



# AC SYNCHRONOUS MOTOR

## Specification

Model	#6007	#4807	#4208	#9016	
<b>Wiring color</b>	Black / Green, Yellow	Black / Orange, Blue	Black / Brown, Purple	White / Orange, Blue	
<b>Suitable industry</b>	Long-term continuous operating industries	House appliance automation industries	High-torque cold humid environment industries	Industries with safety restrictions, inflammable oil pipes.	
<b>AC Voltage</b>	110V, 220V	110V, 220V	110V, 220V	24V	
<b>Temperature rise</b>	45°C	50°C	55°C	55°C	
<b>Frequency</b>	60 / 50Hz				
<b>Rotation</b>	CW / CCW / Commutation rotation / One-way rotation (also step rotation; does not rotate backwards due to resistance).				
<b>Output Power</b>	3-5W				
<b>Speed</b>	1RPM ~ 200RPM				
<b>Certification</b>	CE, RoHS				
<b>Shaft (mm)</b>	* A14 × B9	* A16 × B11	* A20 × B15	* A22 × B10	* A25 × B13
<b>Voltage tolerance test</b>	Products pass voltage tolerance tests of 2500V/sec by CE standards.				
<b>Motor case(cm)</b>	30(L) X 21(W) X 21 (H)				
<b>Weight</b>	0.258 Kg				
<b>Packaging</b>	60 pieces / package				
<b>Country of manufacture</b>	TAIWAN				
<b>Warranty</b>	5 years				

## Material

- **COIL:** uses German ELEKTRISOLA enamel wire of which finished products complies with voltage tolerance 2500V/sec by highest standard CE.
- **MAGNET:** high-precision magnets from Japan with anti-aging and high-temperature resistance treatment to keep the magnet materials stable at least 10 years and magnetic force semi-permanent.
- **GEAR:** carbon steel, weight iron, and high-tension resistance copper among the materials are imported from Japan.
- **GEAR TEETH:** non-regular copper with expansion elasticity imported from Japan.
- **STEP PULLEY:** step pulleys knurling inside assembly, non-close-fit machines press, automated entity tolerance 0.01mm, product defect rate below 0.5‰.
- **GRAPHITE OIL:** BBI dark thick liquid oil; wearable, pressure resistant, high-temperature resistant. When dried, becomes graphite powder lubricant and does not require oil moisture.

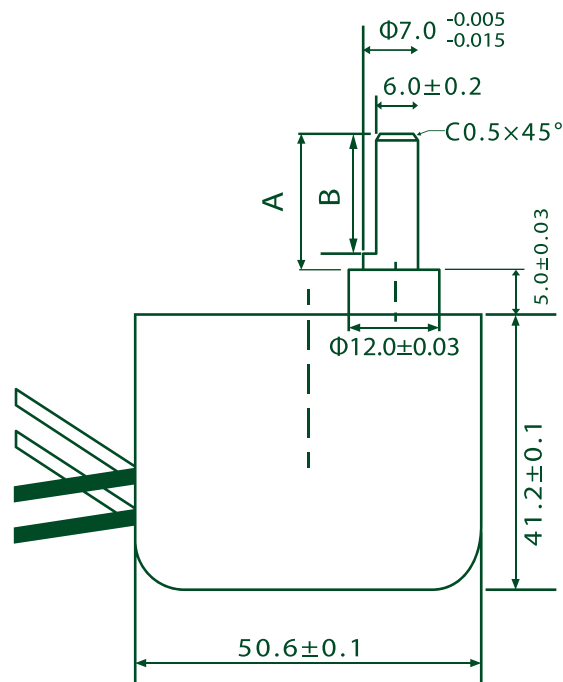
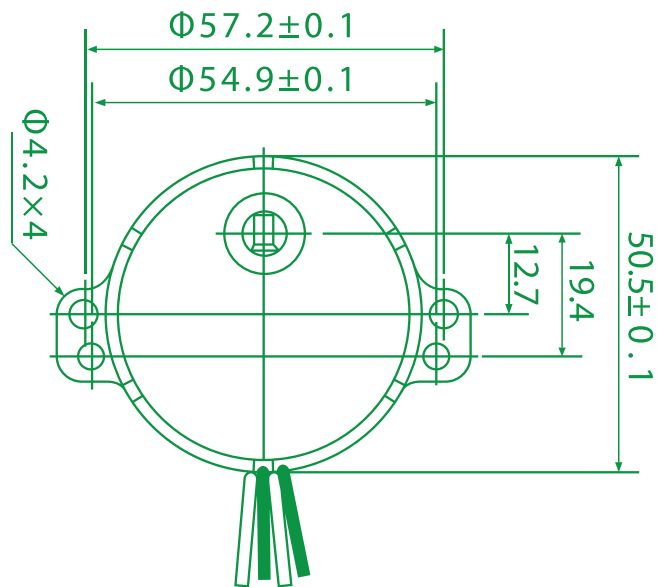
## Feature

