

# Induction Motor 150W(□ 90mm)

# 150W Induction Motor 150W(□ 90mm)

## Motor 사양

| Model                                                                                                  |                   | Output | Voltage | Frequency | Poles | Duty  | Starting Torque |       | Rated Load     |              |                 |       | Capacitor |
|--------------------------------------------------------------------------------------------------------|-------------------|--------|---------|-----------|-------|-------|-----------------|-------|----------------|--------------|-----------------|-------|-----------|
| 91DG*~150F□(-T): Gear Type Shaft<br>91DD*~150F(-T): D-Cut Type Shaft<br>91DK*~150F(-T): Key Type Shaft |                   |        |         |           |       |       |                 |       |                |              |                 |       |           |
| Lead Wire Type                                                                                         | Terminal Box Type | W      | V       | Hz        |       |       | kgfcm           | N.m   | Speed<br>r/min | Current<br>A | Torque<br>kgfcm | N.m   | μF / VAC  |
| 91D◇3(G)-150F□                                                                                         | 91D◇3(G)-150F□-T  | 150    | 3ø 220  | 50        | 4     | Cont. | 25.70           | 2.570 | 1300           | 0.94         | 11.24           | 1.124 | —         |
|                                                                                                        |                   |        |         | 60        |       |       | 20.50           | 2.050 | 1550           | 0.84         | 9.43            | 0.943 |           |
|                                                                                                        |                   |        | 3ø 230  | 50        | 4     | Cont. | 27.50           | 2.750 | 1300           | 1.02         | 11.24           | 1.124 |           |
|                                                                                                        |                   |        |         | 60        |       |       | 22.20           | 2.220 | 1550           | 0.89         | 9.43            | 0.943 |           |
| 91D◇4(K)-150F□                                                                                         | 91D◇4(K)-150F□-T  | 150    | 3ø 380  | 50        | 4     | Cont. | 25.10           | 2.510 | 1300           | 0.53         | 11.24           | 1.124 | —         |
|                                                                                                        |                   |        |         | 60        |       |       | 20.00           | 2.000 | 1550           | 0.48         | 9.43            | 0.943 |           |
|                                                                                                        |                   |        | 3ø 400  | 50        | 4     | Cont. | 27.30           | 2.730 | 1300           | 0.57         | 11.24           | 1.124 |           |
|                                                                                                        |                   |        |         | 60        |       |       | 22.00           | 2.200 | 1550           | 0.50         | 9.43            | 0.943 |           |
| 91D◇5(L)-150F□                                                                                         | 91D◇5(L)-150F□-T  | 150    | 3ø 415  | 50        | 4     | Cont. | 25.00           | 2.500 | 1300           | 0.51         | 11.24           | 1.124 | —         |
|                                                                                                        |                   |        |         | 60        |       |       | 22.10           | 2.210 | 1550           | 0.45         | 9.43            | 0.943 |           |
|                                                                                                        |                   |        | 3ø 440  | 50        | 4     | Cont. | 27.20           | 2.720 | 1300           | 0.55         | 11.24           | 1.124 |           |
|                                                                                                        |                   |        |         | 60        |       |       | 22.40           | 2.240 | 1550           | 0.48         | 9.43            | 0.943 |           |

1) 모터 모델명 \* 자리에는 전압코드가 들어갑니다. 2) 모터 모델명 □ 자리에는 모터 출력축 타입명이 들어갑니다. (G: Gear Type / D: D-Cut Type / K: Key Type) Gear Type Shaft는 감속기 부착용이며 D-Cut 및 Key Type Shaft는 모터 단독 사용 시의 출력축입니다. 3) 모터 출력축 타입이 Gear Type일 경우, □ 안에는 부착되는 감속기의 모델 타입명이 들어갑니다. 4) 전압코드 G, K, L은 TP(Thermal Protector) 부착 사양입니다. 5) 삼상 380V~440V 모터에서는 인버터를 사용할 수 없습니다. 인버터 사용 시 권선의 절연이 열화되어 모터가 파손될 수 있습니다.

