PRODUCT NUMBER CODE

Motor

5	I	K	40	R	GU	-	C	T
①	②	③	④	⑤	⑥		⑦	⑧

①	Motor frame size	4: 80mm 5: 90mm 6: 104mm
②	Motor type I : Induction motor R : Reversible motor	
③	Series	K : K series
④	Output power (W)	(Example) 40 : 40W
⑤	R : The suffix "-R" after the output power means speed adjustable motor	
⑥	Motor shaft type GN : GN type : Pinion shaft	GU : GU Type : Pinion shat
⑦	Voltage·Poles A : Single-phase 110V50/60Hz 4P B : Single-phase 110V50Hz 2P C : Single-phase 220/230V50Hz 4P D : Single-phase 220V50Hz 2P E : Single-phase 110V/120V60Hz 4P	H : Single-phase 220/230V60Hz 4P S : Three-phase 200/220/230V50/60Hz 4P S3 : Three-phase 380/400/415V50/60Hz 4P T : Three-phase 200/220/230V50/60Hz 2P T3 : Three-phase 380/400/415V50/60Hz 2P
⑧	T : Terminal box type F : W/Fan M : Power off activated type electromagnetic brake motor	FF : W/Forced fan

Description Of Reducer Model

5	GU	50	RH
①	②	③	④

①	Gearhead frame size	4: 80mm 5: 90mm 6: 104mm
②	Type of pinion	GN : GN type gear GU : GU type gear
③	Gear ratio	(e.g) 50 : Gear ratio of 1 : 50 10x denotes the decimal gearhead of ratio 1 : 10
④	Type of output shaft	RH : Hollow worm shaft RA : Worm output shaft RC : Spiral bevel hollow shaft RT : Spiral bevel output shaft

GENERAL SPECIFICATIONS OF MOTORS

25W～200W

Item	Specifications
Insulation Resistance	In the circumstance of normal temperature and humidity, the resistance can be up to 100MΩ, measured DC 500V insulation resistance measurer between the motor wiring and motor shell while the motor is working
Insulation Voltage	In the circumstance of normal temperature and humidity, there will be no problem supplying the power of 1.5kV (three phase400v: 2kV) at 50/60hz between the metal wiring and motor shell for 1 minute while the motor is working
Temperature Rise	The temperature rise of winding are 80℃ or less measured by the resistance change method after rated motor operation under normal ambient temperature and humidity, with connecting a gearhead or equivalent heat radiation plate ※
Insulation Class	UL/CSA Standards: Class A (105℃) EN Standards: Class B (130℃)
Overheat Protection	Thermal protector inside (Automatic return) Class B (Opening: 120℃±5℃、75℃±15℃) Class F (Opening: 145℃±5℃、100℃±15℃)
Ambient Temperature	Single-phase 100V、Three-phase 200V: -10～+50℃ (Non freezing)、Others: -10～+40℃ (Non freezing)
Ambient Humidity	≤85% (Non condensing)
Protection Class	Lead wire type: IP20 Terminal box type: Single-phase 100V50/60Hz、110/120V60Hz、220/230V50Hz、220/230V60Hz 25W-180W Type: IP54 (Excluing the installation surface of the round shaft type) Three-phase 200/220/230V50/60Hz、380/400/415V50/60Hz 25W-180W Type: IP54 (Excluing the installation surface of the round shaft type)

Heat Radiation Plate (Material: Aluminum)

Motor Type	Size	Thickness (mm)
25W	135X135	5
40W、60W type	165X165	
60W、90W、120W type	200X200	
120W、140W、200W type	230X230	

Power Off Activated Type Electromagnetic Brake Motor Features

1、 Structure and operation principle

Table 3 is the structure for the electromagnetic brake motor. We produce the power off activated type. Exerting the voltage on the winding, it will magnetize the armature pressed by the spring. The motor will be in a stage of rotating, when there is a backlash between the armature and brake rim. Once the winding voltage is cut down, under the influence of spring, the armature press the brake rim, which will create a brake force. Then the motor gets to a stop.

2、 The characteristics of the electromagnetic brake

It is an AC power off activated type electromagnetic brake which is connected directly with the motor. It will get to a blink stop and keep load when the supply is power off. It will keep the torque between 0.05～2.0Nm. It is especially suitable for the safety brake in the circumstance of unconsciously power off. The electromagnetic can change its direction frequently. It can be stopped 6 times in a minute. But be sure that it lasts for 3 seconds or more.

