

90W

INDUCTION MOTOR □ 90mm LEAD WIRE TYPE

SIZE mm sq.	Type	Poles	Output (W)	Voltage (V)	Frequency (Hz)	Duty	Rated Load				Starting Torque		Capacitor (uF)
							Current (A)	Speed (rpm)	Torque (kg-cm) (N-m)		(kg-cm)	(N-m)	
90	S9190GA() S9190GA()(TP) S9190GA()CE	4	90	1 ∅ 110	60	Cont.	2.00	1600	5.60	0.560	5.70	0.570	25.0
	S9190GB() S9190GB()(TP) S9190GB()CE	4	90	1 ∅ 220	60	Cont.	1.00	1600	5.60	0.560	5.70	0.570	6.0
	S9190GC() S9190GC()(TP) S9190GC()CE	4	90	1 ∅ 100	50	Cont.	1.80	1300	6.90	0.690	5.00	0.500	25.0
	60				2.00		1550	5.80	0.580				
	S9190GD() S9190GD()(TP) S9190GD()CE	4	90	1 ∅ 200	50	Cont.	0.90	1300	6.90	0.690	5.00	0.500	6.0
	60				1.00		1550	5.80	0.580				
	S9190GE() S9190GE()CE	4	90	1 ∅ 100	50	Cont.	1.50	1300	6.90	0.690	5.00	0.500	25.0
	60				1.80		1550	5.80	0.580				
	1 ∅ 115				1.80		1550	6.00	0.600	20.0			
	S9190GX() S9190GX()CE	4	90	1 ∅ 220	50	Cont.	0.68	1300	6.90	0.690	4.80	0.480	5.0
	1 ∅ 240						0.72		7.20	0.720	5.20	0.520	
	S9190GU() S9190GU()CE	4	90	3 ∅ 200	50	Cont.	0.63	1300	6.90	0.690	10.60	1.060	—
	60				0.60		1550	6.00	0.600	8.90	0.890		
	S9190GT() S9190GT()CE	4	90	3 ∅ 220	50	Cont.	0.68	1350	6.80	0.680	13.00	1.300	—
	60				0.55		1600	5.70	0.570	10.50	1.050		
	S9190GS() S9190GS()CE	4	90	3 ∅ 380	50	Cont.	0.32	1300	6.80	0.680	10.55	1.055	—
					60		0.30	1550	5.70	0.570	8.20	0.820	
				3 ∅ 400	50	Cont.	0.35	1300	6.90	0.690	11.70	1.170	
60					0.32		1550	5.80	0.580	8.90	0.890		
3 ∅ 415				50	Cont.	0.33	1350	6.80	0.680	12.00	1.200		
				60		0.29	1600	5.70	0.570	9.50	0.950		
3 ∅ 440	50	Cont.	0.35	1350	6.90	0.690	13.30	1.330					
60	0.31		1600	5.80	0.580	10.50	1.050						

- ❖ S9190GE is UL approved (UL FILE No. E172720) thermally protected type.
- ❖ Appropriate capacitors shall be used according to the voltage for S9160GE type since the size of the capacitor differs by different voltages. Malfunction may occur when not used properly. Capacitor for 115V will be delivered otherwise the required voltage is informed.
- ❖ CE marked at the end of model name indicates that it is thermally protected type which has received CE with built-in TP. S9190GE()CE is available only for 115V specification.
- ❖ TP marked at the end of the model name indicates that it is standard motor with Thermal Protector mounted. S9190GE, S9190GX, S9190GS is thermally protected type with TP mounted.
- ❖ Be cautious when using a three-phase 380V motor controlled with inverter.
- ❖ () is for marking 'L' type or 'H'. 'L' should be used with gearhead 'L' and 'H' should be used with gearhead 'H'.
- ❖ For a three-phase 380V~440V motor, be cautious when using the inverter. When inverter is used, the insulation of winding becomes hot and may cause damage to motor.

