



INDUCTION MOTORS

Single-Phase, Three-Phase

90W (1/8 HP)

Frame Size 3.54 in.sq.(90mm sq.)



Specifications — Continuous Rating



Model			Output Power	Voltage	Frequency	Current	Starting Torque	Rated Torque	Rated Speed	Capacitor			
Upper Model Name:Pinion Shaft Type	Lower Model Name():Round Shaft Type												
Lead Wire Type	Terminal Box Type	Conduit Box Type	HP	W	V	Hz	A	oz-in	mN·m	oz-in	mN·m	r/min	μF
Dimension ①	Dimension ②	Dimension ③											
51K90GU-AWU	51K90GU-AWTU	51K90GU-FCH											
(51K90A-AWU)	(51K90A-AWTU)	(51K90A-FCH)											
51K90GU-CWE	51K90GU-CWTE	51K90GU-ECH											
(51K90A-CWE)	(51K90A-CWTE)	(51K90A-ECH)											
51K90GU-SW	51K90GU-SWT	51K90GU-SH											
(51K90A-SW)	(51K90A-SWT)	(51K90A-SH)											
51K90GU-AFUL	—	—											
(51K90A-AFUL)	—	—											

- The product contains a built-in thermal protector. When a motor overheats for any reason, the thermal protector is opened and the motor stops. When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting.
- The "U" and "E" at the end of the model name indicate that the unit includes a capacitor. These two letters are not listed on the motor nameplate. When the motor is approved under various safety standards, the nameplate is adopted.
- The conduit box type of the motors are not VDE approved.

Gearmotor — Torque Table

The maximum permissible torque with a decimal gearhead with a gear ratio of 10 is 174 lb-in (20N·m).

Right-Angle gearhead may be connected. See page [A-216] for more information on the right-angle gearheads.

Single-Phase 115V/230V, Three-Phase 230V 60Hz

Unit = Upper values: lb-in / Lower values: N·m

Model	Speed r/min	Gear Ratio																			
		600	500	360	300	240	200	144	120	100	72	60	50	36	30	24	20	18	15	12	10
51K90GU-AWU 51K90GU-AWTU 51K90GU-FCH	12	15	21	25	31	37	46	56	67	84	100	121	167	174	174	174	174	174	174	174	174
	1.4	1.7	2.4	2.8	3.6	4.3	5.3	6.4	7.7	9.7	12	14	19	20	20	20	20	20	20	20	20
51K90GU-CWE 51K90GU-CWTE 51K90GU-ECH	13	15	21	26	32	38	48	57	69	87	104	125	173	174	174	174	174	174	174	174	174
	1.5	1.8	2.5	2.9	3.7	4.4	5.5	6.6	7.9	10	12	14	20	20	20	20	20	20	20	20	20
51K90GU-SW 51K90GU-SWT 51K90GU-SH 51K90GU-AFUL	12	14	20	24	30	36	45	54	65	82	98	118	163	174	174	174	174	174	174	174	174
	1.4	1.7	2.3	2.8	3.5	4.2	5.2	6.2	7.5	9.4	11	14	19	20	20	20	20	20	20	20	20

Single-Phase 230V/50Hz

Unit = Upper values : lb-in / Lower values : N·m

Model	Speed r/min	Gear Ratio																			
		500	416	300	250	200	166	120	100	83	60	50	41	30	25	20	16	15	12.5	10	8.3
51K90GU-CWE 51K90GU-CWTE 51K90GU-ECH	15	18	26	31	39	46	58	69	83	105	125	151	174	174	174	174	174	174	174	174	174
	1.8	2.1	3.0	3.5	4.4	5.3	6.7	8.0	9.6	12	14	17	20	20	20	20	20	20	20	20	20

- Gearheads are sold separately.
- Enter the gear ratio in the box (□) within the model number. A colored background indicates gear shaft rotation in the same direction as the motor shaft; a white background indicates rotation in the opposite direction.
- The speed is calculated by dividing the motor's synchronous speed (50 Hz: 1500r/min, 60 Hz: 1800 r/min) by the gear ratio. The actual speed is 2 ~ 20% less than the displayed value, depending on the size of the load.

