

CLUTCH & BRAKE MOTORS



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■ Features

● Suitable for High-frequency Operation

An internal clutch & brake mechanism for use with a gearhead is employed in DKM Clutch & Brake Motor. By the combination of a constantly rotating induction motor and a clutch and brake unit, the function of frequent start/stop, positioning, indexing, jogging and incremental feeding is available.



● Characteristics of C.B Motor

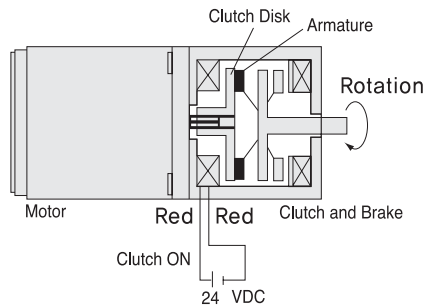
DKM C.B Motor is designed for the quicker response time and higher torque to move the load. To meet high-frequency, starting and stopping applications, DKM uses a induction motor for its continuous duty rating. So Clutch & Brake Motor is not suitable for frequent bi-directional starting and stopping motion but suitable for uni-directional movement.

● Structure and Mechanism

Output shaft is controlled by the use of the clutch and brake mechanism. The load is stopped by disengaging the clutch and the brake like below figures.

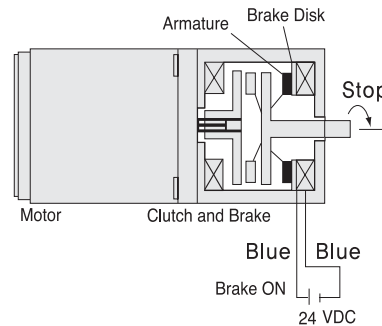
■ Run

When the 24 VDC is applied to the clutch coil, the armature of the clutch coil is drawn to the clutch plate, transmitting motor rotation to the output shaft. The motor continues to rotate.



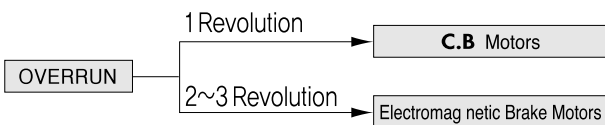
■ Stopping and Load Holding

By removing the 24 VDC from the clutch coil and, after a certain time lag, applying the 24 VDC to the brake coil, the output shaft will come to a stop. During braking the output shaft is released from the motor shaft, so the shaft may be stopped without being influenced by motor inertia. The motor will continue to rotate.



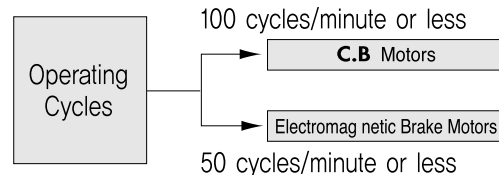
■ Other Motor Braking Options

● Selecting from stopping accuracy



* The overrun values are those of an individual motor.

● Selecting based on frequency of use



* The operating cycles are based merely on brake response. The value specified above is the maximum, so it may not be possible to repeat braking operation at this frequency.

* In an actual application, be certain the surface temperature of the motor case remains below 194°F(90℃) by considering a rise in motor temperature.

Clutch & Brake Motor Line-Up

| Frame size □mm (in.) | Output W | Type | Power (Voltage) | | | | | Page |
|-------------------------|-------------|------------------------|-----------------|--------------|--------------|--------|--------|------|
| | | | Single phase | | Three phase | | | |
| | | | 100/110/115V | 200/220/230V | 200/220/230V | 380 V | 440V | |
| 80(3.15) | 15 | Lead Wire Terminal box | ● ● | ● ● | ● ● | ● ● | ● ● | 116 |
| | 25 | Lead Wire Terminal box | ● ● | ● ● | ● ● | ● ● | ● ● | 118 |
| 90(3.54) | 40 | Lead Wire Terminal box | ● ● | ● ● | ● ● | ● ● | ● ● | 120 |
| | 60 | Lead Wire Terminal box | ● ● | ● ● | ● ● | ● ● | ● ● | 122 |
| | 90 | Lead Wire Terminal box | ● ● | ● ● | ● ● | ● ● | ● ● | 124 |
| | 120 | Lead Wire Terminal box | ● ● | ● ● | ● ● | ● ● | ● ● | 126 |