50Hz

GEAR RATIO	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200		
	MODEL	rpm	500	416	300	250	200	166	150	120	100	83	75	60	50	41	37	30	25	20	16	15	12	10	8	7.5
S9KC□B()	kg-cm	18.2	21.9	30.4	36.5	45.6	54.7	60.8	68.4	82.1	98.6	110	124	149	178	198	200	200	200	200	200	200	200	200	200	200
S9KC□B()-S	N-m	1.784	2.146	2.979	3.577	4.469	5.361	5.958	6.703	8.046	9.663	10.78	12.15	14.60	17.44	19.40	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60

60Hz

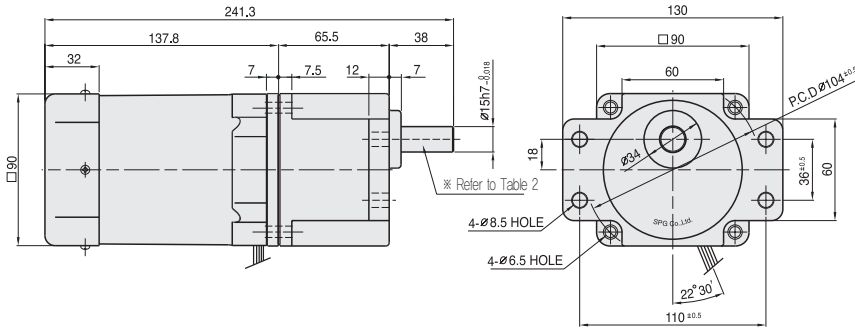
GEAR RATIO	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200		
	MODEL	rpm	600	500	360	300	240	200	180	144	120	100	90	72	60	50	45	36	30	24	20	18	15	12	10	9
S9KC□B()	kg-cm	14.6	17.5	24.3	29.2	36.5	43.7	48.6	54.8	65.7	78.8	87.6	99.0	119	143	158	198	200	200	200	200	200	200	200	200	200
S9KC□B()-S	N-m	1.431	1.715	2.381	2.862	3.577	4.675	4.763	5.370	6.439	7.722	8.585	9.702	11.66	14.01	15.48	19.40	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60

- ❖ The code in □ of gearhead model is for gear ratio. ❖ It is the permissible torque of the assembled motor and gearhead.
- ❖ The permissible torque of the motor and inter-decimal gearhead is 200 kg-cm.
- ❖ ■ color indicates that the output shaft of the geared motor rotates in the same direction as the output shaft of the motor. Others indicate rotation in the opposite direction.
- ❖ Rpm is based on synchronous speed (50Hz: 1500rpm, 60Hz: 1800rpm) divided by gear ratio. The actual rotation speed can be 2~20% less than displayed value depending on the load.
- ❖ () is for marking 'L' type or 'H'. 'L' should be used with motor 'L' and 'H' should be used with motor 'H'.