## 감속기 부착 시 최대허용토크

### 60Hz

| Motor Model | Gearbox Model          | 감속비          | 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            |
|-------------|------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 91DG*-150FH | 9HBK □ BH<br>9HFK □ BH | kgfcm<br>N.m | 22.9<br>2.24 | 27.5<br>2.69 | 38.2<br>3.74 | 45.8<br>4.49 | 57.3<br>5.61 | 68.7<br>6.73 | 76.3<br>7.48 | 86.0<br>8.43 | 103.2<br>10.11 | 123.9<br>12.14 | 137.6<br>13.49 | 155.5<br>15.24 | 186.6<br>18.29 | 224.0<br>21.95 | 248.8<br>24.39 | 300.0<br>29.40 | 300.0<br>29.40 | 300.0<br>29.40 | 300.0<br>29.40 | 300.0<br>29.40 | 300.0<br>29.40 | 300.0<br>29.40 | 300.0<br>29.40 | 300.0<br>29.40 |

| Motor Model  | Gearbox Model | 감속비          | 15           | 7.5          | 10           | 15           | 20             | 25             | 30             | 40             | 50             | 60             | 80             | 100            |
|--------------|---------------|--------------|--------------|--------------|--------------|--------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 91DG*-150FWH | 9WHD □ -030   | kgfcm<br>N.m | 32.8<br>3.21 | 47.5<br>4.66 | 61.1<br>5.99 | 86.0<br>8.42 | 108.6<br>10.64 | 124.4<br>12.19 | 144.8<br>14.19 | 178.0<br>17.44 | 173.5<br>17.00 | 163.3<br>16.00 | 132.7<br>13.00 | -              |
| 91DG*-150FWH | 9WHD □ -040   | kgfcm<br>N.m | -            | -            | -            | -            | -              | -              | -              | -              | 230.0<br>22.54 | 257.9<br>25.27 | 295.0<br>28.91 | 270.0<br>26.46 |

| Motor Model  | Gearbox Model | 감속비          | 15             | 20             | 25             | 30             | 40             | 50             | 60             | 80             | 100            | 120            | 160              | 200              | 225              | 240              |
|--------------|---------------|--------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|------------------|------------------|------------------|------------------|
| 91DG*-150FHC | 9HC □ -◇      | kgfcm<br>N.m | 103.2<br>10.11 | 137.6<br>13.49 | 172.0<br>16.86 | 206.4<br>20.23 | 275.2<br>26.97 | 344.0<br>33.72 | 412.9<br>40.46 | 550.5<br>53.95 | 688.1<br>67.43 | 825.7<br>80.92 | 1100.9<br>107.89 | 1376.2<br>134.86 | 1548.2<br>151.72 | 1651.4<br>161.84 |

### 50Hz

| Motor Model | Gearbox Model          | 감속비          | 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            |
|-------------|------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 91DG*-150FH | 9HBK □ BH<br>9HFK □ BH | kgfcm<br>N.m | 27.3<br>2.68 | 32.8<br>3.21 | 45.5<br>4.46 | 54.6<br>5.35 | 68.3<br>6.69 | 81.9<br>8.03 | 91.0<br>8.92 | 102.6<br>10.05 | 123.1<br>12.06 | 147.7<br>14.47 | 164.1<br>16.08 | 185.4<br>18.17 | 222.5<br>21.81 | 267.0<br>26.17 | 296.7<br>29.08 | 300.0<br>29.40 | 300.0<br>29.40 | 300.0<br>29.40 | 300.0<br>29.40 | 300.0<br>29.40 | 300.0<br>29.40 | 300.0<br>29.40 | 300.0<br>29.40 | 300.0<br>29.40 |

