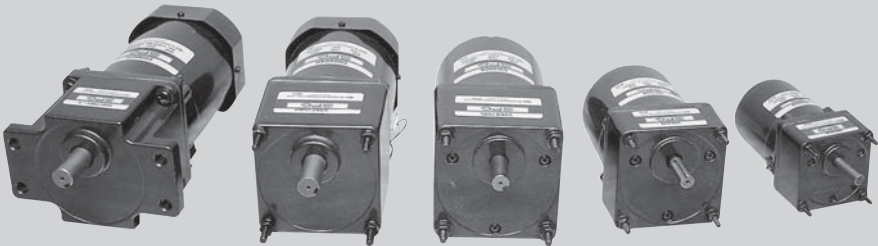


# INDUCTION MOTORS

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# CODING SYSTEM

## MOTOR

| MAKER             | SIZE                                                     | MOTOR TYPE                                  | OUTPUT                                                                                                                                 | SHAFT TYPE                                                           | VOLTAGE                                                                                                                                                                                                                                                                                                                            | GEAR TYPE                            | SPECIAL TYPE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------|----------------------------------------------------------|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>S</b>          | <b>9</b>                                                 | <b>I</b>                                    | <b>40</b>                                                                                                                              | <b>G</b>                                                             | <b>B</b>                                                                                                                                                                                                                                                                                                                           | <b>H</b>                             | <b>E</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| S : SPG Co., Ltd. | 6 : □60(mm)<br>7 : □70(mm)<br>8 : □80(mm)<br>9 : □90(mm) | I : Induction Motor<br>R : Reversible Motor | 03 : 3W    90 : 90W<br>06 : 6W    120 : 120W<br>15 : 15W    150 : 150W<br>25 : 25W    180 : 180W<br>40 : 40W    200 : 200W<br>60 : 60W | G : Gear Type<br>S : Straight Type<br>D : D-Cut Type<br>K : Key Type | A : 1ØAC 110V    60Hz    (4Pole)<br>B : 1ØAC 220V    60Hz    (4Pole)<br>C : 1ØAC 100V    50/60Hz (4Pole)<br>D : 1ØAC 200V    50/60Hz (4Pole)<br>E : 1ØAC 115V    60Hz    (4Pole)<br>X : 1ØAC 220~240V 50Hz    (4Pole)<br>U : 3ØAC 200V    50/60Hz (4Pole)<br>T : 3ØAC 220V    50/60Hz (4Pole)<br>S : 3ØAC 380~440V 50/60Hz (4Pole) | H : Heavy Impact<br>L : Light Impact | E : Electro-magnetic Brake Type<br>T : Terminal Box Type(Terminal Block Type)<br>T1 : Terminal Box Type(PCB Type Terminal Block) (25~90W)<br>T2 : Conduit Box Type(25~90W)<br>B : Semi-Brake Type<br>S : Variable Speed Control(Pack Type)<br>S12 : T.G Voltage 12V Type<br>S24 : T.G Voltage 24V Type<br>V : Variable Speed Control(Unit Type)<br>V12 : T.G Voltage 12V Type<br>ES : Electro-Magnetic Brake<br>Variable Speed Control(Pack Type)<br>ES12 : T.G Voltage 12V Type<br>ES24 : T.G Voltage 24V Type |

※ NOTE 1) 'H' & 'L' type are applied to over 40W.  
 • 'H' type is the standard for over 60W.  
 • 'L' type is the standard for over 40W.

※ NOTE 2) Key Type are applied to over □80 15W

## SPEED CONTROLLER (SR PACK TYPE)

| CONTROLLER TYPE | VOLTAGE                                                                                                                                                                                                               | OUTPUT                  |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| <b>SR</b>       | <b>B</b>                                                                                                                                                                                                              | <b>01</b>               |
| SR SERIES       | A : 1Ø AC110V    60Hz    (4Pole)<br>B : 1Ø AC220V    60Hz    (4Pole)<br>C : 1Ø AC100V    50/60Hz (4Pole)<br>D : 1Ø AC200V    50/60Hz (4Pole)<br>E : 1Ø AC115V    60Hz    (4Pole)<br>X : 1Ø AC220~240V 50Hz    (4Pole) | 01 : 6W<br>02 : 15W~90W |

### SR SERIES

※ NOTE) The applicable motor is for T.G. 12V.

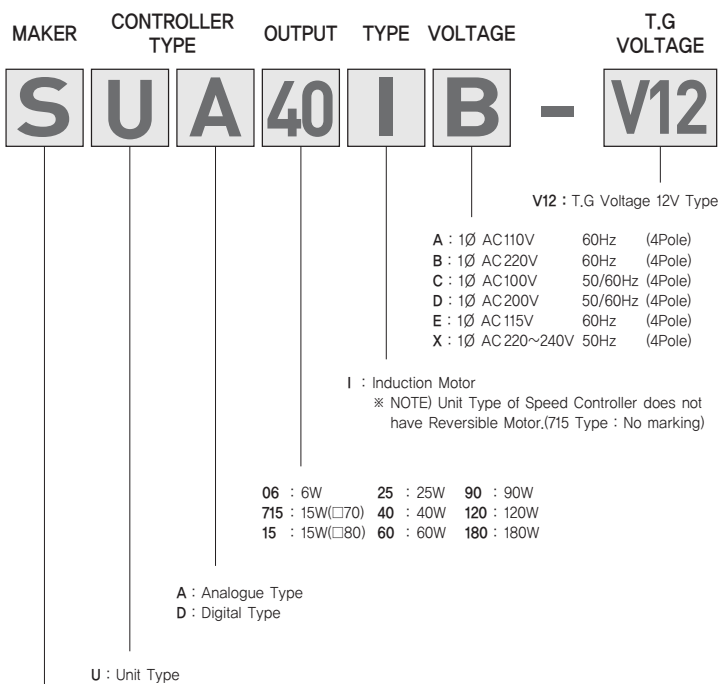
## SPEED CONTROLLER (SS PACK TYPE)

| CONTROLLER TYPE | VOLTAGE                                                                                                                                                                                                               | OUTPUT                                                                                 | RUN / STOP TYPE    |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|--------------------|
| <b>SS</b>       | <b>B</b>                                                                                                                                                                                                              | <b>01</b>                                                                              | <b>SRSS</b>        |
| SS SERIES       | A : 1Ø AC110V    60Hz    (4Pole)<br>B : 1Ø AC220V    60Hz    (4Pole)<br>C : 1Ø AC100V    50/60Hz (4Pole)<br>D : 1Ø AC200V    50/60Hz (4Pole)<br>E : 1Ø AC115V    60Hz    (4Pole)<br>X : 1Ø AC220~240V 50Hz    (4Pole) | 01 : 6W(Standard Type)<br>02 : 15W~40W(Standard Type)<br>03 : 6W~90W(High Output Type) | Slow Run Slow Stop |

### SS SERIES

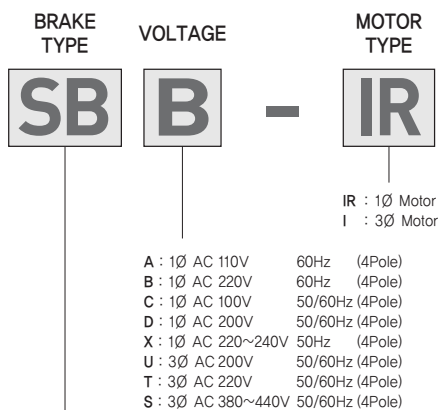
※ NOTE) The applicable motor is for T.G. 24V.

## SPEED CONTROLLER (UNIT TYPE)



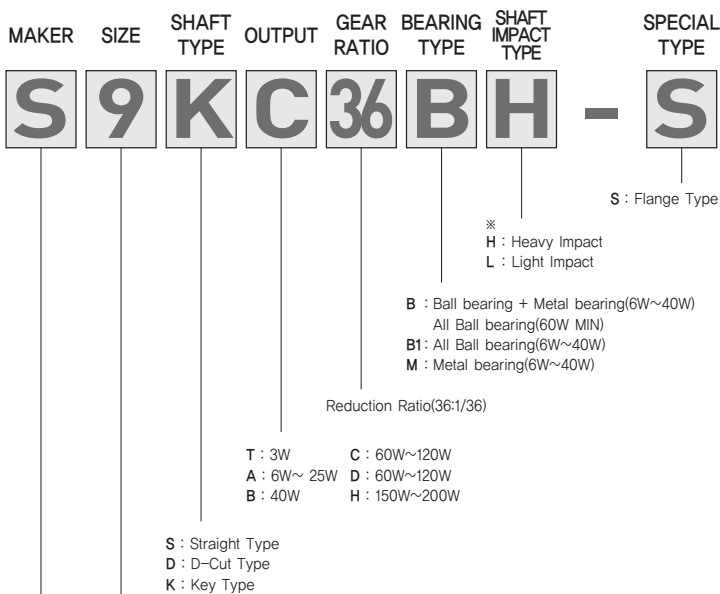
S : SPG Co.,Ltd.

## BRAKE PACK (CONTACT TYPE)



SB SERIES

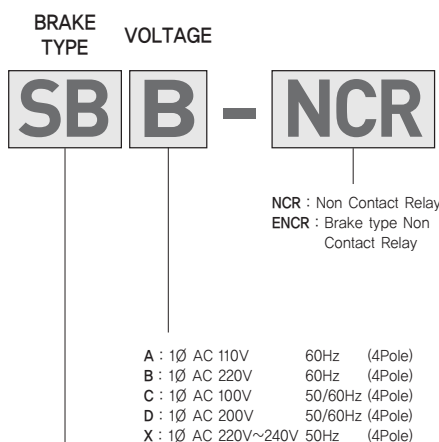
## GEAR HEAD



S : SPG Co.,Ltd.

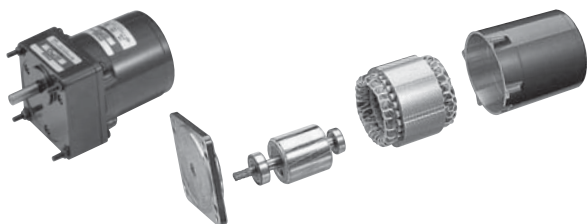
※ NOTE) 'H' & 'L' type are applied to over 40W.  
 • 'H' type is the standard for over 60W.  
 • 'L' type is the standard for over 40W.

## BRAKE PACK (NON CONTACT TYPE)



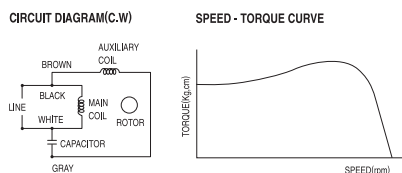
SB SERIES

# Characteristics of INDUCTION MOTOR

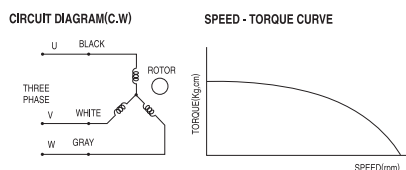


## 1. Characteristics of INDUCTION MOTOR

- A small induction motor usually means the condenser – run induction motor. This motor always uses both auxiliary winding and condenser not only when starting but also during operation. Generally, its starting torque isn't great, but its structure is simple reliable and efficient. Refer to <Fig. 1>.
- The motor can be used in continuous rated operations.
- The number of rated rotation of the motor varies depending on the load imposed on it.
- It is suitable for operations that do not require the speed control.
- Its insulation class is E, SPG's UL conformance motor is class A.
- There are two types. One is a condenser-run single-phase induction motor and the other is a three-phase induction motor.
- Since the single-phase motor is a condenser-run induction motor, it provides high efficiency and low noise.
- The power source for a single motor includes A(110V 60Hz), B(220V 60Hz), C(100V 50/60Hz), D(200V 50/60Hz), E(115V 60Hz), and X(220–240V 50Hz).
- For a single-phase induction motor, make sure that the condenser complies with the capacity of the motor.
- For a single-phase induction motor, reversing the direction of the rotation within a short time during operation is not possible due to adverse exerting of the inertia torque against reversing. Thus, stop the motor first and change the rotational direction next.
- As an induction motor is driven by a three-phase power source, the three-phase motor provides high efficiency, relatively great starting torque, and high reliability. The three-phase motor is popular as a general-purpose motor.
- The power source for a three-phase motor, an induction motor, includes U(200V 50/60Hz), T(220V 50/60Hz), and S(380–440V 50/60Hz). Refer to <Fig. 2>.



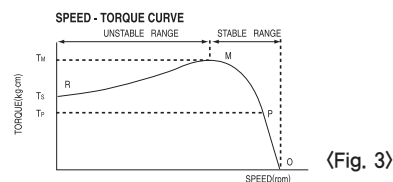
<Fig. 1>



<Fig. 2>

## 2. Characteristics of Rotation and TORQUE

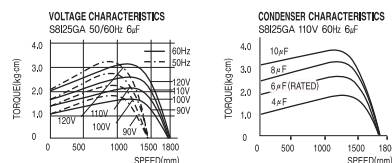
- Under a constant voltage, the relationship between the number of rotation and the torque is as shown in <Fig. 3>. With no-load, the number of rotation roughly approximates the number of synchronous rotation, but as the load increases, the number of rotation decreases and approaches to the speed(rpm) indicated by the point P where the torque  $T_p$  horizontally meets the load curve.
- When the load is further increased and reaches the point M, the motor stops at the point R because the motor no longer generates further torque. Therefore, the leg R-M is referred to as an unstable zone and the leg M-O is a stable zone for operation.



<Fig. 3>

## 3. Characteristics of Voltage and CONDENSOR

- The Characteristics of voltage can be represented by the torque's Characteristics about the applied voltage. The torque of induction motor changes proportionate to twice the voltage.
- The characteristics of torque also change according to the capacity of the condenser.
- As the capacity of the condenser boost, the starting torque and stalling torque increase. But if the capacity increases by 2.5–3.0 folds, the operating torque decreases and the starting torque do not increase.
- As a simple method to increase the torque when the induction motor is short on torque, either the voltage or the condenser capacity can be increased to continue the operation. In this case, the loss input of the motor increases and the temperature rises rapidly.
- However, if the motor must be run with insufficient torque, take measures to let the motor release heat as much as possible and operate the motor while keeping the temperature of the motor's housing below 90°C. Refer to (Fig. 4).



<Fig. 4>

## GENERAL SPECIFICATION OF INDUCTION MOTORS

| ITEM                       | SPECIFICATION                                                                                                                                                     |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Insulation Resistance      | 100M $\Omega$ or more when 500V megger is applied between the windings and the housing after rated motor operation under normal ambient temperature and humidity. |
| Dielectric Strength        | Sufficient to withstand 1.5kV/at 50/60Hz applied between the windings and the case after rated motor operation under normal ambient temperature and humidity.     |
| Temperature Rise           | 80°C or less increase measured by thermometer after rated operation.                                                                                              |
| Insulation Class           | Class B(130°C)                                                                                                                                                    |
| Overheat Protection Device | Built-in THERMAL PROTECTOR (automatic return type)<br>: Open 120°C $\pm$ 5°C Close 76°C $\pm$ 15°C                                                                |
| Ambient Temperature        | -10°C ~ 40°C                                                                                                                                                      |
| Ambient Humidity           | 85% maximum(non condensing)                                                                                                                                       |



# 3W

INDUCTION MOTOR □ 60mm LEAD WIRE TYPE

| SIZE<br>mm sq. | Type                 | Poles | Output<br>(W) | Voltage<br>(V) | Frequency<br>(Hz) | Duty  | Rated Load     |                |        |       | Starting Torque |       | Capacitor<br>(μF) |
|----------------|----------------------|-------|---------------|----------------|-------------------|-------|----------------|----------------|--------|-------|-----------------|-------|-------------------|
|                |                      |       |               |                |                   |       | Current<br>(A) | Speed<br>(rpm) | Torque |       | (kg-cm)         | (N-m) |                   |
| 60             | S6I03GA<br>S6I03GACE | 4     | 3             | 1 ∅ 110        | 60                | Cont. | 0.15           | 1500           | 0.21   | 0.021 | 0.25            | 0.025 | 2.0               |
|                | S6I03GC<br>S6I03GCCE | 4     | 3             | 1 ∅ 100        | 50                | Cont. | 0.15           | 1200           | 0.25   | 0.025 | 0.25            | 0.025 | 2.0               |
|                |                      |       |               |                | 60                |       |                | 1450           | 0.21   | 0.021 |                 |       |                   |
|                | S6I03GE<br>S6I06GECE | 4     | 3             | 1 ∅ 100        | 50                | Cont. | 0.15           | 1200           | 0.25   | 0.025 | 0.25            | 0.025 | 2.0               |
|                |                      |       |               |                | 60                |       |                | 1450           | 0.21   | 0.021 |                 |       |                   |
|                |                      |       |               |                | 1 ∅ 115           |       |                | 1450           | 0.21   | 0.021 |                 |       | 1.5               |

❖ Appropriate capacitors shall be used according to the voltage for S6I03GE 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 impedance protected type which has received CE. S6I03GECE is available only for 115V specification.

