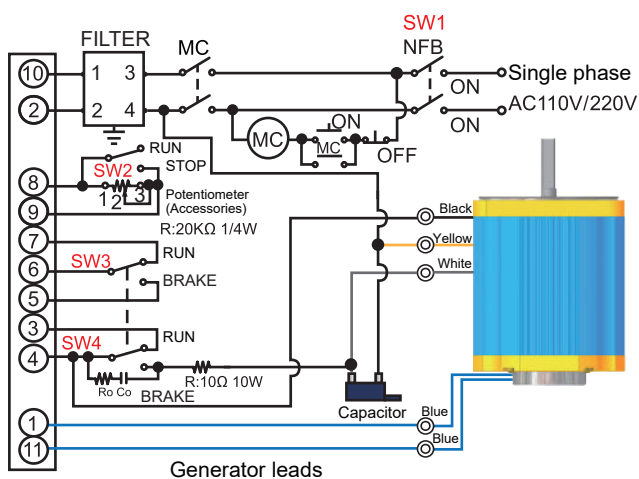
- ◆ Applications : Uni-directional operation & Speed control
Applicable models : All Series of Speed control Motor component package type - Induction / Reversible Motor



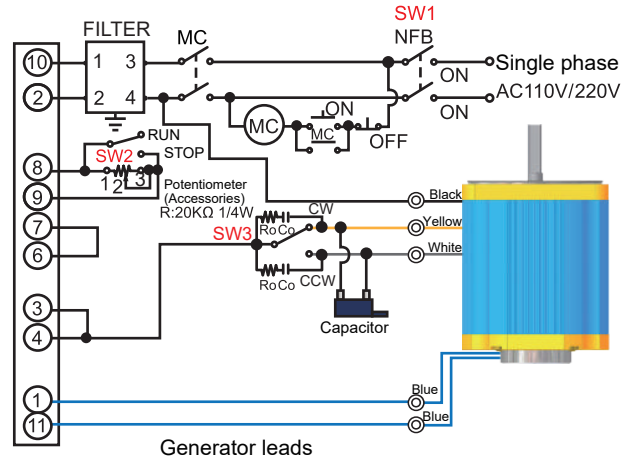
- ◆ Applications : Uni-directional operation & Speed control & Instantaneous stop
Applicable models : Speed control Motor component package type - Induction / Reversible Motor : 6~25W



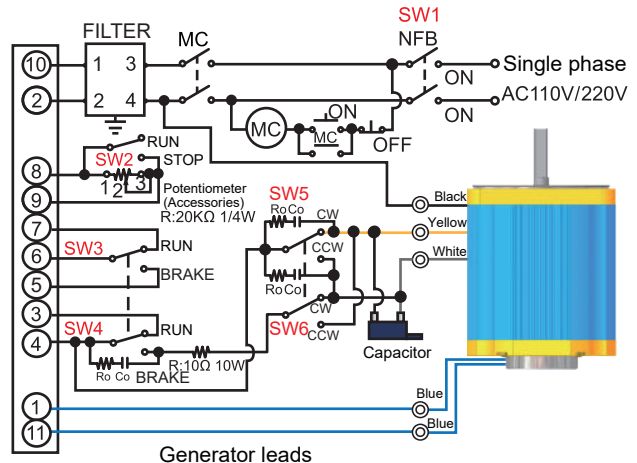
- ◆ Applications : Uni-directional operation & Speed control & Instantaneous stop
Applicable models : Speed control Motor component package type - Induction / Reversible Motor : 40~90W



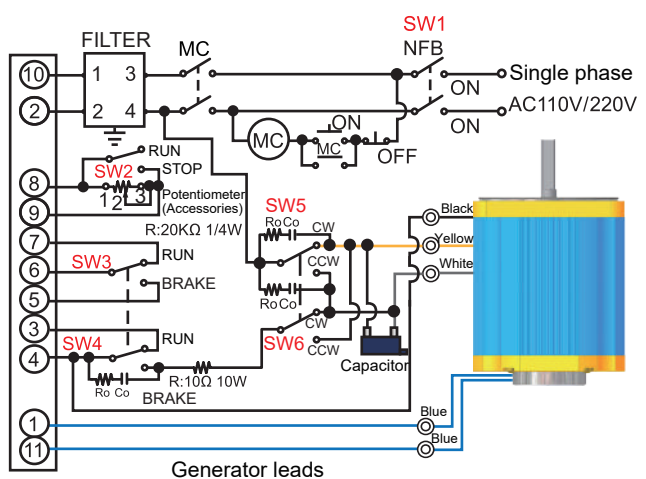
- ◆ Applications : Clockwise / Counterclockwise operation & Speed control
Applicable models : All Series of Speed control Motor component package type - Induction / Reversible Motor



- ◆ Applications : Clockwise / Counterclockwise operation & Speed control & Instantaneous stop
Applicable models : Speed control Motor component package type - Induction / Reversible Motor : 6~25W



- ◆ Applications : Clockwise / Counterclockwise operation & Speed control & Instantaneous stop
Applicable models : Speed control Motor component package type - Induction / Reversible Motor : 40~90W



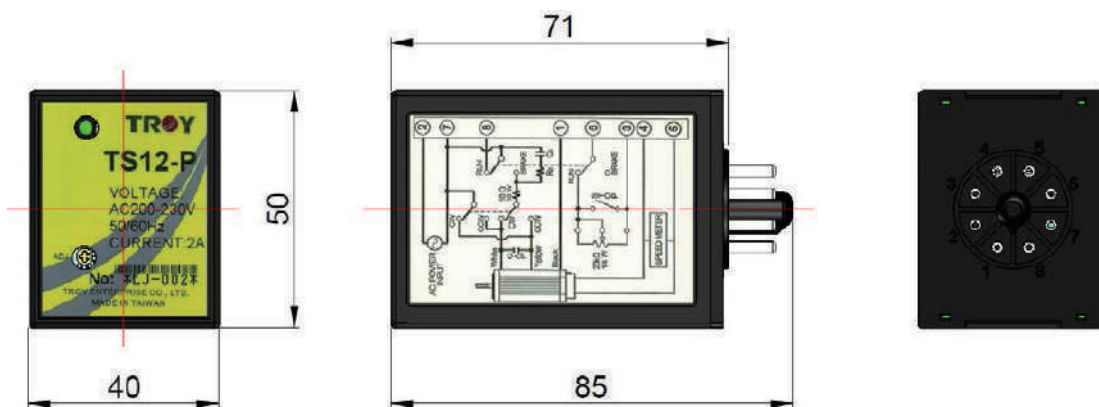


■ Specs

Type	Regular Type / Slow Start, Slow Stop Type		Regular Type / Slow Start, Slow Stop Type	
Model	TS11-P / TS11-P-SSSD		TS12-P / TS12-P-SSSD	
Specification Certification	—		—	
Power Input (V)	Single Phase AC100~115		Single Phase AC200~230	
Power Frequency (Hz)	50	60	50	60
Current (A)	2			
Drive Power	Max.60W			
Variable Speed Range(r/min)	90~1400	90~1700	90~1400	90~1700
Functions	Regular type : Speed control, Natural stop, Instantaneous brake stop Slow start / Slow stop type : Speed control, Natural stop, Instantaneous brake stop, Slow start, Slow stop Maximum speed limit : 1. ADJ could limit the maximum value of speed : adjusting ADJ could solve the vibration problem while being with motor at highest speed. 2. ADJ CW Rotating→raising the maximum speed ; CCW Rotating→ reducing the maximum speed.			
Ambient Temperature	0~+40℃			
Ambient Humidity	Max.85%RH			
Dimensions (mm)	50(L) × 40(W) × 85(H)			
Weight (g)	98			

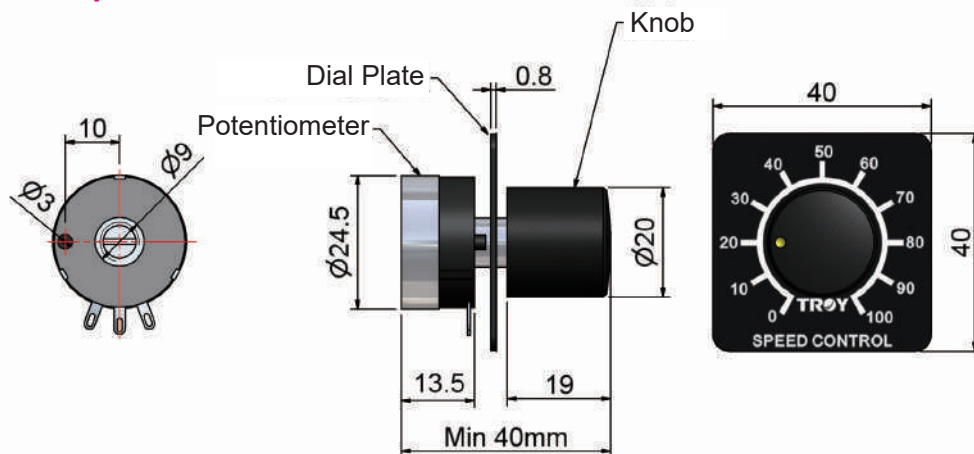
■ Dimensions

Unit : mm



※Flush mounting socket is sold separately.

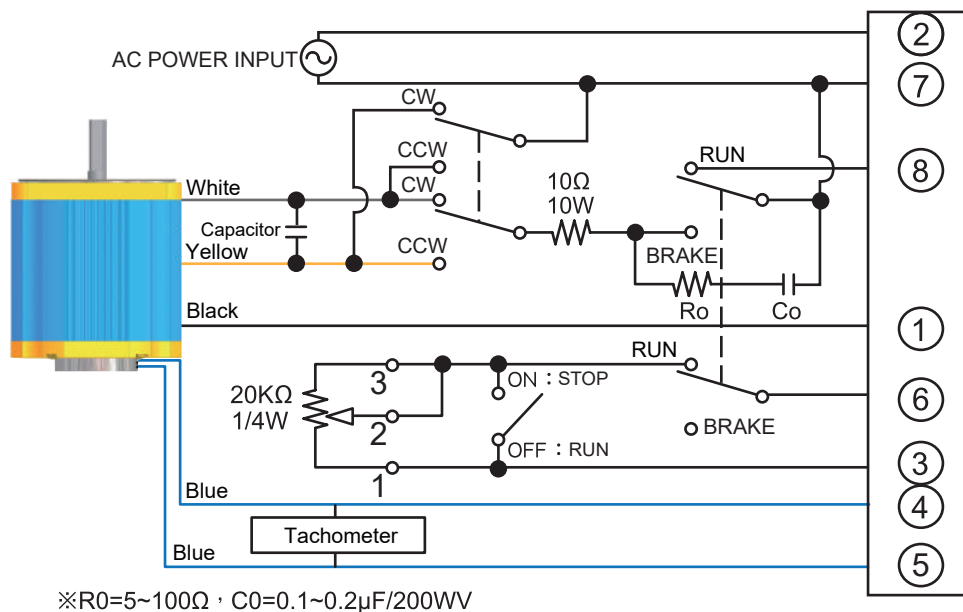
■ External Speed Potentiometer Dimensions



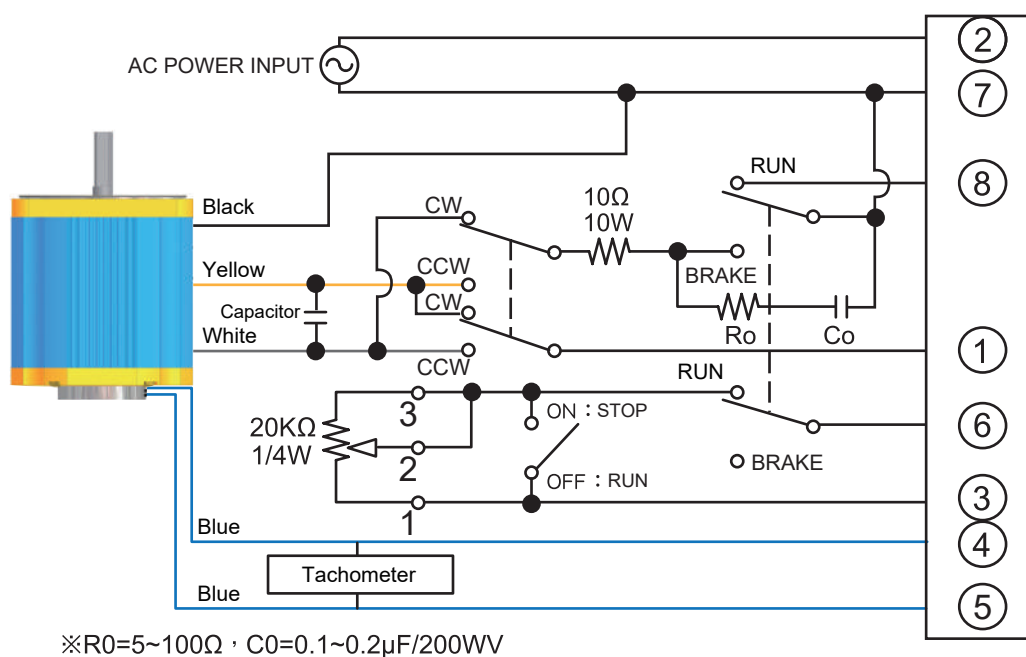
* The figure above dimension tolerance values are not labeled a general machining tolerances, the control mode, refer to P.8, others have marked tolerance values according to the drawing labeled based.

■ Wiring Diagram

◆ Applicable models : Speed control Motor component package type - Induction / Reversible Motor ≤ 20W



◆ Applicable models : Speed control Motor component package type - Induction / Reversible Motor $\geq 25W$



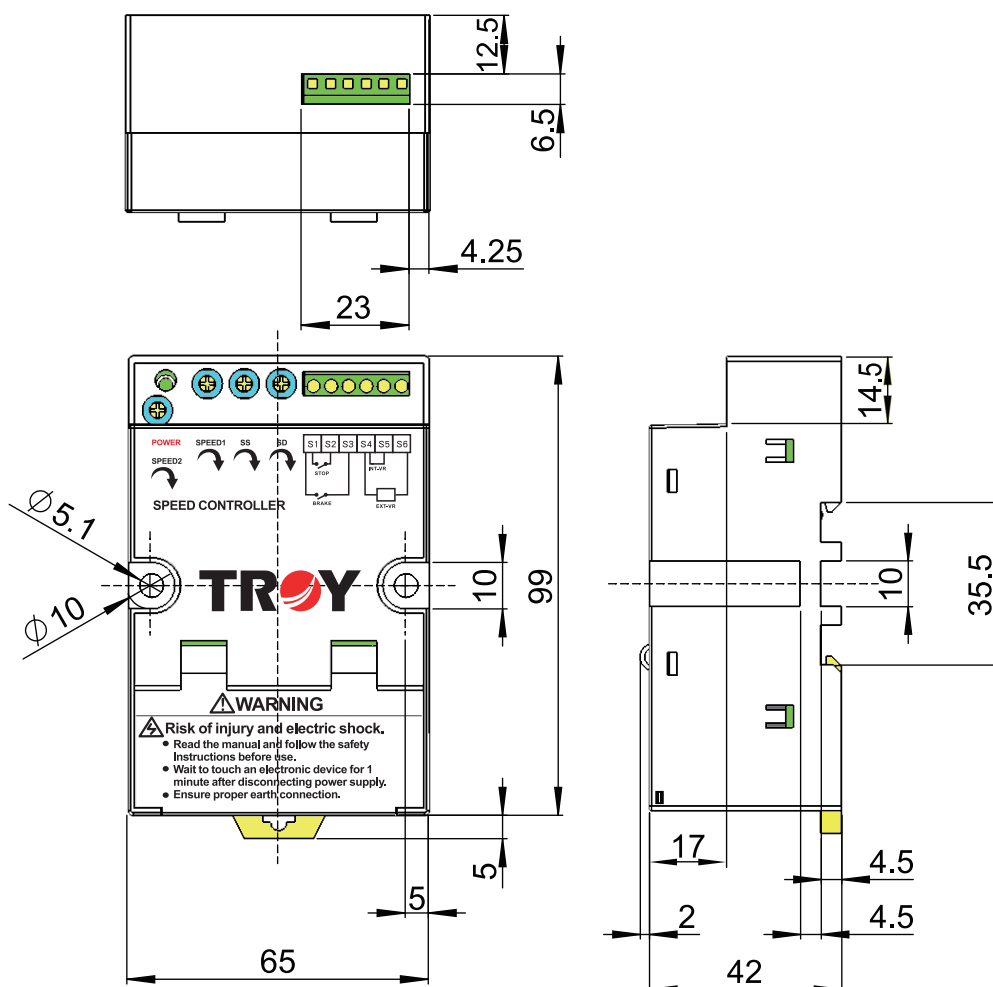


■ Specs

Model	TE31		TE32	
Specification Certification	—		—	
Power Input (V)	Single Phase AC100~115		Single Phase AC200~230	
Power Frequency (Hz)	50	60	50	60
Current (A)	3			
Drive Power	Max.135W			
Variable Speed Range(r/min)	90~1400	90~1700	90~1400	90~1700
Functions	<ul style="list-style-type: none"> • Speed control : Two Kinds of speed control internally. • Instantaneous brake stop : After 0.5 seconds Electric brake, no function for position holding. • Slow start : During unload situation in 0~25 seconds, it will effect by inertia. • Slow stop : During unload situation in 0~25 seconds, it will effect by inertia. 			
Ambient Temperature	0~+40℃			
Ambient Humidity	Max.85%RH			
Dimensions (mm)	104(L) × 65(W) × 44(H)			
Weight (g)	160			

■ Dimensions

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.