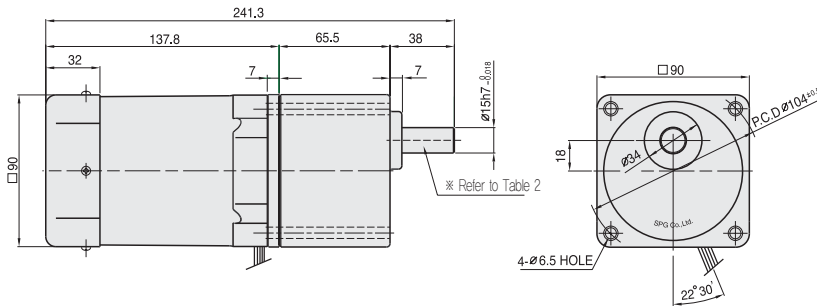
DIMENSIONS

+ GEARED MOTOR

* MOTOR MODEL : S9I90G□□
 * HEAD MODEL : S9□C3B□-S~S9□C200B□-S

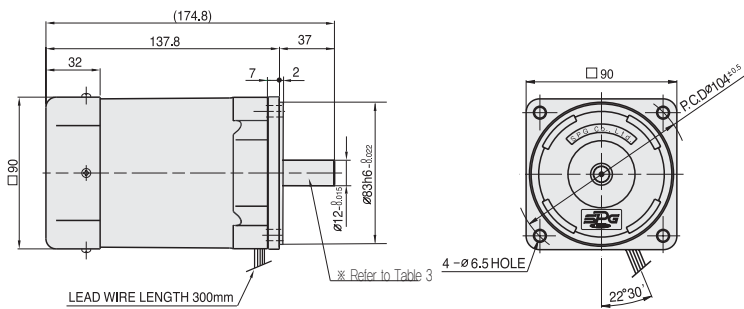


* HEAD MODEL : S9□C3B□-S9□C200B□



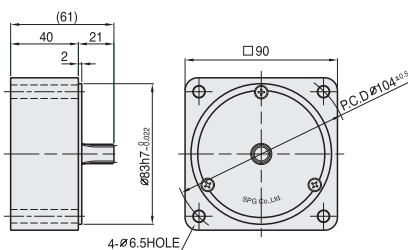
+ MOTOR

* MOTOR MODEL : S9I90□□□



+ INTER-DECIMAL GEAR HEAD

* MOTOR MODEL : S9GX10B(H,L)-S



+ WEIGHT - (Table 1)

PART	WEIGHT(kg)	
MOTOR	2.93	
DECIMAL GEAR HEAD	0.65	
GEAR HEAD	S9□C3B□ ~S9□C10B□	1.21
	S9□C12.5B□ ~S9□C20B□	1.30
	S9□C25B□ ~S9□C60B□	1.40
	S9□C75B□ ~S9□C200B□	1.45

+ KEY SPEC

GEAR HEAD	MOTOR
27.5 ^{+0.2} 5 ^{-0.03}	25 ^{+0.2} 4 ^{-0.03}

+ SPEC for output shaft of gearhead - (Table 2)

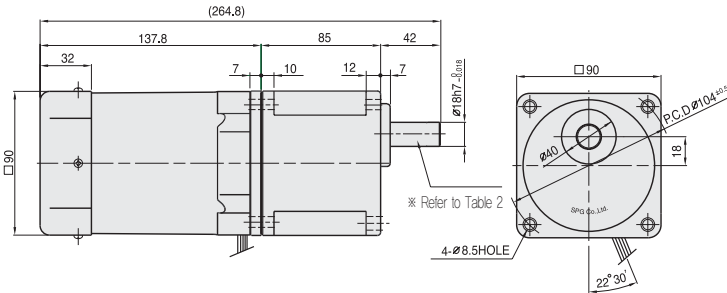
MODEL	TYPES OF OUTPUT SHAFT
STRAIGHT TYPE	38 φ15
S9SC3B□ ~S9SC200B□	38 φ15
D-CUT TYPE	38 27.5 14 ^{-0.2} φ15
S9DCB3□ ~S9DC200B□	38 27.5 14 ^{-0.2} φ15
KEY TYPE	38 27.5 φ15 5 ^{-0.03} 3 ^{-0.1}
S9KC3B□ ~S9KC200B□	38 27.5 φ15 5 ^{-0.03} 3 ^{-0.1}

+ SPEC for output shaft of motor - (Table 3)

MODEL	TYPES OF OUTPUT SHAFT
GEAR TYPE	21.1 φ12
S9I90G□□	21.1 φ12
STRAIGHT TYPE	37 φ12
S9I90S□	37 φ12
D-CUT TYPE	37 30 φ12 11 ^{-0.05}
S9I90D□	37 30 φ12 11 ^{-0.05}
KEY TYPE	37 25 φ12 4 ^{-0.03} 2.5 ^{-0.1}
S9I90K□	37 25 φ12 4 ^{-0.03} 2.5 ^{-0.1}

DIMENSIONS

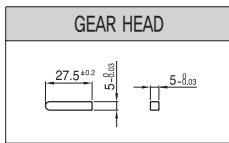
+ GEARED MOTOR * MOTOR MODEL : S9I90G□H
 * HEAD MODEL : S9□D3B~S9□D200B



+ WEIGHT - (Table 1)

PART		WEIGHT(kg)
MOTOR		2.93
GEAR HEAD	S9□D3B ~S9□D10B	1.65
	S9□D12.5B ~S9□D20B	1.80
	S9□D25B ~S9□D60B	1.90
	S9□D75B ~S9□D200B	1.95

+ KEY SPEC



+ SPEC for output shaft of gearhead - (Table 2)

MODEL	TYPES OF OUTPUT SHAF	MODEL	TYPES OF OUTPUT SHAF	MODEL	TYPES OF OUTPUT SHAF
S9SD3B ~S9SD200B	STRAIGHT TYPE 	S9DDB3B ~S9DD200B	D-CUT TYPE 	S9KD3B ~S9KD200B	KEY TYPE