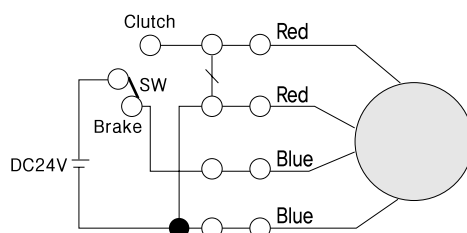
General Specifications

| Item | Specifications |
|---------------------------|--|
| Insulation Resistance | 100 MΩ or more when 500 VDC is applied between the windings and the frame after rated motor operation under normal ambient temperature and humidity. |
| Dielectric Strength | Sufficient to withstand 1.5 KV at 50 Hz and 60 Hz applied between the windings and the frame for 1 minute after rated motor operation under normal ambient temperature and humidity. |
| Temperature Rise | Temperature rise of windings are 80℃ (144°F) or less measured by the resistance change method after rated motor operation with connecting a gearhead or equivalent heat radiation plate. [Three-Phase 6W type : 70℃ (126°F)] |
| Insulation Class | Class B [130℃ (266°F)] |
| Overheat Protection | Operating temperature, open : 130℃ ± 5℃ (266℃ ± 9°F) close : 82℃ ± 15℃ (179.6°F ± 27°F) |
| Ambient Temperature Range | -10℃ ~ + 40℃ (14°F ~ 104°F) (nonfreezing) |
| Ambient Humidity | 85% maximum (noncondensing) |

Clutch & Brake Specifications

| Model Frame Size | Clutch/Brake | Holding Brake Torque | | Voltage VDC | Input W (at 68°F (20℃)) | Cycle Rates Time/minute |
|------------------------|--------------|----------------------|------|-------------|-------------------------|-------------------------|
| | | g·cm | mN·m | | | |
| 3.54in. sq. (90mm sq.) | Clutch | 15000 | 1500 | 24 | 8.4 | 100 |
| | Brake | 15000 | 1500 | 24 | 6.2 | |

Clutch & Brake Connection Diagrams



* Clutch & Brake Motors employ Induction Motor so please refer to the connection diagram of induction motor.

CLUTCH & BRAKE MOTOR 15W

□80mm(3.15in.)



LEAD WIRE TYPE



TERMINAL BOX TYPE



Motor Specification

| Model 8CIDG□-15G : Pinion Shaft Type | | Output | Voltage | Freq. | Motor Model | Gearhead Model |
|---|-------------------|-----------------|------------------|-----------|-------------------|----------------|
| Lead Wire Type | Terminal Box Type | HP W | VAC | Hz | (INDUCTION MOTOR) | |
| ⓉP 8CIDGA-15G | 8CIDGA-15G-T | 1/50 15 | Single Phase 110 | 60 | 8IDGA-15G | 8GBK□BMH |
| ⓉP 8CIDGB-15G | 8CIDGB-15G-T | | Single Phase 115 | 60 | 8IDGB-15G | |
| ⓉP 8CIDGC-15G | 8CIDGC-15G-T | | Single Phase 220 | 50 | 8IDGC-15G | |
| ⓉP 8CIDGD-15G | 8CIDGD-15G-T | | Single Phase 220 | 60 | 8IDGD-15G | |
| ⓉP 8CIDGE-15G | 8CIDGE-15G-T | | Single Phase 230 | 50 | 8IDGE-15G | |
| ⓉP 8CIDGF-15G | 8CIDGF-15G-T | | Single Phase 230 | 60 | 8IDGF-15G | |
| ⓉP 8CIDGG-15G | 8CIDGG-15G-T | | Three Phase 220 | 50 | 8IDGG-15G | |
| ⓉP 8CIDGH-15G | 8CIDGH-15G-T | | Three Phase 220 | 60 | 8IDGH-15G | |
| ⓉP 8CIDGI-15G | 8CIDGI-15G-T | | Three Phase 230 | 50 | 8IDGI-15G | |
| ⓉP 8CIDGJ-15G | 8CIDGJ-15G-T | | Three Phase 230 | 60 | 8IDGJ-15G | |
| ⓉP 8CIDGK-15G | 8CIDGK-15G-T | | Three Phase 380 | 50 | 8IDGK-15G | |
| ⓉP 8CIDGL-15G | 8CIDGL-15G-T | | Three Phase 380 | 60 | 8IDGL-15G | |
| ⓉP 8CIDGM-15G | 8CIDGM-15G-T | | Three Phase 400 | 50 | 8IDGM-15G | |
| ⓉP 8CIDGN-15G | 8CIDGN-15G-T | | Three Phase 440 | 50 | 8IDGN-15G | |
| ⓉP 8CIDGO-15G | 8CIDGO-15G-T | Three Phase 440 | 60 | 8IDGO-15G | | |

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.