After we set a commutating loop in the brake, it can share the power supply with the motor.

※The value is standard. It will be change in different condition. When actually used, be sure to make the surface temperature of the motor less than 90℃.

3、 The features for the starting time and brake time

The starting time means the time for the motor's starting time plus the electromagnetic brake release time. The brake time means the time from power cut off to the time of motor completely stop. The over-run, starting time and brake time will be different according to the different applications.

Electromagnetic Brake (Power Off Activated Type)

Phase	Size	Output	Voltage	Frequency	Current	Input	Keep Torque		Over-run
	MM	W	V	Hz	A	W	N.cm	Kgf.cm	Cycles
1Phase	70	15	110 120 220 230	50/60	0.091	8.20	0.50	50	3.5
	80	25							
	90	40							
		60			0.111	10.0	1.00	100	
		90							
		120							
	100	120							
		140							
		200			0.144	13.0	2.00	200	
3Phase	60	6	220～230	50/60	0.073	6.60	0.25	25	
	70	15	380～415		0.037	6.60	0.25	25	
	80	25	200～230 380～415		0.091	8.20	0.50	50	
	90	40							
		60			0.046	8.20	0.50	50	
		90	200～230 380～415		0.111	10.0	1.00	100	
		120							
	100	120			0.056	10.0	1.00	100	
		140							
		200	200～230 380～415		0.144	13.0	2.00	200	
					0.144	13.0	2.00	200	

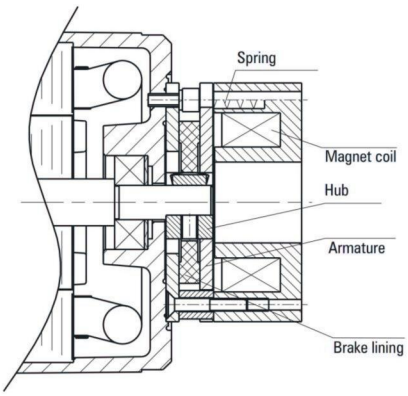


Fig.3

The Features Of The Speed Control Motor

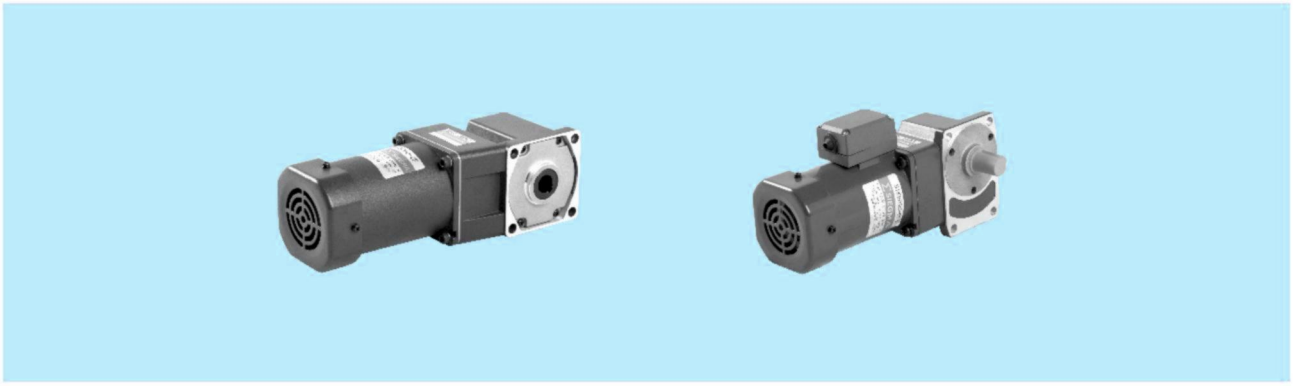
1、 It is a unit of the controller and motor. It only needs to connect one time. The speed can be easily adjusted by the potentiometer. The controller is fixed with speed-control loop, capacitor, speed enactment and etc. There is no function of instant stop in the unit.

2、 The controller can make the speed variable between 90-1400r/min at 50Hz and 90-1700r/min at 60Hz.

3、 Please don't run motor at low speed for long time avoiding overheat.

