

# 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>(uF) |
|----------------|--|-------|---------------|----------------|-------------------|-------|----------------|----------------|-------------------------|----------------|-----------------|-------|-------------------|
|                |  |       |               |                |                   |       | Current<br>(A) | Speed<br>(rpm) | Torque<br>(kg-cm) (N-m) |                | (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<br>60          | Cont. | 2.00           | 1250<br>1550   | 9.60<br>7.90            | 0.960<br>0.790 | 5.70            | 0.570 | 25.0              |
|                | S9I120GD<br>S9I120GD(TP)<br>S9I120GDCE | 4     | 120           | 1 ∅ 200        | 50<br>60          | Cont. | 1.00           | 1250<br>1550   | 9.50<br>7.80            | 0.950<br>0.780 | 5.50            | 0.550 | 6.0               |

- "CE" marked at the end of model name indicates that it is thermally protected type which has received CE (File NO. E9766002E01, Certificate Institute: TÜV Rheinland) with built-in TP.
- "TP" marked at the end of the model name indicates that it is standard motor with Thermal Protector mounted.
- There is not marked the 'H' type caused by exclusive use.

## 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   | kg-cm | N-m   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| S9KC□BH    | rpm  | 500   | 416   | 300   | 250   | 200   | 166   | 150   | 120   | 100   | 83    | 75    | 60    | 50    | 41    | 37    | 30    | 25    | 20    | 16    | 15    | 12    | 10    | 8     | 7.5   |       |
| S9KC□BH-S  | 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   | 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 | 19.61 | 19.61 |

## 60Hz

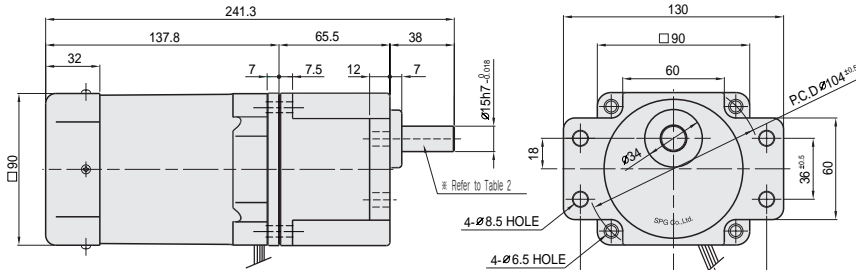
| GEAR RATIO | 3 3.6 5 6 7.5 9 10 12.5 15 18 20 25 30 36 40 50 60 75 90 100 120 150 180 200 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|------------|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|            | MODEL  | rpm   | kg-cm | N-m   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| S9KC□BH    | rpm  | 600   | 500   | 360   | 300   | 240   | 200   | 180   | 144   | 120   | 100   | 90    | 72    | 60    | 50    | 45    | 36    | 30    | 24    | 20    | 18    | 15    | 12    | 10    | 9     |       |
| S9KC□BH    | 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   | 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 | 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 assembled with motor and inter-decimal gearhead is 200kg · 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.
- Rotational speed based on synchronous speed (50Hz:1500rpm, 60Hz:1800rpm) divided by gear ratio.  
The actual rotation speed is less 2-20% than the displayed value according to the load.
- There is not marked the 'H' type caused by exclusive use.

