



**SPECIFICATION OF SR TYPE SPEED CONTROL MOTORS**

| SIZE<br>mm sq. | Motor<br>Type                        | Controller<br>Type | Poles | Output<br>(W) | Voltage<br>(V)               | Freq.<br>(Hz) | Duty   | Speed<br>Range<br>(rpm) | Permissible Torque |                |              |                | Starting Torque |                | Cap.<br>( $\mu$ F) |
|----------------|--------------------------------------|--------------------|-------|---------------|------------------------------|---------------|--------|-------------------------|--------------------|----------------|--------------|----------------|-----------------|----------------|--------------------|
|                |                                      |                    |       |               |                              |               |        |                         | at 1200rpm         |                | at 90rpm     |                | (kg-cm)         | (N-m)          |                    |
| 90             | S9R90GA()-ES12<br>S9R90GA()-ES12(CE) | SRA02<br>SRA02CE   | 4     | 90            | 1 $\phi$ 110                 | 60            | 30min. | 90-1700                 | 8.02               | 0.802          | 5.42         | 0.542          | 7.65            | 0.765          | 30.0               |
|                | S9R90GB()-ES12<br>S9R90GB()-ES12(CE) | SRB02<br>SRB02CE   | 4     | 90            | 1 $\phi$ 220                 | 60            | 30min. | 90-1700                 | 8.02               | 0.802          | 5.42         | 0.542          | 7.65            | 0.765          | 8.0                |
|                | S9R90GC()-ES12<br>S9R90GC()-ES12(CE) | SRC02<br>SRC02CE   | 4     | 90            | 1 $\phi$ 100                 | 50<br>60      | 30min. | 90-1400<br>90-1700      | 7.22<br>6.32       | 0.722<br>0.632 | 4.92         | 0.492          | 6.90            | 0.690          | 30.0               |
|                | S9R90GD()-ES12<br>S9R90GD()-ES12(CE) | SRD02<br>SRD02CE   | 4     | 90            | 1 $\phi$ 200                 | 50<br>60      | 30min. | 90-1400<br>90-1700      | 7.22<br>6.32       | 0.722<br>0.632 | 4.92         | 0.492          | 6.90            | 0.690          | 8.0                |
|                | S9R90GX()-ES12<br>S9R90GX()-ES12(CE) | SRX02<br>SRX02CE   | 4     | 90            | 1 $\phi$ 220<br>1 $\phi$ 240 | 50            | 30min. | 90-1400                 | 5.98<br>6.35       | 0.598<br>0.635 | 3.79<br>4.09 | 0.379<br>0.409 | 5.90<br>7.20    | 0.590<br>0.720 | 6.0                |

❖ TP marked at the end of the motor model name indicates that it is standard motor with Thermal Protector mounted.  
S9R90GX( )-ES12 is thermally protected type with TP mounted.