■ Dimensions Scale 1/4, Unit = inch (mm)

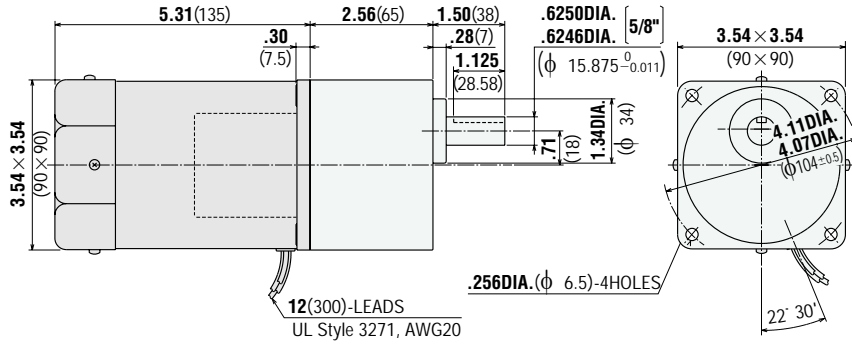
① Motor/Gearhead

51K90GU-AWU
51K90GU-CWE
51K90GU-SW
51K90GU-AFUL

Weight (Mass): 7.1 lb.(3.2 kg)

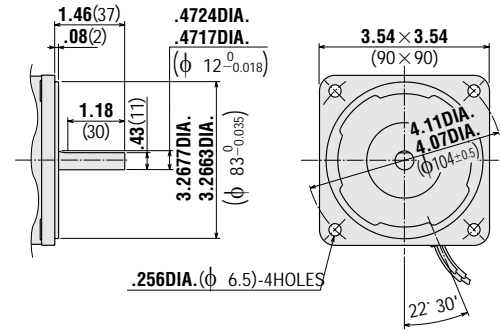
5GU□KA

Weight (Mass): 3.3 lb.(1.5 kg)



51K90A-AWU
51K90A-CWE
51K90A-SW
51K90A-AFUL

Weight (Mass): 7.1 lb.(3.2 kg)



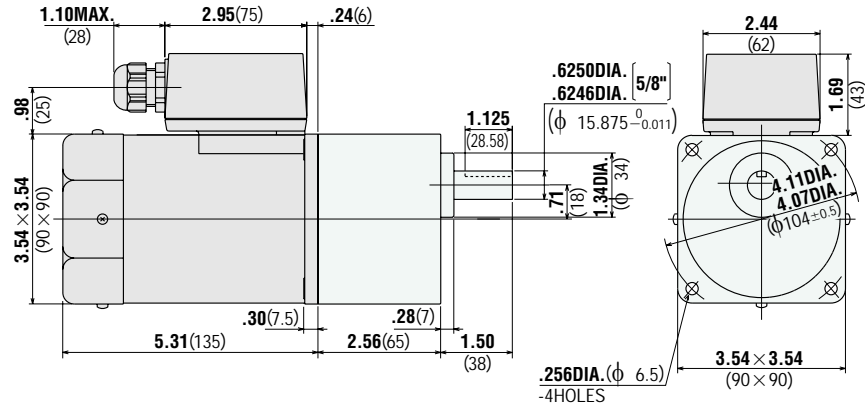
② Motor/Gearhead

51K90GU-AWTU
51K90GU-CWTE
51K90GU-SWT

Weight (Mass): 7.3 lb.(3.3 kg)

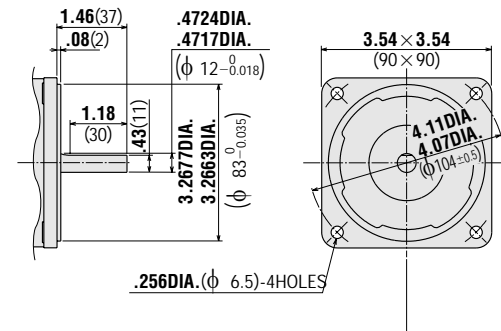
5GU□KA

Weight (Mass): 3.3 lb.(1.5 kg)



51K90A-AWTU
51K90A-CWTE
51K90A-SWT

Weight (Mass): 7.3 lb.(3.3 kg)



Use cabtyre cable with the diameter of
 .24DIA. (φ 6)~.47DIA. (φ 12).