❖ "L" or "H" type does not apply to motors under 40W.

## 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  | 250  |
|------------|-------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 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  | 6    |
|            | kg-cm | 0.6 | 0.7  | 1.0  | 1.2  | 1.5  | 1.8  | 2.0  | 2.5  | 3.0  | 3.6  | 3.6  | 4.6  | 5.5  | 6.6  | 7.3  | 8.2  | 9.8  | 12.3 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| S6DT□B     |       | Nm  | 0.06 | 0.07 | 0.10 | 0.12 | 0.15 | 0.18 | 0.20 | 0.25 | 0.30 | 0.36 | 0.36 | 0.46 | 0.55 | 0.66 | 0.73 | 0.82 | 0.98 | 1.23 | 1.5  | 1.5  | 1.5  | 1.5  | 1.5  | 1.5  |

## 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  | 250  |
|------------|-------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 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    | 7.2  |
|            | kg-cm | 0.5 | 0.6  | 0.8  | 1.0  | 1.3  | 1.5  | 1.7  | 2.1  | 2.6  | 3.1  | 3.4  | 3.8  | 4.6  | 5.5  | 6.8  | 6.9  | 8.3  | 10.0 | 12.0 | 14.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| S6DT□B     |       | Nm  | 0.05 | 0.06 | 0.08 | 0.10 | 0.13 | 0.15 | 0.17 | 0.21 | 0.26 | 0.31 | 0.34 | 0.38 | 0.46 | 0.55 | 0.68 | 0.69 | 0.83 | 1.0  | 1.2  | 1.4  | 1.5  | 1.5  | 1.5  | 1.5  |

❖ 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 5 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.

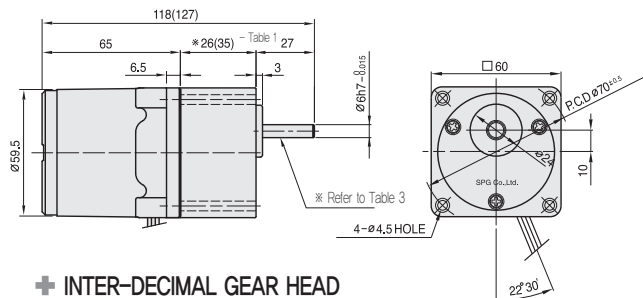
❖ "L" or "H" type does not apply to motors under 40W.

## DIMENSIONS

### + GEARED MOTOR

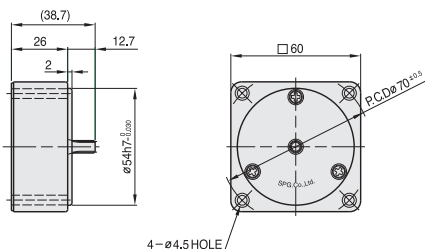
※ MOTOR MODEL : S6I03G□

※ HEAD MODEL : S6□T3□~S6□T250□



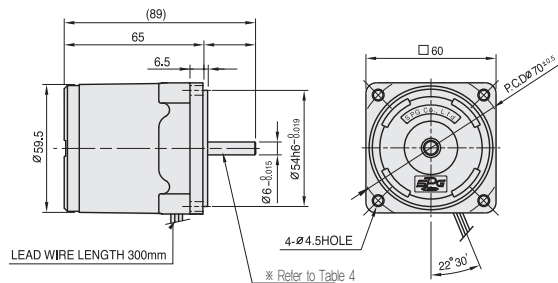
### + INTER-DECIMAL GEAR HEAD

※ MODEL : S6GX10B



### + MOTOR

※ MOTOR MODEL : S6I03□□



### + SPEC for output shaft of gearhead - (Table3)

| MODEL               | TYPES OF OUTPUT SHAFT |
|---------------------|-----------------------|
| STRAIGHT TYPE       |                       |
| S6ST3□<br>~S6ST250□ |                       |
| D-CUT TYPE          |                       |
| S6DT3□<br>~S6DT250□ |                       |

### + ※26(35) - (Table1)

| GEAR RATIO         | SIZE(mm) |
|--------------------|----------|
| S6□T3□ ~ S6□T18□   | 26       |
| S6□T20□ ~ S6□T250□ | 35       |

### + WEIGHT - (Table2)

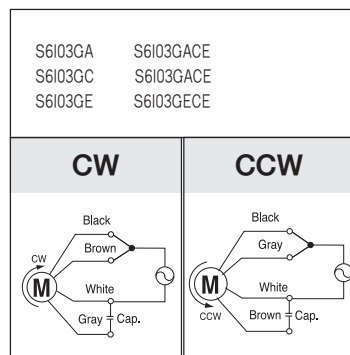
| PART              |                      | WEIGHT(kg) |
|-------------------|----------------------|------------|
| MOTOR             |                      | 0.60       |
| DECIMAL GEAR HEAD |                      | 0.18       |
| GEAR HEAD         | S6□T3□<br>~S6□T18□   | 0.21       |
|                   | S6□T20□<br>~S6□T40□  | 0.27       |
|                   | S6□T50□<br>~S6□T250□ | 0.30       |

### + SPEC for output shaft of motor - (Table4)

| MODEL         | TYPES OF OUTPUT SHAFT |
|---------------|-----------------------|
| GEAR TYPE     |                       |
| S6I03G□       |                       |
| STRAIGHT TYPE |                       |
| S6I03S□       |                       |
| D-CUT TYPE    |                       |
| S6I03D□       |                       |

## 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.



# 6W

## INDUCTION MOTOR □ 60mm LEAD WIRE TYPE

| SIZE<br>mm sq. | Type                 | Poles | Output<br>(W) | Voltage<br>(V) | Frequency<br>(Hz) | Duty  | Rated Load     |                |        |       | Starting Torque |       | Capacitor<br>(uF) |
|----------------|----------------------|-------|---------------|----------------|-------------------|-------|----------------|----------------|--------|-------|-----------------|-------|-------------------|
|                |                      |       |               |                |                   |       | Current<br>(A) | Speed<br>(rpm) | Torque |       | (kg-cm)         | (N-m) |                   |
| 60             | S6I06GA<br>S6I06GACE | 4     | 6             | 1 ∅ 110        | 60                | Cont. | 0.20           | 1550           | 0.40   | 0.040 | 0.55            | 0.055 | 2.5               |
|                | S6I06GB<br>S6I06GBCE | 4     | 6             | 1 ∅ 220        | 60                | Cont. | 0.10           | 1550           | 0.40   | 0.040 | 0.55            | 0.055 | 0.7               |
|                | S6I06GC<br>S6I06GCCE | 4     | 6             | 1 ∅ 100        | 50                | Cont. | 0.21           | 1200           | 0.50   | 0.050 | 0.45            | 0.045 | 2.5               |
|                |                      |       |               |                | 60                |       | 0.19           | 1500           | 0.42   | 0.042 |                 |       |                   |
|                | S6I06GD<br>S6I06GDCE | 4     | 6             | 1 ∅ 200        | 50                | Cont. | 0.10           | 1200           | 0.50   | 0.050 | 0.45            | 0.045 | 0.7               |
|                |                      |       |               |                | 60                |       |                | 1500           | 0.42   | 0.042 |                 |       |                   |
|                | S6I06GE<br>S6I06GECE | 4     | 6             | 1 ∅ 100        | 50                | Cont. | 0.18           | 1200           | 0.50   | 0.050 | 0.52            | 0.052 | 2.5               |
|                |                      |       |               |                | 60                |       | 0.19           | 1500           | 0.42   | 0.042 |                 |       |                   |
|                |                      |       |               | 1 ∅ 115        | 60                |       | 0.19           | 1500           | 0.42   | 0.042 | 0.55            | 0.055 | 2.0               |
|                | S6I06GX<br>S6I06GXCE | 4     | 6             | 1 ∅ 220        | 50                | Cont. | 0.08           | 1200           | 0.50   | 0.050 | 0.50            | 0.050 | 0.6               |
|                |                      |       |               | 1 ∅ 240        |                   |       | 0.09           |                | 0.53   | 0.053 |                 |       |                   |

❖ S6I06GE is UL approved (UL FILE No. E172722) impedance protected type.

❖ Appropriate capacitors shall be used according to the voltage for S6I06GE 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 informed of the required voltage.

❖ CE marked at the end of model name indicates that it is impedance protected type which has received CE. S6I06GECE is available only for 115V specification.

❖ "L" or "H" type does not apply to motors under 40W.

## 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   | 250   |
|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 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   | 6     |
|            | kg-cm | 1.3   | 1.5   | 2.1   | 2.6   | 3.2   | 3.9   | 4.3   | 5.4   | 6.4   | 7.7   | 7.7   | 9.7   | 11.6  | 13.9  | 15.5  | 17.5  | 21.0  | 26.2  | 30.0  | 30.0  | 30.0  | 30.0  | 30.0  | 30.0  | 30.0  |
|            | N·m   | 0.127 | 0.147 | 0.206 | 0.255 | 0.314 | 0.382 | 0.421 | 0.529 | 0.627 | 0.755 | 0.755 | 0.951 | 1.137 | 1.362 | 1.519 | 1.715 | 2.058 | 2.568 | 2.942 | 2.942 | 2.942 | 2.942 | 2.942 | 2.942 | 2.942 |

## 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   | 250   |
|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 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     | 7.2   |
|            | kg-cm | 1.0   | 1.3   | 1.7   | 2.1   | 2.6   | 3.1   | 3.5   | 4.4   | 5.2   | 6.3   | 6.3   | 7.8   | 9.4   | 11.3  | 12.6  | 14.2  | 17.0  | 21.3  | 25.5  | 28.4  | 30.0  | 30.0  | 30.0  | 30.0  | 30.0  |
|            | N·m   | 0.098 | 0.127 | 0.167 | 0.206 | 0.255 | 0.304 | 0.343 | 0.431 | 0.510 | 0.617 | 0.617 | 0.764 | 0.921 | 1.107 | 1.235 | 1.392 | 1.666 | 2.087 | 2.499 | 2.783 | 2.942 | 2.942 | 2.942 | 2.942 | 2.942 |

❖ 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 30 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.

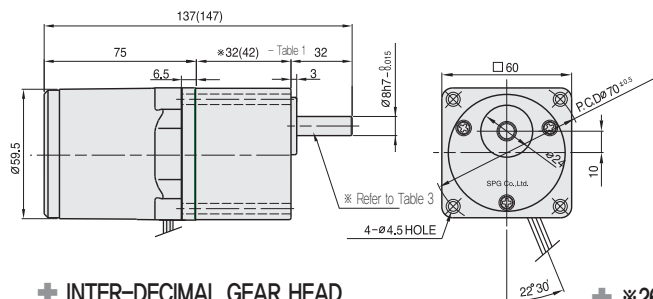
❖ "L" or "H" type does not apply to motors under 40W.

## DIMENSIONS

### + GEARED MOTOR

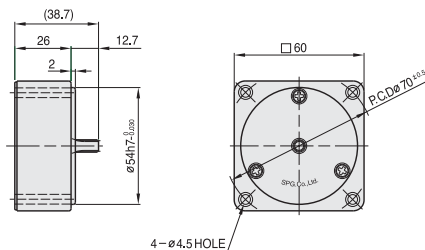
※ MOTOR MODEL : S6I06G□

※ HEAD MODEL : S6□A3□~S6□A250□



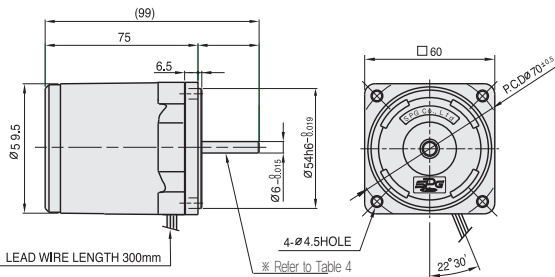
### + INTER-DECIMAL GEAR HEAD

※ MODEL : S6GX10B



### + MOTOR

※ MOTOR MODEL : S6I06□□



### + ※26(35) - (Table 1)

| GEAR RATIO         | SIZE(mm) |
|--------------------|----------|
| S6□A3□ ~ S6□A18□   | 30       |
| S6□A20□ ~ S6□A250□ | 40       |

### + WEIGHT - (Table 2)

| PART              |                      | WEIGHT(kg) |
|-------------------|----------------------|------------|
| MOTOR             |                      | 0.70       |
| DECIMAL GEAR HEAD |                      | 0.18       |
| GEAR HEAD         | S6□A3□<br>~S6□A18□   | 0.24       |
|                   | S6□A20□<br>~S6□A40□  | 0.30       |
|                   | S6□A50□<br>~S6□A250□ | 0.33       |

### + KEY SPEC

| GEAR HEAD |
|-----------|
|           |

### + SPEC for output shaft of gearhead - (Table 3)

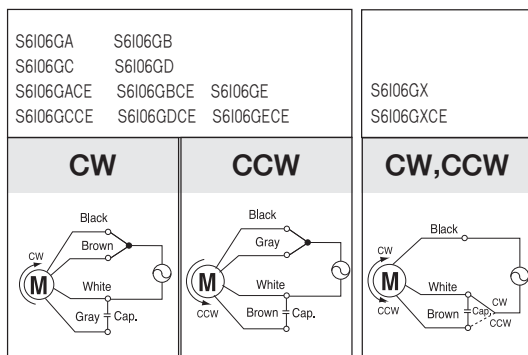
| MODEL             | TYPES OF OUTPUT SHAFT |
|-------------------|-----------------------|
| STRAIGHT TYPE     |                       |
| S6SA3□ ~ S6SA250□ |                       |
| D-CUT TYPE        |                       |
| S6DA3□ ~ S6DA250□ |                       |
| KEY TYPE          |                       |
| S6KA3□ ~ S6KA250□ |                       |

### + SPEC for output shaft of motor - (Table 4)

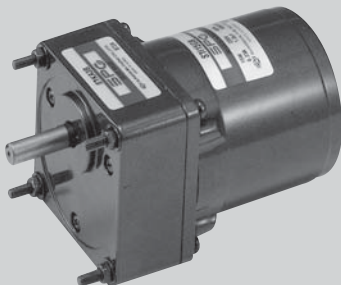
| MODEL         | TYPES OF OUTPUT SHAFT |
|---------------|-----------------------|
| GEAR TYPE     |                       |
| S6I06G□       |                       |
| STRAIGHT TYPE |                       |
| S6I06S□       |                       |
| D-CUT TYPE    |                       |
| S6I06D□       |                       |

## 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.



# 15W

## INDUCTION MOTOR □ 70mm LEAD WIRE TYPE

| SIZE<br>mm sq. | Type                                 | Poles | Output<br>(W) | Voltage<br>(V) | Frequency<br>(Hz) | Duty  | Rated Load     |                |        |       | Starting Torque |       | Capacitor<br>(uF) |
|----------------|--------------------------------------|-------|---------------|----------------|-------------------|-------|----------------|----------------|--------|-------|-----------------|-------|-------------------|
|                |                                      |       |               |                |                   |       | Current<br>(A) | Speed<br>(rpm) | Torque |       | (kg-cm)         | (N-m) |                   |
| 70             | S7I15GA<br>S7I15GA(TP)<br>S7I15GACE  | 4     | 15            | 1 ∅ 110        | 60                | Cont. | 0.34           | 1600           | 1.00   | 0.100 | 1.10            | 0.110 | 5.0               |
|                | S7I15GB<br>S7I15GB(TP)<br>S7I15GBCE  | 4     | 15            | 1 ∅ 220        | 60                | Cont. | 0.19           | 1550           | 1.10   | 0.110 | 1.10            | 0.110 | 1.2               |
|                | S7I15GC<br>S7I15GC(TP)<br>S7I15GCCCE | 4     | 15            | 1 ∅ 100        | 50                | Cont. | 0.35           | 1250           | 1.20   | 0.120 | 0.90            | 0.090 | 5.0               |
|                |                                      |       |               |                | 60                |       | 0.34           | 1550           | 1.00   | 0.100 |                 |       |                   |
|                | S7I15GD<br>S7I15GD(TP)<br>S7I15GDCE  | 4     | 15            | 1 ∅ 200        | 50                | Cont. | 0.19           | 1200           | 1.25   | 0.125 | 0.90            | 0.090 | 1.2               |
|                |                                      |       |               |                | 60                |       | 0.18           | 1500           | 1.20   | 0.120 |                 |       |                   |
|                | S7I15GE<br>S7I15GECE                 | 4     | 15            | 1 ∅ 100        | 50                | Cont. | 0.35           | 1200           | 1.25   | 0.125 | 0.90            | 0.090 | 5.0               |
|                |                                      |       |               |                | 60                |       | 0.33           | 1550           | 1.00   | 0.100 |                 |       |                   |
|                |                                      |       |               |                | 60                |       | 0.30           | 1600           | 1.00   | 0.100 |                 |       |                   |
|                | S7I15GX<br>S7I15GXCE                 | 4     | 15            | 1 ∅ 220        | 50                | Cont. | 0.16           | 1200           | 1.25   | 0.125 | 0.75            | 0.075 | 0.9               |
|                |                                      |       |               |                |                   |       | 0.18           |                | 1.35   | 0.135 | 0.90            | 0.090 |                   |
|                |                                      |       |               | 1 ∅ 240        |                   |       |                |                |        |       |                 |       |                   |

❖ S7I15GE is UL approved (UL FILE No.E172720) thermally protected type.