Speed Control Motor - Induction Motor 6W Unit Type & Component Package Type



■ Specs

Motor Output		6 W				
Type		Unit type/ Component package type		Unit type/ Component package type		Unit type/ Component package type
Round Shaft Type		6I6SU-1 / 6I6SV-1		6I6SU-2 / 6I6SV-2		6I6SU-2E / 6I6SV-2E
Pinion Shaft Type		6I6PU-1 / 6I6PV-1		6I6PU-2 / 6I6PV-2		6I6PU-2E / 6I6PV-2E
Specification Certification		 IP54		 IP54		 IP54
Capacity of Capacitor(μF)		2.5		0.6		0.5
Power Input (V)		Single phase 110	Single phase 115	Single phase 220	Single phase 230	Single phase 230
Power Frequency (Hz)		60				50
Rated Current (A)		0.20	0.20	0.10	0.10	0.11
Variable Speed Range(r/min)		90~1700				90~1400
Permissible Torque(Nm)	1200r/min	0.05	0.05	0.05	0.05	0.05
	90r/min	0.04	0.04	0.03	0.03	0.03
Starting Torque (Nm)		0.04		0.04		0.04
Rated Torque (Nm)		0.04		0.04		0.05
Rated Speed (r/min)		1500		1500		1200
Permissible Inertia (GD ²)		0.25 kgcm ²				
Ambient Temperature		Single phase 110V/115V : -10~+50℃ ; Single phase 220V/230V: -10~+40℃				
Ambient Humidity		Max.85%RH				

※ Controller TU3□ or TUD3□, please attached with the unit type 6I6SU-□/ 6I6PU-□.

Controller TS3□ or TS3□-HR/ TS3□-SSSD or TS1□-P/ TS1□-P-SSSD or TE3□ or TS2□, please attached with component package type 6I6SV-□ / 6I6PV-□.

※ 1 Nm = 10.19716 Kgcm

■ 6I6PU-□/ 6I6PV-□+6A□ Series Gearbox Specs & Permissible Torque / Permissible Inertial Load(GD²)When Gearbox Attached

Gear Ratio			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30
60 Hz	Speed Range (r/min)	High Speed	566	472	340	283	226	188	170	136	113	94	85	68	56
		Low Speed	30	25	18	15	12	10	9	7.2	6	5	4.5	3.6	3
	Permissible Torque (Nm)	1200r/min	0.14	0.16	0.23	0.27	0.34	0.41	0.45	0.56	0.68	0.81	0.9	1.1	1.3
		90r/min	0.09	0.11	0.16	0.19	0.24	0.28	0.32	0.39	0.47	0.57	0.63	0.8	0.9
50 Hz	Speed Range (r/min)	High Speed	466	388	280	233	186	155	140	112	93	77	70	56	46
		Low Speed	30	25	18	15	12	10	9	7.2	6	5	4.5	3.6	3
	Permissible Torque (Nm)	1200r/min	0.14	0.16	0.23	0.27	0.34	0.41	0.45	0.56	0.68	0.81	0.9	1.1	1.3
		90r/min	0.09	0.1	0.14	0.17	0.22	0.26	0.29	0.36	0.43	0.52	0.58	0.7	0.8
Permissible Inertia Load GD ² (kgcm ²)			2.3	3.3	6.3	9	14	20.3	25	39	56.3	81	100	156	225

Gear Ratio			36	50	60	75	90	100	120	150	180	200	250	300	360	
60 Hz	Speed Range (r/min)	High Speed	47	34	28	22	18	17	14	11	9.4	8.5	6.8	5.6	4.7	
		Low Speed	2.5	1.8	1.5	1.2	1	0.9	0.75	0.6	0.5	0.45	0.36	0.3	0.25	
	Permissible Torque (Nm)	1200r/min	1.5	2.2	2.6	3.2	3.9	4.3	4.9	6						
		90r/min	1.1	1.5	1.8	2.3	2.7	3	3.4	4.3	5.1	5.7	6			
50 Hz	Speed Range (r/min)	High Speed	38	28	23	18	15	14	11	9.3	7.7	7	5.6	4.6	3.8	
		Low Speed	2.5	1.8	1.5	1.2	1	0.9	0.75	0.6	0.5	0.45	0.36	0.3	0.25	
	Permissible Torque (Nm)	1200r/min	1.5	2.2	2.6	3.2	3.9	4.3	4.9	6						
		90r/min	1	1.4	1.7	2.1	2.5	2.8	3.1	3.9	4.7	5.2	6			
Permissible Inertia Load GD² (kgcm²)			324	625					625							

※ 1 : Gearbox 6A□ series, please enter the gear ratio 3~360 in the box□.

※ 2 : 60Hz: Speed control range is 90~1700r/min; 50Hz: Speed control range is 90~1400r/min.

※ 3 : "Permissible torque" It refers to the value of load torque driven by the Gearbox's output.

※ 4 : A colored background indicates gear shaft rotation in the opposite direction as the motor shaft. No marking indicates rotation in the same direction.

※ 5 : 1 Nm = 10.19716 Kgcm

※ 6 : The Gearboxes of all series have certification.

■ 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	
6I6SU-□ 6I6SV-□	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.

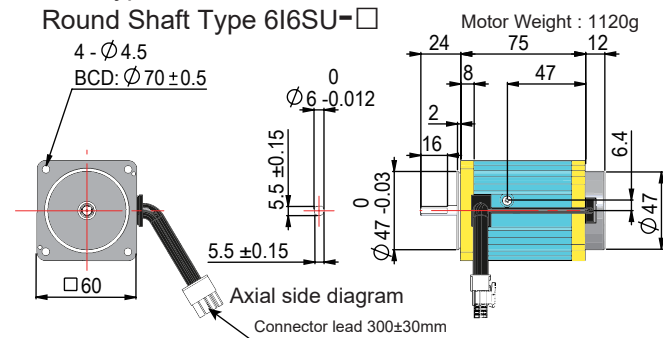
Pinion Shaft Type(Gearbox Attached)

Model	Gear Ratio	Permissible Overhung Load(Unit : kg f)		Permissible Thrust Load (Unit : kg f)
		10mm from shaft end	20mm from shaft end	
6I6PU-□ 6I6PV-□	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	

■ Dimensions

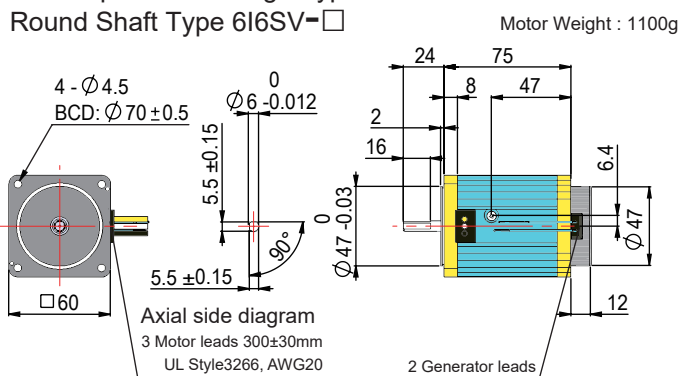
◆ Unit Type

Round Shaft Type 6I6SU-□

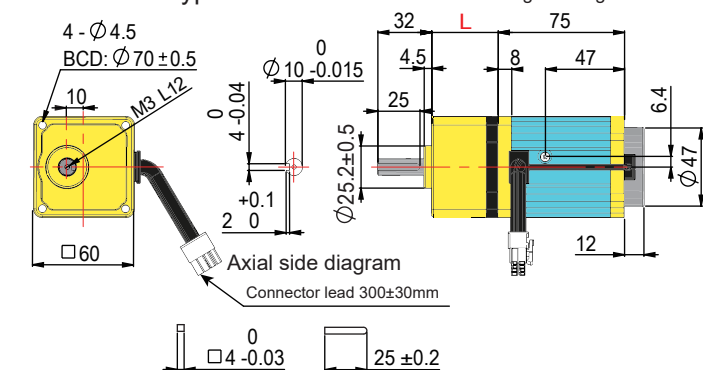


◆ Component Package Type

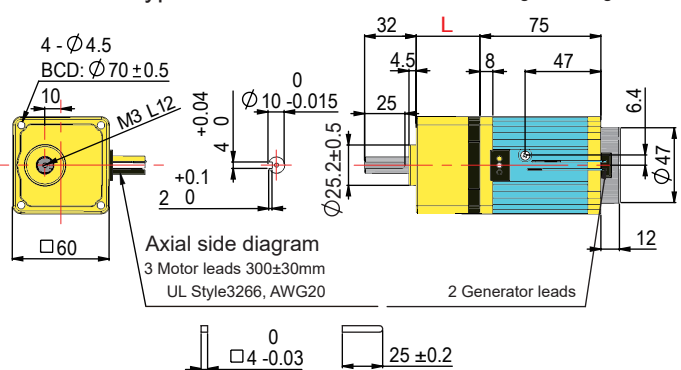
Round Shaft Type 6I6SV-□



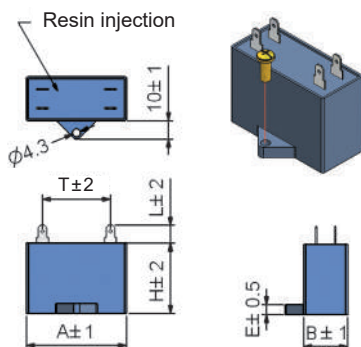
Pinion Shaft Type 6I6PU-□+6A□ Motor Weight : 980g+W



Pinion Shaft Type 6I6PV-□+6A□ Motor Weight : 1090g+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.

* 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 Ø 8. For details please refer to the P.4.

Capacity of capacitor (μF/VAC)	A	B	H	L	T	E
2.5/250	37	12.5	22	8	28	5
0.6/450	37	14	23	7	24	4
0.5/450	37	12.5	22	9	24	5

Speed Control Motor - Induction Motor 25W Unit Type & Component Package Type



■ Specs

Motor Output		25W					
Type		Unit type/ Component package type		Unit type/ Component package type		Unit type/ Component package type	
Round Shaft Type		8I25SU-1 / 8I25SV-1		8I25SU-2 / 8I25SV-2		8I25SU-2E / 8I25SV-2E	
Pinion Shaft Type		8I25PU-1 / 8I25PV-1		8I25PU-2 / 8I25PV-2		8I25PU-2E / 8I25PV-2E	
Specification Certification							
Capacity of Capacitor(μF)		6.5		1.5		1.2	
Power Input (V)		Single phase 110	Single phase 115	Single phase 220	Single phase 230	Single phase 230	
Power Frequency (Hz)		60				50	
Rated Current (A)		0.43	0.43	0.26	0.26	0.35	
Variable Speed Range(r/min)		90~1700				90~1400	
Permissible Torque(Nm)	1200r/min	0.19	0.19	0.19	0.2	0.2	
	90r/min	0.05	0.05	0.05	0.05	0.05	
Starting Torque (Nm)		0.14		0.14		0.12	
Rated Torque (Nm)		0.17		0.17		0.21	
Rated Speed (r/min)		1500		1500		1200	
Permissible Inertia (GD ²)		1.2 kgcm ²					
Ambient Temperature		Single phase 110V/115V : -10~+50℃ ; Single phase 220V/230V: -10~+40℃					
Ambient Humidity		Max.85%RH					

※ Controller TU3□ or TUD3□, please attached with the unit type 8I25SU-□/ 8I25PU-□.

Controller TS3□ or TS3□-HR/ TS3□-SSSD or TS1□-P/ TS1□-P-SSSD or TE3□ or TS2□, please attached with component package type 8I25SV-□ / 8I25PV-□.

※ 1 Nm = 10.19716 Kgcm

■ 8I25PU-□/8I25PV-□+8A□Series Gearbox Specs & Permissible Torque / Permissible Inertial Load(GD²)When Gearbox Attached

Gear Ratio			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30
60 Hz	Speed Range (r/min)	High Speed	566	472	340	283	226	188	170	136	113	94	85	68	56
		Low Speed	30	25	18	15	12	10	9	7.2	6	5	4.5	3.6	3
	Permissible Torque (Nm)	1200r/min	0.54	0.65	0.9	1.08	1.35	1.62	1.8	2.25	2.7	3.24	3.6	4.3	5.2
		90r/min	0.14	0.16	0.23	0.27	0.34	0.41	0.45	0.56	0.68	0.81	0.9	1.1	1.3
50 Hz	Speed Range (r/min)	High Speed	466	388	280	233	186	155	140	112	93	77	70	56	46
		Low Speed	30	25	18	15	12	10	9	7.2	6	5	4.5	3.6	3
	Permissible Torque (Nm)	1200r/min	0.54	0.65	0.9	1.08	1.35	1.62	1.8	2.25	2.7	3.24	3.6	4.3	5.2
		90r/min	0.14	0.16	0.23	0.27	0.34	0.41	0.45	0.56	0.68	0.81	0.9	1.1	1.3
Permissible Inertia Load GD ² (kgcm ²)			10.8	15.6	30	43.2	67.5	97.2	120	187.5	270	389	480	750	1080

Gear Ratio			36	50	60	75	90	100	120	150	180	200	250	300	360	
60 Hz	Speed Range (r/min)	High Speed	47	34	28	22	18	17	14	11	9.4	8.5	6.8	5.6	4.7	
		Low Speed	2.5	1.8	1.5	1.2	1	0.9	0.75	0.6	0.5	0.45	0.36	0.3	0.25	
	Permissible Torque (Nm)	1200r/min	6.2	8.6	10.3	12.9	15		15							
		90r/min	1.5	2.2	2.6	3.2	3.9	4.3	4.9	6.1	7.3	8.1	10.1	12.2	14.6	
50 Hz	Speed Range (r/min)	High Speed	38	28	23	18	15	14	11	9.3	7.7	7	5.6	4.6	3.8	
		Low Speed	2.5	1.8	1.5	1.2	1	0.9	0.75	0.6	0.5	0.45	0.36	0.3	0.25	
	Permissible Torque (Nm)	1200r/min	6.2	8.6	10.3	12.9	15		15							
		90r/min	1.5	2.2	2.6	3.2	3.9	4.3	4.9	6.1	7.3	8.1	10.1	12.2	14.6	
Permissible Inertia Load GD² (kgcm²)			1555	3000					3000							

※1 : Gearbox 8A□series, please enter the gear ratio 3~360 in the box□.