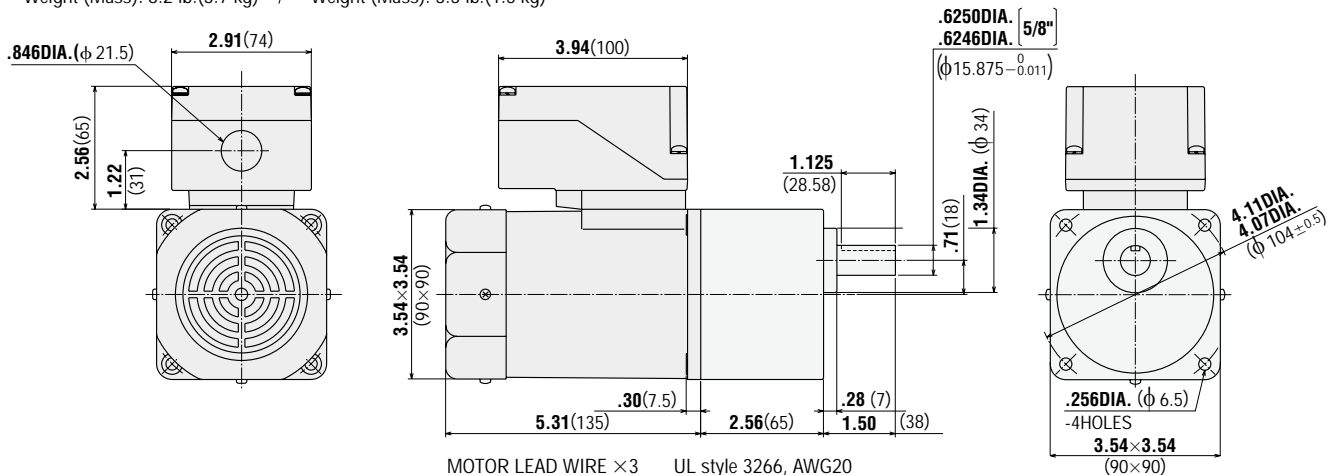
③ Motor/Gearhead

51K90GU-FCH
51K90GU-ECH

Weight (Mass): 8.2 lb.(3.7 kg)

5GU□KA

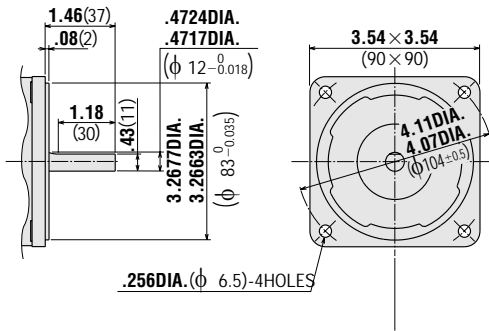
Weight (Mass): 3.3 lb.(1.5 kg)



MOTOR LEAD WIRE ×3 UL style 3266, AWG20
 GROUND LEAD WIRE ×1 UL style 3266, AWG18

5IK90A-FCH
5IK90A-ECH

Weight (Mass): 8.2 lb.(3.7 kg)