❖ Appropriate capacitors shall be used according to the voltage for S7I15GE 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.

S7I15GECE 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.

S7I15GE, S7I15GX is thermally protected type with TP mounted.

❖ "L" or "H" type does not apply to motors under 40W.

## 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   |
|            | kg-cm | 3.2   | 3.9   | 5.4   | 6.5   | 8.1   | 9.7   | 10.8  | 13.5  | 16.2  | 19.4  | 19.4  | 24.2  | 29.1  | 34.9  | 38.8  | 43.6  | 50.0  | 50.0  | 50.0  | 50.0  | 50.0  | 50.0  | 50.0  | 50.0  |
| S7KA□B     | N-m   | 0.314 | 0.382 | 0.530 | 0.637 | 0.794 | 0.951 | 1.059 | 1.324 | 1.587 | 1.902 | 1.902 | 2.373 | 2.854 | 3.423 | 3.805 | 4.276 | 4.900 | 4.900 | 4.900 | 4.900 | 4.900 | 4.900 | 4.900 | 4.900 |

## 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     |
|            | kg-cm | 3.0   | 3.6   | 5.1   | 6.1   | 7.6   | 9.1   | 10.1  | 12.7  | 15.2  | 18.2  | 18.2  | 22.8  | 27.3  | 32.8  | 36.5  | 41.0  | 49.2  | 50.0  | 50.0  | 50.0  | 50.0  | 50.0  | 50.0  | 50.0  |
| S7KA□B     | N-m   | 0.294 | 0.353 | 0.500 | 0.598 | 0.745 | 0.892 | 0.990 | 1.245 | 1.491 | 1.785 | 1.785 | 2.236 | 2.677 | 3.217 | 3.579 | 4.021 | 4.825 | 4.900 | 4.900 | 4.900 | 4.900 | 4.900 | 4.900 | 4.900 |

❖ 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 50 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.

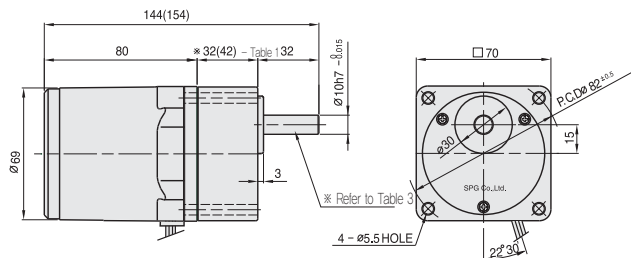
❖ "L" or "H" type does not apply to motors under 40W.

## DIMENSIONS

### + GEARED MOTOR

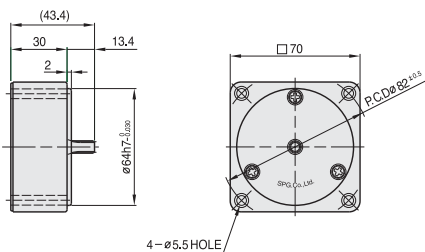
※ MOTOR MODEL : S7I15G□

※ HEAD MODEL : S7□A3□~S7□A200□



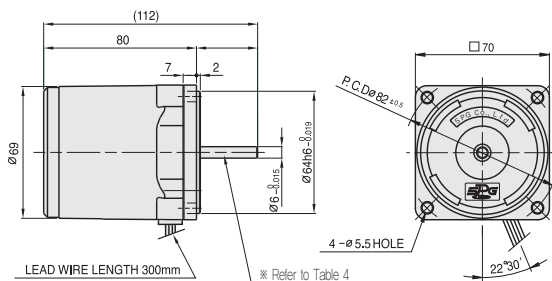
### + INTER-DECIMAL GEAR HEAD

※ MODEL : S7GX10B



### + MOTOR

※ MOTOR MODEL : S7I15□□



### + ※26(35) - (Table1)

| GEAR RATIO         | SIZE(mm) |
|--------------------|----------|
| S7□A3□ ~ S7□A18□   | 32       |
| S7□A20□ ~ S7□A200□ | 42       |

### + WEIGHT - (Table2)

| PART              | WEIGHT(kg)         |
|-------------------|--------------------|
| MOTOR             | 1.04               |
| DECIMAL GEAR HEAD | 0.32               |
| GEAR HEAD         | S7□A3□ ~ S7□A18□   |
|                   | 0.38               |
|                   | S7□A20□ ~ S7□A40□  |
|                   | 0.47               |
|                   | S7□A50□ ~ S7□A250□ |
|                   | 0.52               |

### + KEY SPEC

| GEAR HEAD |
|-----------|
|           |

### + SPEC for output shaft of gearhead - (Table3)

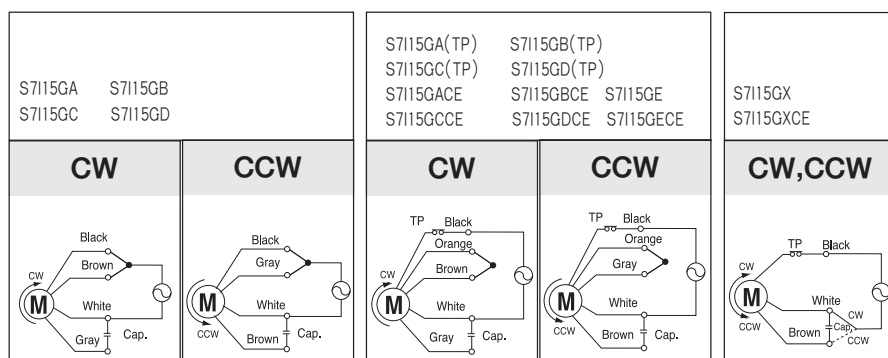
| MODEL             | TYPES OF OUTPUT SHAFT |
|-------------------|-----------------------|
| STRAIGHT TYPE     |                       |
| S7SA3□ ~ S7SA200□ |                       |
| D-CUT TYPE        |                       |
| S7DA3□ ~ S7DA200□ |                       |
| KEY TYPE          |                       |
| S7KA3□ ~ S7KA200□ |                       |

### + SPEC for output shaft of motor - (Table4)

| MODEL         | TYPES OF OUTPUT SHAFT |
|---------------|-----------------------|
| GEAR TYPE     |                       |
| S7I15G□       |                       |
| STRAIGHT TYPE |                       |
| S7I15S□       |                       |
| D-CUT TYPE    |                       |
| S7I15D□       |                       |

## 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.



# 15W

## INDUCTION MOTOR □ 80mm LEAD WIRE TYPE

| SIZE<br>mm sq. | Type                                 | Poles | Output<br>(W) | Voltage<br>(V) | Frequency<br>(Hz) | Duty  | Rated Load     |                |        |       | Starting Torque |       | Capacitor<br>(uF) |
|----------------|--------------------------------------|-------|---------------|----------------|-------------------|-------|----------------|----------------|--------|-------|-----------------|-------|-------------------|
|                |                                      |       |               |                |                   |       | Current<br>(A) | Speed<br>(rpm) | Torque |       | (kg-cm)         | (N-m) |                   |
| 80             | S8I15GA<br>S8I15GA(TP)<br>S8I15GACE  | 4     | 15            | 1 ∅ 110        | 60                | Cont. | 0.43           | 1600           | 1.00   | 0.100 | 1.20            | 0.120 | 4.0               |
|                | S8I15GB<br>S8I15GB(TP)<br>S8I15GBCE  | 4     | 15            | 1 ∅ 220        | 60                | Cont. | 0.22           | 1600           | 1.00   | 0.100 | 1.20            | 0.120 | 1.0               |
|                | S8I15GC<br>S8I15GC(TP)<br>S8I15GCCCE | 4     | 15            | 1 ∅ 100        | 50                | Cont. | 0.51           | 1300           | 1.20   | 0.120 | 0.95            | 0.095 | 4.0               |
|                |                                      |       |               |                | 60                |       | 0.43           | 1550           | 1.00   | 0.100 |                 |       |                   |
|                | S8I15GD<br>S8I15GD(TP)<br>S8I15GDCE  | 4     | 15            | 1 ∅ 200        | 50                | Cont. | 0.25           | 1300           | 1.20   | 0.120 | 0.95            | 0.095 | 1.0               |
|                |                                      |       |               |                | 60                |       | 0.22           | 1550           | 1.00   | 0.100 |                 |       |                   |
|                | S8I15GE<br>S8I15GECE                 | 4     | 15            | 1 ∅ 100        | 50                | Cont. | 0.51           | 1250           | 1.20   | 0.120 | 0.95            | 0.095 | 4.0               |
|                |                                      |       |               |                | 60                |       | 0.42           | 1550           | 1.00   | 0.100 |                 |       |                   |
|                |                                      |       |               | 1 ∅ 115        | 60                |       | 0.46           | 1600           | 1.00   | 0.100 |                 |       | 3.0               |
|                | S8I15GX<br>S8I15GXCE                 | 4     | 15            | 1 ∅ 220        | 50                | Cont. | 0.16           | 1200           | 1.30   | 0.130 | 0.95            | 0.095 | 1.0               |
|                |                                      |       |               | 1 ∅ 240        |                   |       | 0.17           |                | 1.40   | 0.140 | 1.10            | 0.110 |                   |

- ❖ S8I15GE is UL approved (UL FILE No. E172720) thermally protected type.
- ❖ Appropriate capacitors shall be used according to the voltage for S8I15GE 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.  
S8I15GECE 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.  
S8I15GE, S8I15GX is thermally protected type with TP mounted.
- ❖ "L" or "H" type does not apply to motors under 40W.

### 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   |
|            | kg-cm | 3.4 | 4.1   | 5.7   | 6.8   | 8.5   | 10.2  | 11.3  | 14.2  | 17.0  | 20.4  | 20.4  | 25.6  | 30.7  | 36.8  | 40.9  | 46.2  | 55.4  | 69.2  | 80    | 80    | 80    | 80    | 80    | 80    |
| S8KA□B     |       | N-m | 0.333 | 0.402 | 0.559 | 0.666 | 0.833 | 1.000 | 1.107 | 1.392 | 1.666 | 1.999 | 1.999 | 2.509 | 3.009 | 3.606 | 4.008 | 4.530 | 5.433 | 6.786 | 7.840 | 7.840 | 7.840 | 7.840 | 7.840 |

### 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     |
|            | kg-cm | 2.9 | 3.5   | 4.9   | 5.8   | 7.3   | 8.7   | 9.7   | 12.2  | 14.6  | 17.5  | 17.5  | 21.9  | 26.3  | 31.5  | 35.0  | 39.6  | 47.5  | 59.4  | 71.3  | 79.2  | 80    | 80    | 80    | 80    |
| S8KA□B     |       | N-m | 0.284 | 0.343 | 0.481 | 0.568 | 0.715 | 0.853 | 0.951 | 1.196 | 1.432 | 1.715 | 1.715 | 2.146 | 2.577 | 3.087 | 3.430 | 3.881 | 4.658 | 5.825 | 6.992 | 7.767 | 7.840 | 7.840 | 7.840 |

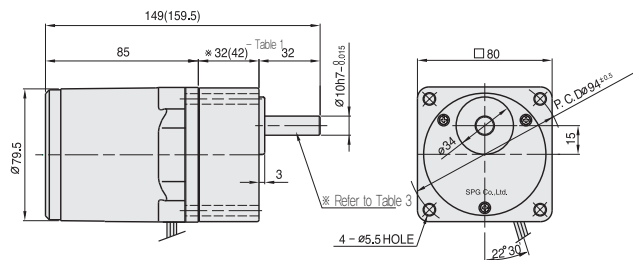
- ❖ The code in □ of gearhead model is for gear ratio.
- ❖ It is the permissible torque of the assembled motor and gearhead.
- ❖ The permissible torque of the motor and inter-decimal gearhead is 80 kg-cm.
- ❖ ■ color indicates that the output shaft of the geared motor rotates in the same direction as 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.
- ❖ "L" or "H" type does not apply to motors under 40W.

## DIMENSIONS

### GEARED MOTOR

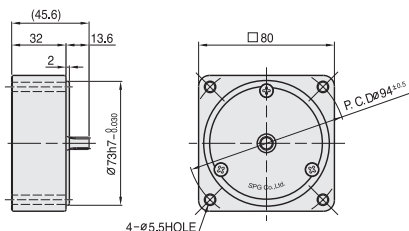
\* MOTOR MODEL : S8I15G□

\* HEAD MODEL : S8□A3□~S8□A200□



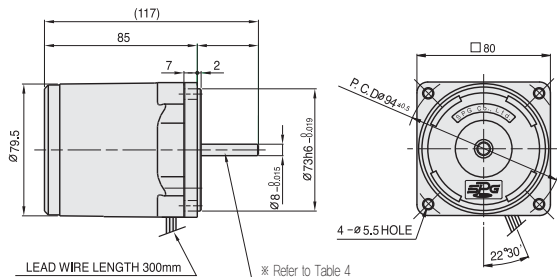
### INTER-DECIMAL GEAR HEAD

\* MODEL : S8GX10B



### MOTOR

\* MOTOR MODEL : S7I15□□



### \*26(35) - (Table 1)

| GEAR RATIO         | SIZE(mm) |
|--------------------|----------|
| S8□A3□ ~ S8□A18□   | 32       |
| S8□A20□ ~ S8□A200□ | 42.5     |

### WEIGHT - (Table 2)

| PART               | WEIGHT(kg) |
|--------------------|------------|
| MOTOR              | 1.14       |
| DECIMAL GEAR HEAD  | 0.43       |
| GEAR HEAD          |            |
| S8□A3□ ~ S8□A18□   | 0.43       |
| S8□A20□ ~ S8□A40□  | 0.57       |
| S8□A50□ ~ S8□A200□ | 0.61       |

### KEY SPEC

| GEAR HEAD                                | MOTOR                                    |
|------------------------------------------|------------------------------------------|
| 25 <sup>+0.2</sup><br>4 <sup>+0.05</sup> | 25 <sup>+0.2</sup><br>3 <sup>+0.05</sup> |

### SPEC for output shaft of gearhead - (Table 3)

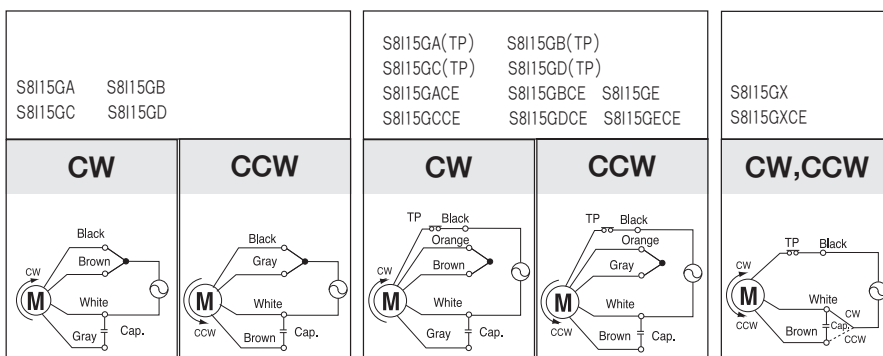
| MODEL             | TYPES OF OUTPUT SHAFT            |
|-------------------|----------------------------------|
| STRAIGHT TYPE     |                                  |
| S8SA3□ ~ S8SA200□ | 32<br>10                         |
| D-CUT TYPE        |                                  |
| S8DA3□ ~ S8DA200□ | 32<br>25<br>10<br>9.5            |
| KEY TYPE          |                                  |
| S8KA3□ ~ S8KA200□ | 32<br>25<br>10<br>2.5<br>4<br>23 |

### SPEC for output shaft of motor - (Table 4)

| MODEL         | TYPES OF OUTPUT SHAFT             |
|---------------|-----------------------------------|
| GEAR TYPE     |                                   |
| S8I15G□       | 13.6                              |
| STRAIGHT TYPE |                                   |
| S8I15S□       | 32<br>8                           |
| D-CUT TYPE    |                                   |
| S8I15D□       | 32<br>25<br>7.5<br>8              |
| KEY TYPE      |                                   |
| S8I15K□       | 32<br>25<br>8<br>1.8<br>3<br>23.5 |