※2 : 60Hz: Speed control range is 90~1700r/min; 50Hz: Speed control range is 90~1400r/min.

※3 : "Permissible torque" It refers to the value of load torque driven by the Gearbox's output.

※4 : A colored background indicates gear shaft rotation in the opposite direction as the motor shaft. No marking indicates rotation in the same direction.

※5 : 1 Nm = 10.19716 Kgcm

※6 : The Gearboxes of all series have certification.

■ 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	
8I25SU-□ 8I25SV-□	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	
8I25PU-□ 8I25PV-□	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	

■ Dimensions

◆ Unit Type

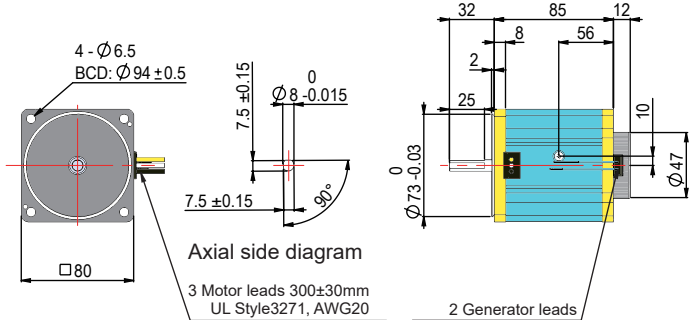
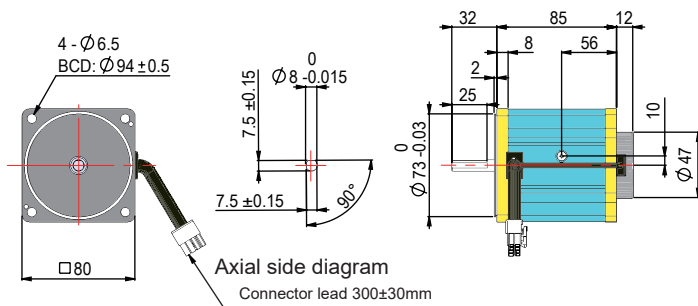
Round Shaft Type 8I25SU-□

Motor Weight : 2120g

◆ Component Package Type

Round Shaft Type 8I25SV-□

Unit : mm
Motor Weight : 2100g

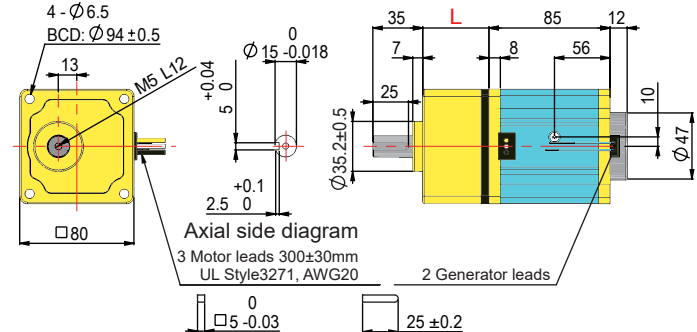
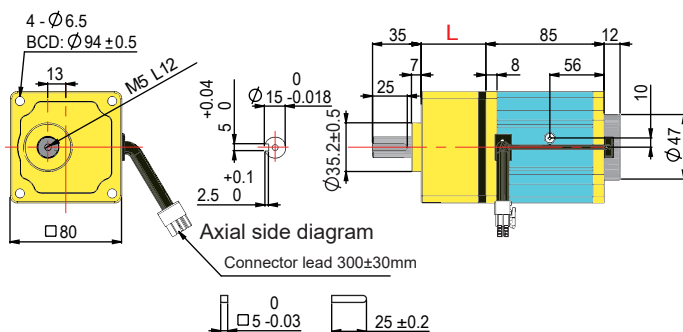


Pinion Shaft Type 8I25PU-□+8A□

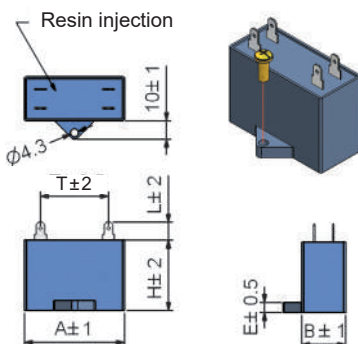
Motor Weight : 2100g+W

Pinion Shaft Type 8I25PV-□+8A□

Motor Weight : 2080g+W



■ Capacitor Dimensions (Single phase motors only)



* 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□□ with shaft Ø 10. 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
1.2/450	38	17	26	8	28	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.

Speed Control Motor - Induction Motor 40W Unit Type & Component Package Type



■ Specs

Motor Output		40W					
Type		Unit type/ Component package type		Unit type/ Component package type		Unit type/ Component package type	
Round Shaft Type		9I40SU-1 / 9I40SV-1		9I40SU-2 / 9I40SV-2		9I40SU-2E / 9I40SV-2E	
Pinion Shaft Type		9I40PU-1 / 9I40PV-1		9I40PU-2 / 9I40PV-2		9I40PU-2E / 9I40PV-2E	
Specification Certification		 IP54		 IP54		 IP54	
Capacity of Capacitor(μF)		10		2.5		2	
Power Input (V)		Single phase 110	Single phase 115	Single phase 220	Single phase 230	Single phase 230	
Power Frequency (Hz)		60				50	
Rated Current (A)		0.75	0.77	0.38	0.39	0.39	
Variable Speed Range(r/min)		90~1700				90~1400	
Permissible Torque(Nm)	1200r/min	0.23	0.23	0.28	0.26	0.3	
	90r/min	0.07	0.07	0.08	0.07	0.07	
Starting Torque (Nm)		0.26		0.26		0.24	
Rated Torque (Nm)		0.27		0.27		0.32	
Rated Speed (r/min)		1550		1550		1300	
Permissible Inertia (GD²)		3 kgcm²					
Ambient Temperature		Single phase 110V/115V : -10~+50℃ ; Single phase 220V/230V: -10~+40℃					
Ambient Humidity		Max.85%RH					

※ Controller TU3□ or TUD3□, please attached with the unit type 9I40SU-□/ 9I40PU-□.

Controller TS3□ or TS3□-HR/ TS3□-SSSD or TS1□-P/ TS1□-P-SSSD or TE3□ or TS2□, please attached with component package type 9I40SV-□ / 9I40PV-□.

※ 1 Nm = 10.19716 Kgcm

■ 9I40PU-□/9I40PV-□+9A□Series Gearbox Specs & Permissible Torque / Permissible Inertial Load(GD²)When Gearbox Attached

Gear Ratio			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30
60 Hz	Speed Range (r/min)	High Speed	566	472	340	283	226	188	170	136	113	94	85	68	56
		Low Speed	30	25	18	15	12	10	9	7.2	6	5	4.5	3.6	3
	Permissible Torque (Nm)	1200r/min	0.76	0.91	1.26	1.51	1.89	2.27	2.52	3.15	3.78	4.54	5.04	6	7.2
		90r/min	0.2	0.24	0.34	0.41	0.51	0.61	0.68	0.84	1.01	1.22	1.35	1.6	1.9
50 Hz	Speed Range (r/min)	High Speed	466	388	280	233	186	155	140	112	93	77	70	56	46
		Low Speed	30	25	18	15	12	10	9	7.2	6	5	4.5	3.6	3
	Permissible Torque (Nm)	1200r/min	0.86	1.04	1.44	1.73	2.16	2.59	2.88	3.6	4.32	5.18	5.76	6.9	8.3
		90r/min	0.19	0.23	0.32	0.38	0.47	0.57	0.63	0.79	0.95	1.13	1.26	1.5	1.8
Permissible Inertia Load GD ² (kgcm ²)			27	39	75	108	169	243	300	469	675	972	1200	1875	2700

Gear Ratio			36	50	60	75	90	100	120	150	180	200	250	300	360
60 Hz	Speed Range (r/min)	High Speed	47	34	28	22	18	17	14	11	9.4	8.5	6.8	5.6	4.7
		Low Speed	2.5	1.8	1.5	1.2	1	0.9	0.75	0.6	0.5	0.45	0.36	0.3	0.25
	Permissible Torque (Nm)	1200r/min	8.7	12	14.4	18.1	21.7	24.1	27.2	34	40				
		90r/min	2.3	3.2	3.9	4.8	5.8	6.5	7.3	9.1	10.9	12.2	15.2	18.2	21.9
50 Hz	Speed Range (r/min)	High Speed	38	28	23	18	15	14	11	9.3	7.7	7	5.6	4.6	3.8
		Low Speed	2.5	1.8	1.5	1.2	1	0.9	0.75	0.6	0.5	0.45	0.36	0.3	0.25
	Permissible Torque (Nm)	1200r/min	9.9	13.8	16.5	20.6	24.8	27.5	31.1	38.9	40				
		90r/min	2.2	3	3.6	4.5	5.4	6	6.8	8.5	10.2	11.3	14.2	17	20.4
Permissible Inertia Load GD ² (kgcm ²)			3888	7500					7500						

※1 : Gearbox 9A□series, please enter the gear ratio 3~360 in the box□.

※2 : 60Hz: Speed control range is 90~1700r/min; 50Hz: Speed control range is 90~1400r/min.

※3 : "Permissible torque" It refers to the value of load torque driven by the Gearbox's output.

※4 : A colored background indicates gear shaft rotation in the opposite direction as the motor shaft. No marking indicates rotation in the same direction.

※5 : 1 Nm = 10.19716 Kgcm

※6 : The Gearboxes of all series have certification.

■ 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	
9I40SU-□ 9I40SV-□	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)

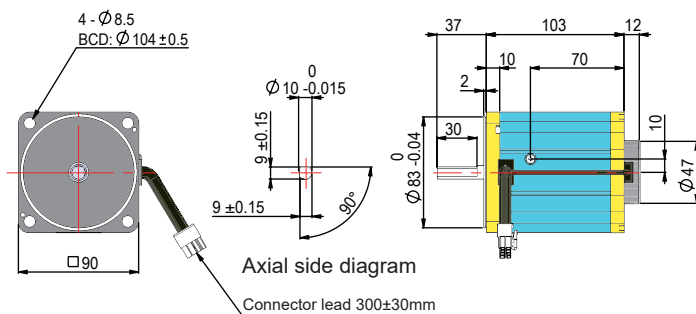
Model	Gear Ratio	Permissible Overhung Load(Unit : kg f)		Permissible Thrust Load (Unit : kg f)
		10mm from shaft end	20mm from shaft end	
9I40PU-□ 9I40PV-□	3, 3.6, 5	50	60	15
	6, 7.5, 9, 10, 12.5, 15, 18, 20	60	70	
	25, 30, 36, 50, 60, 75, 90, 100, 120, 150, 180, 200, 250, 300, 360	70	80	

■ Dimensions

◆ Unit Type

Round Shaft Type 9I40SU-□

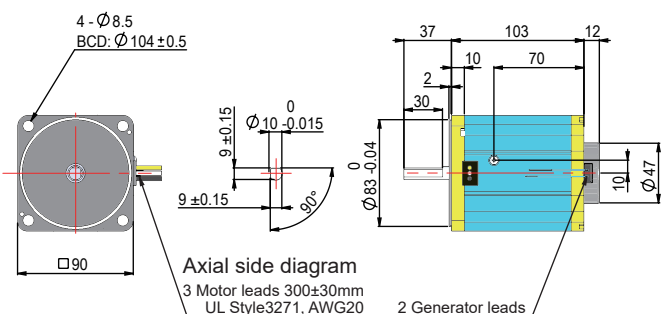
Motor Weight : 3120g



◆ Component Package Type

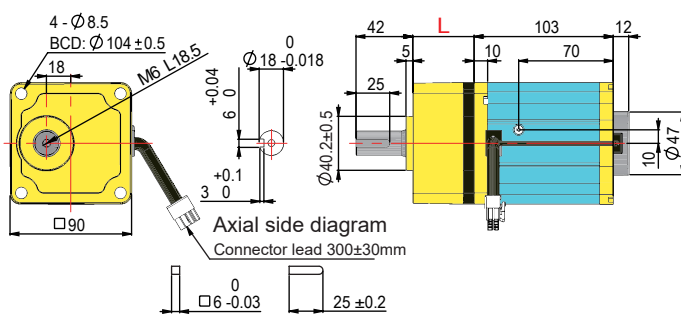
Round Shaft Type 9I40SV-□

Unit : mm
Motor Weight : 3100g



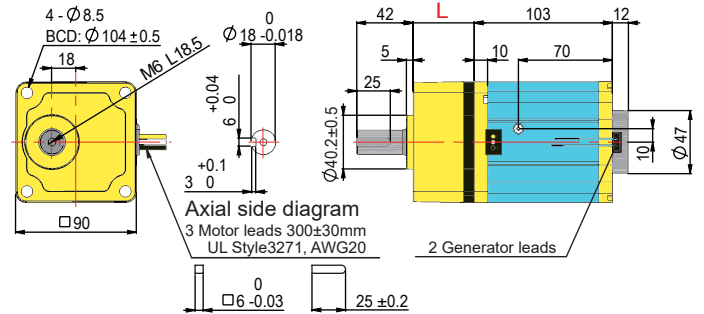
Pinion Shaft Type 9I40PU-□+9A□

Motor Weight : 3100g+W



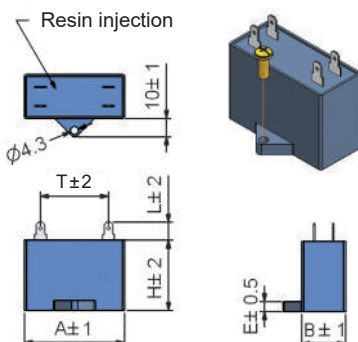
Pinion Shaft Type 9I40PV-□+9A□

Motor Weight : 3080g+W



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

■ 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□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 Ø 12. 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
2/450	38	20	29	8	24	4.5

Speed Control Motor - Induction Motor 60W Unit Type & Component Package Type Independent Fan Type



■ Specs

Motor Output		60W					
Type		Unit type/ Component package type		Unit type/ Component package type		Unit type/ Component package type	
Round Shaft Type		9I60SU(F)-1/9I60SV(F)-1		9I60SU(F)-2/9I60SV(F)-2		9I60SU(F)-2E/9I60SV(F)-2E	
Pinion Shaft Type		9I60PU(F)-1/9I60PV(F)-1		9I60PU(F)-2/9I60PV(F)-2		9I60PU(F)-2E/9I60PV(F)-2E	
Specification Certification		 IP54		 IP54		 IP54	
Capacity of Capacitor(μF)		18		4		3.5	
Power Input (V)		Single phase 110	Single phase 115	Single phase 220	Single phase 230	Single phase 230	
Power Frequency (Hz)		60				50	
Rated Current (A)		1.39	1.44	0.62	0.63	0.45	
Variable Speed Range(r/min)		90~1700				90~1400	
Permissible Torque(Nm)	1200r/min	0.49	0.49	0.49	0.49	0.49	
	90r/min	0.21	0.21	0.22	0.18	0.17	
Starting Torque (Nm)		0.34		0.34		0.34	
Rated Torque (Nm)		0.42		0.42		0.5	
Rated Speed (r/min)		1450		1500		1250	
Permissible Inertia (GD²)		4.6 kgcm²					
Ambient Temperature		Single phase 110V/115V : -10~+50℃ ; Single phase 220V/230V: -10~+40℃					
Ambient Humidity		Max.85%RH					

※ Controller TU3□ or TUD3□, please attached with the unit type 9I60SU(F)-□/ 9I60PU(F)-□.