ⓉP: Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature Drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. By attaching F2 FAN additionally, temperature reducing of over 10°C could be available.

Permissible Torque When using gearhead

60Hz

| Model | speed RPM (r/min) | 600 | 500 | 360 | 300 | 240 | 200 | 144 | 120 | 100 | 72 | 60 | 50 | 45 | 36 | 30 | 24 | 20 | 18 | 15 | 12 | 10 | 7 | 6 | 5 |
|-----------------------|-------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|
| Motor/Gearhead | Gear Ratio | 3 | 3.6 | 5 | 6 | 7.5 | 9 | 12.5 | 15 | 18 | 25 | 30 | 36 | 40 | 50 | 60 | 75 | 90 | 100 | 120 | 150 | 180 | 250 | 300 | 360 |
| 8CIDG□-15G / 8GBK□BMH | kgf cm | 2.9 | 3.5 | 4.9 | 5.8 | 7.3 | 8.7 | 12.2 | 14.6 | 17.5 | 21.9 | 26.3 | 31.5 | 36.5 | 39.6 | 47.5 | 59.4 | 71.3 | 79.2 | 80 | 80 | 80 | 80 | 80 | 80 |
| | N.m | 0.29 | 0.35 | 0.49 | 0.58 | 0.73 | 0.87 | 1.2 | 1.5 | 1.8 | 2.2 | 2.6 | 3.2 | 3.6 | 4.0 | 4.8 | 5.9 | 7.1 | 7.9 | 8 | 8 | 8 | 8 | 8 | 8 |
| | lb-in | 2.6 | 3.1 | 4.3 | 5.1 | 6.4 | 7.7 | 11 | 13 | 15 | 19 | 23 | 28 | 32 | 35 | 42 | 52 | 63 | 70 | 71 | 71 | 71 | 71 | 71 | 71 |

50Hz

| Model | speed RPM (r/min) | 500 | 417 | 300 | 250 | 200 | 167 | 120 | 100 | 83 | 60 | 50 | 42 | 38 | 30 | 25 | 20 | 17 | 15 | 13 | 10 | 8 | 6 | 5 | 5 |
|-----------------------|-------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| Motor/Gearhead | Gear Ratio | 3 | 3.6 | 5 | 6 | 7.5 | 9 | 12.5 | 15 | 18 | 25 | 30 | 36 | 40 | 50 | 60 | 75 | 90 | 100 | 120 | 150 | 180 | 250 | 300 | 360 |
| 8CIDG□-15G / 8GBK□BMH | kgf cm | 3.4 | 4.1 | 5.7 | 6.8 | 8.5 | 10.2 | 14.2 | 17.0 | 20.4 | 25.6 | 30.7 | 36.8 | 38.8 | 46.2 | 55.4 | 69.2 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 |
| | N.m | 0.34 | 0.41 | 0.57 | 0.68 | 0.85 | 1.02 | 1.4 | 1.7 | 2.0 | 2.6 | 3.1 | 3.7 | 3.8 | 4.6 | 5.5 | 6.9 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| | lb-in | 3.0 | 3.6 | 5.0 | 6.0 | 7.5 | 9.0 | 13 | 15 | 18 | 23 | 27 | 32 | 34 | 41 | 49 | 61 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 |

* Enter the gear ratio in the box (□) within the model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.

* The speed is calculated by dividing the motor's synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.

* The actual speed is 2~20% less than the displayed value, depending on the size of the load.

* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 80kgfcm (8N.m, 71lb-in).