## 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.



# 25W

## INDUCTION MOTOR □ 80mm LEAD WIRE TYPE

| SIZE<br>mm sq. | Type                                | Poles | Output<br>(W) | Voltage<br>(V)     | Frequency<br>(Hz) | Duty  | Rated Load     |                |              |                | Starting Torque |                | Capacitor<br>(uF) |
|----------------|-------------------------------------|-------|---------------|--------------------|-------------------|-------|----------------|----------------|--------------|----------------|-----------------|----------------|-------------------|
|                |                                     |       |               |                    |                   |       | Current<br>(A) | Speed<br>(rpm) | Torque       |                | (kg-cm)         | (N-m)          |                   |
| 80             | S8I25GA<br>S8I25GA(TP)<br>S8I25GACE | 4     | 25            | 1 ∅ 110            | 60                | Cont. | 0.51           | 1600           | 1.60         | 0.160          | 1.80            | 0.180          | 6.0               |
|                | S8I25GB<br>S8I25GB(TP)<br>S8I25GBCE | 4     | 25            | 1 ∅ 220            | 60                | Cont. | 0.23           | 1550           | 1.65         | 0.165          | 1.80            | 0.180          | 1.5               |
|                | S8I25GC<br>S8I25GC(TP)<br>S8I25GCCE | 4     | 25            | 1 ∅ 100            | 50                | Cont. | 0.57           | 1250           | 2.00         | 0.200          | 1.45            | 0.145          | 6.0               |
|                |                                     |       |               |                    | 60                |       | 0.52           | 1550           | 1.65         | 0.165          |                 |                |                   |
|                | S8I25GD<br>S8I25GD(TP)<br>S8I25GDCE | 4     | 25            | 1 ∅ 200            | 50                | Cont. | 0.30           | 1250           | 2.00         | 0.200          | 1.45            | 0.145          | 1.5               |
|                |                                     |       |               |                    | 60                |       | 0.29           | 1500           | 1.70         | 0.170          |                 |                |                   |
|                | S8I25GE<br>S8I25GECE                | 4     | 25            | 1 ∅ 100            | 50                | Cont. | 0.54           | 1250           | 2.00         | 0.200          | 1.20            | 0.120          | 6.0               |
|                |                                     |       |               |                    | 60                |       | 0.55           | 1500           | 1.70         | 0.170          |                 |                | 4.5               |
|                |                                     |       |               |                    | 60                |       | 0.59           | 1500           | 1.70         | 0.170          |                 |                |                   |
|                | S8I25GX<br>S8I25GXCE                | 4     | 25            | 1 ∅ 220<br>1 ∅ 240 | 50                | Cont. | 0.23<br>0.25   | 1200           | 2.10<br>2.20 | 0.210<br>0.220 | 1.10<br>1.30    | 0.110<br>0.130 | 1.3               |
|                | S8I25GU<br>S8I25GUCE                | 4     | 25            | 3 ∅ 200            | 50<br>60          | Cont. | 0.26<br>0.24   | 1300<br>1550   | 1.95<br>1.65 | 0.195<br>0.165 | 3.50<br>2.90    | 0.350<br>0.290 | —                 |
|                | S8I25GT<br>S8I25GTCE                | 4     | 25            | 3 ∅ 220            | 50<br>60          | Cont. | 0.28<br>0.24   | 1350<br>1600   | 1.90<br>1.60 | 0.190<br>0.160 | 4.20<br>3.50    | 0.420<br>0.350 | —                 |
|                | S8I25GS<br>S8I25GSCE                | 4     | 25            | 3 ∅ 380            | 50                | Cont. | 0.14           | 1250           | 2.00         | 0.200          | 3.15            | 0.315          | —                 |
|                |                                     |       |               |                    | 60                |       | 0.12           | 1500           | 1.70         | 0.170          | 2.50            | 0.250          |                   |
|                |                                     |       |               | 3 ∅ 400            | 50                | Cont. | 0.14           | 1250           | 2.10         | 0.210          | 3.50            | 0.350          |                   |
|                |                                     |       |               |                    | 60                |       | 0.12           | 1500           | 1.80         | 0.180          | 2.75            | 0.275          |                   |
|                |                                     |       |               | 3 ∅ 415            | 50                | Cont. | 0.15           | 1300           | 1.95         | 0.195          | 3.75            | 0.375          |                   |
|                |                                     |       |               |                    | 60                |       | 0.13           | 1550           | 1.65         | 0.165          | 3.00            | 0.300          |                   |
|                |                                     |       |               | 3 ∅ 440            | 50                | Cont. | 0.15           | 1300           | 2.10         | 0.210          | 4.40            | 0.440          |                   |
|                |                                     |       |               |                    | 60                |       | 0.13           | 1550           | 1.80         | 0.180          | 3.40            | 0.340          |                   |

- ❖ S8I25GE is UL approved (UL FILE No. E172720) thermally protected type.
- ❖ Appropriate capacitors shall be used according to the voltage for S8I25GE 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. S8I25GECE 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.
- ❖ S8I25GE, S8I25GX, S8I25GS is thermally protected type with TP mounted.
- ❖ Be cautious when using a three-phase 380V motor controlled with inverter.
- ❖ "L" or "H" type does not apply to motors under 40W.
- ❖ 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   |
|            | kg-cm | 5.3   | 6.4   | 8.9   | 10.7  | 13.4  | 16.0  | 17.8  | 22.3  | 26.7  | 32.1  | 32.1  | 40.2  | 48.2  | 57.8  | 64.2  | 72.6  | 80.0  | 80.0  | 80.0  | 80.0  | 80.0  | 80.0  | 80.0  | 80.0  |
|            | N-m   | 0.519 | 0.627 | 0.872 | 1.049 | 1.313 | 1.568 | 1.744 | 2.185 | 2.617 | 3.146 | 3.146 | 3.940 | 4.724 | 5.664 | 6.292 | 7.115 | 7.840 | 7.840 | 7.840 | 7.840 | 7.840 | 7.840 | 7.840 | 7.840 |

### 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     |
|            | kg-cm | 4.4   | 5.2   | 7.3   | 8.7   | 10.9  | 13.1  | 14.6  | 18.2  | 21.9  | 26.2  | 26.3  | 32.9  | 39.4  | 47.3  | 52.6  | 59.4  | 71.3  | 80.0  | 80.0  | 80.0  | 80.0  | 80.0  | 80.0  | 80.0  |
|            | N-m   | 0.431 | 0.510 | 0.715 | 0.853 | 1.068 | 1.284 | 1.431 | 1.784 | 2.146 | 2.568 | 2.577 | 3.224 | 3.861 | 4.635 | 5.155 | 5.821 | 6.987 | 7.840 | 7.840 | 7.840 | 7.840 | 7.840 | 7.840 | 7.840 |

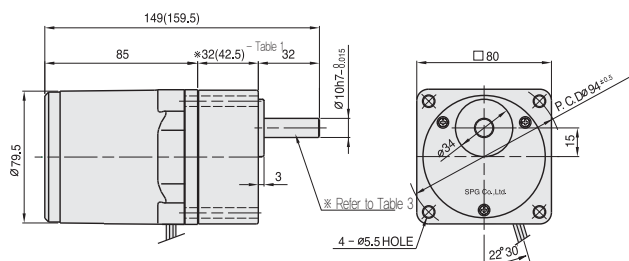
- ❖ The code in □ of gearhead model is for gear ratio. ❖ It is the permissible torque of the assembled motor and gearhead.
- ❖ The permissible torque of the motor and inter-decimal gearhead is 80 kg-cm.
- ❖ ■ color indicates that the output shaft of the geared motor rotates in the same direction as the 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.
- ❖ "L" or "H" type does not apply to motors under 40W.

## DIMENSIONS

### GEARED MOTOR

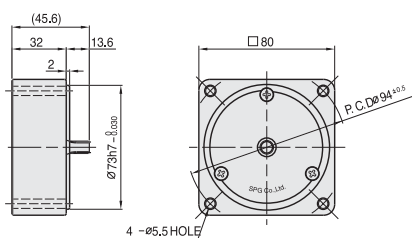
※ MOTOR MODEL : S8I25G□

※ HEAD MODEL : S8□A3□~S8□A20□



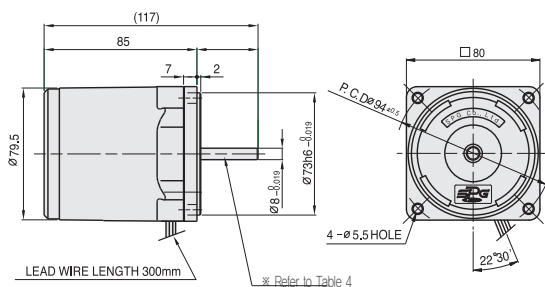
### INTER-DECIMAL GEAR HEAD

※ MODEL : S8GX10B



### MOTOR

※ MOTOR MODEL : S8I25□□



### ※26(35) - (Table 1)

| GEAR RATIO         | SIZE(mm) |
|--------------------|----------|
| S8□A3□ ~ S8□A18□   | 32       |
| S8□A20□ ~ S8□A200□ | 42.5     |

### WEIGHT - (Table 2)

| PART              | WEIGHT(kg)         |
|-------------------|--------------------|
| MOTOR             | 1.46               |
| DECIMAL GEAR HEAD | 0.43               |
| GEAR HEAD         | S8□A3□ ~ S8□A18□   |
|                   | 0.43               |
|                   | S8□A20□ ~ S8□A40□  |
|                   | 0.57               |
|                   | S8□A50□ ~ S8□A200□ |
|                   | 0.61               |

### KEY SPEC

| GEAR HEAD | MOTOR  |
|-----------|--------|
| 25±0.2    | 4±0.05 |
| 4±0.05    | 25±0.2 |
| 3±0.05    | 3±0.05 |

### SPEC for output shaft of gearhead - (Table 3)

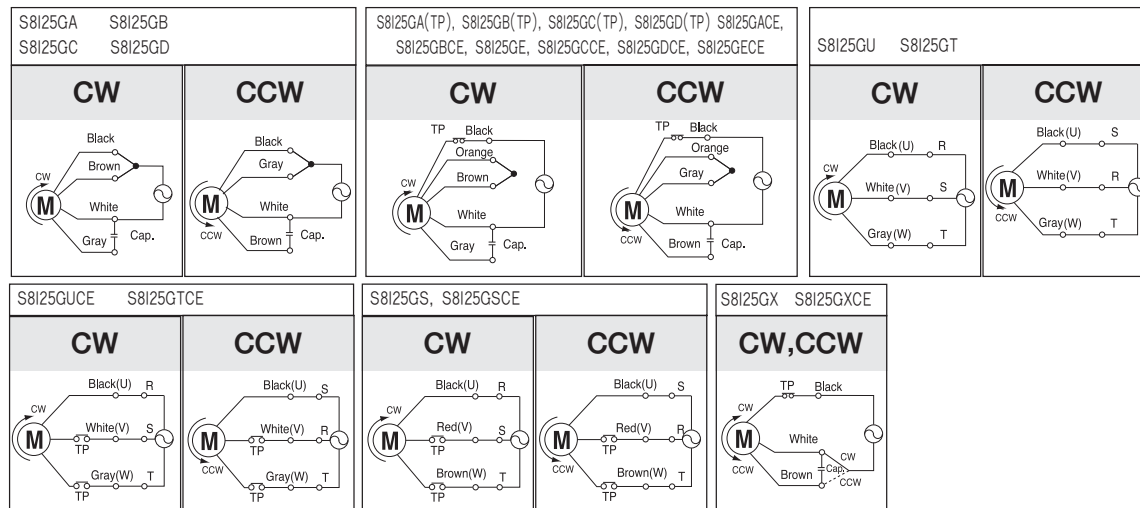
| MODEL             | TYPES OF OUTPUT SHAFT |
|-------------------|-----------------------|
| STRAIGHT TYPE     |                       |
| S8SA3□ ~ S8SA200□ |                       |
| D-CUT TYPE        |                       |
| S8DA3□ ~ S8DA200□ |                       |
| KEY TYPE          |                       |
| S8KA3□ ~ S8KA200□ |                       |

### SPEC for output shaft of motor - (Table 4)

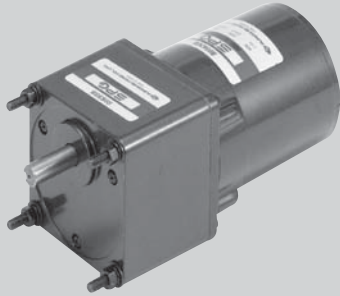
| MODEL         | TYPES OF OUTPUT SHAFT |
|---------------|-----------------------|
| GEAR TYPE     |                       |
| S8I25G□       |                       |
| STRAIGHT TYPE |                       |
| S8I25S□       |                       |
| D-CUT TYPE    |                       |
| S8I25D□       |                       |
| KEY TYPE      |                       |
| S8I25K□       |                       |

## 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.



# 40W

## INDUCTION MOTOR □ 90mm LEAD WIRE TYPE

| SIZE<br>mm sq. | Type                                         | Poles | Output<br>(W) | Voltage<br>(V) | Frequency<br>(Hz) | Duty  | Rated Load     |                |        |       | Starting Torque |       | Capacitor<br>(uF) |
|----------------|----------------------------------------------|-------|---------------|----------------|-------------------|-------|----------------|----------------|--------|-------|-----------------|-------|-------------------|
|                |                                              |       |               |                |                   |       | Current<br>(A) | Speed<br>(rpm) | Torque |       | (kg-cm)         | (N-m) |                   |
| 90             | S9I40GA( )<br>S9I40GA( )(TP)<br>S9I40GA( )CE | 4     | 40            | 1 ∅ 110        | 60                | Cont. | 0.82           | 1600           | 2.50   | 0.250 | 2.90            | 0.290 | 10.0              |
|                | S9I40GB( )<br>S9I40GB( )(TP)<br>S9I40GB( )CE | 4     | 40            | 1 ∅ 220        | 60                | Cont. | 0.41           | 1600           | 2.50   | 0.250 | 2.90            | 0.290 | 2.5               |
|                | S9I40GC( )<br>S9I40GC( )(TP)<br>S9I40GC( )CE | 4     | 40            | 1 ∅ 100        | 50                | Cont. | 0.80           | 1300           | 3.10   | 0.310 | 2.40            | 0.240 | 10.0              |
|                |                                              |       |               |                | 60                |       | 0.85           | 1550           | 2.60   | 0.260 |                 |       |                   |
|                | S9I40GD( )<br>S9I40GD( )(TP)<br>S9I40GD( )CE | 4     | 40            | 1 ∅ 200        | 50                | Cont. | 0.41           | 1300           | 3.10   | 0.310 | 2.40            | 0.240 | 2.5               |
|                |                                              |       |               |                | 60                |       | 0.43           | 1550           | 2.60   | 0.260 |                 |       |                   |
|                | S9I40GE( )<br>S9I40GE( )CE                   | 4     | 40            | 1 ∅ 100        | 50                | Cont. | 0.82           | 1300           | 3.10   | 0.310 | 2.40            | 0.240 | 10.0              |
|                |                                              |       |               | 1 ∅ 220        | 60                |       | 0.85           | 1550           | 2.60   | 0.260 |                 |       | 8.0               |
|                |                                              |       |               | 1 ∅ 115        | 60                |       | 0.91           | 1550           | 2.60   | 0.260 |                 |       | 8.0               |
|                | S9I40GX( )<br>S9I40GX( )CE                   | 4     | 40            | 1 ∅ 220        | 50                | Cont. | 0.34           | 1250           | 3.15   | 0.315 | 1.80            | 0.180 | 2.0               |
|                |                                              |       |               | 1 ∅ 240        | 50                |       | 0.37           |                | 3.35   | 0.335 | 2.10            | 0.210 |                   |
|                |                                              |       |               | 3 ∅ 200        | 50                |       | 0.36           | 1300           | 3.10   | 0.310 | 6.30            | 0.630 | —                 |
|                | S9I40GU( )<br>S9I40GU( )CE                   | 4     | 40            | 3 ∅ 200        | 60                | Cont. | 0.33           | 1550           | 2.60   | 0.260 | 5.20            | 0.520 |                   |
|                |                                              |       |               | 3 ∅ 220        | 50                |       | 0.39           | 1350           | 3.00   | 0.300 | 7.60            | 0.760 |                   |
|                |                                              |       |               | 3 ∅ 220        | 60                |       | 0.33           | 1600           | 2.50   | 0.250 | 6.10            | 0.610 |                   |
|                | S9I40GS( )<br>S9I40GS( )CE                   | 4     | 40            | 3 ∅ 380        | 50                | Cont. | 0.21           | 1300           | 3.20   | 0.320 | 6.30            | 0.630 | —                 |
|                |                                              |       |               |                | 60                |       | 0.19           | 1550           | 2.70   | 0.270 | 4.85            | 0.485 |                   |
|                |                                              |       |               |                | 50                | Cont. | 0.21           | 1300           | 3.30   | 0.330 | 6.90            | 0.690 |                   |
|                |                                              |       |               | 3 ∅ 400        | 60                |       | 0.19           | 1550           | 2.80   | 0.280 | 5.25            | 0.525 |                   |
|                |                                              |       |               |                | 50                | Cont. | 0.21           | 1350           | 3.10   | 0.310 | 7.30            | 0.730 |                   |
|                |                                              |       |               |                | 60                |       | 0.19           | 1600           | 2.60   | 0.260 | 5.70            | 0.570 |                   |
|                |                                              |       |               | 3 ∅ 415        | 50                | Cont. | 0.21           | 1350           | 3.20   | 0.320 | 8.20            | 0.820 |                   |
|                |                                              |       |               |                | 60                |       | 0.19           | 1600           | 2.70   | 0.270 | 6.30            | 0.630 |                   |
|                |                                              |       |               | 3 ∅ 440        | 50                | Cont. | 0.21           | 1350           | 3.20   | 0.320 | 8.20            | 0.820 |                   |
|                |                                              |       |               |                | 60                |       | 0.19           | 1600           | 2.70   | 0.270 | 6.30            | 0.630 |                   |
|                |                                              |       |               |                | 50                | Cont. | 0.21           | 1350           | 3.20   | 0.320 | 8.20            | 0.820 |                   |
|                |                                              |       |               |                | 60                |       | 0.19           | 1600           | 2.70   | 0.270 | 6.30            | 0.630 |                   |

❖ S9I40GE is UL approved (UL FILE No. E172720) thermally protected type.