INDUCTION MOTORS

90W □90mm



Specs Continuous Rating

Model・Type Upper:Pinion Shaft Below:Round Shaft		Output power	Voltage	Frequency	Current	Starting Torque	Rated Torque	Rated Speed	Capacitor
Lead Wire Type Dimensions①	Terminal Box Type Dimensions②	W	V	Hz	A	mN.m	mN.m	r/min	μF
5IK90GU-AF	5IK90GU-AFT	90	1ph 100	50	1.55	450	700	1250	25
				60	1.85		570	1550	
5IK90GU-EF	5IK90GU-EFT	90	1ph 110	60	1.40	500	570	1550	20
			1ph 120		1.45				
5IK90GU-CF	5IK90GU-CFT	90	1ph 220	50	0.72	450	700	1250	5.0
			1ph 230		0.70				
5IK90GU-HF	5IK90GU-HFT	90	1ph 220	60	0.71	450	570	1550	5.0
			1ph 230		0.75				
5IK90GU-SF	5IK90GU-SFT	90	3ph 220	50	0.60	1350	700	1250	-
				60	0.55	1100	570	1550	
5IK90GU-S3F	5IK90GU-S3FT	90	3ph 380	50	0.35	1350	700	1250	-
				60	0.32	1100	570	1550	

- When the motor is approved under various safety standards, the model name on the nameplate is the approved model name.
- Note: "-A" it means the voltage 110V, the assembly capacitor vaule it is according the label.

Gear Motor-Torque Table

- Gearhead and mid-gearbox can be sold separately. Enter the code that represents the terminal box type (T) in the box (□) within the model name.
- Enter the gear ratio in the box (□) within the model name.
  The colored background ▭ indicates the same rotating direction of the motor while the rotating direction of others are opposite.
- The speed is calculated by diving the motor's synchronous speed (50Hz:1500r/min、60Hz:1800r/min) by the gear ratio. The actual speed is 2%~20% less than the displayed value, depending on the size of the load.
- To reduce the speed beyond the gear ratio in the table, attach a mid-gearbox (gear ratio:10) between the gearhead and motor. In that case, the permissible torque is 20N·m.

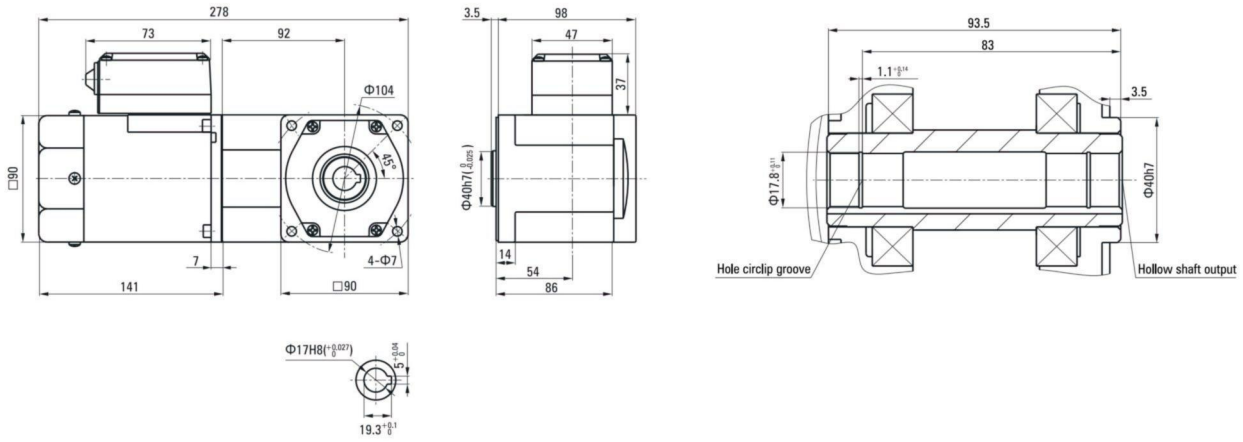
SPIRAL BEVEL RIGHT ANGLE

Allowance Torque Unit: Upside (N.m) / Belowside (kgf.cm)