Controller TS3□ or TS3□-HR/ TS3□-SSSD or TS1□-P/ TS1□-P-SSSD or TE3□, please attached with component package type 9I60SV(F)-□ / 9I60PV(F)-□.

※ Independent fan type don't have IP54 standard certification.

※ 1 Nm = 10.19716 Kgcm

■ 9I60PU(F)-□/9I60PV(F)-□+9A□Series Gearbox Specs & Permissible Torque / Permissible Inertial Load(GD²)When Gearbox Attached

Gear Ratio			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30
60 Hz	Speed Range (r/min)	High Speed	566	472	340	283	226	188	170	136	113	94	85	68	56
		Low Speed	30	25	18	15	12	10	9	7.2	6	5	4.5	3.6	3
	Permissible Torque (Nm)	1200r/min	1.32	1.59	2.21	2.65	3.31	3.97	4.41	5.51	6.62	7.94	8.82	10.5	12.6
		90r/min	0.58	0.7	0.97	1.16	1.45	1.74	1.94	2.42	2.9	3.48	3.87	4.6	5.5
50 Hz	Speed Range (r/min)	High Speed	466	388	280	233	186	155	140	112	93	77	70	56	46
		Low Speed	30	25	18	15	12	10	9	7.2	6	5	4.5	3.6	3
	Permissible Torque (Nm)	1200r/min	1.32	1.59	2.21	2.65	3.31	3.97	4.41	5.51	6.62	7.94	8.82	10.5	12.6
		90r/min	0.46	0.55	0.77	0.92	1.15	1.38	1.53	1.91	2.3	2.75	3.06	3.7	4.4
Permissible Inertia Load GD ² (kgcm ²)			41	60	115	166	259	373	460	719	1035	1490	1840	2875	4140

Gear Ratio			36	50	60	75	90	100	120	150	180	200	250	300	360	
60 Hz	Speed Range (r/min)	High Speed	47	34	28	22	18	17	14	11	9.4	8.5	6.8	5.6	4.7	
		Low Speed	2.5	1.8	1.5	1.2	1	0.9	0.75	0.6	0.5	0.45	0.36	0.3	0.25	
	Permissible Torque (Nm)	1200r/min	15.2	21.1	25.3	31.6	37.9	40	40							
		90r/min	6.7	9.2	11.1	13.9	16.6	18.5	20.9	26.1	31.3	34.8	40			
50 Hz	Speed Range (r/min)	High Speed	38	28	23	18	15	14	11	9.3	7.7	7	5.6	4.6	3.8	
		Low Speed	2.5	1.8	1.5	1.2	1	0.9	0.75	0.6	0.5	0.45	0.36	0.3	0.25	
	Permissible Torque (Nm)	1200r/min	15.2	21.1	25.3	31.6	37.9	40	40							
		90r/min	5.3	7.3	8.8	11	13.2	14.6	16.5	20.7	24.8	27.5	34.4	40		
Permissible Inertia Load GD ² (kgcm ²)			5962	11500					11500							

※1 : Gearbox 9A□series, please enter the gear ratio 3~360 in the box□.

※2 : 60Hz: Speed control range is 90~1700r/min; 50Hz: Speed control range is 90~1400r/min.

※3 : "Permissible torque" It refers to the value of load torque driven by the Gearbox's output.

※4 : A colored background indicates gear shaft rotation in the opposite direction as the motor shaft. No marking indicates rotation in the same direction.

※5 : 1 Nm = 10.19716 Kgcm

※6 : The Gearboxes of all series have certification.

■ 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	
9I60SU(F)-□ 9I60SV(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.

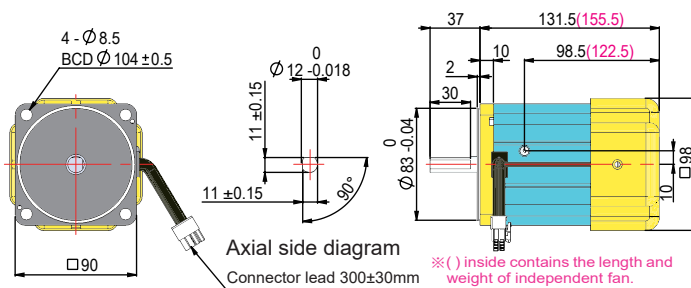
Pinion Shaft Type(Gearbox Attached)

Model	Gear Ratio	Permissible Overhung Load(Unit : kg f)		Permissible Thrust Load (Unit : kg f)
		10mm from shaft end	20mm from shaft end	
9I60PU(F)-□ 9I60PV(F)-□	3, 3.6, 5 6, 7.5, 9, 10, 12.5, 15, 18, 20 25, 30, 36, 50, 60, 75, 90, 100, 120, 150, 180, 200, 250, 300, 360	50 60 70	60 70 80	15

■ Dimensions

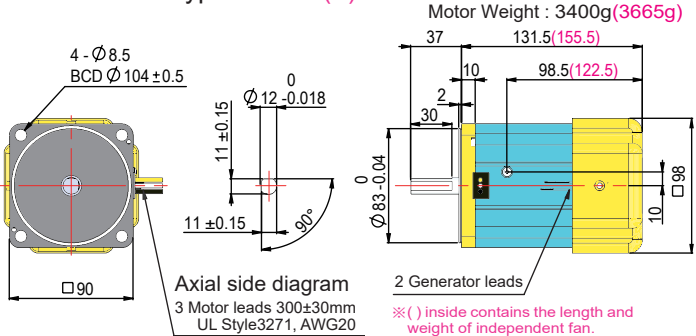
◆ Unit Type (Independent Fan Type)

Round Shaft Type 9I60SU(F)-□ Motor Weight : 3420g(3685g)

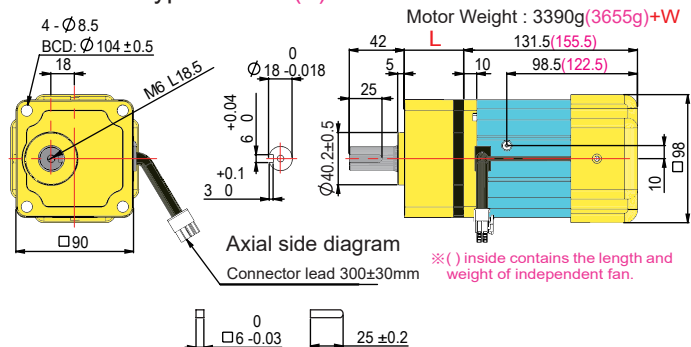


◆ Component Package Type (Independent Fan Type)

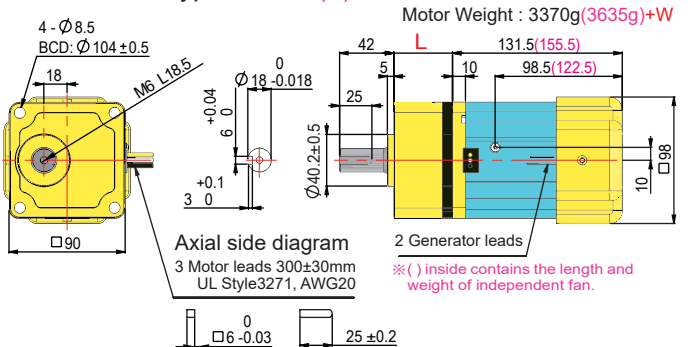
Round Shaft Type 9I60SV(F)-□ Unit : mm Motor Weight : 3400g(3665g)



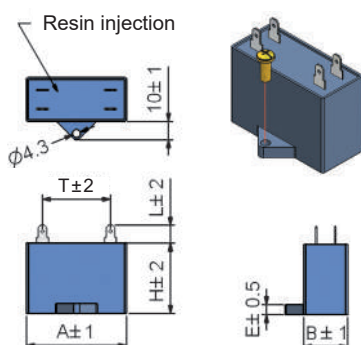
Pinion Shaft Type 9I60PU(F)-□+9A□



Pinion Shaft Type 9I60PV(F)-□+9A□



■ 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 Ø 15. For details please refer to the P.4.

Capacity of capacitor (µF/VAC)	A	B	H	L	T	E
18/250	59	23	35	7	48	4.2
4/450	49	21	31.5	9	34	5
3.5/450	49	21	31.5	8	34	5

Speed Control Motor - Induction Motor 90W Unit Type & Component Package Type Independent Fan Type



■ Specs

Motor Output		90W					
Type		Unit type/ Component package type		Unit type/ Component package type		Unit type/ Component package type	
Round Shaft Type		9I90SU(F)-1/9I90SV(F)-1		9I90SU(F)-2/9I90SV(F)-2		9I90SU(F)-2E/9I90SV(F)-2E	
Pinion Shaft Type		9I90PU(F)-1/9I90PV(F)-1		9I90PU(F)-2/9I90PV(F)-2		9I90PU(F)-2E/9I90PV(F)-2E	
Specification Certification		 IP54		 IP54		 IP54	
Capacity of Capacitor(μF)		20		6		5	
Power Input (V)		Single phase 110	Single phase 115	Single phase 220	Single phase 230	Single phase 230	
Power Frequency (Hz)		60				50	
Rated Current (A)		1.50	1.57	0.87	0.92	0.71	
Variable Speed Range(r/min)		90~1700				90~1400	
Permissible Torque(Nm)	1200r/min	0.73	0.73	0.73	0.73	0.73	
	90r/min	0.23	0.23	0.28	0.29	0.26	
Starting Torque (Nm)		0.45		0.45		0.45	
Rated Torque (Nm)		0.59		0.61		0.71	
Rated Speed (r/min)		1550		1550		1300	
Permissible Inertia (GD ²)		4.6 kgcm ²					
Ambient Temperature		Single phase 110V/115V : -10~+50℃ ; Single phase 220V/230V: -10~+40℃					
Ambient Humidity		Max.85%RH					

※ Controller TU3□ or TUD3□, please attached with the unit type 9I90SU(F)-□/ 9I90PU(F)-□.

Controller TS3□ or TS3□-HR / TS3□-SSSD or TE3□, please attached with component package type 9I90SV(F)-□ / 9I90PV(F)-□.

※ Independent fan type don't have IP54 standard certification.

※ 1 Nm = 10.19716 Kgcm

■ 9I90PU(F)-□/9I90PV(F)-□+9A□Series Gearbox Specs & Permissible Torque / Permissible Inertial Load(GD²)When Gearbox Attached

Gear Ratio			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30
60 Hz	Speed Range (r/min)	High Speed	566	472	340	283	226	188	170	136	113	94	85	68	56
		Low Speed	30	25	18	15	12	10	9	7.2	6	5	4.5	3.6	3
	Permissible Torque (Nm)	1200r/min	1.97	2.37	3.29	3.94	4.93	5.91	6.57	8.21	9.86	11.8	13.1	15.7	18.8
		90r/min	0.78	0.94	1.31	1.57	1.96	2.35	2.61	3.26	3.92	4.7	5.22	6.2	7.5
50 Hz	Speed Range (r/min)	High Speed	466	388	280	233	186	155	140	112	93	77	70	56	46
		Low Speed	30	25	18	15	12	10	9	7.2	6	5	4.5	3.6	3
	Permissible Torque (Nm)	1200r/min	1.97	2.37	3.29	3.94	4.93	5.91	6.57	8.21	9.86	11.8	13.1	15.7	18.8
		90r/min	0.7	0.84	1.17	1.4	1.76	2.11	2.34	2.93	3.51	4.21	4.68	5.6	6.7
Permissible Inertia Load GD ² (kgcm ²)			41	60	115	166	259	373	460	719	1035	1490	1840	2875	4140

Gear Ratio			36	50	60	75	90	100	120	150	180	200	250	300	360
60 Hz	Speed Range (r/min)	High Speed	47	34	28	22	18	17	14	11	9.4	8.5	6.8	5.6	4.7
		Low Speed	2.5	1.8	1.5	1.2	1	0.9	0.75	0.6	0.5	0.45	0.36	0.3	0.25
	Permissible Torque (Nm)	1200r/min	22.6	31.4	37.7	40			40						
		90r/min	9	12.5	15	18.7	22.4	24.9	28.2	35.2	40				
50 Hz	Speed Range (r/min)	High Speed	38	28	23	18	15	14	11	9.3	7.7	7	5.6	4.6	3.8
		Low Speed	2.5	1.8	1.5	1.2	1	0.9	0.75	0.6	0.5	0.45	0.36	0.3	0.25
	Permissible Torque (Nm)	1200r/min	22.6	31.4	37.7	40			40						
		90r/min	8	11.2	13.4	16.8	20.1	22.4	25.3	31.6	37.9	40			
Permissible Inertia Load GD ² (kgcm ²)			5962	11500					11500						

※1 : Gearbox 9A□series, please enter the gear ratio 3~360 in the box□.

※2 : 60Hz: Speed control range is 90~1700r/min; 50Hz: Speed control range is 90~1400r/min.

※3 : "Permissible torque" It refers to the value of load torque driven by the Gearbox's output.

※4 : A colored background indicates gear shaft rotation in the opposite direction as the motor shaft. No marking indicates rotation in the same direction.

※5 : 1 Nm = 10.19716 Kgcm

※6 : The Gearboxes of all series have certification.

■ 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	
9I90SU(F)-□ 9I90SV(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.

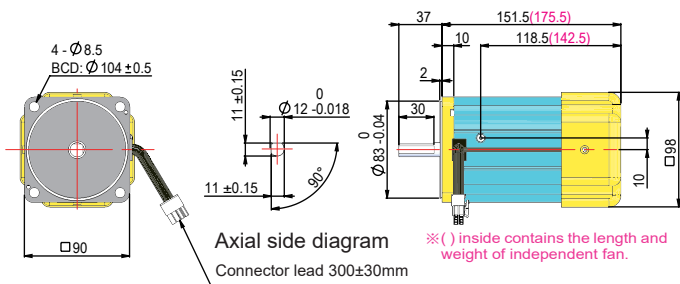
Pinion Shaft Type(Gearbox Attached)

Model	Gear Ratio	Permissible Overhung Load(Unit : kg f)		Permissible Thrust Load (Unit : kg f)
		10mm from shaft end	20mm from shaft end	
9I90PU(F)-□ 9I90PV(F)-□	3, 3.6, 5 6, 7.5, 9, 10, 12.5, 15, 18, 20 25, 30, 36, 50, 60, 75, 90, 100, 120, 150, 180, 200, 250, 300, 360	50 60 70	60 70 80	15

■ Dimensions

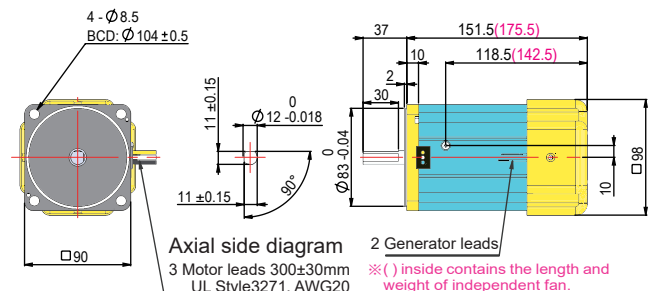
◆ Unit Type (Independent Fan Type)

Round Shaft Type 9I90SU(F)-□ Motor Weight : 4020g(4285g)



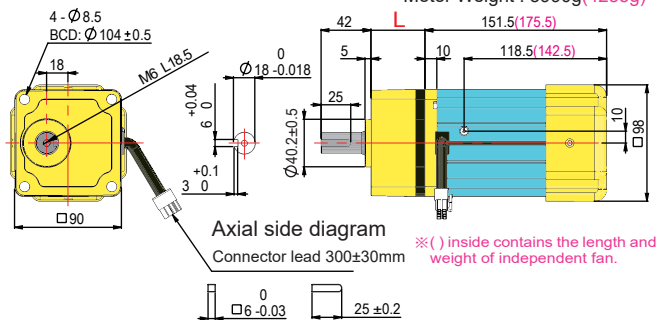
◆ Component Package Type (Independent Fan Type)

Round Shaft Type 9I90SV(F)-□ Unit : mm
Motor Weight : 4000g(4265g)



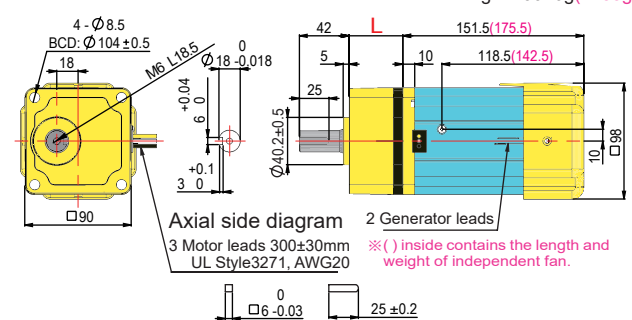
Pinion Shaft Type 9I90PU(F)-□+9A□

Motor Weight : 3990g(4255g)+W

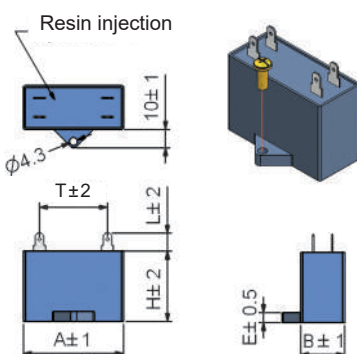


Pinion Shaft Type 9I90PV(F)-□+9A□

Motor Weight : 3970g(4235g)+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 Ø 15. For details please refer to the P.4.

