

# 60W Reversible Motor 60W(□ 90mm)

## Motor 사양

| Model  |                   | Output<br>W | Voltage<br>V | Frequency<br>Hz | Poles | Duty   | Starting Torque<br>kgfcm N.m |       | Rated Load   |                     |      | Capacitor<br>μF / VAC |            |
|--|-------------------|-------------|--------------|-----------------|-------|--------|------------------------------|-------|--------------|---------------------|------|-----------------------|------------|
| 9RDG*-60F(-T): Gear Type Shaft<br>9RDD*-60F(-T): D-Cut Type Shaft<br>9RDK*-60F(-T): Key Type Shaft | Speed<br>r/min    |             |              |                 |       |        |                              |       | Current<br>A | Torque<br>kgfcm N.m |      |                       |            |
| Lead Wire Type   | Terminal Box Type |             |              |                 |       |        |                              |       |              |                     |      |                       |            |
| 9RD◇1(A)-60F□  | 9RD◇1(A)-60F□-T   | 60          | 1φ 110       | 60              | 4     | 30min. | 5.20                         | 0.520 | 1600         | 1.60                | 3.65 | 0.365                 | 20.0 / 250 |
| 9RD◇B-60F□   | 9RD◇B-60F□-T      | 40          | 1φ 100       | 50              | 4     | 30min. | 6.20                         | 0.620 | 1300         | 1.60                | 4.50 | 0.450                 | 25.0 / 250 |
|  |                   |             |              | 60              |       |        | 6.00                         | 0.600 | 1600         | 1.70                | 3.65 | 0.365                 |            |
| 9RD◇C-60F□   | 9RD◇C-60F□-T      | 60          | 1φ 200       | 50              | 4     | 30min. | 5.70                         | 0.570 | 1300         | 0.76                | 4.50 | 0.450                 | 6.0 / 450  |
|  |                   |             |              | 60              |       |        | 5.50                         | 0.550 | 1600         | 0.79                | 3.65 | 0.365                 |            |
| 9RD◇2(D)-60F□  | 9RD◇2(D)-60F□-T   | 60          | 1φ 220       | 60              | 4     | 30min. | 5.19                         | 0.519 | 1600         | 0.75                | 3.65 | 0.365                 | 5.0 / 450  |
| 9RD◇E-60F□   | 9RD◇E-60F□-T      | 60          | 1φ 220       | 50              | 4     | 30min. | 5.52                         | 0.552 | 1300         | 0.59                | 4.50 | 0.450                 | 5.0 / 450  |
|  |                   |             | 1φ 240       |                 |       |        | 6.52                         | 0.652 |              | 0.64                | 4.50 | 0.450                 |            |

- 1) 모터 모델명 \* 자리에는 전압코드가 들어갑니다.
- 2) 모터 모델명 ◇ 자리에는 모터 출력축 타입명이 들어갑니다.  
(G: Gear Type / D: D-Cut Type) Gear Type Shaft는 감속기 부착용이며 D-Cut Type Shaft는 모터 단독 사용시의 출력축입니다.
- 3) 모터 출력축 타입이 Gear Type일 경우, □ 안에는 부착되는 감속기의 모델 타입명이 들어갑니다.
- 4) 전압코드 A, B, C, D, E는 TP(Thermal Protector) 부착 사양입니다.

## 감속기 부착 시 최대허용토크

### 60Hz

| Motor Model | Gearbox Model      | 감속비   | 2    | 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   |       |
|-------------|--------------------|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 9RDG*-60FP  | 9PBK□BH<br>9PFK□BH | kgfcm | 5.9  | 8.9  | 10.7 | 14.8 | 17.8 | 22.2 | 26.6 | 29.6 | 33.3 | 40.0 | 48.0 | 53.3 | 60.3 | 72.3 | 86.8 | 96.4 | 120.5 | 144.6 | 161.6 | 193.9 | 200.0 | 200.0 | 200.0 | 200.0 | 200.0 | 200.0 |
|             |                    | N.m   | 0.58 | 0.87 | 1.04 | 1.45 | 1.74 | 2.17 | 2.61 | 2.90 | 3.27 | 3.92 | 4.70 | 5.23 | 5.91 | 7.09 | 8.50 | 9.45 | 11.81 | 14.17 | 15.84 | 19.01 | 19.60 | 19.60 | 19.60 | 19.60 | 19.60 | 19.60 |
| 9RDG*-60FH  | 9HBK□BH<br>9HFK□BH | kgfcm | -    | 8.9  | 10.7 | 14.8 | 17.8 | 22.2 | 26.6 | 29.6 | 33.3 | 40.0 | 48.0 | 53.3 | 60.3 | 72.3 | 86.8 | 96.4 | 120.5 | 144.6 | 161.6 | 193.9 | 215.5 | 258.6 | 300.0 | 300.0 | 300.0 | 300.0 |
|             |                    | N.m   | -    | 0.87 | 1.04 | 1.45 | 1.74 | 2.17 | 2.61 | 2.90 | 3.27 | 3.92 | 4.70 | 5.23 | 5.91 | 7.09 | 8.50 | 9.45 | 11.81 | 14.17 | 15.84 | 19.01 | 21.12 | 25.34 | 29.40 | 29.40 | 29.40 | 29.40 |