❖ Appropriate capacitors shall be used according to the voltage for S9I40GE 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.  
S9I40GE( )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.

S9I40GE, S9I40GX, S9I40GS 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   |
|            | kg-Cm | 8.3   | 9.9   | 13.8  | 16.5  | 20.7  | 24.8  | 27.5  | 34.4  | 41.3  | 49.6  | 49.6  | 62.1  | 74.5  | 89.4  | 99.3  | 100   | 100   | 100   | 100   | 100   | 100   | 100   | 100   | 100   |
| S9KB□( )   | N·m   | 0.813 | 0.970 | 1.352 | 1.617 | 2.029 | 2.430 | 2.695 | 3.371 | 4.047 | 4.861 | 4.861 | 6.086 | 7.301 | 8.761 | 9.731 | 9.800 | 9.800 | 9.800 | 9.800 | 9.800 | 9.800 | 9.800 | 9.800 | 9.800 |

## 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     |
|            | kg-cm | 6.8   | 8.2   | 11.3  | 13.6  | 17.0  | 20.4  | 22.7  | 28.4  | 34.0  | 40.8  | 40.9  | 51.1  | 61.3  | 73.6  | 81.8  | 100   | 100   | 100   | 100   | 100   | 100   | 100   | 100   | 100   |
| S9KB□( )   | N·m   | 0.666 | 0.804 | 1.107 | 1.333 | 1.666 | 1.999 | 2.225 | 2.783 | 3.332 | 3.998 | 4.008 | 5.008 | 6.007 | 7.213 | 8.016 | 9.800 | 9.800 | 9.800 | 9.800 | 9.800 | 9.800 | 9.800 | 9.800 | 9.800 |

❖ 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 100 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.

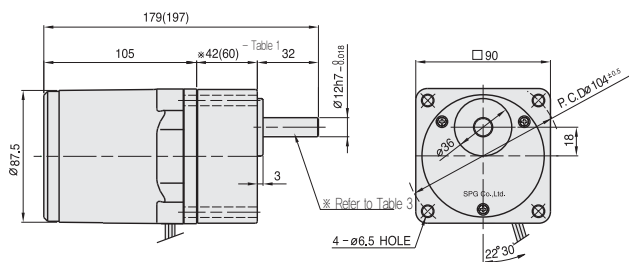
❖ ( ) is for marking 'L' type or 'H'. 'L' should be used with motor 'L' and 'H' should be used with motor 'H'.

## DIMENSIONS

### GEARED MOTOR

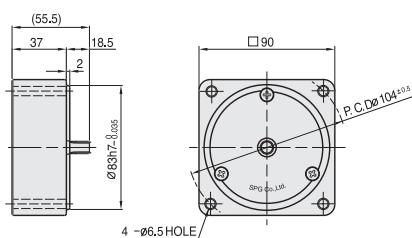
\* MOTOR MODEL : S9I40G□□

\* HEAD MODEL : S9□B3□□~S9□B200□□



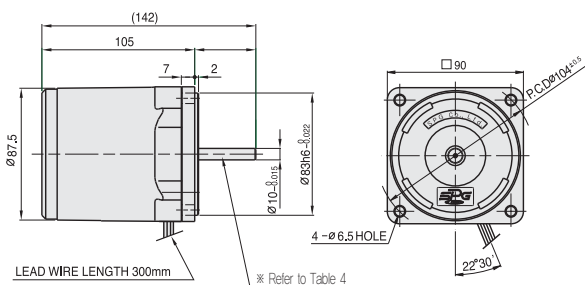
### INTER-DECIMAL GEAR HEAD

\* MODEL : S9GX10B(H,L)



### MOTOR

\* MOTOR MODEL : S9I40□□□



### \*26(35) - (Table 1)

| GEAR RATIO           | SIZE(mm) |
|----------------------|----------|
| S9□B3□□ ~ S9□B18□□   | 42       |
| S9□B20□□ ~ S9□B200□□ | 60       |

### WEIGHT - (Table 2)

| PART                 | WEIGHT(kg) |
|----------------------|------------|
| MOTOR                | 2.30       |
| DECIMAL GEAR HEAD    | 0.60       |
| GEAR HEAD            |            |
| S9□B3□□ ~ S9□B18□□   | 0.73       |
| S9□B20□□ ~ S9□B40□□  | 1.03       |
| S9□B50□□ ~ S9□B200□□ | 1.13       |

### KEY SPEC

| GEAR HEAD                    | MOTOR                        |
|------------------------------|------------------------------|
| 25 <sup>+0.2</sup><br>4-8.05 | 25 <sup>+0.2</sup><br>4-8.05 |

### SPEC for output shaft of gearhead - (Table 3)

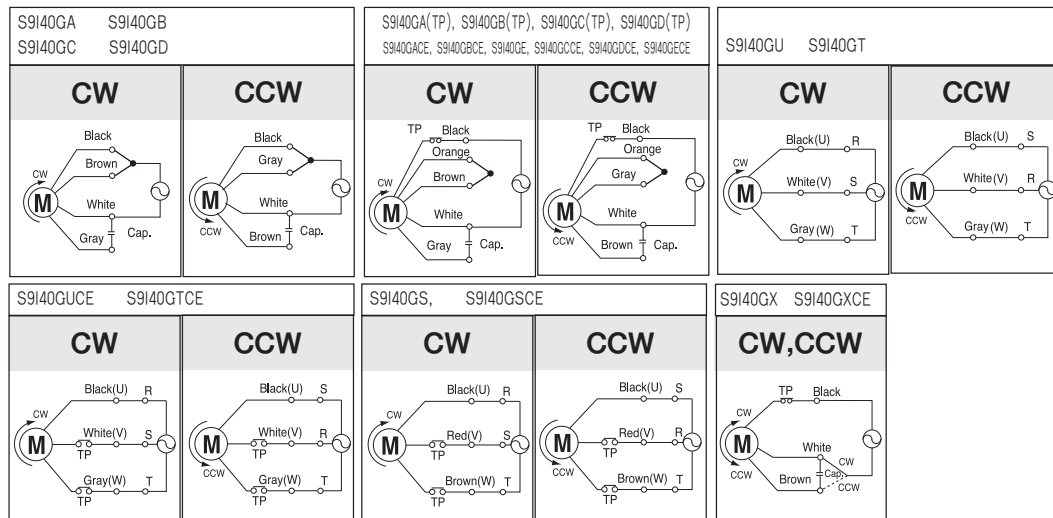
| MODEL               | TYPES OF OUTPUT SHAFT                         |
|---------------------|-----------------------------------------------|
| STRAIGHT TYPE       |                                               |
| S9SB3□□ ~ S9SB200□□ | 32<br>12<br>12                                |
| D-CUT TYPE          |                                               |
| S9DB3□□ ~ S9DB200□□ | 32<br>25<br>12<br>11<br>12                    |
| KEY TYPE            |                                               |
| S9KB3□□ ~ S9KB200□□ | 32<br>25<br>12<br>23.5<br>2.5 <sup>+0.1</sup> |

### SPEC for output shaft of motor - (Table 4)

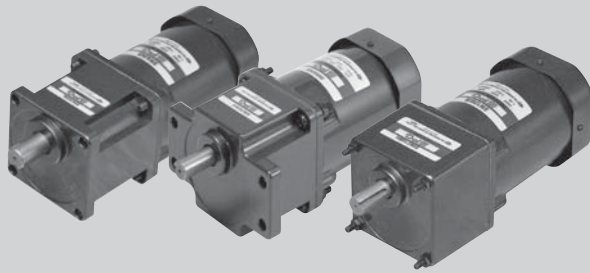
| MODEL         | TYPES OF OUTPUT SHAFT                       |
|---------------|---------------------------------------------|
| GEAR TYPE     |                                             |
| S9I40G□□      | 18.5                                        |
| STRAIGHT TYPE |                                             |
| S9I40S□       | 37<br>10                                    |
| D-CUT TYPE    |                                             |
| S9I40D□       | 37<br>30<br>10<br>9.1                       |
| KEY TYPE      |                                             |
| S9I40K□       | 37<br>25<br>10<br>23<br>2.5 <sup>+0.1</sup> |

## 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.



# 60W

## INDUCTION MOTOR □ 90mm LEAD WIRE TYPE

| SIZE<br>mm sq. | Type                                         | Poles | Output<br>(W) | Voltage<br>(V)                           | Frequency<br>(Hz)    | Duty  | Rated Load           |                      |                      |                         | Starting Torque |                | Capacitor<br>(uF) |
|----------------|----------------------------------------------|-------|---------------|------------------------------------------|----------------------|-------|----------------------|----------------------|----------------------|-------------------------|-----------------|----------------|-------------------|
|                |                                              |       |               |                                          |                      |       | Current<br>(A)       | Speed<br>(rpm)       | Torque               |                         | (kg-cm)         | (N-m)          |                   |
| 90             | S9I60GA( )<br>S9I60GA( )(TP)<br>S9I60GA( )CE | 4     | 60            | 1 Ø 110                                  | 60                   | Cont. | 1.35                 | 1600                 | 3.80                 | 0.380                   | 4.80            | 0.480          | 15.0              |
|                | S9I60GB( )<br>S9I60GB( )(TP)<br>S9I60GB( )CE | 4     | 60            | 1 Ø 220                                  | 60                   | Cont. | 0.68                 | 1600                 | 3.90                 | 0.390                   | 4.80            | 0.480          | 4.0               |
|                | S9I60GC( )<br>S9I60GC( )(TP)<br>S9I60GC( )CE | 4     | 60            | 1 Ø 100                                  | 50<br>60             | Cont. | 1.26<br>1.37         | 1300<br>1550         | 4.60<br>3.90         | 0.460<br>0.390          | 3.40            | 0.340          | 15.0              |
|                | S9I60GD( )<br>S9I60GD( )(TP)<br>S9I60GD( )CE | 4     | 60            | 1 Ø 200                                  | 50<br>60             | Cont. | 0.65<br>0.70         | 1300<br>1550         | 4.70<br>4.00         | 0.470<br>0.400          | 3.85            | 0.385          | 4.0               |
|                | S9I60GE( )<br>S9I60GE( )CE                   | 4     | 60            | 1 Ø 100<br>1 Ø 115<br>1 Ø 240            | 50<br>60<br>50       | Cont. | 1.10<br>1.20<br>1.20 | 1300<br>1550<br>1550 | 4.60<br>3.90<br>4.00 | 0.460<br>0.390<br>0.400 | 3.20            | 0.320          | 15.0<br>12.0      |
|                | S9I60GX( )<br>S9I60GX( )CE                   | 4     | 60            | 1 Ø 220<br>1 Ø 240                       | 50                   | Cont. | 0.47<br>0.50         | 1300                 | 4.60<br>4.90         | 0.460<br>0.490          | 3.20<br>3.90    | 0.320<br>0.390 | 3.5               |
|                | S9I60GU( )<br>S9I60GU( )CE                   | 4     | 60            | 3 Ø 200                                  | 50<br>60             | Cont. | 0.60<br>0.50         | 1300<br>1550         | 4.60<br>3.90         | 0.460<br>0.390          | 9.30<br>8.00    | 0.930<br>0.800 | —                 |
|                | S9I60GT( )<br>S9I60GT( )CE                   | 4     | 60            | 3 Ø 220                                  | 50<br>60             | Cont. | 0.80<br>0.57         | 1350<br>1600         | 4.40<br>3.90         | 0.440<br>0.390          | 11.35<br>9.30   | 1.135<br>0.930 | —                 |
|                | S9I60GS( )<br>S9I60GS( )CE                   | 4     | 60            | 3 Ø 380<br>3 Ø 400<br>3 Ø 415<br>3 Ø 440 | 50<br>60<br>50<br>60 | Cont. | 0.27<br>0.24         | 1300<br>1550         | 4.60<br>3.90         | 0.460<br>0.390          | 8.25<br>6.50    | 0.825<br>0.650 | —                 |
|                |                                              |       |               |                                          |                      |       | 0.29<br>0.25         | 1300<br>1550         | 4.70<br>4.00         | 0.470<br>0.400          | 9.30<br>7.35    | 0.930<br>0.735 |                   |
|                |                                              |       |               |                                          |                      | Cont. | 0.27<br>0.23         | 1350<br>1600         | 4.60<br>3.80         | 0.460<br>0.380          | 9.95<br>7.50    | 0.995<br>0.750 |                   |
|                |                                              |       |               |                                          |                      |       | 0.31<br>0.25         | 1350<br>1600         | 4.70<br>3.90         | 0.470<br>0.390          | 10.75<br>8.40   | 1.075<br>0.840 |                   |

- ❖ S9I60GE is UL approved (UL FILE No. E172720) thermally protected type.
- ❖ Appropriate capacitors shall be used according to the voltage for S9I60GE 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.  
S9I60GE( )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.  
S9I60GE, S9I60GX, S9I60GS 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   |
|            | kg-cm | 12.2  | 14.6  | 20.3  | 24.3  | 30.4  | 36.5  | 40.5  | 45.6  | 54.8  | 65.7  | 73.0  | 82.5  | 99.0  | 119   | 132   | 165   | 198   | 200   | 200   | 200   | 200   | 200   | 200   | 200   |
|            | N·m   | 1.196 | 1.431 | 1.989 | 2.381 | 2.989 | 3.577 | 3.969 | 4.469 | 5.370 | 6.439 | 7.154 | 8.085 | 9.702 | 11.66 | 12.94 | 16.17 | 19.40 | 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     |
|            | kg-cm | 9.72  | 11.7  | 16.2  | 19.4  | 24.3  | 29.2  | 32.4  | 36.5  | 43.8  | 52.6  | 58.4  | 66.0  | 79.2  | 95.0  | 106   | 132   | 158   | 177   | 200   | 200   | 200   | 200   | 200   | 200   |
|            | N·m   | 0.953 | 1.147 | 1.588 | 1.901 | 2.381 | 2.862 | 3.175 | 3.577 | 4.292 | 5.155 | 5.723 | 6.468 | 7.762 | 9.310 | 10.39 | 12.94 | 15.48 | 17.35 | 19.60 | 19.60 | 19.60 | 19.60 | 19.60 | 19.60 |

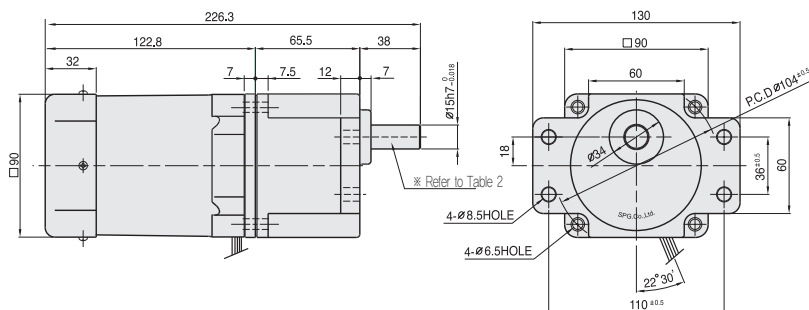
- ❖ The code in □ of gearhead model is for gear ratio. ❖ It is the permissible torque of the assembled motor and gearhead.
- ❖ The permissible torque of the motor and inter-decimal gearhead is 200 kg-cm.
- ❖ ■ color indicates that the output shaft of the geared motor rotates in the same direction as 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