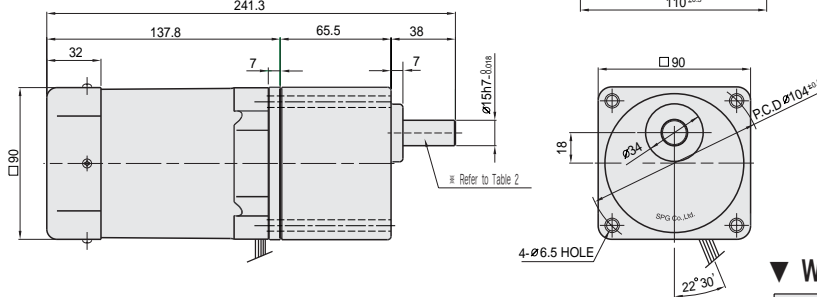
# DIMENSIONS

## ▼ GEARED MOTOR

※ MOTOR MODEL : S9I120G□  
 ※ HEAD MODEL : S9□C3BH-S~S9□C200BH-S

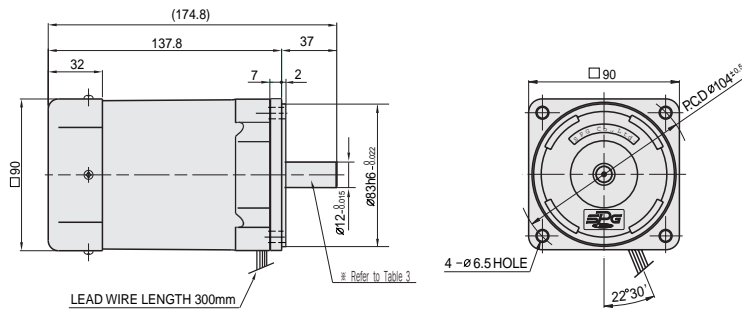


※ HEAD MODEL □ : S9□C3BH~S9□C200BH



## ▼ MOTOR

※ MOTOR MODEL : S9I120□□

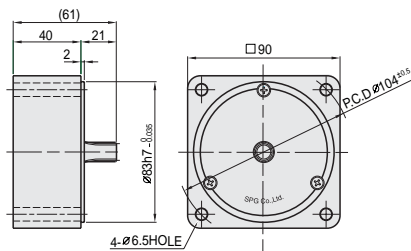


## ▼ WEIGHT-(Table 1)

| PART             | WEIGHT(Kg)                  |      |
|------------------|-----------------------------|------|
| MOTOR            | 2.93                        |      |
| DECIMAL GEARHEAD | 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 |

## ▼ INTER-DECIMAL GEAR HEAD

※ MODEL : S9GX10BH-S



## ▼ KEY SPEC

| GEARHEAD | MOTOR |
|----------|-------|
|          |       |

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

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

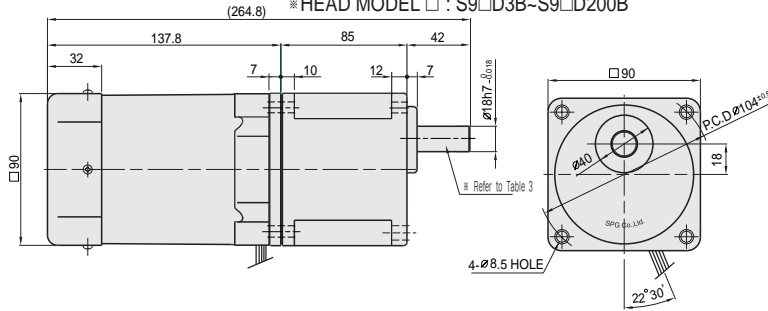
## ▼ SPEC for output shaft of motor-(Table 3)

| MODEL         | TYPES OF OUTPUT SHAFT |
|---------------|-----------------------|
| GEAR TYPE     |                       |
| S9I120G □     |                       |
| STRAIGHT TYPE |                       |
| S9I120S □     |                       |
| D-CUT TYPE    |                       |
| S9I120D □     |                       |
| KEY TYPE      |                       |
| S9I120K □     |                       |

# DIMENSIONS

## GEARED MOTOR

※ MOTOR MODEL : S9I120G□  
 ※ HEAD MODEL □ : S9□D3B~S9□D200B

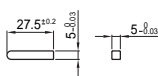


## WEIGHT-(Table 2) ▶

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

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

## KEY SPEC



| MODEL               | TYPES OF OUTPUT SHAFT | MODEL               | TYPES OF OUTPUT SHAFT | MODEL               | TYPES OF OUTPUT SHAFT |
|---------------------|-----------------------|---------------------|-----------------------|---------------------|-----------------------|
| STRAIGHT TYPE       |                       | DCUT TYPE           |                       | KEY TYPE            |                       |
| S9SD3B<br>~S9SD200B |                       | S9DD3B<br>~S9DD200B |                       | S9KD3B<br>~S9KD200B |                       |

## 50Hz

| GEAR RATIO | 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 | 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 | 22.12 | 24.58 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 | 29.42 |

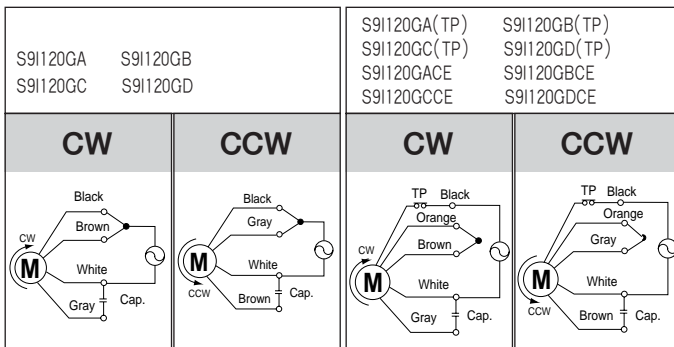
## 60Hz

| GEAR RATIO | 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 | 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   |
|            | 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 assembled with motor and inter-decimal gearhead is 300kg·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.
- Rotational speed based on synchronous speed (50Hz:1500rpm, 60Hz:1800rpm) divided by gear ratio. The actual rotation speed is less 2-20% than the displayed value according to the load.
- There is not marked the 'H' type caused by exclusive use.

# 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.