| Motor Model | Gearbox Model   | 감속비   | 10   | 12   | 15   | 18   | 25   | 30   | 36   | 50    | 60    | Motor Model | Gearbox Model | 감속비   | 5    | 7.5  | 10   | 15   | 20   | 25   | 30   | 40   | 50   | 60   | 80    |  |
|-------------|-----------------|-------|------|------|------|------|------|------|------|-------|-------|-------------|---------------|-------|------|------|------|------|------|------|------|------|------|------|-------|--|
| 9RDG*-60FW  | 9WD□BL/□BR/□BRL | kgfcm | 30.0 | 35.1 | 42.2 | 48.7 | 63.9 | 72.3 | 84.2 | 109.6 | 120.5 | 9RDG*-60FWH | 9WHD□-030     | kgfcm | 12.7 | 18.4 | 23.7 | 33.3 | 42.1 | 48.2 | 56.1 | 69.0 | 78.9 | 87.7 | 102.9 |  |
|             |                 | N.m   | 2.94 | 3.44 | 4.13 | 4.77 | 6.26 | 7.09 | 8.25 | 10.74 | 11.81 |             |               | N.m   | 1.25 | 1.80 | 2.32 | 3.26 | 4.12 | 4.72 | 5.50 | 6.76 | 7.73 | 8.59 | 10.08 |  |

### 50Hz

| Motor Model | Gearbox Model      | 감속비   | 2    | 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   |       |
|-------------|--------------------|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 9RDG*-60FP  | 9PBK□BH<br>9PFK□BH | kgfcm | 7.3  | 10.9 | 13.1 | 18.2 | 21.8 | 27.3 | 32.8 | 36.4 | 41.0 | 49.2 | 59.1 | 65.6 | 74.2 | 89.0 | 106.8 | 118.7 | 148.3 | 178.0 | 198.9 | 200.0 | 200.0 | 200.0 | 200.0 | 200.0 | 200.0 | 200.0 |
|             |                    | N.m   | 0.71 | 1.07 | 1.28 | 1.78 | 2.14 | 2.68 | 3.21 | 3.57 | 4.02 | 4.82 | 5.79 | 6.43 | 7.27 | 8.72 | 10.47 | 11.63 | 14.54 | 17.45 | 19.49 | 19.60 | 19.60 | 19.60 | 19.60 | 19.60 | 19.60 | 19.60 |
| 9RDG*-60FH  | 9HBK□BH<br>9HFK□BH | kgfcm | -    | 10.9 | 13.1 | 18.2 | 21.8 | 27.3 | 32.8 | 36.4 | 41.0 | 49.2 | 59.1 | 65.6 | 74.2 | 89.0 | 106.8 | 118.7 | 148.3 | 178.0 | 198.9 | 238.7 | 265.2 | 300.0 | 300.0 | 300.0 | 300.0 |       |
|             |                    | N.m   | -    | 1.07 | 1.28 | 1.78 | 2.14 | 2.68 | 3.21 | 3.57 | 4.02 | 4.82 | 5.79 | 6.43 | 7.27 | 8.72 | 10.47 | 11.63 | 14.54 | 17.45 | 19.49 | 23.39 | 25.99 | 29.40 | 29.40 | 29.40 | 29.40 |       |