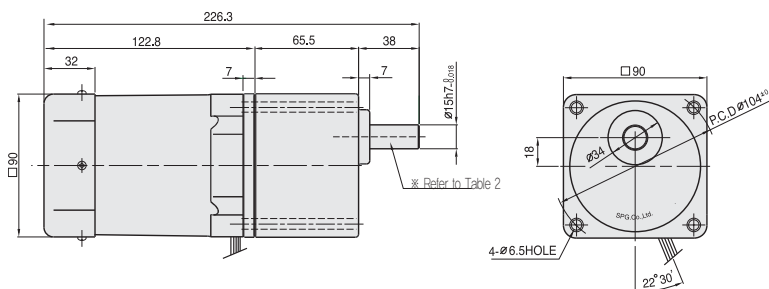
※ MOTOR MODEL : S9I60G□□

※ HEAD MODEL : S9□C3B□-S-S9□C200B□-S



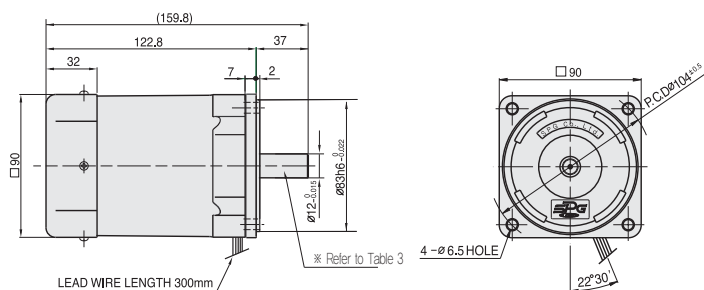
※ MOTOR MODEL : S9I60G□□

※ HEAD MODEL : S9□C3B□-S-S9□C200B□-S



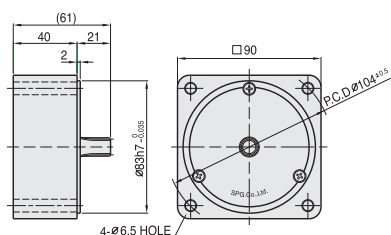
### ✦ MOTOR

※ MOTOR MODEL : S9I60□□□



### ✦ INTER-DECIMAL GEAR HEAD

※ MODEL : S9GX10B(H,L)-S



### ✦ WEIGHT - (Table1)

| PART              |                         | WEIGHT(kg) |
|-------------------|-------------------------|------------|
| MOTOR             |                         | 2.44       |
| DECIMAL GEAR HEAD |                         | 0.65       |
| GEAR HEAD         | S9□C3B□<br>~S9□C10B□    | 1.21       |
|                   | S9□C12.5B□<br>~S9□C20B□ | 1.30       |
|                   | S9□C25B□<br>~S9□C60B□   | 1.40       |
|                   | S9□C75B□<br>~S9□C200B□  | 1.45       |

### ✦ KEY SPEC

| GEAR HEAD | MOTOR |
|-----------|-------|
|           |       |

### ✦ SPEC for output shaft of gearhead - (Table2)

| MODEL                 | TYPES OF OUTPUT SHAFT |
|-----------------------|-----------------------|
| STRAIGHT TYPE         |                       |
| S9SC3B□<br>~S9SC200B□ |                       |
| D-CUT TYPE            |                       |
| S9DC3B□<br>~S9DC200B□ |                       |
| KEY TYPE              |                       |
| S9KC3B□<br>~S9KC200B□ |                       |

### ✦ SPEC for output shaft of motor - (Table3)

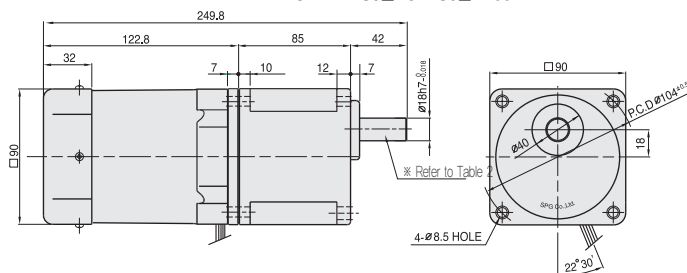
| MODEL         | TYPES OF OUTPUT SHAFT |
|---------------|-----------------------|
| GEAR TYPE     |                       |
| S9I60G□□      |                       |
| STRAIGHT TYPE |                       |
| S9I60S□       |                       |
| D-CUT TYPE    |                       |
| S9I60D□       |                       |
| KEY TYPE      |                       |
| S9I60K□       |                       |

## DIMENSIONS

### + GEARED MOTOR

\* MOTOR MODEL : S9I60□H

\* HEAD MODEL : S9□D3B~S9□D200B



### + WEIGHT - (Table1)

| PART      |                       | WEIGHT(kg) |
|-----------|-----------------------|------------|
| MOTOR     |                       | 2.44       |
| GEAR HEAD | S9□D3B<br>~S9□D10B□   | 1.65       |
|           | S9□D12.5B<br>~S9□D20B | 1.80       |
|           | S9□D25B<br>~S9□D60B   | 1.90       |
|           | S9□D75B<br>~S9□D200B  | 1.95       |

### + KEY SPEC

| GEAR HEAD |
|-----------|
|           |

### + SPEC for output shaft of gearhead - (Table2)

| MODEL               | TYPES OF OUTPUT SHAF | MODEL               | TYPES OF OUTPUT SHAF | MODEL               | TYPES OF OUTPUT SHAF |
|---------------------|----------------------|---------------------|----------------------|---------------------|----------------------|
| STRAIGHT TYPE       |                      | D-CUT TYPE          |                      | KEY TYPE            |                      |
| S9SD3B<br>~S9SD200B |                      | S9DD3B<br>~S9DD200B |                      | S9KD3B<br>~S9KD200B |                      |

## 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   |
| S9KD□B     | kg-cm | 12.2  | 14.6  | 20.3  | 24.3  | 30.4  | 36.5  | 40.5  | 45.6  | 54.8  | 65.7  | 73.0  | 82.5  | 99.0  | 119   | 132   | 165   | 198   | 221   | 266   | 295   | 300   | 300   | 300   | 300   |
|            | N·m   | 1.196 | 1.431 | 1.989 | 2.381 | 2.989 | 3.577 | 3.969 | 4.469 | 5.370 | 6.439 | 7.154 | 8.085 | 9.702 | 11.66 | 12.94 | 16.17 | 19.40 | 21.67 | 26.09 | 28.93 | 29.42 | 29.42 | 29.42 | 29.42 |

## 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     |
| S9KD□B     | kg-cm | 9.72  | 11.7  | 16.2  | 19.4  | 24.3  | 29.2  | 32.4  | 36.5  | 43.8  | 52.6  | 58.4  | 66.0  | 79.2  | 95.0  | 106   | 132   | 158   | 177   | 212   | 236   | 283   | 300   | 300   | 300   |
|            | N·m   | 0.953 | 1.147 | 1.588 | 1.901 | 2.381 | 2.862 | 3.175 | 3.577 | 4.292 | 5.155 | 5.723 | 6.468 | 7.762 | 9.310 | 10.39 | 12.94 | 15.48 | 17.35 | 20.79 | 23.14 | 27.75 | 29.42 | 29.42 | 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.

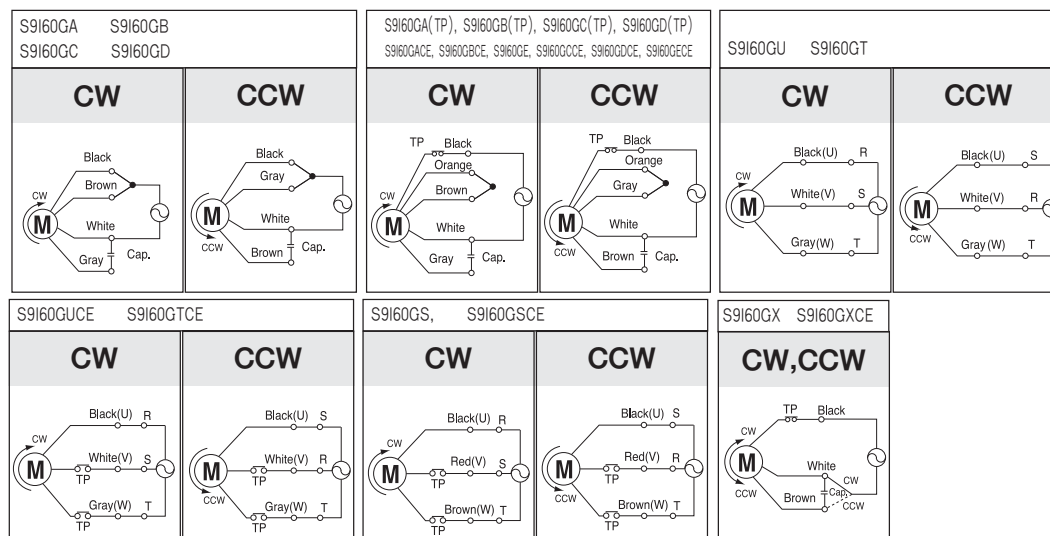
❖ Rpm is based on synchronous speed (50Hz: 1500rpm, 60Hz: 1800rpm) divided by gear ratio.

The actual rotation speed can be 2~20% less than displayed value depending on the load.

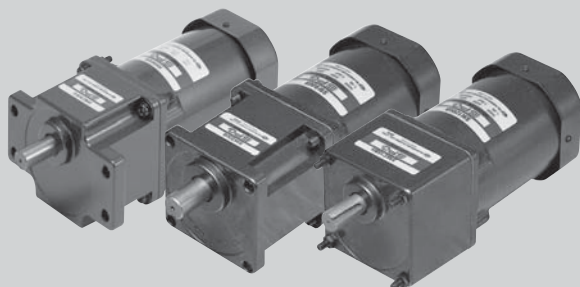
❖ Only "H" type is applicable. Please use "H" type motor.

## 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.



# 90W

## INDUCTION MOTOR □90mm LEAD WIRE TYPE

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

- ❖ 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   |
|             | 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   |
| 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 |

## 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     |
|             | 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   |
| 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 |

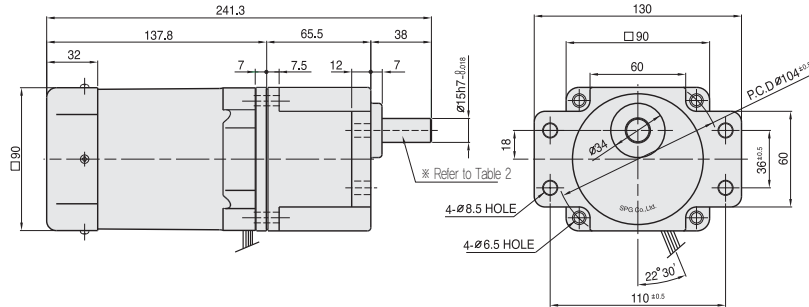
- ❖ The code in □ of gearhead model is for gear ratio. ❖ It is the permissible torque of the assembled motor and gearhead.
- ❖ The permissible torque of the motor and inter-decimal gearhead is 200 kg-cm.
- ❖ ■ color indicates that the output shaft of the geared motor rotates in the same direction as 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

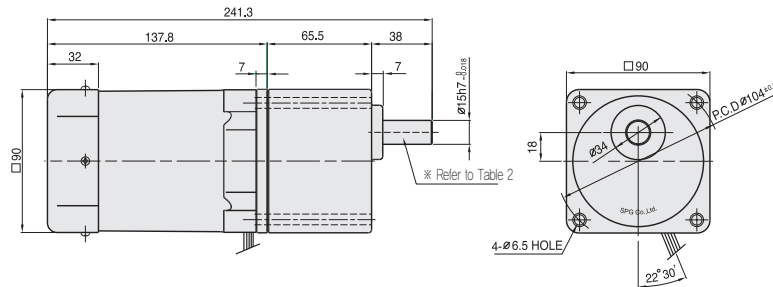
### GEARED MOTOR

※ MOTOR MODEL : S9I90G□□

※ HEAD MODEL : S9□C3B□-S~S9□C200B□-S

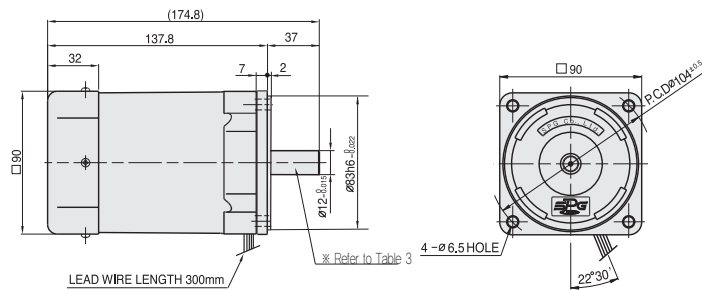


※ HEAD MODEL : S9□C3B□~S9□C200B□



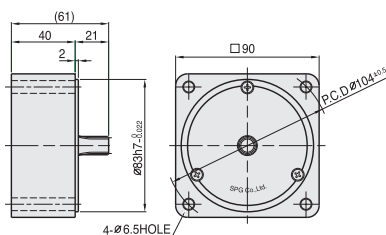
### MOTOR

※ 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□<br>~S9□C10B□    | 1.21       |
|                   | S9□C12.5B□<br>~S9□C20B□ | 1.30       |
|                   | S9□C25B□<br>~S9□C60B□   | 1.40       |
|                   | S9□C75B□<br>~S9□C200B□  | 1.45       |

### KEY SPEC

| GEAR HEAD | MOTOR |
|-----------|-------|
|           |       |

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

| MODEL                 | TYPES OF OUTPUT SHAFT |
|-----------------------|-----------------------|
| STRAIGHT TYPE         |                       |
| S9SC3B□<br>~S9SC200B□ |                       |
| D-CUT TYPE            |                       |
| S9DCB3□<br>~S9DC200B□ |                       |
| KEY TYPE              |                       |
| S9KC3B□<br>~S9KC200B□ |                       |

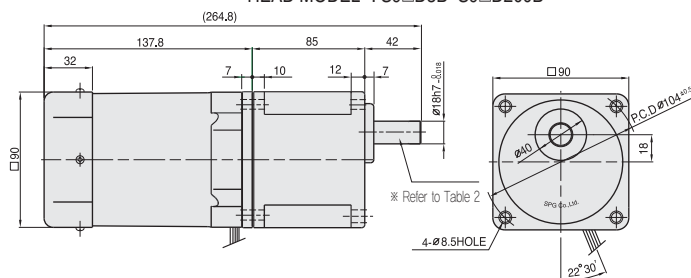
### SPEC for output shaft of motor - (Table 3)

| MODEL         | TYPES OF OUTPUT SHAFT |
|---------------|-----------------------|
| GEAR TYPE     |                       |
| S9I90G□□      |                       |
| STRAIGHT TYPE |                       |
| S9I90S□       |                       |
| D-CUT TYPE    |                       |
| S9I90D□       |                       |
| KEY TYPE      |                       |
| S9I90K□       |                       |

## DIMENSIONS

### + GEARED MOTOR

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



### + WEIGHT - (Table1)

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

### + KEY SPEC

| GEAR HEAD |
|-----------|
|           |

### + SPEC for output shaft of gearhead - (Table2)

| MODEL               | TYPES OF OUTPUT SHAFT | MODEL                | TYPES OF OUTPUT SHAFT | MODEL               | TYPES OF OUTPUT SHAFT |
|---------------------|-----------------------|----------------------|-----------------------|---------------------|-----------------------|
| STRAIGHT TYPE       |                       | D-CUT TYPE           |                       | KEY TYPE            |                       |
| S9SD3B<br>~S9SD200B |                       | S9DDB3B<br>~S9DD200B |                       | S9KD3B<br>~S9KD200B |                       |

## 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   |
|            | 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   | 248   | 297   | 300   | 300   | 300   | 300   | 300   | 300   | 300   |
| S9KD□B     | 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 | 24.32 | 29.13 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 |
|            |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |

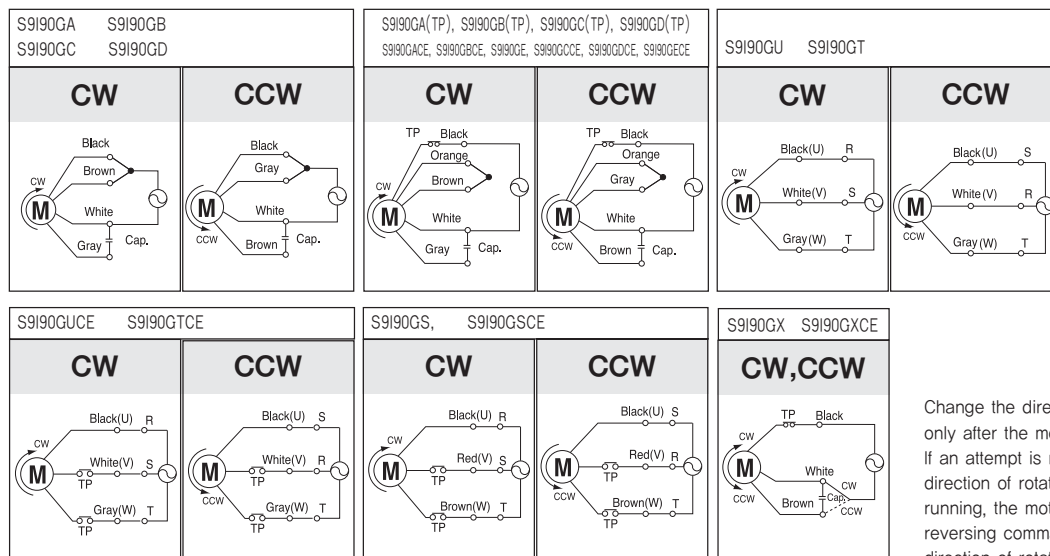
## 60Hz

| 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     |
|            | 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   | 238   | 266   | 300   | 300   | 300   | 300   | 300   | 300   |
| S9KD□B     | 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 | 23.34 | 26.09 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 |
|            |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |

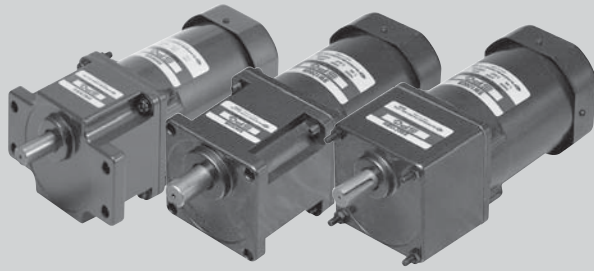
- ❖ The code in □ of gearhead model is for gear ratio. ❖ It is the permissible torque of the assembled motor and gearhead.
- ❖ The permissible torque of the motor and inter-decimal gearhead is 300 kg-cm.
- ❖ ■ color indicates that the output shaft of the geared motor rotates in the same direction as 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.