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

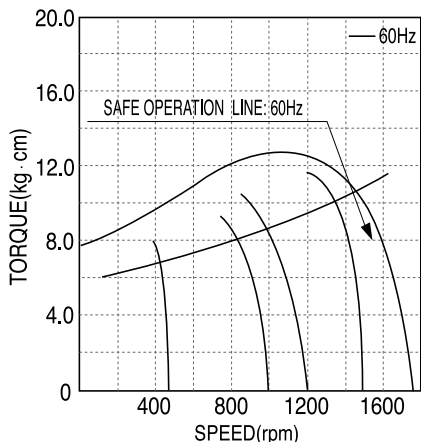
**50Hz**

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

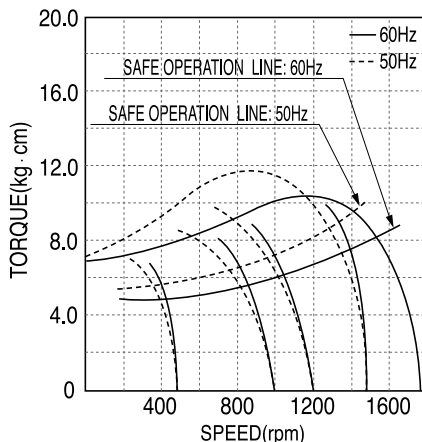
**60Hz**

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

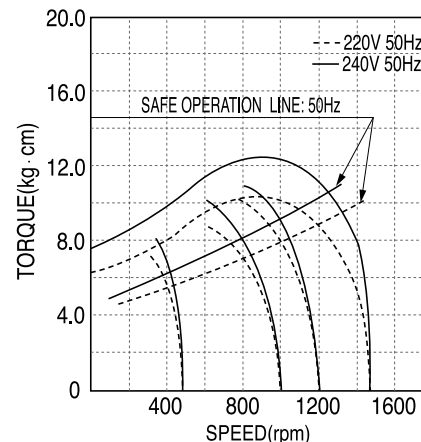
❖ The code in □ of gearhead model is for gear ratio. ❖ It is the permissible TORQUE of the assembled motor and gearhead.  
❖ The permissible torque of the motor and inter-decimal gearhead is 200 kg-cm.  
❖ ■ color indicates that the output shaft of the geared motor rotates in the same direction as the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



▲ S9R90GA()-ES12      S9R90GB()-ES12  
S9R90GA()-ES12(TP)    S9R90GB()-ES12(TP)



▲ S9R90GC()-ES12      S9R90GD()-ES12  
S9R90GC()-ES12(TP)    S9R90GD()-ES12(TP)