| Motor Model | Gearbox Model   | 감속비   | 10   | 12   | 15   | 18   | 25   | 30   | 36    | 50    | 60    | Motor Model | Gearbox Model | 감속비   | 5    | 7.5  | 10   | 15   | 20   | 25   | 30   | 40   | 50   | 60    | 80    |  |
|-------------|-----------------|-------|------|------|------|------|------|------|-------|-------|-------|-------------|---------------|-------|------|------|------|------|------|------|------|------|------|-------|-------|--|
| 9RDG*-60FW  | 9WD□BL/□BR/□BRL | kgfcm | 36.9 | 43.2 | 51.9 | 59.9 | 78.7 | 89.0 | 103.6 | 134.9 | 122.4 | 9RDG*-60FWH | 9WHD□-030     | kgfcm | 15.1 | 21.8 | 28.1 | 39.5 | 49.9 | 57.1 | 66.5 | 81.7 | 93.5 | 103.9 | 121.9 |  |
|             |                 | N.m   | 3.61 | 4.23 | 5.09 | 5.87 | 7.71 | 8.72 | 10.15 | 13.22 | 12.00 |             |               | N.m   | 1.48 | 2.14 | 2.75 | 3.87 | 4.89 | 5.60 | 6.52 | 8.01 | 9.16 | 10.18 | 11.95 |  |

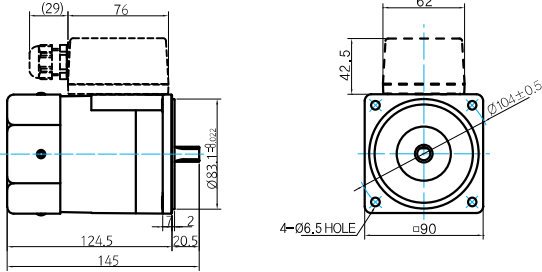
- 1) 모터 모델명 \* 자리에는 전압코드가 들어갑니다.
- 2) 감속기 모델명 □ 안에는 감속비가 들어갑니다.
- 3) 위의 표에서 선택된 범위의 감속비를 선택했을 때 감속기의 출력축은 모터의 출력축과 같은 방향으로 회전합니다.  
회색 바탕 범위의 감속비에서는 감속기 출력축은 모터 출력축의 회전방향과 반대방향으로 회전합니다.
- 4) 회전속도(r/min)는 모터의 동기회전속도(50Hz:1500r/min, 60Hz:1800r/min)를 감속비로 나누어 계산합니다.  
실제 회전속도는 부하의 크기에 따라 표시보다 2~20% 정도 느립니다.

# Reversible Motor 60W(□90mm)

## Dimensions

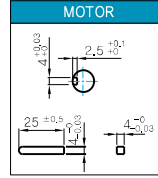
### MOTOR ONLY

- MOTOR MODEL:  
9RDD□-60F(-T) (GENERAL FAN)



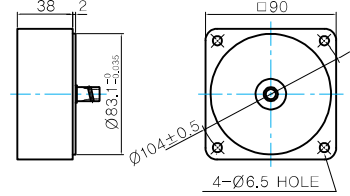
### MOTOR OUTPUT SHAFT

| MODEL      | SPEC |
|------------|------|
| D-CUT TYPE |      |
| KEY TYPE   |      |



### 중간감속기

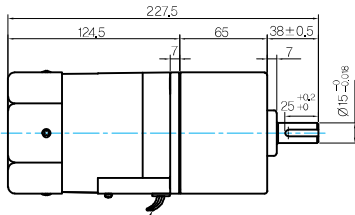
- MODEL: 9XD10□□



## GEARED MOTOR

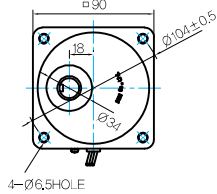
### P TYPE GEARBOX

- MOTOR MODEL:  
9RDG□-60FP (GENERAL FAN)

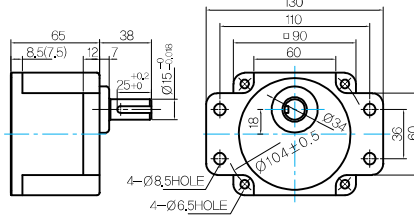


LEAD WIRE 300mm  
UL STYLE NO.3271 AWG NO.20

- GEARBOX MODEL:  
9PBK□BH



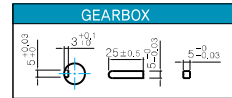
- GEARBOX MODEL:  
9PFK□BH



### GEARBOX OUTPUT SHAFT

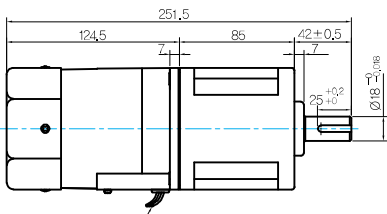
| MODEL    | SPEC |
|----------|------|
| KEY TYPE |      |
| 9PBK□BH  |      |
| 9PFK□BH  |      |