| Motor Model  | Gearbox Model | 감속비          | 5            | 7.5          | 10           | 15             | 20             | 25             | 30             | 40             | 50             | 60             | 80             | 100            |
|--------------|---------------|--------------|--------------|--------------|--------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 91DG*-150FWH | 9WHD □ -030   | kgfcm<br>N.m | 39.1<br>3.83 | 56.6<br>5.55 | 72.8<br>7.14 | 102.5<br>10.04 | 129.5<br>12.69 | 148.3<br>14.54 | 172.6<br>16.92 | 183.7<br>18.00 | 173.5<br>17.00 | 163.3<br>16.00 | 132.7<br>13.00 | -              |
| 91DG*-150FWH | 9WHD □ -040   | kgfcm<br>N.m | -            | -            | -            | -              | -              | -              | -              | -              | 274.2<br>26.87 | 307.5<br>30.13 | 295.0<br>28.91 | 270.0<br>26.46 |

| Motor Model  | Gearbox Model | 감속비          | 15             | 20             | 25             | 30             | 40             | 50             | 60             | 80             | 100            | 120            | 160              | 200              | 225              | 240              |
|--------------|---------------|--------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|------------------|------------------|------------------|------------------|
| 91DG*-150FHC | 9HC □ -◇      | kgfcm<br>N.m | 123.1<br>12.06 | 164.1<br>16.08 | 205.1<br>20.10 | 246.1<br>24.12 | 328.2<br>32.16 | 410.2<br>40.20 | 492.2<br>48.24 | 656.3<br>64.32 | 820.4<br>80.40 | 984.5<br>96.48 | 1312.7<br>128.64 | 1640.8<br>160.80 | 1800.0<br>176.40 | 1800.0<br>176.40 |

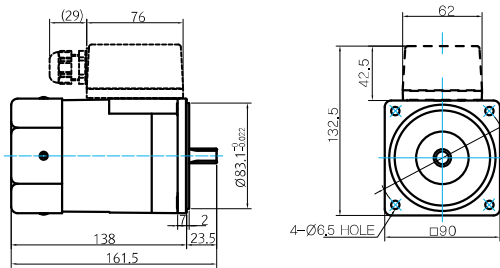
1) 모터 모델명 \* 자리에는 전압코드가 들어갑니다. 2) 감속기 모델명 □ 안에는 감속비가 들어갑니다.  
3) 위의 표에서 선택된 범위의 감속비를 선택했을 때 감속기의 출력축은 모터의 출력축과 같은 방향으로 회전합니다. 현재 사양 범위의 감속비에서는 감속기 출력축은 모터 출력축의 회전방향과 반대방향으로 회전합니다.  
4) 회전속도(r/min)는 모터의 동기회전속도(50Hz:1500r/min, 60Hz:1800r/min)를 감속비로 나누어 계산합니다. 실제 회전속도는 부하의 크기에 따라 표시보다 2~20% 정도 느립니다.

# Induction Motor 150W(□ 90mm)

## Dimensions

### MOTOR ONLY

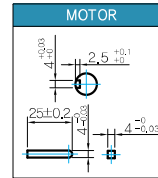
- MOTOR MODEL:  
9ID□-150F(-T) (GENERAL FAN)



### MOTOR OUTPUT SHAFT

| MODEL      | SPEC                                                                                                                         |
|------------|------------------------------------------------------------------------------------------------------------------------------|
| D-CUT TYPE | 37<br>30 <sup>+0.03</sup> <sub>-0.03</sub><br>1.1 <sup>+0.03</sup> <sub>-0.03</sub><br>Ø12 <sup>+0.03</sup> <sub>-0.03</sub> |
| KEY TYPE   | 37<br>25 <sup>+0.03</sup> <sub>-0.03</sub><br>Ø12 <sup>+0.03</sup> <sub>-0.03</sub>                                          |
| 9IDK□-150F |                                                                                                                              |

### KEY SPEC



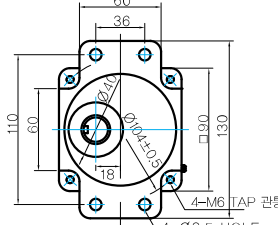
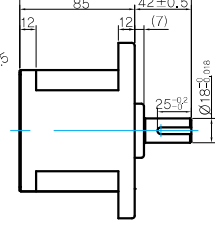
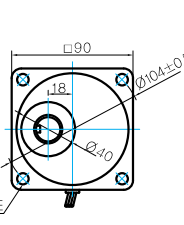
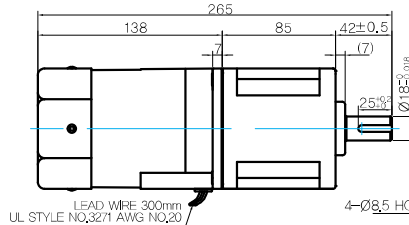
### GEARED MOTOR