# 120W

## INDUCTION MOTOR □ 90mm LEAD WIRE TYPE

| SIZE<br>mm sq. | Type                                   | Poles | Output<br>(W) | Voltage<br>(V) | Frequency<br>(Hz) | Duty  | Rated Load     |                |        |       | Starting Torque |       | Capacitor<br>(μF) |
|----------------|----------------------------------------|-------|---------------|----------------|-------------------|-------|----------------|----------------|--------|-------|-----------------|-------|-------------------|
|                |                                        |       |               |                |                   |       | Current<br>(A) | Speed<br>(rpm) | Torque |       | (kg-cm)         | (N-m) |                   |
| 90             | S9I120GA<br>S9I120GA(TP)<br>S9I120GACE | 4     | 120           | 1 ∅ 110        | 60                | Cont. | 2.10           | 1600           | 7.60   | 0.760 | 6.20            | 0.620 | 25.0              |
|                | S9I120GB<br>S9I120GB(TP)<br>S9I120GBCE | 4     | 120           | 1 ∅ 220        | 60                | Cont. | 1.00           | 1600           | 7.50   | 0.750 | 6.00            | 0.600 | 6.0               |
|                | S9I120GC<br>S9I120GC(TP)<br>S9I120GCCE | 4     | 120           | 1 ∅ 100        | 50                | Cont. | 2.00           | 1250           | 9.60   | 0.960 | 5.70            | 0.570 | 25.0              |
|                |                                        |       |               |                | 60                |       |                | 1550           | 7.90   | 0.790 |                 |       |                   |
|                | S9I120GD<br>S9I120GD(TP)<br>S9I120GDCE | 4     | 120           | 1 ∅ 200        | 50                | Cont. | 1.00           | 1250           | 9.50   | 0.950 | 5.50            | 0.550 | 6.0               |
|                |                                        |       |               |                | 60                |       |                | 1550           | 7.80   | 0.780 |                 |       |                   |

❖ CE marked at the end of model name indicates that it is thermally protected type which has received CE with built-in TP.

❖ TP marked at the end of the model name indicates that it is standard motor with Thermal Protector mounted.

❖ Only "H" type is applicable.

## 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   |
|            | kg-cm | 23.2 | 27.8  | 38.7  | 46.4  | 58.0  | 69.6  | 77.4  | 87.0  | 104   | 125   | 139   | 156   | 188   | 200   | 200   | 200   | 200   | 200   | 200   | 200   | 200   | 200   | 200   | 200   |
| S9KC□BH-S  |       | N-m  | 2.276 | 2.731 | 3.793 | 4.552 | 5.689 | 6.827 | 7.586 | 8.534 | 10.24 | 12.29 | 13.65 | 15.36 | 18.43 | 19.61 | 19.61 | 19.61 | 19.61 | 19.61 | 19.61 | 19.61 | 19.61 | 19.61 | 19.61 |

## 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     |
|            | kg-cm | 18.7 | 22.5  | 31.2  | 37.4  | 46.8  | 56.1  | 62.4  | 70.2  | 84.2  | 101   | 112   | 126   | 152   | 182   | 200   | 200   | 200   | 200   | 200   | 200   | 200   | 200   | 200   | 200   |
| S9KC□BH-S  |       | N-m  | 1.835 | 2.202 | 3.058 | 3.670 | 4.587 | 5.505 | 6.116 | 6.881 | 8.257 | 9.909 | 11.01 | 12.39 | 14.86 | 17.84 | 19.61 | 19.61 | 19.61 | 19.61 | 19.61 | 19.61 | 19.61 | 19.61 | 19.61 |

❖ 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.

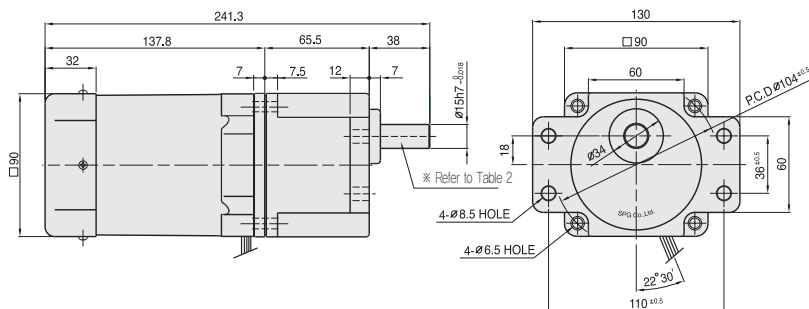
❖ Only "H" type is applicable.

## DIMENSIONS

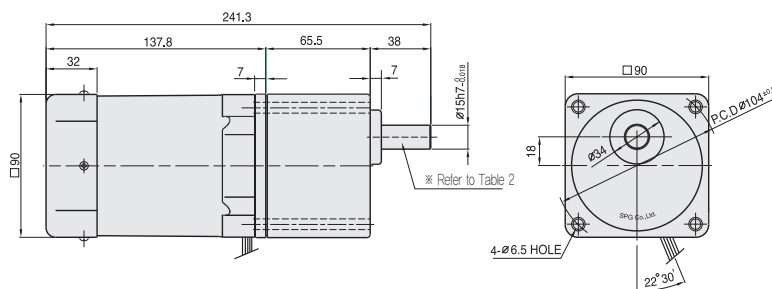
### ✦ GEARED MOTOR

※ MOTOR MODEL : S9I120G□

※ HEAD MODEL : S9□C3BH-S~S9□C200BH-S

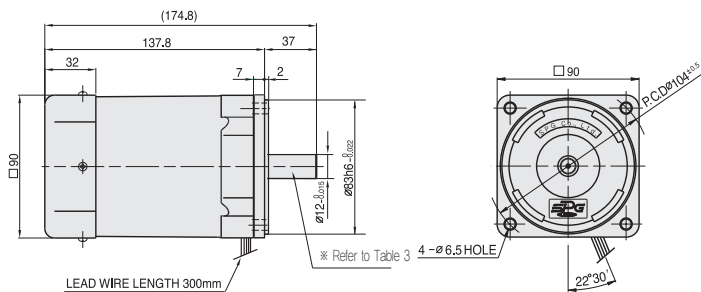


※ HEAD MODEL □ : S9□C3BH~S9□C200BH



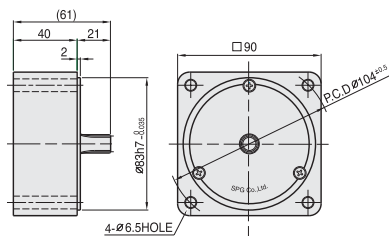
### ✦ MOTOR

※ MOTOR MODEL : S9I120□□



### ✦ INTER-DECIMAL GEAR HEAD

※ MODEL : S9GX10BH-S



### ✦ WEIGHT - (Table1)

| PART              |                         | WEIGHT(kg) |
|-------------------|-------------------------|------------|
| MOTOR             |                         | 2.93       |
| DECIMAL GEAR HEAD |                         | 0.65       |
| GEAR HEAD         | S9□C3BH<br>~S9□C10BH    | 1.21       |
|                   | S9□C12.5BH<br>~S9□C20BH | 1.30       |
|                   | S9□C25BH<br>~S9□C60BH   | 1.40       |
|                   | S9□C75BH<br>~S9□C200BH  | 1.45       |

### ✦ KEY SPEC

| GEAR HEAD | MOTOR |
|-----------|-------|
|           |       |

### ✦ SPEC for output shaft of gearhead - (Table2)

| MODEL                 | TYPES OF OUTPUT SHAFT |
|-----------------------|-----------------------|
| STRAIGHT TYPE         |                       |
| S9SC3BH<br>~S9SC200BH |                       |
| D-CUT TYPE            |                       |
| S9DC3BH<br>~S9DC200BH |                       |
| KEY TYPE              |                       |
| S9KC3BH<br>~S9KC200BH |                       |

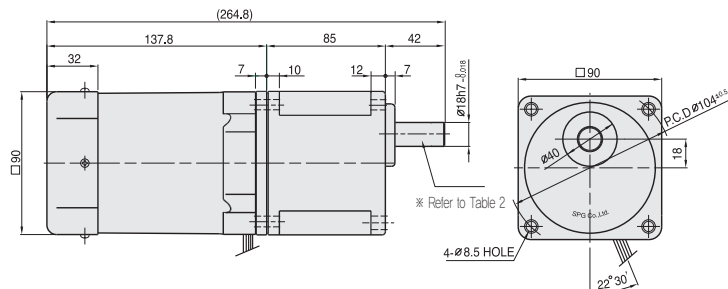
### ✦ SPEC for output shaft of motor - (Table3)

| MODEL         | TYPES OF OUTPUT SHAFT |
|---------------|-----------------------|
| GEAR TYPE     |                       |
| S9I120G□      |                       |
| STRAIGHT TYPE |                       |
| S9I120S□      |                       |
| D-CUT TYPE    |                       |
| S9I120D□      |                       |
| KEY TYPE      |                       |
| S9I120□       |                       |

## DIMENSIONS

### GEARED MOTOR

※ MOTOR MODEL : S9I120G□  
 ※ HEAD MODEL □ : S9□D3B~S9□D200B  
 (264,8)



### WEIGHT - (Table1)

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

### KEY SPEC

| GEAR HEAD |
|-----------|
|           |

### SPEC for output shaft of gearhead - (Table2)

| MODEL               | TYPES OF OUTPUT SHAF | MODEL               | TYPES OF OUTPUT SHAF | MODEL               | TYPES OF OUTPUT SHAF |
|---------------------|----------------------|---------------------|----------------------|---------------------|----------------------|
| STRAIGHT TYPE       |                      | D-CUT TYPE          |                      | KEY TYPE            |                      |
| S9SD3B<br>~S9SD200B |                      | S9DD3B<br>~S9DD200B |                      | S9KD3B<br>~S9KD200B |                      |

## 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   |
|            | kg-cm | 23.2  | 27.8  | 38.7  | 46.4  | 58.0  | 69.6  | 77.4  | 87.0  | 104   | 125   | 139   | 156   | 188   | 225   | 250   | 300   | 300   | 300   | 300   | 300   | 300   | 300   | 300   | 300   |
| S9KD□B     | N·m   | 2.276 | 2.731 | 3.793 | 4.552 | 5.689 | 6.827 | 7.586 | 8.534 | 10.24 | 12.29 | 13.65 | 15.36 | 18.43 | 22.12 | 24.58 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 |

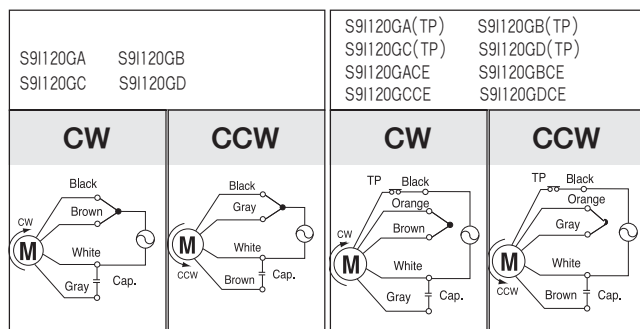
## 60Hz

| 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     |
|            | kg-cm | 18.7  | 22.5  | 31.2  | 37.4  | 46.8  | 56.1  | 62.4  | 70.2  | 84.2  | 101   | 112   | 126   | 152   | 182   | 202   | 252   | 300   | 300   | 300   | 300   | 300   | 300   | 300   | 300   |
| S9KD□B     | N·m   | 1.835 | 2.202 | 3.058 | 3.670 | 4.587 | 5.505 | 6.116 | 6.881 | 8.757 | 9.909 | 11.01 | 12.39 | 14.86 | 17.84 | 19.82 | 24.77 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 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 5 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.

## 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.



# 150W

INDUCTION MOTOR □ 90mm LEAD WIRE TYPE

| SIZE<br>mm sq. | Type                   | Poles | Output<br>(W) | Voltage<br>(V) | Frequency<br>(Hz) | Duty  | Rated Load     |                |        |       | Starting Torque |       | Capacitor<br>(uF) |
|----------------|------------------------|-------|---------------|----------------|-------------------|-------|----------------|----------------|--------|-------|-----------------|-------|-------------------|
|                |                        |       |               |                |                   |       | Current<br>(A) | Speed<br>(rpm) | Torque |       | (kg-cm)         | (N-m) |                   |
| 90             | S9I150GU<br>S9I150GUCE | 4     | 150           | 3 ∅ 200        | 50                | Cont. | 1.0            | 1250           | 11.70  | 1.170 | 18.0            | 1.800 | —                 |
|                |                        |       |               |                | 60                |       | 0.9            | 1500           | 9.70   | 0.970 | 15.0            | 1.500 |                   |
|                | S9I150GT<br>S9I150GTCE | 4     | 150           | 3 ∅ 220        | 50                | Cont. | 1.0            | 1300           | 11.30  | 1.130 | 22.0            | 2.200 | —                 |
|                |                        |       |               |                | 60                |       | 0.9            | 1550           | 9.40   | 0.940 | 19.0            | 1.900 |                   |
|                | S9I150GS<br>S9I150GSCE | 4     | 150           | 3 ∅ 380        | 50                | Cont. | 0.46           | 1250           | 11.70  | 1.170 | 18.00           | 1.800 | —                 |
|                |                        |       |               |                | 60                |       | 0.42           | 1500           | 9.70   | 0.970 | 15.00           | 1.500 |                   |
|                |                        |       |               | 3 ∅ 400        | 50                | Cont. | 0.49           | 1250           | 11.70  | 1.170 | 19.00           | 1.900 |                   |
|                |                        |       |               |                | 60                |       | 0.43           | 1500           | 9.70   | 0.970 | 16.00           | 1.600 |                   |
|                |                        |       |               |                | 50                |       |                |                |        |       |                 |       |                   |
|                |                        |       |               |                | 60                |       |                |                |        |       |                 |       |                   |

❖ CE marked at the end of model name indicates that it is thermally protected type which has received CE with built-in TP.

❖ TP marked at the end of the model name indicates that it is standard motor with Thermal Protector mounted.

❖ Only "H" type is applicable.

❖ 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   |
|            | kg-cm | 23.1  | 27.7  | 38.5  | 46.2  | 57.7  | 69.3  | 77.0  | 86.6  | 104   | 125   | 139   | 156   | 187   | 224   | 249   | 300   | 300   | 300   | 300   | 300   | 300   | 300   | 300   | 300   |
|            | N·m   | 2.264 | 2.717 | 3.773 | 4.528 | 5.660 | 6.792 | 7.546 | 8.489 | 10.24 | 12.29 | 13.65 | 15.36 | 18.34 | 21.97 | 24.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 |

## 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     |
|            | kg-cm | 23.2  | 27.8  | 38.7  | 46.4  | 58.0  | 69.6  | 77.4  | 87.0  | 104   | 125   | 139   | 156   | 188   | 225   | 250   | 300   | 300   | 300   | 300   | 300   | 300   | 300   | 300   | 300   |
|            | N·m   | 2.276 | 2.731 | 3.793 | 4.552 | 5.689 | 6.827 | 7.586 | 8.534 | 10.24 | 12.29 | 13.65 | 15.36 | 18.43 | 22.06 | 24.52 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 |

❖ The code in □ of gearhead model is for gear ratio.

❖ It is the permissible TORQUE of the assembled motor and gearhead.

❖ ■ 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.

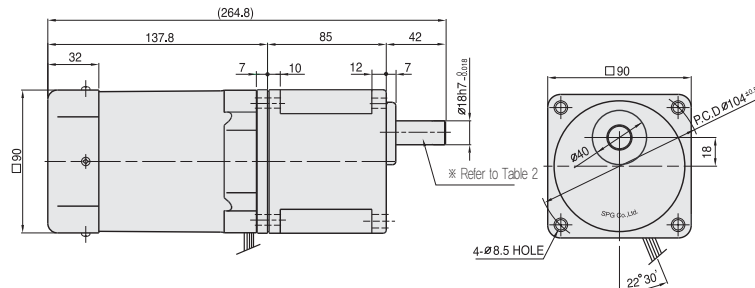
❖ Only "H" type is applicable.

