

# Frame Size: □90mm (□3.54 in.) Spur Gearhead with 120-250W PMDC Motor

## ● General Specifications:

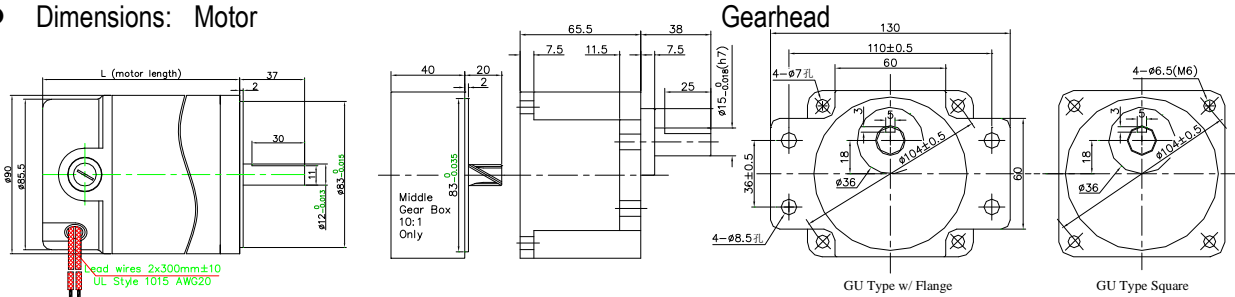
Item	Specifications
Insulation Resistance	100 MΩ Min. @ 500VDC
Dielectric Strength	1.5 kVAC for one minute
Temperature Rise	≤ 80°C
Insulation Class	Class B (130C)
Ambient Temperature	14°F-104°F (-10°C ~ +40°C) (Nonfreezing)
Ambient Humidity	85% or less (Noncondensing)
Speed tolerance	±15%
Torque tolerance	±20%



## ● Motor specifications:

Motor				Model #	Volt.	No load		Rated				Weight	
Frame		Length (L)				Speed	Current	Speed	Current	Torque			Power
mm	Inch	mm	Inch			RPM	Amp	RPM	Amp	mN.m	oz-in		W
90	3.54	196	7.7	90ZYT196-120W2433	24	1700	1.7	1450	9	800	113.29	120	3.2
				90ZYT196-120W9033	90	1700	0.8	1450	4.5	800	113.29		
				90ZYT196-120W22033	220	1700	0.5	1450	1.3	800	113.29		
		196	7.7	90ZYT196-250W2433	24	3300	3	2900	16	820	116.12	250	3.2
				90ZYT196-250W9033	90	3300	1.2	2900	4.2	820	116.12		
				90ZYT196-250W22033	220	3300	0.9	2900	2.2	820	116.12		

## ● Dimensions: Motor



## ● Gear Motor-Torque Table (Listed speeds are rated speeds)

Model	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			
	Eff.	%	81	81	81	81	81	81	73	73	73	66	66	66	66	66	66	59	59	59	59	59	59			
90ZYT196-120Wxx17	Speed	RPM	483	403	290	242	193	161	116	97	81	58	48	40	29	24	19	16	15	12	10	8	7			
	Torque	Nm	1.94	2.33	3.24	3.89	4.86	5.83	7.30	8.76	10.5	13.2	15.8	19.0	20	20	20	20	20	20	20	20	20	20		
90ZYT196-250Wxx33	Speed	RPM	967	806	580	483	387	322	232	193	161	116	97	81	58	48	39	32	29	24	19	16	15			
	Torque	Nm	1.99	2.39	3.32	3.99	4.98	5.98	7.48	8.98	10.8	13.5	16.2	19.5	20	20	20	20	20	20	20	20	20	20		
Gearhead Length / Weight		mm/Kg	65.5 / 1.21						65.5 / 1.30						65.5 / 1.40						65.5 / 1.45					

- Enter the gear ratio in the box □. Colored background indicates the output shaft rotate in the same direction as the motor shaft.
- Higher gear ratio (>200) can be achieved by adding a middle gearbox (10:1). Using Middle Gearbox limits Max.torque to 3Nm (30kg.cm)

## ● 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		

- Wiring:** Rotation direction: Motor shaft rotates CW when RED(+) & BLK(-) and CCW when RED(-) & BLK(+)

## ● Product Code:

**5**      **GU**      **50**      **K**      /      **90**      **ZYT**      **196-**      **250W**      **24**      **33**  
 Size      Type      Ratio      Bearing      Size      Type      Length      Power      Voltage      Speed (NL)  
 90mm      GU type      50:1      Ball      90mm      PMDC      196mm      250Watts      24VDC      3300RPM