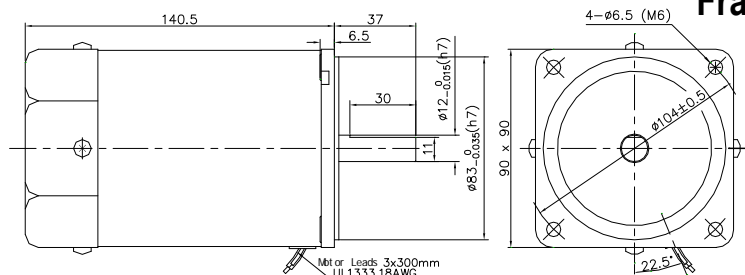


Speed Control Motors 90W (GU) Frame Size: □90mm (□3.54 in.)

• Motor Dimensions:



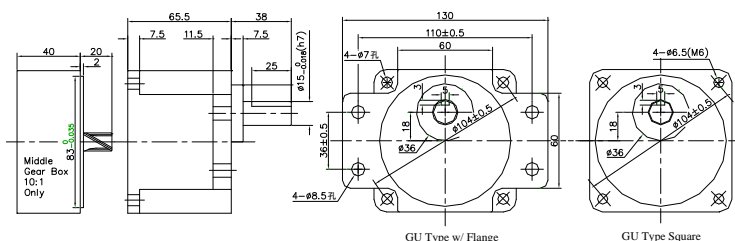
• Induction motor specifications-continuous Rating (leads wire type)



Model		Output Power	Voltage	Freq.	Speed Range	Allowable Torque		Starting Torque	Current	Capacitor
Pinion Shaft	Round Shaft	W	Vac	Hz	r/min	1200rpm	90rpm	mN.m	Amp	μF/V
5IK90RGU-AF	5IK90RA-AF	90	1ph100	50	90~1400	710	230	405	2.75	25/250
				60	90~1700	490	260	35	0.28	
5IK90RGU-CF	5IK90RA-CF	90	1ph220	50	90~1400	710	230	410	1.2	5/450

• These motors have built in thermal protectors: If a motor overheats the thermal protector opens and the motor stops. When the motor temperature drops to the rated level, the thermal protector closes and the motor restarts.

• Gearhead dimensions & weight:



Item	Ratio	L		Weight	
		mm	Kg	lb	
Gearhead (5GUxxK)	3-9	65.5	1.21	2.66	
	10-18		1.30	2.86	
	20-75		1.40	3.08	
	90-200		1.45	3.19	
10:1 middle gearbox		40	0.6	1.32	
Motor		141	3.4	7.48	

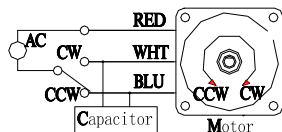
• Gear Motor-Torque Table

Model	Gear Ratio	X:1	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180	200		
			Efficiency	81						73			66						59						
			Speed	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz
5IK90RGU-A 5IK90RGU-C	5GU□KB	50Hz	Nm	1.7	2	2.8	3.4	4.3	5.1	6.4	7.7	9.2	11.6	13.9	16.6	20	20	20	20	20	20	20	20	20	
			Kg.cm	17.3	20.4	28.6	34.7	43.9	52	65.3	78.6	93.9	118	142	169	200	200	200	200	200	200	200	200	200	
		60Hz	Nm	1.4	1.7	2.3	2.8	3.5	4.2	5.2	6.2	7.5	9.4	11.3	13.5	18.8	20	20	20	20	20	20	20	20	20
			Kg.cm	14.3	17.3	23.5	28.6	35.7	42.9	53.1	63.3	76.5	95.9	115	128	192	200	200	200	200	200	200	200	200	200

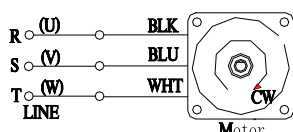
• Enter the gear ratio in the box □. Colored background indicates the output shaft rotate in the same direction as the motor shaft.
 • The speed is calculated based on the synchronous speed (50 Hz: 1500rpm; 60Hz: 1800 rpm) by the gear ratio.
 • Higher gear ratio (>200) can be achieved by adding a middle gearbox (10:1 only). Using Middle Gearbox limits Max.torque to 3Nm (30kg.cm)