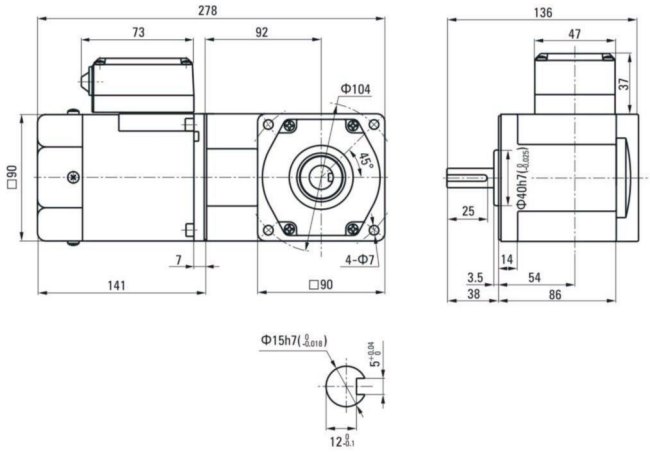
Type / Motor/Gearhead		Gear Ratio		7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180
		Speedr/min	50Hz	200	166	120	100	83	60	50	42	30	25	20	16	15	12	10	8
			60Hz	240	200	144	120	100	72	60	50	36	30	24	20	18	15	12	10
5IK90GU-AF□ 5IK90GU-EF□	5GU□RC	Allowance Torque	50Hz	3.55	4.26	5.92	7.10	8.52	11.8	14.2	15.3	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
				36.2	43.5	60.4	72.5	87.0	121	145	157	200	200	200	200	200	200	200	200
5IK90GU-CF□ 5IK90GU-HF□	5GU□RT		60Hz	2.86	3.44	4.77	5.73	6.87	9.54	11.5	12.4	17.2	20.0	20.0	20.0	20.0	20.0	20.0	20.0
5IK90GU-SF□ 5IK90GU-S3F□				29.2	35.1	48.7	58.4	70.1	97.4	117	126	175	200	200	200	200	200	200	200

Motor Size Chart

5IK90GU-AF□/5GU□RC　5IK90GU-CF□/5GU□RC
5IK90GU-EF□/5GU□RC　5IK90GU-HF□/5GU□RC　5IK90GU-SF□/5GU□RC　5IK90GU-S3F□/5GU□RC



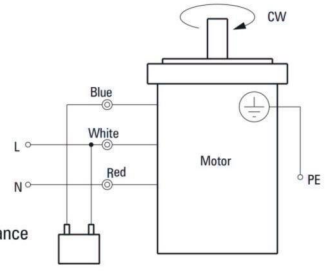
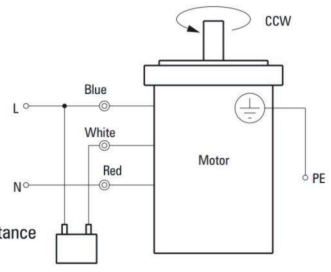
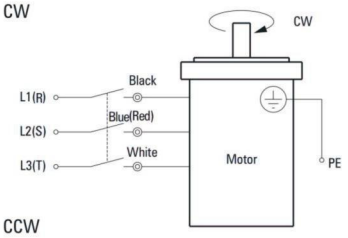
5IK90GU-AF□/5GU□RT　5IK90GU-CF□/5GU□RT
5IK90GU-EF□/5GU□RT　5IK90GU-HF□/5GU□RT　5IK90GU-SF□/5GU□RT　5IK90GU-S3F□/5GU□RT



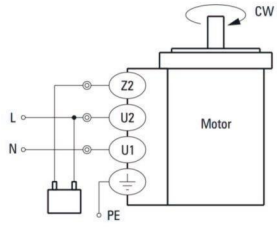
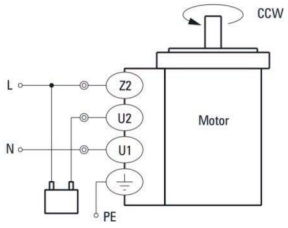
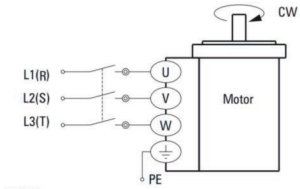
Wiring Diagram

- The direction of motor rotation is as viewed from the shaft end of motor. CW represents the clockwise direction, while CCW represents the counterclockwise direction.
- Name indicated in the list is pinion shaft type, also valid for the equivalent round shaft type.

Lead Wire Type

5IK90GU-AF、5IK90GU-EF、 5IK90GU-HF、5IK90GU-CF		5IK90GU-SF(S3F)
CW  Capacitance	CCW  Capacitance	CW  CCW To change the rotation direction change any two connections among R, S and T

Terminal Box Type

5IK90GU-AFT、5IK90GU-EFT、 5IK90GU-HFT、5IK90GU-CFT		5IK90GU-SFT(S3FT)
CW  Capacitance	CCW  Capacitance	CW  CCW To change the rotation direction change any two connections among U, V and W

Note:

Change the direction of single-phase motor rotation only after bring the motor to a stop.

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