- **Robust and durable:** all use steel gear; step pulleys knurling inside of inner and outer holes assembly; robust and durable.
- **High torque:** motors with two coils have four times the torque of single coil motors.
- **Superior functions:** forward/backward rotation, one way rotation, and commutation rotation, may all be programmed; sharp switching of forward/backward rotation.
- **High accuracy in reaching starting speed;** no skidding at magnetic brake stop; does not rotate backwards due to resistance. CHANG AN synchronous motors are controlled by frequency and thus speed is not affected by voltage; same as servomotors but cheaper.
- **Safe:** motor is not damaged if stuck and stopped during power on.
- **Damage test:** tolerance 150kg in steel rod test.
- **Voltage tolerance:** products pass voltage tolerance tests of 2500V/sec by CE standards.
- **Long lifespan:** synchronous motors have no carbon brushes, do not wear or stop, and do not have carbon brush life limits like DC motors.



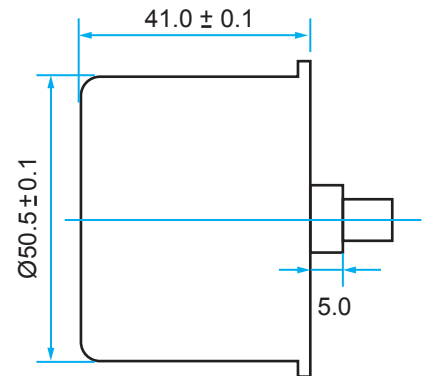
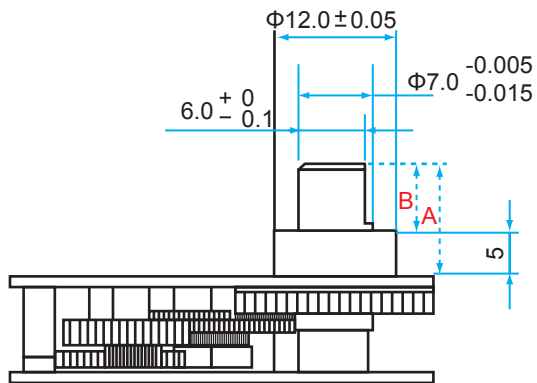
### AC Synchronous motor drawing

Unit: mm





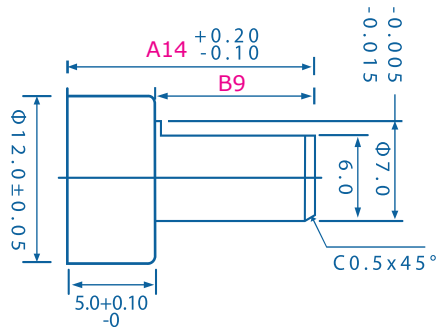
## AC Synchronous motor gear box schematics