Capacity of capacitor (µF/VAC)	A	B	H	L	T	E
20/250	59	23	35	10	48	4.2
6/450	59	23	35	9	44	4.2
5/450	50	22	35	9	38	5

Speed Control Motor - Induction Motor 135W Unit Type & Component Package Type Independent Fan Type



■ Specs

Motor Output		135W				
Type		Component package type		Component package type		Component package type
Round Shaft Type		9I135SV(F)-1		9I135SV(F)-2		9I135SV(F)-2E
Pinion Shaft Type		9I135PV(F)-1		9I135PV(F)-2		9I135PV(F)-2E
Specification Certification						
Capacity of Capacitor(μF)		27		8		7
Power Input (V)		Single phase 110	Single phase 115	Single phase 220	Single phase 230	Single phase 230
Power Frequency (Hz)		60				50
Rated Current (A)		2.10	2.15	1.20	1.25	1.00
Variable Speed Range(r/min)		90~1700				90~1400
Permissible Torque(Nm)	1200r/min	1.10	1.15	1.20	1.25	1.20
	90r/min	0.50	0.55	0.60	0.65	0.60
Starting Torque (Nm)		0.60		0.60		0.60
Rated Torque (Nm)		0.85	0.90	0.85	0.90	0.90
Rated Speed (r/min)		1550		1550		1250
Permissible Inertia (GD²)		4.6 kgcm²				
Ambient Temperature		Single phase 110V/115V : -10~+50℃；Single phase 220V/230V: -10~+40℃				
Ambient Humidity		Max.85%RH				

※ Controller TE3□, please attached with component package type 9I135SV(F)-□/ 9I135PV(F)-□.

※ Independent fan type don't have IP54 standard certification.

※ 1 Nm = 10.19716 Kgcm

■ 9I135PV(F)-□+9A□Series Gearbox Specs & Permissible Torque / Permissible Inertial Load(GD²)When Gearbox Attached

Gear Ratio			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30
60 Hz	Speed Range (r/min)	High Speed	566	472	340	283	226	188	170	136	113	94	85	68	56
		Low Speed	30	25	18	15	12	10	9	7.2	6	5	4.5	3.6	3
	Permissible Torque (Nm)	1200r/min	3	3.6	5	6	7.4	8.9	9.9	12.4	14.9	17.9	19.9	23.6	28.3
		90r/min	1.4	1.6	2.3	2.7	3.4	4.1	4.5	5.6	6.8	8.1	9	10.7	12.9
50 Hz	Speed Range (r/min)	High Speed	466	388	280	233	186	155	140	112	93	77	70	56	46
		Low Speed	30	25	18	15	12	10	9	7.2	6	5	4.5	3.6	3
	Permissible Torque (Nm)	1200r/min	3.2	3.9	5.4	6.5	8.1	9.7	10.8	13.5	16.2	19.5	21.7	25.7	30.9
		90r/min	1.6	1.9	2.7	3.2	4.1	4.9	5.4	6.8	8.1	9.7	10.8	12.9	15.4
Permissible Inertia Load GD ² (kgcm ²)			41	60	115	166	259	373	460	719	1035	1490	1840	2875	4140

Gear Ratio			36	50	60	75	90	100	120	150	180	200	250	300	360
60 Hz	Speed Range (r/min)	High Speed	47	34	28	22	18	17	14	11	9.4	8.5	6.8	5.6	4.7
		Low Speed	2.5	1.8	1.5	1.2	1	0.9	0.75	0.6	0.5	0.45	0.36	0.3	0.25
	Permissible Torque (Nm)	1200r/min	34	40						40					
		90r/min	15.4	21.4	25.7	32.2	38.6	40	40						
50 Hz	Speed Range (r/min)	High Speed	38	28	23	18	15	14	11	9.3	7.7	7	5.6	4.6	3.8
		Low Speed	2.5	1.8	1.5	1.2	1	0.9	0.75	0.6	0.5	0.45	0.36	0.3	0.25
	Permissible Torque (Nm)	1200r/min	37	40						40					
		90r/min	18.5	25.7	30.9	38.6	40		40						
Permissible Inertia Load GD ² (kacm ²)			5962	11500						11500					

※1 : Gearbox 9A□series, please enter the gear ratio 3~360 in the box□.

※2 : 60Hz: Speed control range is 90~1700r/min; 50Hz: Speed control range is 90~1400r/min.

※3 : "Permissible torque" It refers to the value of load torque driven by the Gearbox's output.

※4 : A colored background indicates gear shaft rotation in the opposite direction as the motor shaft. No marking indicates rotation in the same direction.

※5 : 1 Nm = 10.19716 Kgcm

※6 : The Gearboxes of all series have certification.

■ 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	
9I135SV(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	
9I135PV(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	

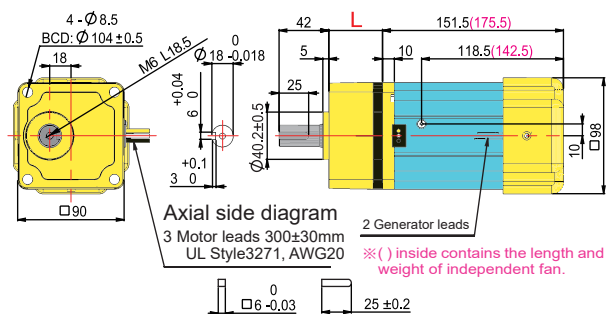
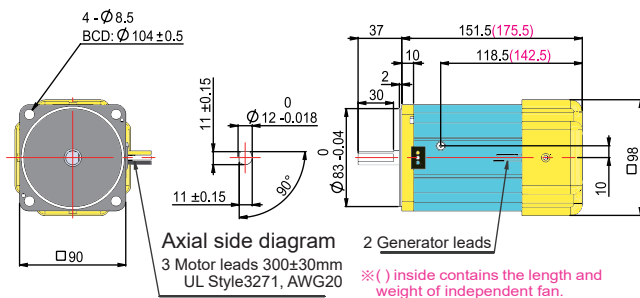
■ Dimensions

◆ Component Package Type (Independent Fan Type)

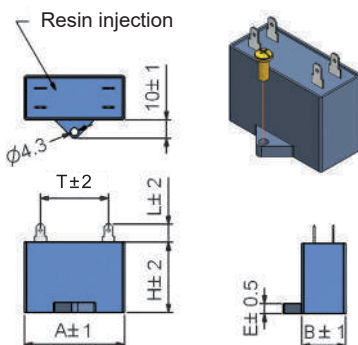
Round Shaft Type 9I135SV(F)-□ Motor Weight : 4000g(4265g)

Pinion Shaft Type 9I135PV(F)-□+9A□ Unit : mm

Motor Weight : 3970g(4235g)+W



■ Capacitor Dimensions (Single phase motors only)



* 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 Ø 15. For details please refer to the P.4.




Capacity of capacitor (µF/VAC)	A	B	H	L	T	E
27/250	59	23	35	10	48	4.2
8/450	57.5	25	39	8	44	4
7/450	57.5	25	39	8	44	4

* 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.

Speed Control Motor - Reversible Motor 6W Unit Type & Component Package Type



■ Specs

Motor Output		6W					
Type		Unit type/ Component package type		Unit type/ Component package type		Unit type/ Component package type	
Round Shaft Type		6R6SU-1 / 6R6SV-1		6R6SU-2 / 6R6SV-2		6R6SU-2E / 6R6SV-2E	
Pinion Shaft Type		6R6PU-1 / 6R6PV-1		6R6PU-2 / 6R6PV-2		6R6PU-2E / 6R6PV-2E	
Specification Certification		 IP54		 IP54		 IP54	
Capacity of Capacitor(μF)		3.5		0.8		0.6	
Power Input (V)		Single phase 110	Single phase 115	Single phase 220	Single phase 230	Single phase 230	
Power Frequency (Hz)		60				50	
Rated Current (A)		0.29	0.30	0.13	0.14	0.15	
Variable Speed Range(r/min)		90~1700				90~1400	
Permissible Torque(Nm)	1200r/min	0.05	0.05	0.05	0.05	0.05	
	90r/min	0.05	0.05	0.05	0.05	0.05	
Starting Torque (Nm)		0.04		0.04		0.05	
Rated Torque (Nm)		0.04		0.04		0.05	
Rated Speed (r/min)		1450		1550		1200	
Permissible Inertia (GD²)		0.25 kgcm²					
Ambient Temperature		Single phase 110V/115V : -10~+50℃ ; Single phase 220V/230V: -10~+40℃					
Ambient Humidity		Max.85%RH					

※ Controller TU3□ or TUD3□, please attached with the unit type 6R6SU-□/ 6R6PU-□.

Controller TS3□ or TS3□-HR / TS3□-SSSD or TS1□-P / TS1□-P-SSSD or TE3□ or TS2□, please attached with component package type 6R6SV-□ / 6R6PV-□.

Note1 : That value shown for rated torque and starting torque of reversible Motors is reference data measured for operation without the brake applied.

Note2 : The brake attached with Motor which can shorten the time for starting/stopping and clockwise/counterclockwise rotation. The holding force provided by Motor is not the safety brake using.

※ 6R6□U-□ / 6R6□V-□ holding torque is 50gcm (But at initial holding torque may lower than 50gcm); over rotation around 4 rev/min (reference value).

※ 1 Nm = 10.19716 Kgcm

■ 6R6PU-□/6R6PV-□+6A□ Series Gearbox Specs & Permissible Torque / Permissible Inertial Load(GD²)When Gearbox Attached

Gear Ratio			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30
60 Hz	Speed Range (r/min)	High Speed	566	472	340	283	226	188	170	136	113	94	85	68	56
		Low Speed	30	25	18	15	12	10	9	7.2	6	5	4.5	3.6	3
	Permissible Torque (Nm)	1200r/min	0.14	0.16	0.23	0.27	0.34	0.41	0.45	0.56	0.68	0.81	0.9	1.1	1.3
		90r/min	0.14	0.16	0.23	0.27	0.34	0.41	0.45	0.56	0.68	0.81	0.9	1.1	1.3
50 Hz	Speed Range (r/min)	High Speed	466	388	280	233	186	155	140	112	93	77	70	56	46
		Low Speed	30	25	18	15	12	10	9	7.2	6	5	4.5	3.6	3
	Permissible Torque (Nm)	1200r/min	0.14	0.16	0.23	0.27	0.34	0.41	0.45	0.56	0.68	0.81	0.9	1.1	1.3
		90r/min	0.14	0.16	0.23	0.27	0.34	0.41	0.45	0.56	0.68	0.81	0.9	1.1	1.3
Permissible Inertia Load GD ² (kgcm ²)			2.3	3.3	6.3	9	14	20.3	25	39	56.3	81	100	156	225

Gear Ratio			36	50	60	75	90	100	120	150	180	200	250	300	360	
60 Hz	Speed Range (r/min)	High Speed	47	34	28	22	18	17	14	11	9.4	8.5	6.8	5.6	4.7	
		Low Speed	2.5	1.8	1.5	1.2	1	0.9	0.75	0.6	0.5	0.45	0.36	0.3	0.25	
	Permissible Torque (Nm)	1200r/min	1.5	2.2	2.6	3.2	3.9	4.3	4.9	6						
		90r/min	1.5	2.2	2.6	3.2	3.9	4.3	4.9	6						
50 Hz	Speed Range (r/min)	High Speed	38	28	23	18	15	14	11	9.3	7.7	7	5.6	4.6	3.8	
		Low Speed	2.5	1.8	1.5	1.2	1	0.9	0.75	0.6	0.5	0.45	0.36	0.3	0.25	
	Permissible Torque (Nm)	1200r/min	1.5	2.2	2.6	3.2	3.9	4.3	4.9	6						
		90r/min	1.5	2.2	2.6	3.2	3.9	4.3	4.9	6						
Permissible Inertia Load GD ² (kgcm ²)			324	625						625						

※1 : Gearbox 6A□series, please enter the gear ratio 3~360 in the box□.

※2 : 60Hz: Speed control range is 90~1700r/min; 50Hz: Speed control range is 90~1400r/min.

※3 : "Permissible torque" It refers to the value of load torque driven by the Gearbox's output.

※4 : A colored background indicates gear shaft rotation in the opposite direction as the motor shaft. No marking indicates rotation in the same direction.

※5 : 1 Nm = 10.19716 Kgcm

※6 : The Gearboxes of all series have certification.