• Connection Diagrams:

• Lead Wire Single Phase

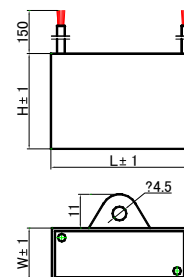


• Lead Wire Three Phase



• Capacitor:

Value	Dimensions	Dimensions		
		uF	V	L
3.5 - 4.0	250	37	18	28
1.8 - 2.5	450			
20 - 30	250	57	32	46
10 - 15	450			



90W(GU) Frame Size: □90mm (□3.54 in.)

● **General specifications for AC motors:**

Item	Specifications
Insulation Resistance	100 MΩ or more when 500VDC is applied between the windings and the frame
Dielectric Strength	Sufficient to withstand 1.5 kV at 50/60Hz applied between the windings and the frame for 1 minute
Temperature Rise	Temperature rise of windings should be lower than 80°C. (60°C with fan)
Insulation Class	Class B (130°C)
Overheat Protection	Build in thermal protector (automatic return); Class B (O: 120±5°C, C: 75±15°C)
Ambient Temperature	14°F-104°F (-10°C~+40°C) [three-Phase: 14°F-122°F (-10~+50°C)] (Nonfreezing)
Ambient Humidity	85% or less (Noncondensing)
Degree of Protection	Lead wire type: IP20; Terminal Box Type: IP54

Notes: Above specifications is for motor operated under normal ambient temperature and humidity conditions

● **Permissible load for round shaft motors & Permissible Load Inertia at the Motor Shaft**

Frame Size	Shaft Dia. mm	Permissible overhung load (from end of shaft)				Permissible Load Inertia at the Motor Shaft	
		10 mm		20 mm		J (×10 kg. m ²)	GD (kg. m ²)
		lb	N	lb	N		
5IK60	10	31.5	140	44.9	200	1.1	4.6
	12	53.9	240	60.7	270		

Permissible thrust load: Avoid thrust load as much as possible or keep it to no more than half the motor weight

● **Permissible load for gearheads**

Frame Size	Gear Ratio	Maximum Permissible torque		Permissible overhung load (from end of shaft)				Permissible thrust load	
		lb-in	N.m	10 mm		20 mm		lb	N
				lb	N	lb	N		
5GU	3~9	177	20	89.9	400	112.4	500	34	150
	12.5~18			101.1	450	134.8	600		
	25~200			112.4	500	157.3	700		

● **Heat Radiation Plate Dimension (Material: Aluminum): 200×200 (for 5IKxxxGU type motors)**

● **Product Number Codes for Motors:**

5	I	K	90	R	GU	-	C	F
Frame size	Motor Type	Series	Power	Control	Shaft		Voltage & Poles	Accessory
2: 60mm	I: Induction	K: k series	90 = 90W	R: speed control motor	A: round w/ flat		A: Single phase 100~120VAC, 4P	F: W/Fan
3: 70mm	R: Reversible				A1: round w/keyway		B: Single phase 100~120VAC, 2P	FF: W/forced Fan
4: 80mm	T: Torque				GN: Normal Pinion		C: Single phase 220~240VAC, 4P	M: W/Brake
5: 90mm					GU: Enhanced Pinion		D: Single phase 220~240VAC, 2P	T: W/Terminal Box
6: 100mm							S: Three phase 220~240VAC, 4P	
							T: Three phase 220~240VAC, 2P	
							S3: Three phase 380~415VAC, 4P	
							T3: Three phase 380~415VAC, 2P	

● **Product Number Codes for Gearheads:**

5	GU	50	K
Frame size	Gear Type	Gear Ratio	Bearing
2: 60mm	GN: Normal Gear	50 = 50:1	K: Normal Ball Bearing
3: 70mm	GU: Enhanced Gear		KB: Enhanced for GU Type
4: 80mm			B: Sleeve bearing
5: 90mm			
6: 100mm			

● **Terminal Boxes:**