50Hz

GEAR RATIO	MODEL																																																																	
	rpm	kg-cm	N·m	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200																																							
S9KD□B	500	18.2	1.784	416	21.9	2.146	300	30.4	2.979	250	36.5	3.577	200	45.6	5.361	166	54.7	6.046	150	60.8	6.703	120	68.4	8.046	100	83	9.663	75	110	12.15	60	124	14.60	50	149	17.44	40	198	24.32	30	248	29.13	25	297	29.42	20	300	29.42	16	300	29.42	15	300	29.42	12	300	29.42	10	300	29.42	8	300	29.42	7.5	300	29.42

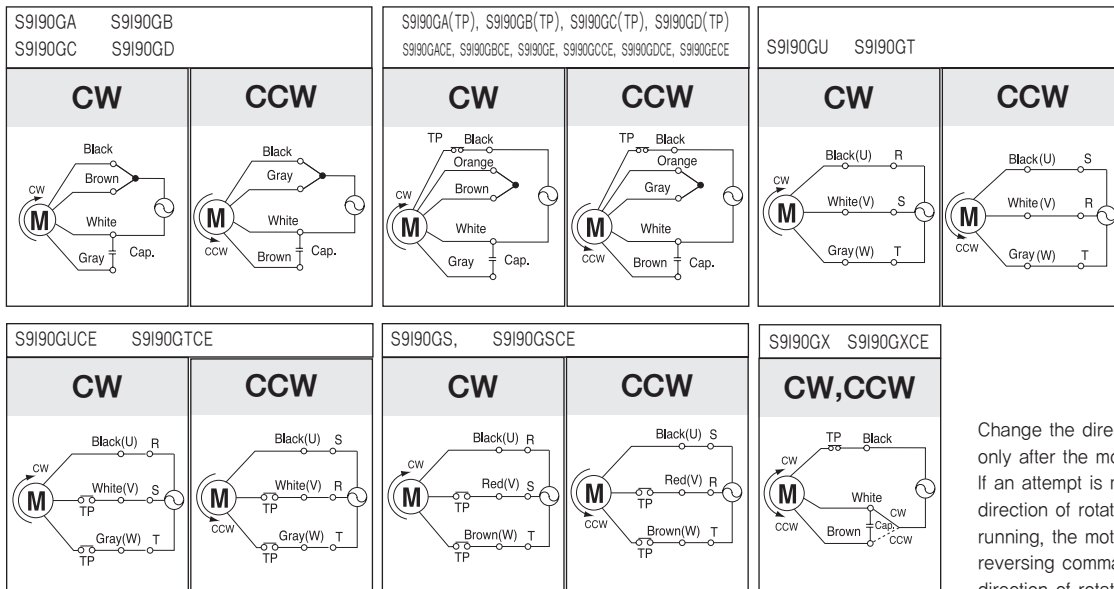
60Hz

GEAR RATIO	MODEL																																																														
	rpm	kg-cm	N·m	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200																																				
S9KD□B	600	14.6	1.431	500	17.5	1.715	360	24.3	2.381	240	36.5	3.577	200	43.7	4.675	180	48.6	5.370	144	54.8	6.439	120	65.7	7.722	90	87.6	9.702	72	99.0	11.66	60	119	14.01	50	143	15.48	40	158	19.40	30	198	23.34	25	238	26.09	20	266	29.42	18	300	29.42	15	300	29.42	12	300	29.42	10	300	29.42	9	300	29.42

- ❖ The code in □ of gearhead model is for gear ratio. ❖ It is the permissible torque of the assembled motor and gearhead.
- ❖ The permissible torque of the motor and inter-decimal gearhead is 300 kg-cm.
- ❖ ■ color indicates that the output shaft of the geared motor rotates in the same direction as the output shaft of the motor. Others indicate rotation in the opposite direction.
- ❖ Rpm is based on synchronous speed (50Hz: 1500rpm, 60Hz: 1800rpm) divided by gear ratio.
- The actual rotation speed can be 2~20% less than displayed value depending on the load.
- ❖ Only "H" type is applicable. Please use 'H' type motor.

SCHEMATIC DIAGRAMS

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



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