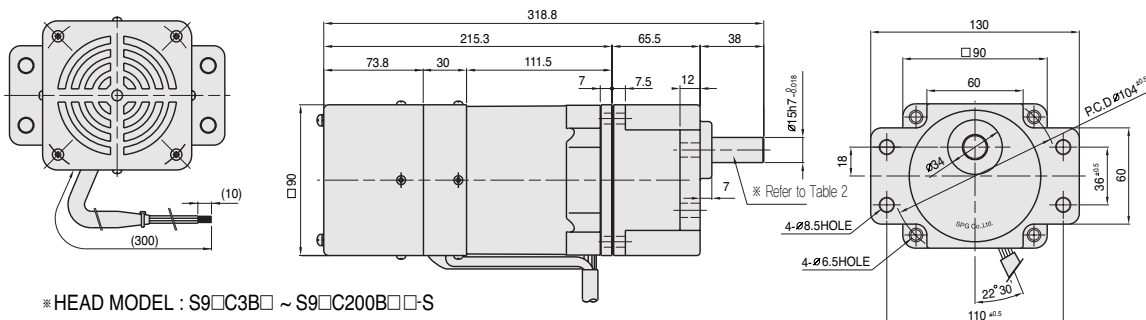


▲ S9R90GX()-ES12

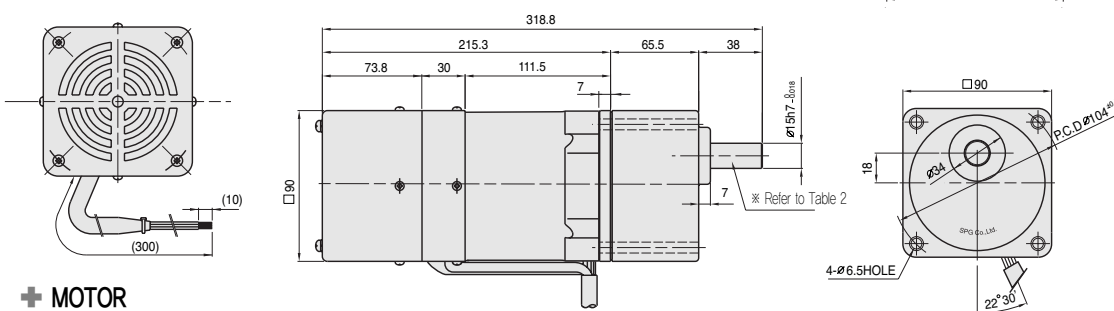
# DIMENSIONS

## + GEARED MOTOR

- \* MOTOR MODEL : S9R90□□-ES12
- \* HEAD MODEL : S9□C3B□-S~S9□C200B□-S

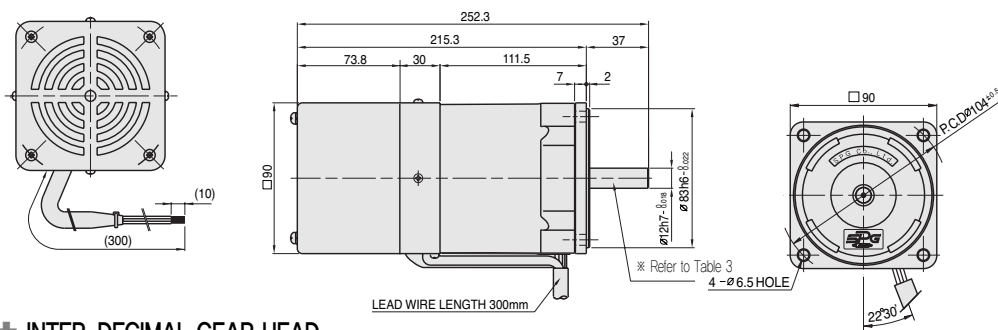


- \* HEAD MODEL : S9□C3B□ ~ S9□C200B□-S



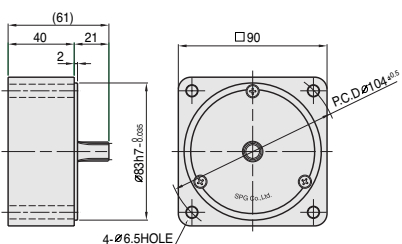
## + MOTOR

- \* MOTOR MODEL : S9R90□□-ES12



## + INTER-DECIMAL GEAR HEAD

- \* MODEL : S9GX10B(H,L)



## + WEIGHT - (Table 1)

| PART              | WEIGHT(kg)              |      |
|-------------------|-------------------------|------|
| MOTOR             | 3.97                    |      |
| 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 |

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

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

## + KEY SPEC

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

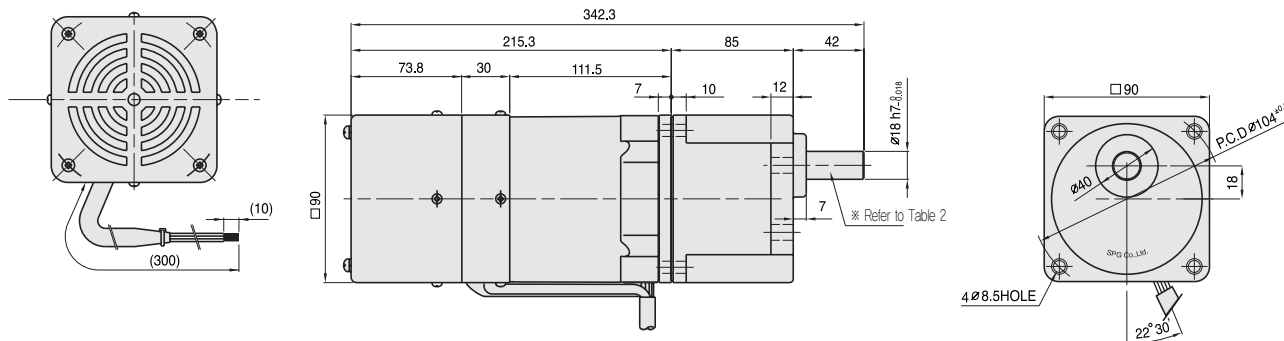
## + SPEC for output shaft of motor - (Table 3)

| MODEL         | TYPES OF OUTPUT SHAFT |
|---------------|-----------------------|
| GEAR TYPE     |                       |
| S9R90□-ES12   |                       |
| STRAIGHT TYPE |                       |
| S9R90S□-ES12  |                       |
| D-CUT TYPE    |                       |
| S9R90D□-ES12  |                       |
| KEY TYPE      |                       |
| S9R90K□-ES12  |                       |

# DIMENSIONS

## + GEARED MOTOR

- \* MOTOR MODEL : S9R90G□H-ES12
- \* HEAD MODEL : S9□D3B□~S9□D200B



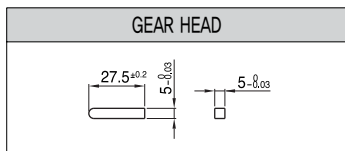
## + WEIGHT - (Table1)

| PART      |                         | WEIGHT(kg) |
|-----------|-------------------------|------------|
| MOTOR     |                         | 3.97       |
| 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       |

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

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

## + KEY SPEC



## 50Hz

| MODEL | 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   |
|-------|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|       | S9KD□B     | rpm   | 500   | 416   | 300   | 250   | 200   | 166   | 150   | 120   | 100   | 83    | 75    | 60    | 50    | 41    | 37    | 30    | 25    | 20    | 16    | 15    | 12    | 10    | 8     |
| 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   |
| 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

| MODEL | 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   |
|-------|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|       | S9KD□B     | rpm   | 600   | 500   | 360   | 300   | 240   | 200   | 180   | 144   | 120   | 100   | 90    | 72    | 60    | 50    | 45    | 36    | 30    | 24    | 20    | 18    | 15    | 12    | 10    |
| 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   |
| 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.