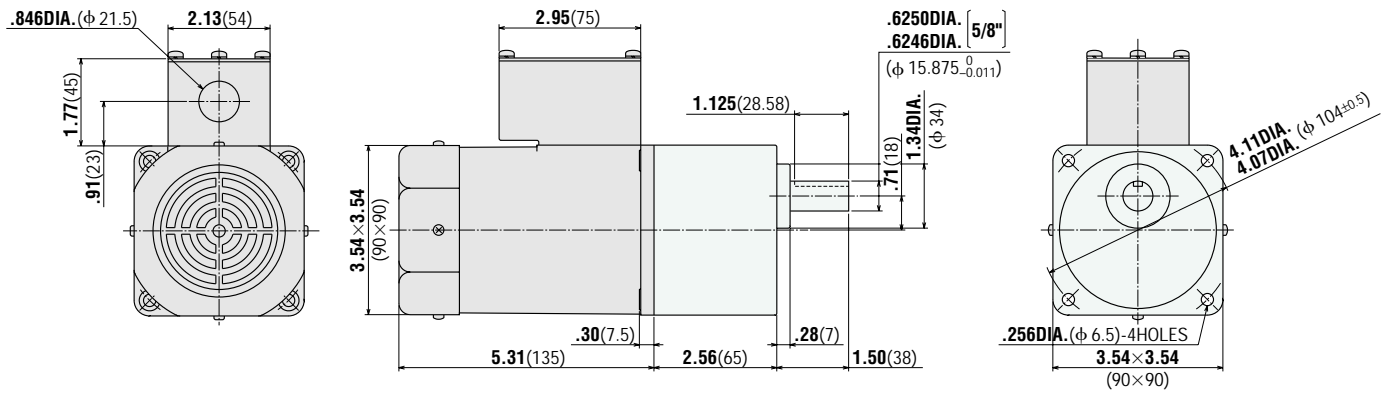


5IK90GU-SH

Weight (Mass): 7.3 lb.(3.3 kg)

5GU□KA

Weight (Mass): 3.3 lb.(1.5 kg)

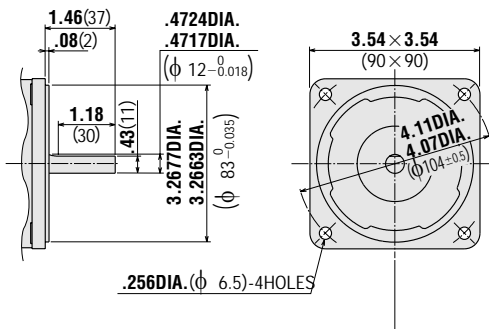


MOTOR LEAD WIRE $\times 3$ UL style 3266, AWG20
 GROUND LEAD WIRE $\times 1$ UL style 3266, AWG18

5IK90A-SH

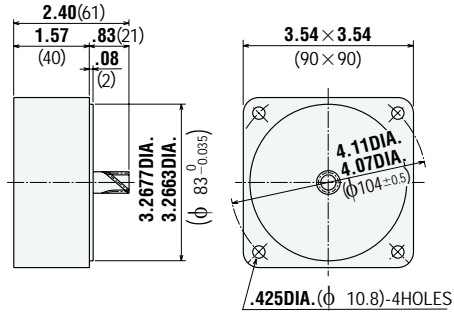
Round Shaft Type

Weight (Mass): 7.3 lb.(3.3 kg)

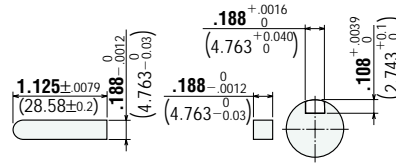


Decimal Gearhead

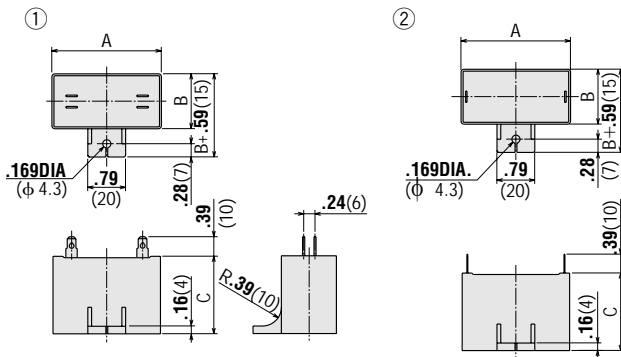
5GU10XKB Weight (Mass): 1.32 lb.(0.6 kg)



● **Key and Key Slot** Scale 1/2
(The key is provided with the gearhead)



Capacitor (included with the motor)