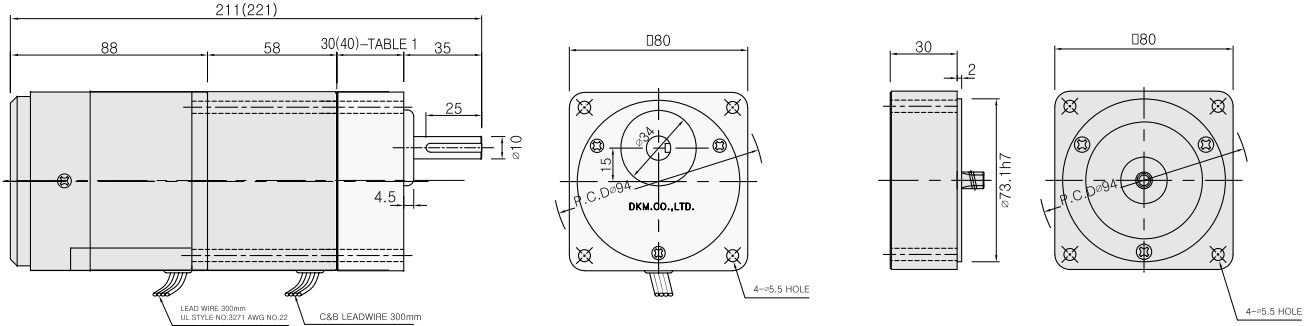
Dimension

LEAD WIRE TYPE

- ◆ GEARED MOTOR * MOTOR MODEL : 8CIDG□-15G (NO FAN)
* HEAD MODEL : 8GB□3BMH - 8GB□360BMH

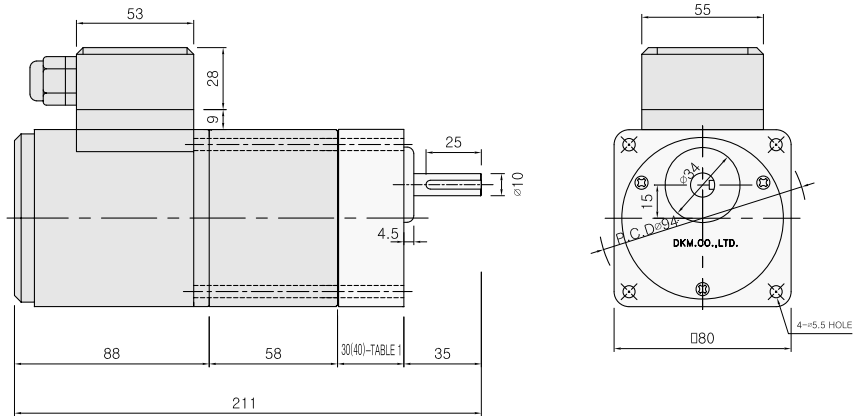
INTER-DECIMAL GEARHEAD

* MODEL : 8XD10M□



TERMINAL BOX TYPE

* MOTOR MODEL : 8CIDG□-15G-T (NO FAN)



GEARHEAD OUTPUT

| MODEL | SHAFT |
|-------------------------|-------|
| ROUND TYPE | |
| 8GBS3BMH ~8GBS360BMH | |
| D-CUT TYPE | |
| 8GBD3BMH ~8GBD360BMH | |
| KEY TYPE | |
| 8GBK3BMH ~8GBK360BMH | |

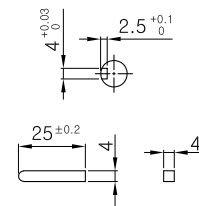
30(40)-TABLE 1

| SIZE(mm) | GEAR RATIO |
|----------|------------------------|
| 30 | 8GB□3BMH - 8GB□18BMH |
| 40 | 8GB□25BMH - 8GB□360BMH |

WEIGHT

| PART | WEIGHT(Kg) | |
|------------------|-------------------------|------|
| MOTOR | 1.6 | |
| CLUTCH & BRAKE | 1.05 | |
| DECIMAL GEARHEAD | 0.44 | |
| GEAR HEAD | 8GB□3BMH - 8GB□18BMH | 0.48 |
| | 8GB□25BMH - 8GB□30BMH | 0.61 |
| | 8GB□36BMH - 8GB□180BMH | 0.67 |
| | 8GB□200BMH - 8GB□360BMH | 0.63 |

KEY SPEC



MOTOR OUTPUT

| MODEL | SHAFT |
|------------|-------|
| GEAR TYPE | |
| 8CIDG□-15G | |

* Note : Above table indicates output shaft dimension made by user's request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Please refer to page 115, page 25.

CLUTCH & BRAKE MOTOR 25W

□80mm(3.15in.)