■ 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	
6R6SU-□ 6R6SV-□	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)

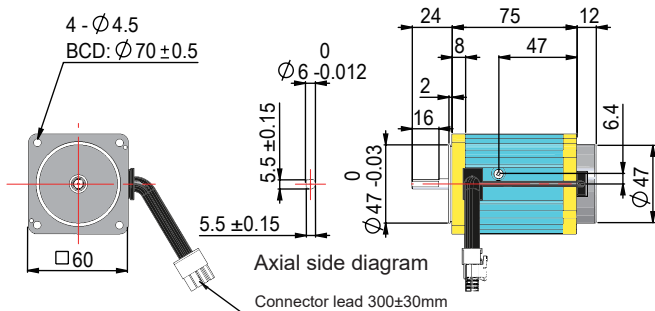
Model	Gear Ratio	Permissible Overhung Load(Unit : kg f)		Permissible Thrust Load (Unit : kg f)
		10mm from shaft end	20mm from shaft end	
6R6PU-□ 6R6PV-□	3, 3.6, 5	10	15	3
	6, 7.5, 9, 10, 12.5, 15, 18, 20	15	20	
	25, 30, 36, 50, 60, 75, 90, 100, 120, 150, 180, 200, 250, 300, 360	20	30	

■ Dimensions

◆ Unit Type

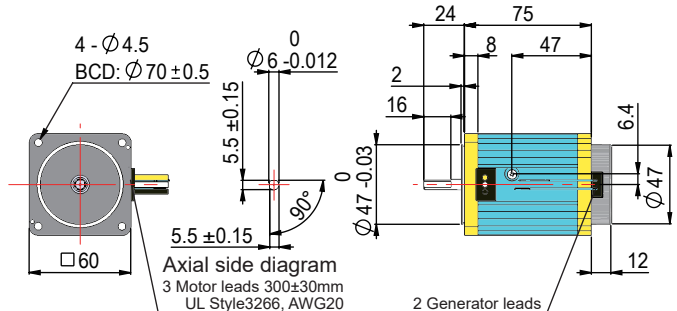
Round Shaft Type 6R6SU-□

Motor Weight : 1130g



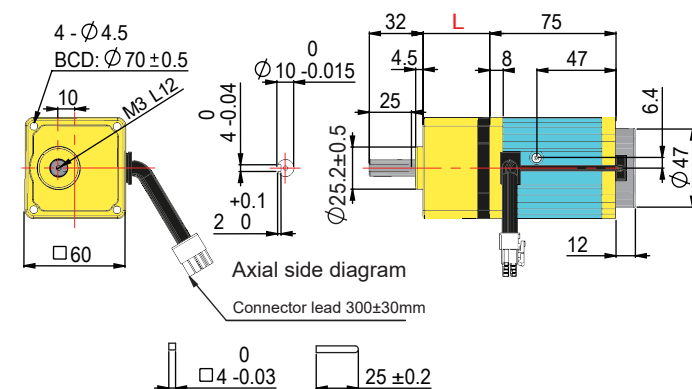
◆ Component Package Type Round Shaft Type 6R6SV-□

Unit : mm
Motor Weight : 1100g



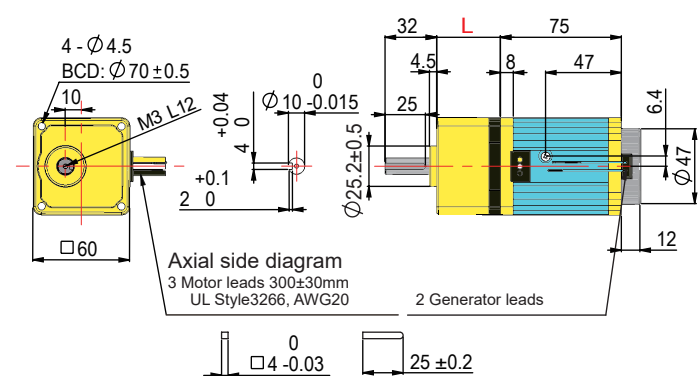
Pinion Shaft Type 6R6PU-□+6A□

Motor Weight : 1120g+W

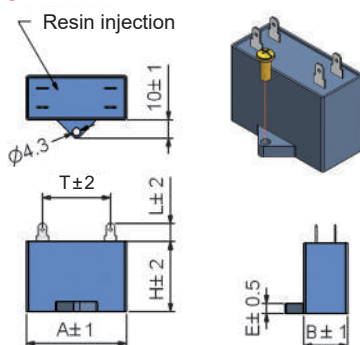


Pinion Shaft Type 6R6PV-□+6A□

Motor Weight : 1100g+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 Ø 8. For details please refer to the P.4.


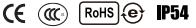

Capacity of capacitor (μF/VAC)	A	B	H	L	T	E
3.5/250	37	14	23	10	24	4
0.8/450	37	14	23	8	24	4
0.6/450	37	14	23	7	24	4

* 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.

Speed Control Motor - Reversible Motor 25W Unit Type & Component Package Type



■ Specs

Motor Output		25W					
Type		Unit type/ Component package type		Unit type/ Component package type		Unit type/ Component package type	
Round Shaft Type		8R25SU-1 / 8R25SV-1		8R25SU-2 / 8R25SV-2		8R25SU-2E / 8R25SV-2E	
Pinion Shaft Type		8R25PU-1 / 8R25PV-1		8R25PU-2 / 8R25PV-2		8R25PU-2E / 8R25PV-2E	
Specification Certification							
Capacity of Capacitor(μF)		8		2		1.5	
Power Input (V)		Single phase 110	Single phase 115	Single phase 220	Single phase 230	Single phase 230	
Power Frequency (Hz)		60				50	
Rated Current (A)		0.69	0.70	0.32	0.33	0.26	
Variable Speed Range(r/min)		90~1700				90~1400	
Permissible Torque(Nm)	1200r/min	0.21	0.21	0.21	0.21	0.21	
	90r/min	0.11	0.11	0.12	0.12	0.12	
Starting Torque (Nm)		0.14		0.14		0.16	
Rated Torque (Nm)		0.17		0.17		0.21	
Rated Speed (r/min)		1500		1500		1250	
Permissible Inertia (GD²)		1.2 kgcm²					
Ambient Temperature		Single phase 110V/115V : -10~+50℃ ; Single phase 220V/230V: -10~+40℃					
Ambient Humidity		Max.85%RH					

※ Controller TU3□ or TUD3□, please attached with the unit type 8R25SU-□/ 8R25PU-□.

Controller TS3□ or TS3□-HR / TS3□-SSSD or TS1□-P / TS1□-P-SSSD or TE3□ or TS2□, please attached with component package type 8R25SV-□ / 8R25PV-□.

Note1 : That value shown for rated torque and starting torque of reversible Motors is reference data measured for operation without the brake applied.

Note2 : The brake attached with Motor which can shorten the time for starting/stopping and clockwise/counterclockwise rotation. The holding force provided by Motor is not the safety brake using.

※ 8R25□U-□ / 8R25□V-□ holding torque is 150gcm (But at initial holding torque may lower than 150gcm); over rotation around 5 rev/min (reference value). ※ 1 Nm = 10.19716 Kgcm

■ 8R25PU-□/8R25PV-□+8A□Series Gearbox Specs & Permissible Torque / Permissible Inertial Load(GD²)When Gearbox Attached

Gear Ratio			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	
60 Hz	Speed Range (r/min)	High Speed	566	472	340	283	226	188	170	136	113	94	85	68	56	
		Low Speed	30	25	18	15	12	10	9	7.2	6	5	4.5	3.6	3	
	Permissible Torque (Nm)	1200r/min	0.55	0.66	0.92	1.11	1.38	1.66	1.85	2.31	2.77	3.32	3.69	4.4	5.3	
		90r/min	0.31	0.37	0.52	0.62	0.78	0.93	1.04	1.29	1.55	1.86	2.07	2.5	3	
50 Hz	Speed Range (r/min)	High Speed	466	388	280	233	186	155	140	112	93	77	70	56	46	
		Low Speed	30	25	18	15	12	10	9	7.2	6	5	4.5	3.6	3	
	Permissible Torque (Nm)	1200r/min	0.55	0.66	0.92	1.11	1.38	1.66	1.85	2.31	2.77	3.32	3.69	4.4	5.3	
		90r/min	0.31	0.37	0.52	0.62	0.78	0.93	1.04	1.29	1.55	1.86	2.07	2.5	3	
Permissible Inertia Load GD² (kgcm²)			10.8	15.6	30	43.2	67.5	97.2	120	187.5	270	389	480	750	1080	
Gear Ratio			36	50	60	75	90	100	120	150	180	200	250	300	360	
60 Hz	Speed Range (r/min)	High Speed	47	34	28	22	18	17	14	11	9.4	8.5	6.8	5.6	4.7	
		Low Speed	2.5	1.8	1.5	1.2	1	0.9	0.75	0.6	0.5	0.45	0.36	0.3	0.25	
	Permissible Torque (Nm)	1200r/min	6.3	8.8	10.6	13.2	15			15						
		90r/min	3.6	4.9	5.9	7.4	8.9	9.9	11.2	14	15					
50 Hz	Speed Range (r/min)	High Speed	38	28	23	18	15	14	11	9.3	7.7	7	5.6	4.6	3.8	
		Low Speed	2.5	1.8	1.5	1.2	1	0.9	0.75	0.6	0.5	0.45	0.36	0.3	0.25	
	Permissible Torque (Nm)	1200r/min	6.3	8.8	10.6	13.2	15			15						
		90r/min	3.6	4.9	5.9	7.4	8.9	9.9	11.2	14	15					
Permissible Inertia Load GD² (kgcm²)			1555	3000					3000							

※1 : Gearbox 8A□series, please enter the gear ratio 3~360 in the box□.

※2 : 60Hz: Speed control range is 90~1700r/min; 50Hz: Speed control range is 90~1400r/min.

※3 : "Permissible torque" It refers to the value of load torque driven by the Gearbox's output.




※4 : A colored background indicates gear shaft rotation in the opposite direction as the motor shaft. No marking indicates rotation in the same direction.

※5 : 1 Nm = 10.19716 Kgcm

※6 : The Gearboxes of all series have certification.



■ Specs

Motor Output		40W					
Type		Unit type/ Component package type		Unit type/ Component package type		Unit type/ Component package type	
Round Shaft Type		9R40SU-1 / 9R40SV-1		9R40SU-2 / 9R40SV-2		9R40SU-2E / 9R40SV-2E	
Pinion Shaft Type		9R40PU-1 / 9R40PV-1		9R40PU-2 / 9R40PV-2		9R40PU-2E / 9R40PV-2E	
Specification Certification		 IP54		 IP54		 IP54	
Capacity of Capacitor(μF)		12		3.5		2.5	
Power Input (V)		Single phase 110	Single phase 115	Single phase 220	Single phase 230	Single phase 230	
Power Frequency (Hz)		60				50	
Rated Current (A)		0.97	1.00	0.59	0.61	0.38	
Variable Speed Range(r/min)		90~1700				90~1400	
Permissible Torque(Nm)	1200r/min	0.32	0.32	0.32	0.32	0.32	
	90r/min	0.16	0.16	0.17	0.17	0.17	
Starting Torque (Nm)		0.27		0.27		0.32	
Rated Torque (Nm)		0.28		0.28		0.33	
Rated Speed (r/min)		1450		1450		1250	
Permissible Inertia (GD²) ^{Note2}		3 kgcm²					
Ambient Temperature		Single phase 110V/115V : -10~+50℃ ; Single phase 220V/230V: -10~+40℃					
Ambient Humidity		Max.85%RH					

※ Controller TU3□ or TUD3□, please attached with the unit type 9R40SU-□/9R40PU-□.

Controller TS3□ or TS3□-HR / TS3□-SSSD or TS1□-P / TS1□-P-SSSD or TE3□ or TS2□, please attached with component package type 9R40SV-□ / 9R40PV-□.

Note1 : That value shown for rated torque and starting torque of reversible Motors is reference data measured for operation without the brake applied.

Note2 : The brake attached with Motor which can shorten the time for starting/stopping and clockwise/counterclockwise rotation. The holding force provided by Motor is not the safety brake using.

※ 9R40□U-□/9R40□V-□ holding torque is 400gcm(but at initial holding torque may lower than 400gcm); over rotation around 6 rev/min (reference value).

※ 1 Nm = 10.19716 Kgcm

■ 9R40PU-□/9R40PV-□+9A□ Series Gearbox Specs & Permissible Torque / Permissible Inertial Load(GD²)When Gearbox Attached

Gear Ratio			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30
60 Hz	Speed Range (r/min)	High Speed	566	472	340	283	226	188	170	136	113	94	85	68	56
		Low Speed	30	25	18	15	12	10	9	7.2	6	5	4.5	3.6	3
	Permissible Torque (Nm)	1200r/min	0.86	1.04	1.44	1.73	2.16	2.59	2.88	3.6	4.32	5.18	5.76	6.9	8.3
		90r/min	0.46	0.55	0.77	0.92	1.15	1.38	1.53	1.91	2.3	2.75	3.06	3.7	4.4
50 Hz	Speed Range (r/min)	High Speed	466	388	280	233	186	155	140	112	93	77	70	56	46
		Low Speed	30	25	18	15	12	10	9	7.2	6	5	4.5	3.6	3
	Permissible Torque (Nm)	1200r/min	0.86	1.04	1.44	1.73	2.16	2.59	2.88	3.6	4.32	5.18	5.76	6.9	8.3
		90r/min	0.46	0.55	0.77	0.92	1.15	1.38	1.53	1.91	2.3	2.75	3.06	3.7	4.4
Permissible Inertia Load GD ² (kgcm ²)			27	39	75	108	169	243	300	469	675	972	1200	1875	2700

Gear Ratio			36	50	60	75	90	100	120	150	180	200	250	300	360
60 Hz	Speed Range (r/min)	High Speed	47	34	28	22	18	17	14	11	9.4	8.5	6.8	5.6	4.7
		Low Speed	2.5	1.8	1.5	1.2	1	0.9	0.75	0.6	0.5	0.45	0.36	0.3	0.25
	Permissible Torque (Nm)	1200r/min	9.9	13.8	16.5	20.6	24.8	27.5	31.1	38.9	40				
		90r/min	5.3	7.3	8.8	11	13.2	14.6	16.5	20.7	24.8	27.5	34.4	40	
50 Hz	Speed Range (r/min)	High Speed	38	28	23	18	15	14	11	9.3	7.7	7	5.6	4.6	3.8
		Low Speed	2.5	1.8	1.5	1.2	1	0.9	0.75	0.6	0.5	0.45	0.36	0.3	0.25
	Permissible Torque (Nm)	1200r/min	9.9	13.8	16.5	20.6	24.8	27.5	31.1	38.9	40				
		90r/min	5.3	7.3	8.8	11	13.2	14.6	16.5	20.7	24.8	27.5	34.4	40	
Permissible Inertia Load GD ² (kgcm ²)			3888	7500					7500						

※1 : Gearbox 9A□series, please enter the gear ratio 3~360 in the box□.

※2 : 60Hz: Speed control range is 90~1700r/min; 50Hz: Speed control range is 90~1400r/min.

※3 : "Permissible torque" It refers to the value of load torque driven by the Gearbox's output.

※4 : A colored background indicates gear shaft rotation in the opposite direction as the motor shaft. No marking indicates rotation in the same direction.




※5 : 1 Nm = 10.19716 Kgcm

※6 : The Gearboxes of all series have certification.

Speed Control Motor - Reversible Motor 60W Unit Type & Component Package Type Independent Fan Type



■ Specs

Motor Output		60W					
Type		Unit type/ Component package type		Unit type/ Component package type		Unit type/ Component package type	
Round Shaft Type		9R60SU(F)-1/9R60SV(F)-1		9R60SU(F)-2/9R60SV(F)-2		9R60SU(F)-2E/9R60SV(F)-2E	
Pinion Shaft Type		9R60PU(F)-1/9R60PV(F)-1		9R60PU(F)-2/9R60PV(F)-2		9R60PU(F)-2E/9R60PV(F)-2E	
Specification Certification							
Capacity of Capacitor(μF)		20		5		4	
Power Input (V)		Single phase 110	Single phase 115	Single phase 220	Single phase 230	Single phase 230	
Power Frequency (Hz)		60				50	
Rated Current (A)		1.49	1.53	0.75	0.78	0.83	
Variable Speed Range(r/min)		90~1700				90~1400	
Permissible Torque(Nm)	1200r/min	0.49	0.49	0.49	0.49	0.49	
	90r/min	0.27	0.27	0.28	0.28	0.28	
Starting Torque (Nm)		0.4		0.4		0.47	
Rated Torque (Nm)		0.42		0.42		0.51	
Rated Speed (r/min)		1500		1500		1200	
Permissible Inertia (GD ²)		4.6 kgcm ²					
Ambient Temperature		Single phase 110V/115V : -10~+50℃ ; Single phase 220V/230V: -10~+40℃					
Ambient Humidity		Max.85%RH					

※ Controller TU3□ or TUD3□, please attached with the unit type 9R60SU(F)-□/ 9R60PU(F)-□.