#### H TYPE GEARBOX

- MOTOR MODEL:  
9IDG□-150FH (GENERAL FAN)

- GEARBOX MODEL:  
9HBK□BH

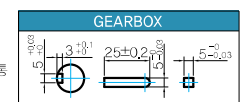
- GEARBOX MODEL: 9HFK□BH



### GEARBOX OUTPUT SHAFT

| MODEL              | SPEC                                                                                           |
|--------------------|------------------------------------------------------------------------------------------------|
| KEY TYPE           | 42±0.5<br>(7)<br>25 <sup>+0.03</sup> <sub>-0.03</sub><br>Ø18 <sup>+0.03</sup> <sub>-0.03</sub> |
| 9HBK□BH<br>9HFK□BH |                                                                                                |

### KEY SPEC

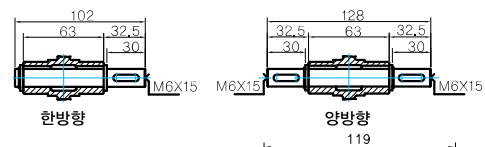


#### WH TYPE GEARBOX

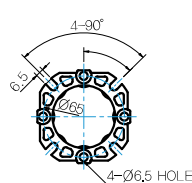
- MOTOR MODEL:  
9IDG□-150FWH (GENERAL FAN)

- GEARBOX MODEL:  
9WHD□-030

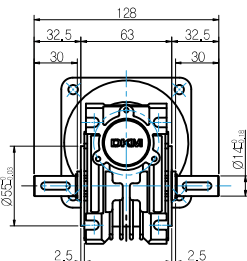
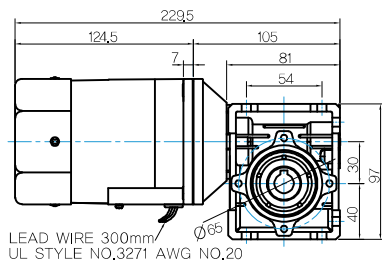
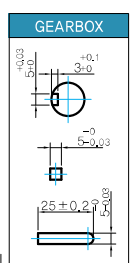
### SHAFT



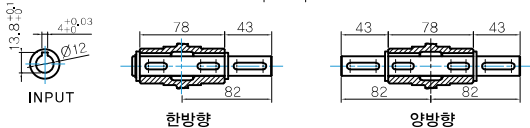
### FLANGE



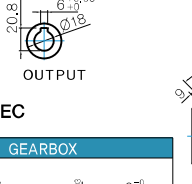
### KEY SPEC



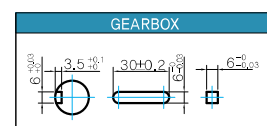
### SHAFT



### FLANGE

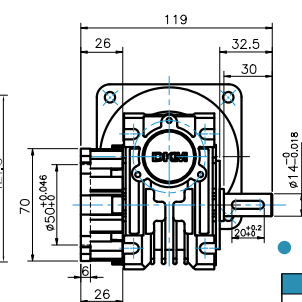
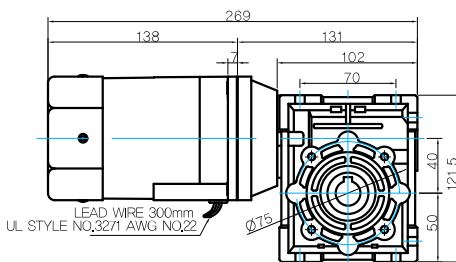