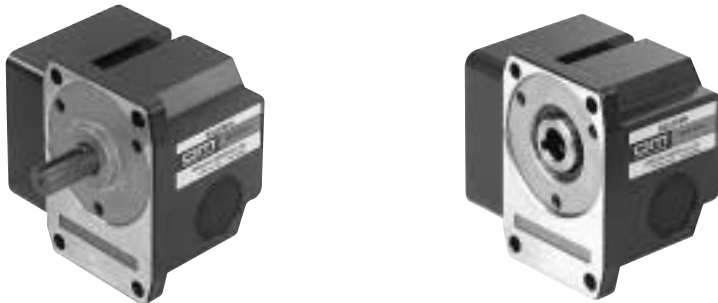


Motor Model	Capacitor Model	Dimensions in. (mm)			Weight oz (g)	Dimension No.
		A	B	C		
5IK90GU-AW □U	CH200CFAUL	2.28	1.14	1.61	3.35 (95)	①
5IK90A-AW □U		(58)	(29)	(41)		
5IK90GU-CW □E	CH60BFAUL	2.28	1.14	1.61	3.00 (85)	①
5IK90A-CW □E		(58)	(29)	(41)		
5IK90GU-AFUL	CH200UL	2.28	0.91	1.46	2.29 (65)	②
5IK90A-AFUL		(58)	(23.5)	(37)		

If you need to order a capacitor without a motor, add "-C" to the capacitor model number shown. A capacitor cap is always included with a capacitor.

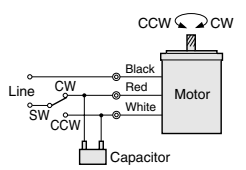
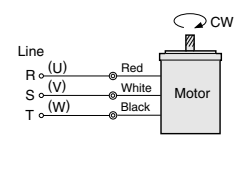
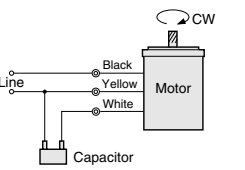
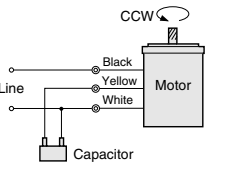
Right-Angle Gearheads

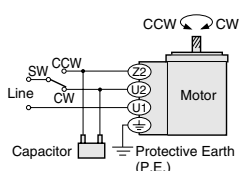
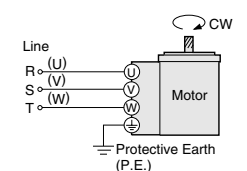
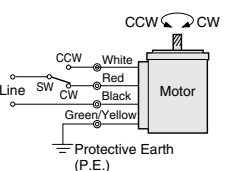
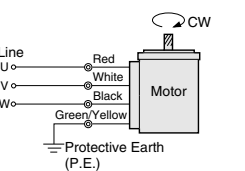
The right-angle gearhead provides an output shaft that is at a right angle to the motor's output shaft. See page [A-216] for specifications and other information.



■ Wiring Diagrams

The direction of motor rotation is as viewed from the shaft end of the motor.

Model Direction	Lead Wire Type		
	5IK90GU-AWU 5IK90GU-CWE	5IK90GU-SW	5IK90GU-AFUL
CW			
CCW	To rotate the motor in a clockwise (CW) direction, flip switch SW to CW. To rotate it in a counterclockwise (CCW) direction, flip switch SW to CCW.	To change the rotation, change any two connections between U, V and W.	

Model Direction	Terminal Box Type		Conduit Box Type	
	5IK90GU-AWTU 5IK90GU-CWTE	5IK90GU-SWT	5IK90GU-FCH 5IK90GU-ECH	5IK90GU-SH
CW				
CCW	To rotate the motor in a clockwise (CW) direction, flip switch SW to CW. To rotate it in a counterclockwise (CCW) direction, flip switch SW to CCW.	To change the rotation, change any two connections between U, V and W.	To rotate the motor in a clockwise (CW) direction, flip switch SW to CW. To rotate it in a counterclockwise (CCW) direction, flip switch SW to CCW.	To change the rotation, change any two connections between U, V and W.

Change the direction of motor rotation only after bringing the motor to a stop.

If an attempt is made to change the direction of rotation while the motor is rotating, the motor may ignore the reversing command or change its direction of rotation after some delay.

■ Accessories

● Motor Mounting Brackets

Optional die-cast aluminum mounting brackets are available. They can be used to install motors with or without gearheads. See page [A-266] for the dimensions.

Model name **SOL5UA**



● Flexible Coupling

Optional clamping couplings are available. See page [A-260] for the dimensions.