## DIMENSIONS

### + GEARED MOTOR

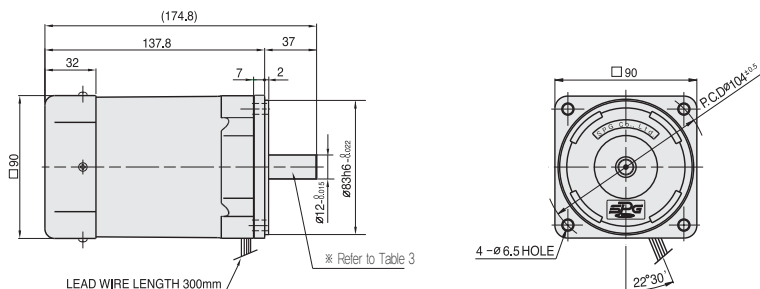
※ MOTOR MODEL : S9I150G□

※ HEAD MODEL : S9□H3B~S9□H200B



### + MOTOR

※ MODEL : S9I150□□



### + WEIGHT - (Table1)

| PART      |                       | WEIGHT(kg) |
|-----------|-----------------------|------------|
| MOTOR     |                       | 2.93       |
| GEAR HEAD | S9□H3B<br>~S9□H10B    | 1.65       |
|           | S9□H12.5B<br>~S9□H20B | 1.80       |
|           | S9□H25B<br>~S9□H60B   | 1.90       |
|           | S9□H75B<br>~S9□H200B  | 1.95       |

### + KEY SPEC

| GEAR HEAD | MOTOR |
|-----------|-------|
|           |       |

### + SPEC for output shaft of gearhead - (Table2)

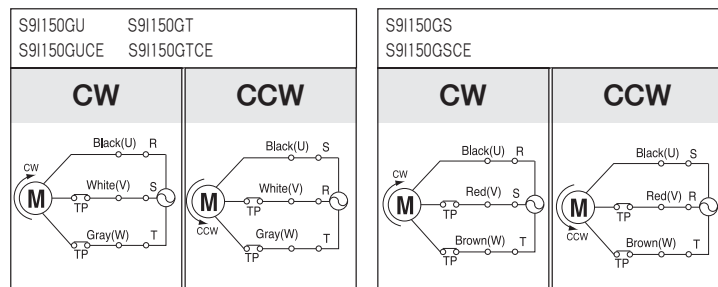
| MODEL               | TYPES OF OUTPUT SHAFT |
|---------------------|-----------------------|
| STRAIGHT TYPE       |                       |
| S9SH3B<br>~S9SH200B |                       |
| D-CUT TYPE          |                       |
| S9DH3B<br>~S9DH200B |                       |
| KEY TYPE            |                       |
| S9KH3B<br>~S9KH200B |                       |

### + SPEC for output shaft of motor - (Table3)

| MODEL         | TYPES OF OUTPUT SHAFT |
|---------------|-----------------------|
| GEAR TYPE     |                       |
| S9I150G□      |                       |
| STRAIGHT TYPE |                       |
| S9I150S□      |                       |
| D-CUT TYPE    |                       |
| S9I150D□      |                       |
| KEY TYPE      |                       |
| S9I150K□      |                       |

## 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.



# 180W

INDUCTION MOTOR □ 90mm LEAD WIRE TYPE

| SIZE<br>mm sq. | Type                                    | Poles | Output<br>(W) | Voltage<br>(V) | Frequency<br>(Hz) | Duty  | Rated Load     |                |        |       | Starting Torque |       | Capacitor<br>(uF) |
|----------------|-----------------------------------------|-------|---------------|----------------|-------------------|-------|----------------|----------------|--------|-------|-----------------|-------|-------------------|
|                |                                         |       |               |                |                   |       | Current<br>(A) | Speed<br>(rpm) | Torque |       | (kg-cm)         | (N-m) |                   |
| 90             | S9I180GA<br>S9I180GA(TP)<br>S9I180GACE  | 4     | 180           | 1 ∅ 110        | 60                | Cont. | 2.60           | 1600           | 11.50  | 1.150 | 8.00            | 0.800 | 25.0              |
|                | S9I180GB<br>S9I180GB(TP)<br>S9I180GBCE  | 4     | 180           | 1 ∅ 220        | 60                | Cont. | 1.32           | 1600           | 11.50  | 1.150 | 8.00            | 0.800 | 6.5               |
|                | S9I180GC<br>S9I180GC(TP)<br>S9I180GCCCE | 4     | 180           | 1 ∅ 100        | 50                | Cont. | 3.20           | 1250           | 14.00  | 1.400 | 7.00            | 0.700 | 25.0              |
|                |                                         |       |               |                | 60                |       | 2.90           | 1550           | 11.60  | 1.160 |                 |       |                   |
|                | S9I180GD<br>S9I180GD(TP)<br>S9I180GDCE  | 4     | 180           | 1 ∅ 200        | 50                | Cont. | 1.60           | 1250           | 14.00  | 1.400 | 7.00            | 0.700 | 6.5               |
|                |                                         |       |               |                | 60                |       | 1.45           | 1550           | 11.60  | 1.160 |                 |       |                   |

❖ TP marked at the end of the model name indicates that it is standard motor with Thermal Protector mounted.

❖ Only "H" type is applicable.

## 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   |
|            | kg-cm | 34.0 | 41.0  | 57.0  | 68.0  | 85.1  | 102   | 113   | 128   | 153   | 184   | 204   | 230   | 278   | 300   | 300   | 300   | 300   | 300   | 300   | 300   | 300   | 300   | 300   | 300   |
| S9KH□B     |       | N-m  | 3.336 | 4.021 | 5.590 | 6.672 | 8.341 | 10.01 | 11.12 | 12.55 | 15.01 | 18.04 | 20.02 | 22.56 | 27.26 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 |

## 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     |
|            | kg-cm | 28.1 | 34.0  | 47.0  | 57.0  | 71.0  | 84.2  | 94.0  | 105   | 126   | 152   | 168   | 189   | 227   | 273   | 300   | 300   | 300   | 300   | 300   | 300   | 300   | 300   | 300   | 300   |
| S9KH□B     |       | N-m  | 2.756 | 3.334 | 4.609 | 5.590 | 6.963 | 8.257 | 9.218 | 10.30 | 12.39 | 14.91 | 16.51 | 18.58 | 22.29 | 26.75 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 |

❖ The code in □ of gearhead model is for gear ratio.

❖ It is the permissible torque of the assembled motor and gearhead.

❖ ■ 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.

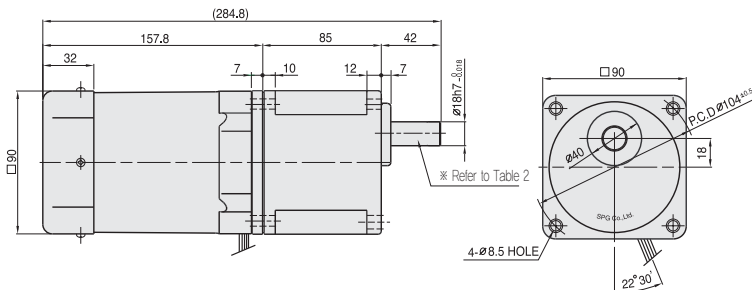
❖ Only "H" type is applicable.

## DIMENSIONS

### GEARED MOTOR

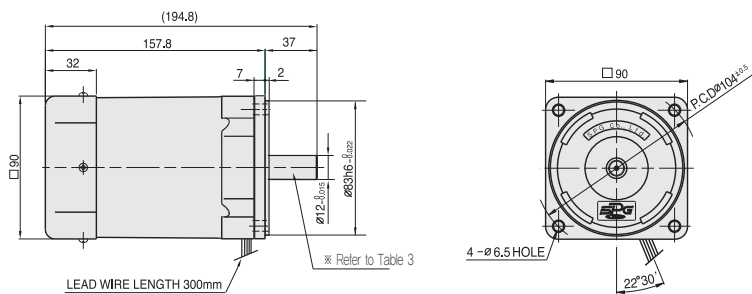
\* MOTOR MODEL : S9I180G□

\* HEAD MODEL : S9□H3B~S9□H200B



### MOTOR

\* MOTOR MODEL : S9I180□□



### WEIGHT - (Table1)

| PART      |                       | WEIGHT(kg) |
|-----------|-----------------------|------------|
| MOTOR     |                       | 3.70       |
| GEAR HEAD | S9□H3B<br>~S9□H10B    | 1.65       |
|           | S9□H12.5B<br>~S9□H20B | 1.80       |
|           | S9□H25B<br>~S9□H60B   | 1.90       |
|           | S9□H75B<br>~S9□H200B  | 1.95       |

### KEY SPEC

| GEAR HEAD | MOTOR |
|-----------|-------|
|           |       |

### SPEC for output shaft of gearhead - (Table2)

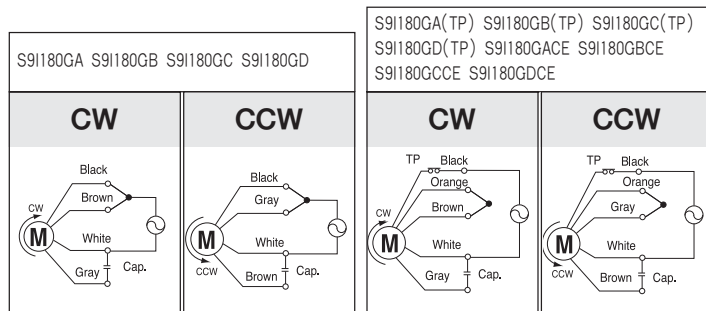
| MODEL               | TYPES OF OUTPUT SHAFT |
|---------------------|-----------------------|
| STRAIGHT TYPE       |                       |
| S9SH3B<br>~S9SH200B |                       |
| D-CUT TYPE          |                       |
| S9DH3B<br>~S9DH200B |                       |
| KEY TYPE            |                       |
| S9KH3B<br>~S9KH200B |                       |

### SPEC for output shaft of motor - (Table3)

| MODEL         | TYPES OF OUTPUT SHAFT |
|---------------|-----------------------|
| GEAR TYPE     |                       |
| S9I180G□      |                       |
| STRAIGHT TYPE |                       |
| S9I180S□      |                       |
| D-CUT TYPE    |                       |
| S9I180D□      |                       |
| KEY TYPE      |                       |
| S9I180K□      |                       |

## 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.



# 200W

INDUCTION MOTOR □ 90mm LEAD WIRE TYPE

| SIZE<br>mm sq. | Type                   | Poles | Output<br>(W) | Voltage<br>(V) | Frequency<br>(Hz) | Duty  | Rated Load     |                |        |       | Starting Torque |       | Capacitor<br>(uF) |
|----------------|------------------------|-------|---------------|----------------|-------------------|-------|----------------|----------------|--------|-------|-----------------|-------|-------------------|
|                |                        |       |               |                |                   |       | Current<br>(A) | Speed<br>(rpm) | Torque |       | (kg-cm)         | (N-m) |                   |
| 90             | S9I200GU<br>S9I200GUCE | 4     | 200           | 3 ∅ 200        | 50                | Cont. | 1.3            | 1250           | 16.00  | 1.600 | 24.00           | 2.400 | —                 |
|                |                        |       |               |                | 60                |       | 1.2            | 1500           | 13.40  | 1.340 | 20.00           | 2.000 |                   |
|                | S9I200GT<br>S9I200GTCE | 4     | 200           | 3 ∅ 220        | 50                | Cont. | 1.3            | 1300           | 15.00  | 1.500 | 30.00           | 3.000 | —                 |
|                |                        |       |               |                | 60                |       | 1.2            | 1550           | 12.90  | 1.290 | 25.00           | 2.500 |                   |
|                | S9I200GS<br>S9I200GSCE | 4     | 200           | 3 ∅ 380        | 50                | Cont. | 0.62           | 1250           | 16.00  | 1.600 | 26.00           | 2.600 | —                 |
|                |                        |       |               |                | 60                |       | 0.55           | 1500           | 13.40  | 1.340 | 22.00           | 2.200 |                   |
|                |                        |       |               | 3 ∅ 400        | 50                | Cont. | 0.64           | 1250           | 16.00  | 1.600 | 30.00           | 3.000 | —                 |
|                |                        |       |               |                | 60                |       | 0.55           | 1500           | 13.40  | 1.340 | 25.00           | 2.500 |                   |

❖ TP marked at the end of the model name indicates that it is standard motor with Thermal Protector mounted.

❖ Only "H" type is applicable.

❖ 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   |
|            | kg-cm | 39.0  | 47.0  | 64.8  | 77.8  | 97.2  | 117   | 130   | 146   | 175   | 210   | 233   | 262   | 300   | 300   | 300   | 300   | 300   | 300   | 300   | 300   | 300   | 300   | 300   | 300   |
| S9KH□B     | N-m   | 3.813 | 4.609 | 6.355 | 7.626 | 9.532 | 11.47 | 12.75 | 14.32 | 17.16 | 20.59 | 22.88 | 25.74 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 |

## 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     |
|            | kg-cm | 32.0  | 38.3  | 53.3  | 64.0  | 79.9  | 96.0  | 107   | 120   | 144   | 173   | 192   | 216   | 259   | 300   | 300   | 300   | 300   | 300   | 300   | 3000  | 300   | 300   | 300   | 300   |
| S9KH□B     | N-m   | 3.134 | 3.760 | 5.223 | 6.267 | 7.384 | 9.414 | 10.49 | 11.75 | 14.10 | 16.97 | 18.83 | 21.18 | 25.40 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 |

❖ The code in □ of gearhead model is for gear ratio.

❖ It is the permissible torque of the assembled motor and gearhead.

❖ ■ 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.

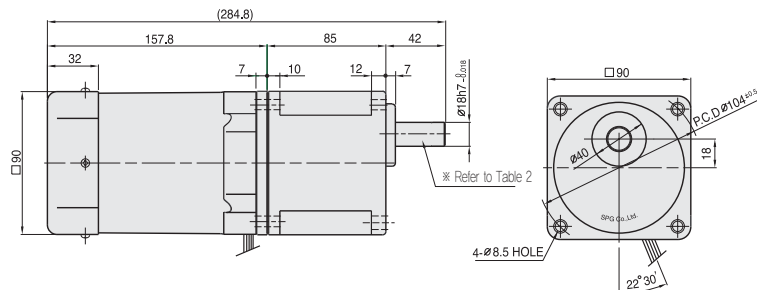
❖ Only "H" type is applicable.

## DIMENSIONS

### + GEARED MOTOR

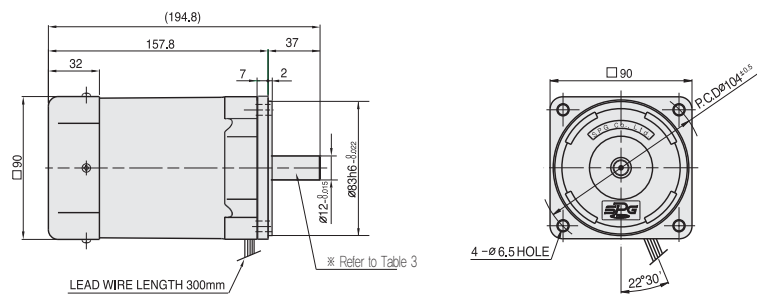
\* MOTOR MODEL : S9I200G□

\* HEAD MODEL : S9□H3B~S9□H200B



### + MOTOR

\* MOTOR MODEL : S9I200□□



### + WEIGHT - (Table1)

| PART      |                       | WEIGHT(kg) |
|-----------|-----------------------|------------|
| MOTOR     |                       | 3.70       |
| GEAR HEAD | S9□H3B<br>~S9□H10B    | 1.65       |
|           | S9□H12.5B<br>~S9□H20B | 1.80       |
|           | S9□H25B<br>~S9□H60B   | 1.90       |
|           | S9□H75B<br>~S9□H200B  | 1.95       |

### + KEY SPEC

| GEAR HEAD | MOTOR |
|-----------|-------|
|           |       |

### + SPEC for output shaft of gearhead - (Table2)

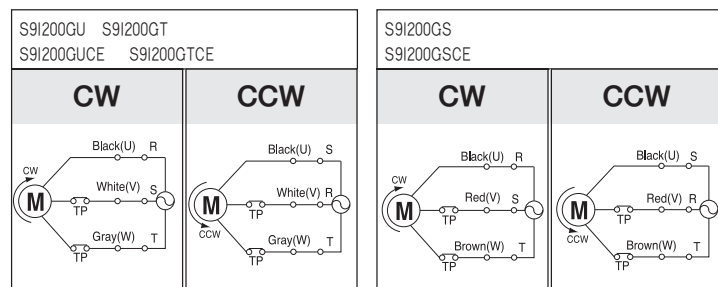
| MODEL               | TYPES OF OUTPUT SHAFT |
|---------------------|-----------------------|
| STRAIGHT TYPE       |                       |
| S9SH3B<br>~S9SH200B |                       |
| D-CUT TYPE          |                       |
| S9DH3B<br>~S9DH200B |                       |
| KEY TYPE            |                       |
| S9KH3B<br>~S9KH200B |                       |

### + SPEC for output shaft of motor - (Table3)

| MODEL         | TYPES OF OUTPUT SHAFT |
|---------------|-----------------------|
| GEAR TYPE     |                       |
| S9I200G□      |                       |
| STRAIGHT TYPE |                       |
| S9I200S□      |                       |
| D-CUT TYPE    |                       |
| S9I200D□      |                       |
| KEY TYPE      |                       |
| S9I200K□      |                       |

## 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.