Controller TS3□ or TS3□-HR / TS3□-SSSD or TS1□-P / TS1□-P-SSSD or TE3□, please attached with component package type 9R60SV(F)-□ / 9R60PV(F)-□.

Note1 : That value shown for rated torque and starting torque of reversible Motors is reference data measured for operation without the brake applied.

Note2 : The brake attached with Motor which can shorten the time for starting/stopping and clockwise/counterclockwise rotation. The holding force provided by Motor is not the safety brake using.

※ 9R60□U(F)-□/9R60□V(F)-□ holding torque is 400gcm (but at initial holding torque may lower than 400gcm); over rotation around 6 rev/min (reference value). ※ Independent fan type don't have IP54 standard certification. ※ 1 Nm = 10.19716 Kgcm

■ 9R60PU(F)-□/9R60PV(F)-□+9A□Series Gearbox Specs & Permissible Torque / Permissible Inertial Load(GD²)When Gearbox Attached

Gear Ratio			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30
60 Hz	Speed Range (r/min)	High Speed	566	472	340	283	226	188	170	136	113	94	85	68	56
		Low Speed	30	25	18	15	12	10	9	7.2	6	5	4.5	3.6	3
	Permissible Torque (Nm)	1200r/min	1.32	1.59	2.21	2.65	3.31	3.97	4.41	5.51	6.62	7.94	8.82	10.5	12.6
		90r/min	0.76	0.91	1.26	1.51	1.89	2.27	2.52	3.15	3.78	4.54	5.04	6	7.2
50 Hz	Speed Range (r/min)	High Speed	466	388	280	233	186	155	140	112	93	77	70	56	46
		Low Speed	30	25	18	15	12	10	9	7.2	6	5	4.5	3.6	3
	Permissible Torque (Nm)	1200r/min	1.32	1.59	2.21	2.65	3.31	3.97	4.41	5.51	6.62	7.94	8.82	10.5	12.6
		90r/min	0.76	0.91	1.26	1.51	1.89	2.27	2.52	3.15	3.78	4.54	5.04	6	7.2
Permissible Inertia Load GD ² (kgcm ²)			41	60	115	166	259	373	460	719	1035	1490	1840	2875	4140

Gear Ratio			36	50	60	75	90	100	120	150	180	200	250	300	360
60 Hz	Speed Range (r/min)	High Speed	47	34	28	22	18	17	14	11	9.4	8.5	6.8	5.6	4.7
		Low Speed	2.5	1.8	1.5	1.2	1	0.9	0.75	0.6	0.5	0.45	0.36	0.3	0.25
	Permissible Torque (Nm)	1200r/min	15.2	21.1	25.3	31.6	37.9	40	40						
		90r/min	8.7	12	14.4	18.1	21.7	24.1	27.2	34	40				
50 Hz	Speed Range (r/min)	High Speed	38	28	23	18	15	14	11	9.3	7.7	7	5.6	4.6	3.8
		Low Speed	2.5	1.8	1.5	1.2	1	0.9	0.75	0.6	0.5	0.45	0.36	0.3	0.25
	Permissible Torque (Nm)	1200r/min	15.2	21.1	25.3	31.6	37.9	40	40						
		90r/min	8.7	12	14.4	18.1	21.7	24.1	27.2	34	40				
Permissible Inertia Load GD ² (kgcm ²)			5962	11500						11500					

※1 : Gearbox 9A□series, please enter the gear ratio 3~360 in the box□.

※2 : 60Hz: Speed control range is 90~1700r/min; 50Hz: Speed control range is 90~1400r/min.

※3 : "Permissible torque" It refers to the value of load torque driven by the Gearbox's output.

※4 : A colored background indicates gear shaft rotation in the opposite direction as the motor shaft. No marking indicates rotation in the same direction.

※5 : 1 Nm = 10.19716 Kgcm

※6 : The Gearboxes of all series have certification.

■ 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	
9R60SU(F)-□ 9R60SV(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.

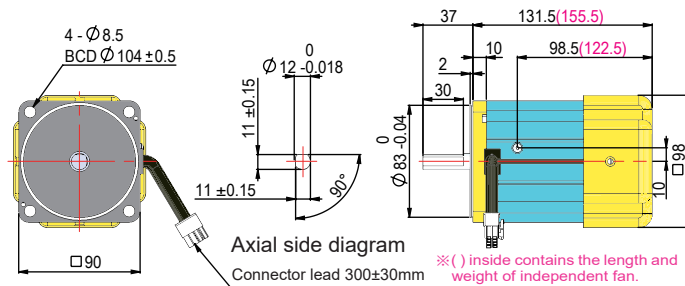
Pinion Shaft Type(Gearbox Attached)

Model	Gear Ratio	Permissible Overhung Load(Unit : kg f)		Permissible Thrust Load (Unit : kg f)
		10mm from shaft end	20mm from shaft end	
9R60PU(F)-□ 9R60PV(F)-□	3, 3.6, 5 6, 7.5, 9, 10, 12.5, 15, 18, 20 25, 30, 36, 50, 60, 75, 90, 100, 120, 150, 180, 200, 250, 300, 360	50 60 70	60 70 80	15

■ Dimensions

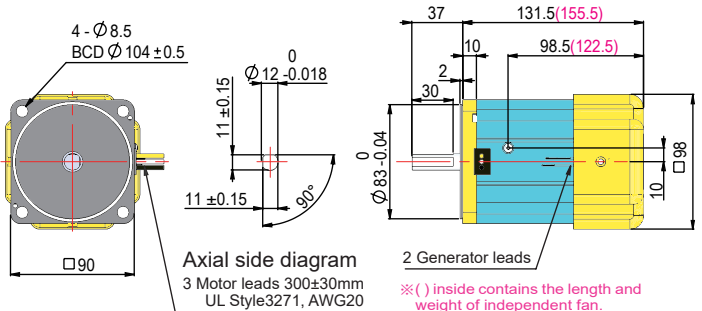
◆ Unit Type (Independent Fan Type)

Round Shaft Type 9R60SU(F)-□ Motor Weight : 3420g(3685g)

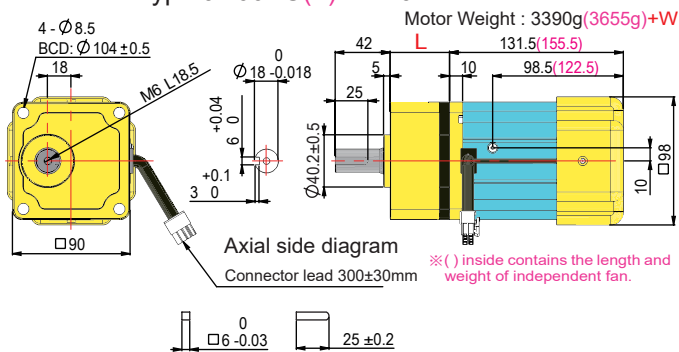


◆ Component Package Type (Independent Fan Type)

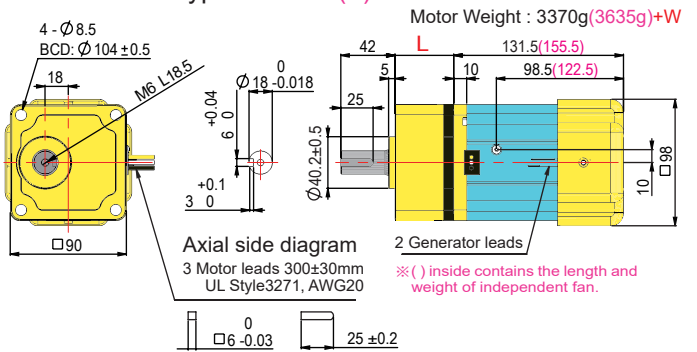
Round Shaft Type 9R60SV(F)-□ Unit : mm
Motor Weight : 3400g(3665g)



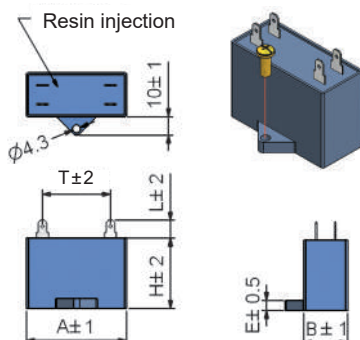
Pinion Shaft Type 9R60PU(F)-□+9A□



Pinion Shaft Type 9R60PV(F)-□+9A□



■ Capacitor Dimensions (Single phase motors only)



* 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 Ø 15. For details please refer to the P.4.

Capacity of capacitor (μF/VAC)	A	B	H	L	T	E
20/250	59	23	35	10	48	4.2
5/450	50	22	35	9	34	5
4/450	49	21	31.5	9	34	5

Speed Control Motor - Reversible Motor 90W Unit Type & Component Package Type Independent Fan Type



■ Specs

Motor Output		90W					
Type		Unit type/ Component package type		Unit type/ Component package type		Unit type/ Component package type	
Round Shaft Type		9R90SU(F)-1/9R90SV(F)-1		9R90SU(F)-2/9R90SV(F)-2		9R90SU(F)-2E/9R90SV(F)-2E	
Pinion Shaft Type		9R90PU(F)-1/9R90PV(F)-1		9R90PU(F)-2/9R90PV(F)-2		9R90PU(F)-2E/9R90PV(F)-2E	
Specification Certification		 IP54		 IP54		 IP54	
Capacity of Capacitor(μF)		30		7		6	
Power Input (V)		Single phase 110	Single phase 115	Single phase 220	Single phase 230	Single phase 230	
Power Frequency (Hz)		60				50	
Rated Current (A)		2.13	2.35	1.00	1.03	1.00	
Variable Speed Range(r/min)		90~1700				90~1400	
Permissible Torque(Nm)	1200r/min	0.73	0.73	0.73	0.73	0.73	
	90r/min	0.3	0.29	0.26	0.26	0.26	
Starting Torque (Nm)		0.53		0.58		0.64	
Rated Torque (Nm)		0.61		0.61		0.74	
Rated Speed (r/min)		1500		1550		1250	
Permissible Inertia (GD ²)		4.6 kgcm ²					
Ambient Temperature		Single phase 110V/115V : -10~+50℃ ; Single phase 220V/230V: -10~+40℃					
Ambient Humidity		Max.85%RH					

※ Controller TU3□ or TUD3□, please attached with the unit type 9R90SU(F)-□/ 9R90PU(F)-□.

Controller TS3□ or TS3□-HR / TS3□-SSSD or TE3□, please attached with component package type 9R90SV(F)-□ / 9R90PV(F)-□.

Note1 : That value shown for rated torque and starting torque of reversible Motors is reference data measured for operation without the brake applied.

Note2 : The brake attached with Motor which can shorten the time for starting/stopping and clockwise/counterclockwise rotation. The holding force provided by Motor is not the safety brake using.

※ 9R90□U(F)-□/9R90□V(F)-□ holding torque is 400gcm (but at initial holding torque may lower than 400gcm); over rotation around 6 rev/min (reference value). ※ Independent fan type don't have IP54 standard certification.

※ 1 Nm = 10.19716 Kgcm

■ 9R90PU(F)-□/9R90PV(F)-□+9A□Series Gearbox Specs & Permissible Torque / Permissible Inertial Load(GD²)When Gearbox Attached

Gear Ratio			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30
60 Hz	Speed Range (r/min)	High Speed	566	472	340	283	226	188	170	136	113	94	85	68	56
		Low Speed	30	25	18	15	12	10	9	7.2	6	5	4.5	3.6	3
	Permissible Torque (Nm)	1200r/min	1.97	2.37	3.29	3.94	4.93	5.91	6.57	8.21	9.86	11.8	13.1	15.7	18.8
		90r/min	0.81	0.97	1.35	1.62	2.03	2.43	2.7	3.38	4.05	4.86	5.4	6.5	7.7
50 Hz	Speed Range (r/min)	High Speed	466	388	280	233	186	155	140	112	93	77	70	56	46
		Low Speed	30	25	18	15	12	10	9	7.2	6	5	4.5	3.6	3
	Permissible Torque (Nm)	1200r/min	1.97	2.37	3.29	3.94	4.93	5.91	6.57	8.21	9.86	11.8	13.1	15.7	18.8
		90r/min	0.7	0.84	1.17	1.4	1.76	2.11	2.34	2.93	3.51	4.21	4.68	5.6	6.7
Permissible Inertia Load GD ² (kgcm ²)			41	60	115	166	259	373	460	719	1035	1490	1840	2875	4140
Gear Ratio			36	50	60	75	90	100	120	150	180	200	250	300	360
60 Hz	Speed Range (r/min)	High Speed	47	34	28	22	18	17	14	11	9.4	8.5	6.8	5.6	4.7
		Low Speed	2.5	1.8	1.5	1.2	1	0.9	0.75	0.6	0.5	0.45	0.36	0.3	0.25
	Permissible Torque (Nm)	1200r/min	22.6	31.4	37.7	40			40						
		90r/min	9.3	12.9	15.5	19.4	23.2	25.8	29.2	36.5	40				
50 Hz	Speed Range (r/min)	High Speed	38	28	23	18	15	14	11	9.3	7.7	7	5.6	4.6	3.8
		Low Speed	2.5	1.8	1.5	1.2	1	0.9	0.75	0.6	0.5	0.45	0.36	0.3	0.25
	Permissible Torque (Nm)	1200r/min	22.6	31.4	37.7	40			40						
		90r/min	8	11.2	13.4	16.8	20.1	22.4	25.3	31.6	37.9	40			
Permissible Inertia Load GD ² (kgcm ²)			5962	11500					11500						

※1 : Gearbox 9A□series, please enter the gear ratio 3~360 in the box□.

※2 : 60Hz: Speed control range is 90~1700r/min; 50Hz: Speed control range is 90~1400r/min.

※3 : "Permissible torque" It refers to the value of load torque driven by the Gearbox's output.

※4 : A colored background indicates gear shaft rotation in the opposite direction as the motor shaft. No marking indicates rotation in the same direction.

※5 : 1 Nm = 10.19716 Kgcm

※6 : The Gearboxes of all series have certification.

■ 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	
9R90SU(F)-□ 9R90SV(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.