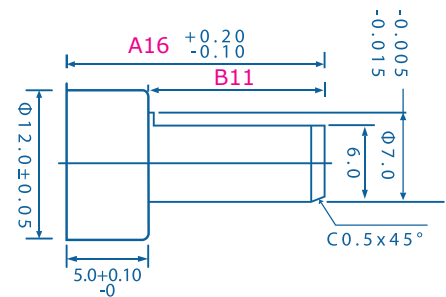
## Shaft specification

Medium-carbon steel grinding tolerance 0.01

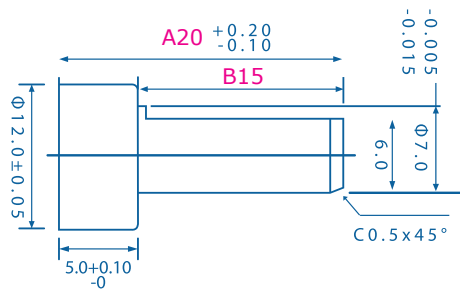
- A:14mm × B:9mm



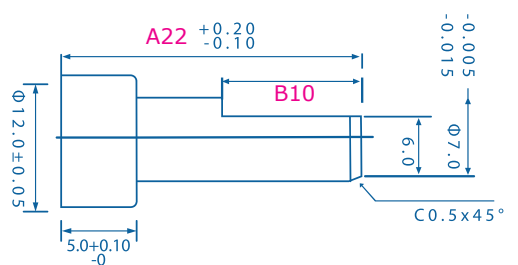
- A:16mm × B:11mm



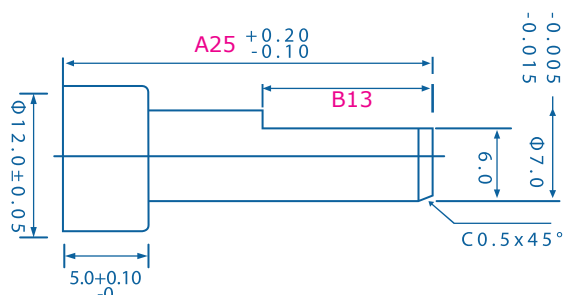
- A:20mm × B:15mm



- A:22mm × B:10mm



- A:25mm × B:13mm





**Motor torque chart**

Torque chart generated at the speeds of motor models ,the bearing force is 1/3 that of the brake torque.

NO.	RPM		110V / 220V		Wiring color	
	60Hz	50Hz	Model	Brake torque (kgf-cm)	Power supply	Split phase color wire( CW/CCW )
1	1	0.83	#6007	55.8	Black	Yellow,Green
2	2	1.66	#6007	37.3	Black	Yellow, Green
3	3	2.5	#6007	25.3	Black	Yellow, Green
4	3	2.5	#4807	34.7	Black	Blue, Orange
5	4	3.33	#6007	20	Black	Yellow, Green
6	4	3.33	#4807	27.6	Black	Blue, Orange
7	4	3.33	#4208	32.3	Black	Brown, Purple
8	6	5	#4807	19.81	Black	Blue, Orange
9	6	5	#4208	27.4	Black	Brown, Purple
10	10	8.33	#4807	16.4	Black	Blue, Orange
11	10	8.33	#4208	18.1	Black	Brown, Purple
12	15	12.5	#4208	18.5	Black	Brown, Purple
13	20	16.6	#4208	14.6	Black	Brown, Purple
14	30	25	#4208	13.95	Black	Brown, Purple
15	60	50	#4208	11.56	Black	Brown, Purple
16	100	83.3	#4208	6.63	Black	Brown, Purple
17	150	125	#4208	3.5	Black	Brown, Purple
18	200	166	#4208	2.93	Black	Brown, Purple

NO.	RPM		110V / 220V		Wiring color	
	60Hz	50Hz	Model	Brake torque (kgf-cm)	Power supply	Split phase color wire( CW/CCW )
1	2	1.66	#9016	53.2	White	Orange, Blue
2	3	2.5	#9016	35.1	White	Orange, Blue
3	4	3.33	#9016	28.6	White	Orange, Blue
4	6	5	#9016	21	White	Orange, Blue
5	10	8.33	#9016	6.5	White	Orange, Blue
6	15	12.5	#9016	15.5	White	Orange, Blue
7	20	16.6	#9016	14.2	White	Orange, Blue
8	30	25	#9016	13.2	White	Orange, Blue
9	60	50	#9016	11.6	White	Orange, Blue
10	100	83.3	#9016	6.9	White	Orange, Blue
11	150	125	#9016	4.4	White	Orange, Blue
12	200	166	#9016	3.2	White	Orange, Blue