### KEY SPEC



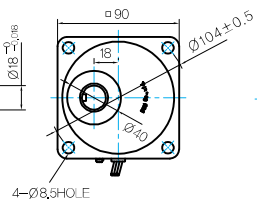
### H TYPE GEARBOX

- MOTOR MODEL:  
9RDG□-60FH (GENERAL FAN)

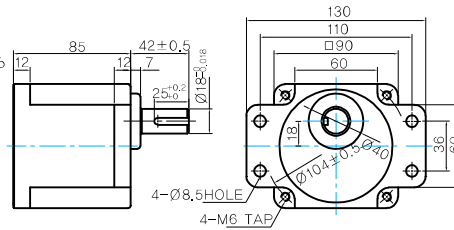


LEAD WIRE 300mm  
UL STYLE NO.3271 AWG NO.20

- GEARBOX MODEL:  
9HBK□BH



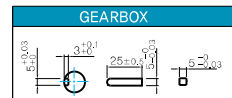
- GEARBOX MODEL:  
9HFK□BH



### GEARBOX OUTPUT SHAFT

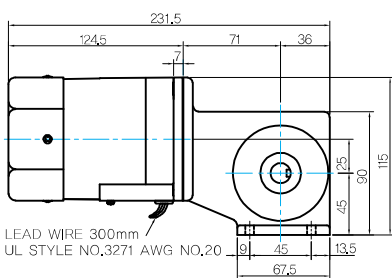
| MODEL    | SPEC |
|----------|------|
| KEY TYPE |      |
| 9HBK□BH  |      |
| 9HFK□BH  |      |

### KEY SPEC



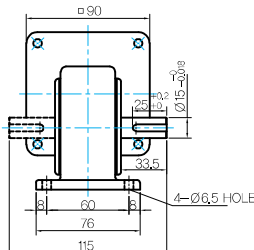
### W TYPE GEARBOX

- MOTOR MODEL:  
9RDG□-60FW (GENERAL FAN)

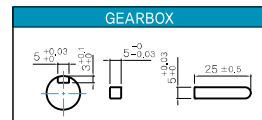


LEAD WIRE 300mm  
UL STYLE NO.3271 AWG NO.20

- GEARBOX MODEL:  
9WD□BL/BR/BRL

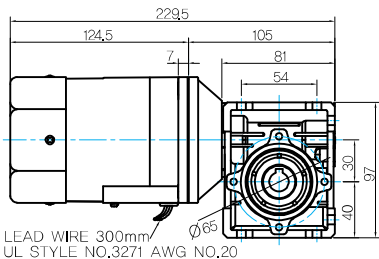


### KEY SPEC



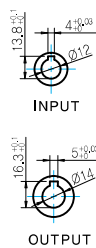
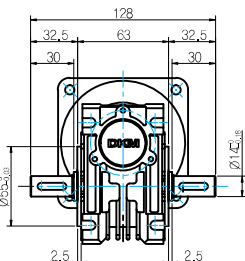
### WH TYPE GEARBOX

● MOTOR MODEL:  
9RDG□-60FWH (GENERAL FAN)