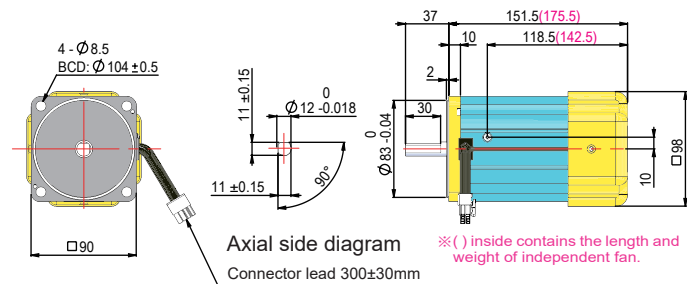
Pinion Shaft Type(Gearbox Attached)

Model	Gear Ratio	Permissible Overhung Load(Unit : kg f)		Permissible Thrust Load (Unit : kg f)
		10mm from shaft end	20mm from shaft end	
9R90PU(F)-□	3, 3.6, 5	50	60	15
	6, 7.5, 9, 10, 12.5, 15, 18, 20	60	70	
9R90PV(F)-□	25, 30, 36, 50, 60, 75, 90, 100, 120, 150, 180, 200, 250, 300, 360	70	80	

■ Dimensions

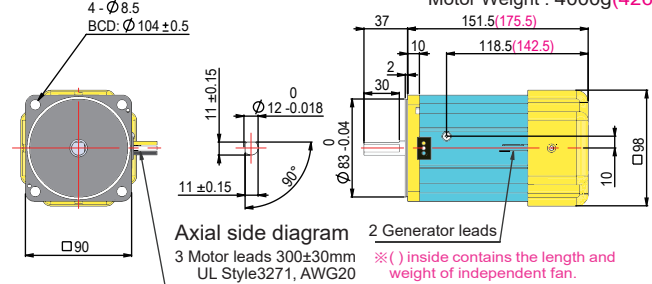
◆ Unit Type (Independent Fan Type)

Round Shaft Type 9R90SU(F)-□ Motor Weight : 4020g(4285g)



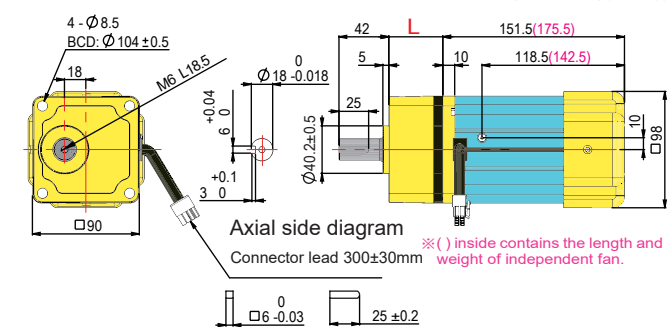
◆ Component Package Type (Independent Fan Type)

Round Shaft Type 9R90SV(F)-□ Unit : mm Motor Weight : 4000g(4265g)



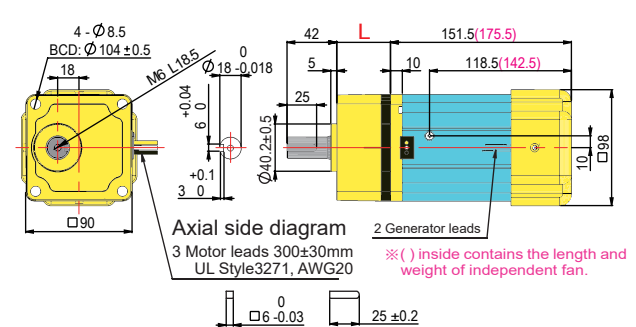
Pinion Shaft Type 9R90PU(F)-□+9A□

Motor Weight : 3990g(4255g)+W



Pinion Shaft Type 9R90PV(F)-□+9A□

Motor Weight : 3970g(4235g)+W



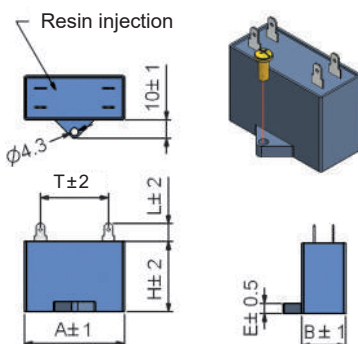
* 9A pinion shaft type 9A3~360, the spec of Gearbox "L" length and weight "W" as following :

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 Ø 15. 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
6/450	59	23	35	9	44	4.2

■ 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.

Speed Control Motor - Reversible Motor 135W Unit Type & Component Package Type Independent Fan Type



■ Specs

Motor Output		135W				
Type		Component package type		Component package type		Component package type
Round Shaft Type		9R135SV(F)-1		9R135SV(F)-2		9R135SV(F)-2E
Pinion Shaft Type		9R135PV(F)-1		9R135PV(F)-2		9R135PV(F)-2E
Specification Certification						
Capacity of Capacitor(μF)		27		8		7
Power Input (V)		Single phase 110	Single phase 115	Single phase 220	Single phase 230	Single phase 230
Power Frequency (Hz)		60				50
Rated Current (A)		2.30	2.35	1.30	1.35	1.20
Variable Speed Range(r/min)		90~1700				90~1400
Permissible Torque(Nm)	1200r/min	1.00	1.00	1.15	1.20	1.15
	90r/min	0.50	0.50	0.55	0.60	0.55
Starting Torque (Nm)		0.60		0.60		0.60
Rated Torque (Nm)		0.85	0.90	0.85	0.90	0.90
Rated Speed (r/min)		1500		1550		1250
Permissible Inertia (GD²)		4.6 kgcm²				
Ambient Temperature		Single phase 110V/115V : -10~+50℃ ; Single phase 220V/230V: -10~+40℃				
Ambient Humidity		Max.85%RH				

※ Controller TE3□, please attached with component package type 9R135SV(F)-□ / 9R135PV(F)-□.

Note1 : That value shown for rated torque and starting torque of reversible Motors is reference data measured for operation without the brake applied.

Note2 : The brake attached with Motor which can shorten the time for starting/stopping and clockwise/counterclockwise rotation. The holding force provided by Motor is not the safety brake using.

※ 9R135□V(F)-□ holding torque is 400gcm(but at initial holding torque may lower than 400gcm); over rotation around 6 rev/min (reference value).

※ Independent fan type don't have IP54 standard certification.

※ 1 Nm = 10.19716 Kgcm

■ 9R135PV(F)-□+9A□ Series Gearbox Specs & Permissible Torque / Permissible Inertial Load(GD²)When Gearbox Attached

Gear Ratio			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30
60 Hz	Speed Range (r/min)	High Speed	566	472	340	283	226	188	170	136	113	94	85	68	56
		Low Speed	30	25	18	15	12	10	9	7.2	6	5	4.5	3.6	3
	Permissible Torque (Nm)	1200r/min	2.7	3.2	4.5	5.4	6.8	8.1	9	11.3	13.5	16.2	18.1	21.4	25.7
		90r/min	1.4	1.6	2.3	2.7	3.4	4.1	4.5	5.6	6.8	8.1	9	10.7	12.9
50 Hz	Speed Range (r/min)	High Speed	466	388	280	233	186	155	140	112	93	77	70	56	46
		Low Speed	30	25	18	15	12	10	9	7.2	6	5	4.5	3.6	3
	Permissible Torque (Nm)	1200r/min	3.1	3.7	5.2	6.2	7.8	9.3	10.4	13	15.6	18.7	20.8	24.6	29.6
		90r/min	1.5	1.8	2.5	3	3.7	4.5	5	6.2	7.4	8.9	9.9	11.8	14.1
Permissible Inertia Load GD ² (kgcm ²)			41	60	115	166	259	373	460	719	1035	1490	1840	2875	4140

Gear Ratio			36	50	60	75	90	100	120	150	180	200	250	300	360
60 Hz	Speed Range (r/min)	High Speed	47	34	28	22	18	17	14	11	9.4	8.5	6.8	5.6	4.7
		Low Speed	2.5	1.8	1.5	1.2	1	0.9	0.75	0.6	0.5	0.45	0.36	0.3	0.25
	Permissible Torque (Nm)	1200r/min	30.9	40						40					
		90r/min	15.4	21.4	25.7	32.2	38.6	40	40						
50 Hz	Speed Range (r/min)	High Speed	38	28	23	18	15	14	11	9.3	7.7	7	5.6	4.6	3.8
		Low Speed	2.5	1.8	1.5	1.2	1	0.9	0.75	0.6	0.5	0.45	0.36	0.3	0.25
	Permissible Torque (Nm)	1200r/min	35.5	40						40					
		90r/min	17	23.6	28.3	35.4	40		40						
Permissible Inertia Load GD ² (kgcm ²)			5962	11500						11500					

※1 : Gearbox 9A□series, please enter the gear ratio 3~360 in the box□.

※2 : 60Hz: Speed control range is 90~1700r/min; 50Hz: Speed control range is 90~1400r/min.

※3 : "Permissible torque" It refers to the value of load torque driven by the Gearbox's output.

※4 : A colored background indicates gear shaft rotation in the opposite direction as the motor shaft. No marking indicates rotation in the same direction.

※5 : 1 Nm = 10.19716 Kgcm

※6 : The Gearboxes of all series have certification.

■ 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	
9R135SV(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)

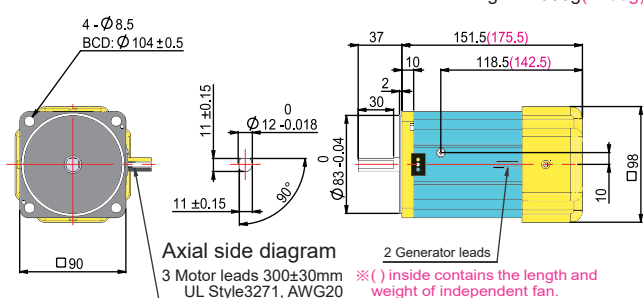
Model	Gear Ratio	Permissible Overhung Load(Unit : kg f)		Permissible Thrust Load (Unit : kg f)
		10mm from shaft end	20mm from shaft end	
9R135PV(F)-□	3, 3.6, 5	50	60	15
	6, 7.5, 9, 10, 12.5, 15, 18, 20	60	70	
	25, 30, 36, 50, 60, 75, 90, 100, 120, 150, 180, 200, 250, 300, 360	70	80	

■ Dimensions

◆ Component Package Type (Independent Fan Type)

Round Shaft Type 9R135SV(F)-□

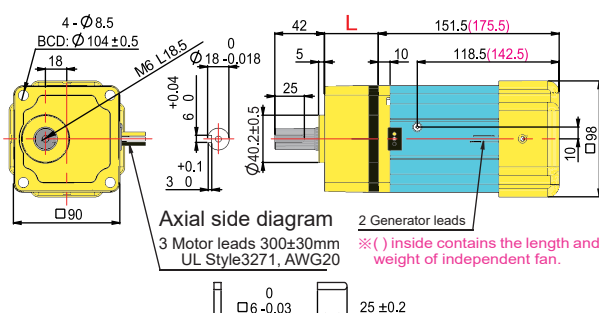
Motor Weight : 4000g(4265g)



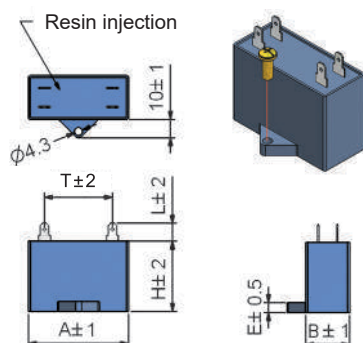
Unit : mm

Pinion Shaft Type 9R135PV(F)-□+9A□

Motor Weight : $3970q(4235q)+W$



■ 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 Ø 15. For details please refer to the P 4

Capacity of capacitor ($\mu\text{F/VAC}$)	A	B	H	L	T	E
27/250	59	40	40	12	44	4
8/450	57.5	25	39	8	44	4
7/450	57.5	25	39	8	44	4

Product Recommendation Sheet

■ Mechanism: Operation of Large Index Table

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:

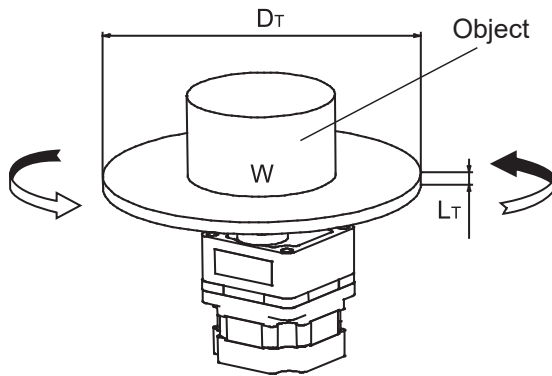
- ☐ Single direction operating continuously → ☐ Rated speed ☐ Regulated speed (Range: _____ rpm ~ _____ rpm)
☐ Single direction run, stop, run, stop → Activated time: _____ Second/Sequence, Stop time: _____ Second/Sequence; Run, stop total _____ Sequence/Minute
☐ Clockwise / counterclockwise repeated → 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 ☐ 3 phase ☐ 5 phase

【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 will 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: <input type="checkbox"/> Single phase AC _____ V <input type="checkbox"/> 3 phase AC _____ V <input type="checkbox"/> DC _____ V					Frequency: _____ Hz

Activated mode:

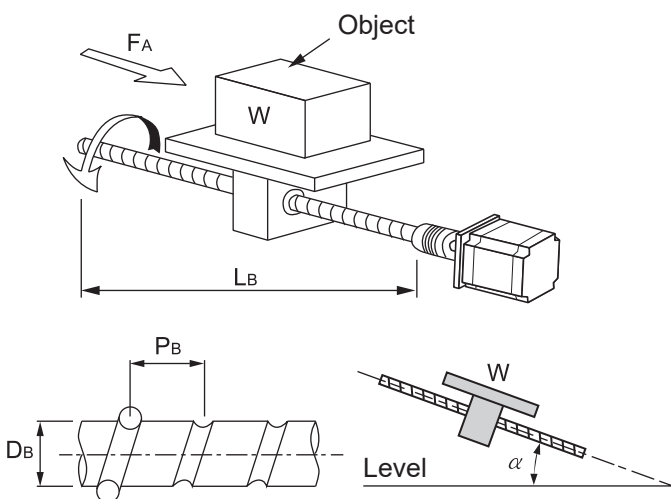
- ☐ Single direction operating continuously → ☐ Rated speed ☐ Regulated speed (Range: _____ rpm ~ _____ rpm)
☐ Single direction run, stop, run, stop → Activated time: _____ Second/Sequence, Stop time: _____ Second/Sequence; Run, stop total _____ Sequence/Minute
☐ Clockwise / counterclockwise repeated → 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 ☐ 3 phase ☐ 5 phase

【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	DB = _____ cm	Positioning time *(Note) To = _____ sec
Screw length	LB = _____ cm	Push / Pull force FA = _____ kg
Screw pitch	PB = _____ 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 will 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: <input type="checkbox"/> Single phase AC _____ V <input type="checkbox"/> 3 phase AC _____ V <input type="checkbox"/> DC _____ V					Frequency: _____ Hz

Activated mode:

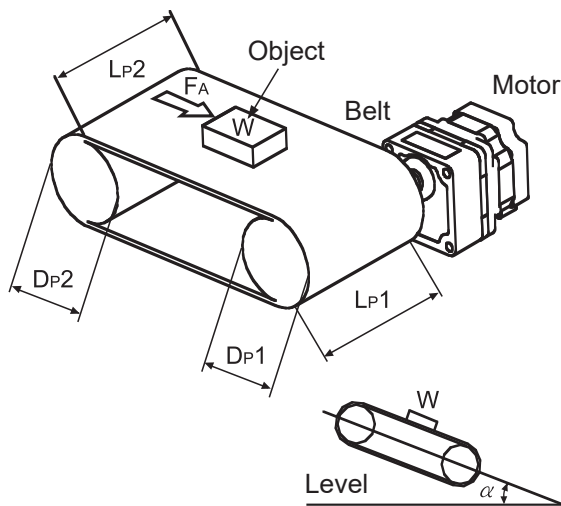
- ☐ Single direction operating continuously → ☐ Rated speed ☐ Regulated speed (Range: _____ rpm ~ _____ rpm)
☐ Single direction run, stop, run, stop → Activated time: _____ Second/Sequence, Stop time: _____ Second/Sequence; Run, stop total _____ Sequence/Minute
☐ Clockwise / counterclockwise repeated → 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 ☐ 3 phase ☐ 5 phase

【Mechanism reference】



【Please sketch your actual transmission part of mechanism】

【Drive mechanism and operating data】

Work + Table + Pulley mass $W =$ _____ kg
 Screw angle $\alpha =$ _____ deg
 (Connecting to the motor)
 Pulley diameter $Dp1 =$ _____ cm
 Width $Lp1 =$ _____ cm
 Material $\rho 1 =$ _____
 Pulley diameter $Dp2 =$ _____ cm
 Width $Lp2 =$ _____ cm
 Material $\rho 2 =$ _____

Belt, pulley efficiency $\eta =$ _____
 Frictional coefficient of sliding surfaces $\mu =$ _____
 Positioning distance *(Note) $L =$ _____ cm
 Positioning time *(Note) $T_0 =$ _____ sec
 Push / Pull force $F_A =$ _____ kg
 Stopping accuracy \pm _____ 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.

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.

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