### KEY SPEC



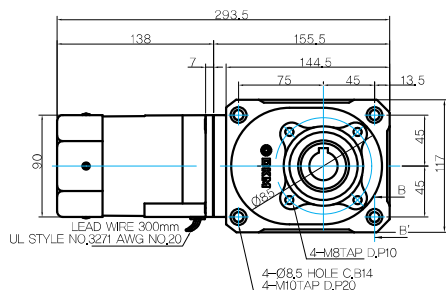
- MOTOR MODEL:  
9IDG□-150FWH (GENERAL FAN)

- GEARBOX MODEL:  
9WHD□-040

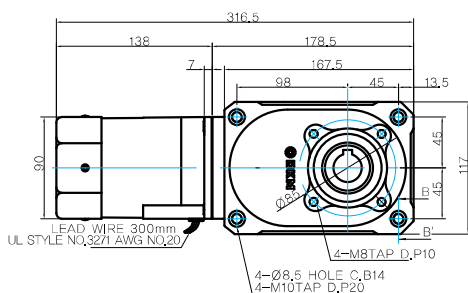


## HC TYPE GEARBOX

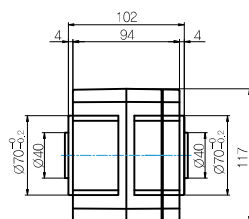
- MOTOR MODEL :  
9IDG□-150FHC (GENERAL FA N)



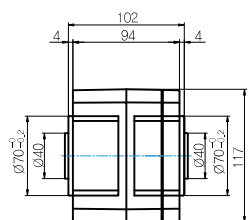
- MOTOR MODEL :  
9IDG□-150FHC (GENERAL FA N)



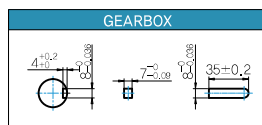
- GEARBOX MODEL :  
9HC(15 ~ 60)□



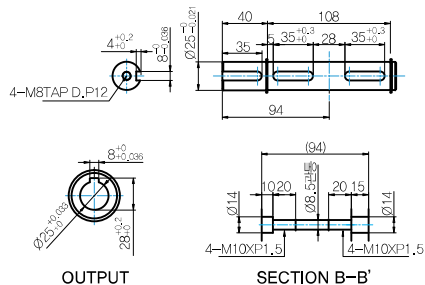
- GEARBOX MODEL :  
9HC(80 ~ 240)□



- KEY SPEC



- SHAFT



- WEIGHT

| PART                        | WEIGHT(kg) |
|-----------------------------|------------|
| MOTOR                       | 3.05       |
| 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       |
| 9WHD□-030                   | 1.20       |
| 9WHD□-040                   | 2.10       |
| 9HC15-◇                     | 4.05       |
| 9HC20-◇ - 9HC60-◇           | 4.10       |
| 9HC80-◇ - 9HC240-◇          | 4.75       |
| 9XD10□□                     | 0.60       |

\*출력 FLANGE와 SHAFT는 별매입니다.

## Motor Images



## 결선도

## Lead Wire Type

| LEAD WIRE              | U     | V      | W     |
|------------------------|-------|--------|-------|
| INPUT                  |       |        |       |
| 3φ 200V~230V (3, G, J) | WHITE | RED    | BLACK |
| 3φ 380V~400V (4, K)    | WHITE | BLUE   | BLACK |
| 3φ 415V~440V (5, L)    | WHITE | YELLOW | BLACK |

\* 반시계(CCW)방향:

R, S, T 중 2선을 변경하면  
반시계 방향으로 회전합니다.

## Terminal Box Type

| LEAD WIRE              | U     | V      | W     |
|------------------------|-------|--------|-------|
| INPUT                  |       |        |       |
| 3φ 200V~230V (3, G, J) | WHITE | RED    | BLACK |
| 3φ 380V~400V (4, K)    | WHITE | BLUE   | BLACK |
| 3φ 415V~440V (5, L)    | WHITE | YELLOW | BLACK |

\* 반시계(CCW)방향:

R, S, T 중 2선을 변경하면  
반시계 방향으로 회전합니다.

- 회전방향은 모터 축 측에서 본 방향을 나타냅니다.
- CW는 시계방향, CCW는 반시계방향입니다.