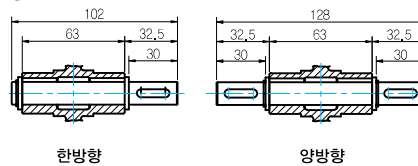


LEAD WIRE 300mm  
UL STYLE NO.3271 AWG NO.20

● GEARBOX MODEL:  
9WHD□-030



● SHAFT



한방향

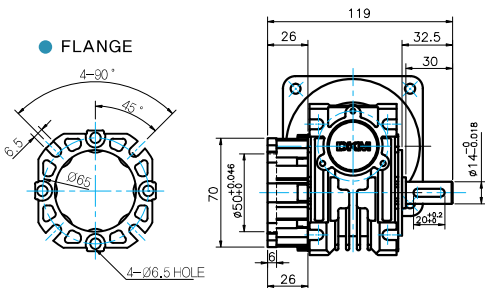
양방향

### WEIGHT

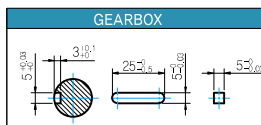
| PART     | WEIGHT(kg)                  |      |
|----------|-----------------------------|------|
| MOTOR    | 2.65                        |      |
| GEAR BOX | 9PB(F)K2BH - 9PB(F)K10BH    | 1.28 |
|          | 9PB(F)K12.5BH - 9PB(F)K20BH | 1.30 |
|          | 9PB(F)K25BH - 9PB(F)K60BH   | 1.45 |
|          | 9PB(F)K75BH - 9PB(F)K200BH  | 1.47 |
|          | 9HB(F)K3BH - 9HB(F)K10BH    | 1.62 |
|          | 9HB(F)K12.5BH - 9HB(F)K20BH | 1.68 |
|          | 9HB(F)K25BH - 9HB(F)K60BH   | 1.73 |
|          | 9HB(F)K75BH - 9HB(F)K200BH  | 1.78 |
|          | 9WD□BL/BR/BRL               | 1.00 |
|          | 9WHD□-030                   | 1.20 |
| 9XD10□○  | 0.60                        |      |

\*출력 FLANGE와 SHAFT는 별매입니다.

● FLANGE



● KEY SPEC

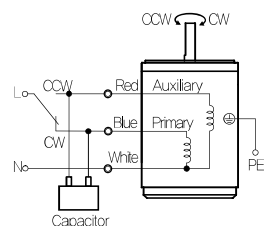
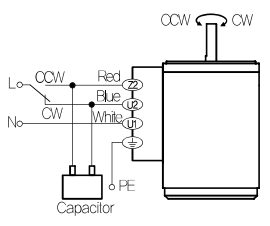
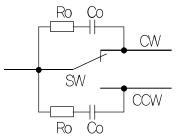


### Motor Images

| 9RDD□-60F         | 9RDD□-60F-T       | 9RDG□-60FP+9PB□BH | 9RDG□-60FP+9PF□BH |
|-------------------|-------------------|-------------------|-------------------|
|                   |                   |                   |                   |
| 9RDG□-60FH+9HB□BH | 9RDG□-60FH+9HF□BH | 9RDG□-60FW+9WD□BL | 9RDG□-60FWH+9WHD□ |
|                   |                   |                   |                   |

# Reversible Motor 60W(□ 90mm)

## 결선도

| Lead Wire Type  | Terminal Box Type  |    |      |           |  |               |  |
|---|--|----|------|-----------|--|---------------|--|
|  |    |    |      |           |  |               |  |
|  | <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <thead> <tr style="background-color: #0070C0; color: white;"> <th style="padding: 2px;">기호</th> <th style="padding: 2px;">접점용량</th> </tr> </thead> <tbody> <tr> <td style="padding: 2px;"><b>SW</b></td> <td style="padding: 2px;">AC125V 5A 이상 또는<br/>AC250V 5A 이상 (유도부하)</td> </tr> <tr> <td style="padding: 2px;"><b>Ro, Co</b></td> <td style="padding: 2px;">Ro=5~200Ω<br/>Co=0.1~0.2μF, 200WV (400WV)</td> </tr> </tbody> </table> <p style="font-size: small; margin-top: 5px;">* 정역전 전환 스위치에는 접점보호를 위해 그림과 같이 Sugar 전압 흡수용 CR회로를 접속해 사용하여 주십시오.</p> | 기호 | 접점용량 | <b>SW</b> | AC125V 5A 이상 또는<br>AC250V 5A 이상 (유도부하) | <b>Ro, Co</b> | Ro=5~200Ω<br>Co=0.1~0.2μF, 200WV (400WV) |
| 기호  | 접점용량   |    |      |           |  |               |  |
| <b>SW</b>   | AC125V 5A 이상 또는<br>AC250V 5A 이상 (유도부하)   |    |      |           |  |               |  |
| <b>Ro, Co</b>   | Ro=5~200Ω<br>Co=0.1~0.2μF, 200WV (400WV)   |    |      |           |  |               |  |

- 1) 회전방향은 모터 축 측에서 본 방향을 나타냅니다.
- 2) CW는 시계방향, CCW는 반시계방향입니다.
- 3) 모터 운전중에 회전방향 전환이 가능합니다. 스위치를 CW 쪽으로 하면 모터는 시계방향으로, CCW 쪽으로 하면 반시계방향으로 회전합니다.