LEAD WIRE TYPE



TERMINAL BOX TYPE



Motor Specification

| Model 8CID□-25G : Pinion Shaft Type | | Output HP W | Voltage VAC | Freq. Hz | Motor Model (INDUCTION MOTOR) | Gearhead Model |
|--|-------------------|-----------------|------------------|-------------|----------------------------------|-------------------|
| Lead Wire Type | Terminal Box Type | | | | | |
| ⓉP 8CIDGA-25G | 8CIDGA-25G-T | 1/30 25 | Single Phase 110 | 60 | 8IDGA-25G | 8GBK□BMH |
| ⓉP 8CIDGB-25G | 8CIDGB-25G-T | | Single Phase 115 | 60 | 8IDGB-25G | |
| ⓉP 8CIDGC-25G | 8CIDGC-25G-T | | Single Phase 220 | 50 | 8IDGC-25G | |
| ⓉP 8CIDGD-25G | 8CIDGD-25G-T | | Single Phase 220 | 60 | 8IDGD-25G | |
| ⓉP 8CIDGE-25G | 8CIDGE-25G-T | | Single Phase 230 | 50 | 8IDGE-25G | |
| ⓉP 8CIDGF-25G | 8CIDGF-25G-T | | Single Phase 230 | 60 | 8IDGF-25G | |
| ⓉP 8CIDGG-25G | 8CIDGG-25G-T | | Three phase 220 | 50 | 8IDGG-25G | |
| ⓉP 8CIDGH-25G | 8CIDGH-25G-T | | Three phase 220 | 60 | 8IDGH-25G | |
| ⓉP 8CIDGI-25G | 8CIDGI-25G-T | | Three phase 230 | 50 | 8IDGI-25G | |
| ⓉP 8CIDGJ-25G | 8CIDGJ-25G-T | | Three phase 230 | 60 | 8IDGJ-25G | |
| ⓉP 8CIDGK-25G | 8CIDGK-25G-T | | Three phase 380 | 50 | 8IDGK-25G | |
| ⓉP 8CIDGL-25G | 8CIDGL-25G-T | | Three phase 380 | 60 | 8IDGL-25G | |
| ⓉP 8CIDGM-25G | 8CIDGM-25G-T | | Three phase 400 | 50 | 8IDGM-25G | |
| ⓉP 8CIDGN-25G | 8CIDGN-25G-T | | Three phase 440 | 50 | 8IDGN-25G | |
| ⓉP 8CIDGO-25G | 8CIDGO-25G-T | Three phase 440 | 60 | 8IDGO-25G | | |

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.

ⓉP : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature Drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. By attaching F2 FAN additionally, temperature reducing of over 10℃ could be available.

Permissible Torque When using gearhead

60Hz

| Model | speed RPM (r/min) | 600 | 500 | 360 | 300 | 240 | 200 | 144 | 120 | 100 | 72 | 60 | 50 | 45 | 36 | 30 | 24 | 20 | 18 | 15 | 12 | 10 | 7 | 6 | 5 | |
|-----------------------|-------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----|----|-----|-----|-----|-----|-----|-----|-----|----|
| Motor/Gearhead | Gear Ratio | 3 | 3.6 | 5 | 6 | 7.5 | 9 | 12.5 | 15 | 18 | 25 | 30 | 36 | 40 | 50 | 60 | 75 | 90 | 100 | 120 | 150 | 180 | 250 | 300 | 360 | |
| 8CIDG□-25G / 8GBK□BMH | kgf cm | 4.4 | 5.2 | 7.3 | 8.7 | 10.9 | 13.1 | 18.2 | 21.9 | 26.2 | 32.9 | 39.4 | 47.3 | 52.6 | 59.4 | 71.3 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 |
| | N.m | 0.44 | 0.52 | 0.73 | 0.87 | 1.09 | 1.31 | 1.82 | 2.19 | 2.62 | 3.29 | 3.9 | 4.7 | 5.2 | 5.9 | 7.1 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| | lb-in | 3.9 | 4.6 | 6.4 | 7.7 | 9.6 | 12 | 16 | 19 | 23 | 29 | 35 | 42 | 46 | 52 | 63 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 |

50Hz

| Model | speed RPM (r/min) | 500 | 417 | 300 | 250 | 200 | 167 | 120 | 100 | 83 | 60 | 50 | 42 | 38 | 30 | 25 | 20 | 17 | 15 | 13 | 10 | 8 | 6 | 5 | 5 | |
|-----------------------|-------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----|----|----|-----|-----|-----|-----|-----|-----|-----|----|
| Motor/Gearhead | Gear Ratio | 3 | 3.6 | 5 | 6 | 7.5 | 9 | 12.5 | 15 | 18 | 25 | 30 | 36 | 40 | 50 | 60 | 75 | 90 | 100 | 120 | 150 | 180 | 250 | 300 | 360 | |
| 8CIDG□-25G / 8GBK□BMH | kgf cm | 5.3 | 6.4 | 8.9 | 10.7 | 13.4 | 16.0 | 22.3 | 26.7 | 32.1 | 40.2 | 48.2 | 57.8 | 64.2 | 72.6 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 |
| | N.m | 0.53 | 0.64 | 0.89 | 1.07 | 1.34 | 1.60 | 2.23 | 2.67 | 3.21 | 4.02 | 4.8 | 5.8 | 6.4 | 7.3 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| | lb-in | 4.7 | 5.7 | 7.9 | 9.4 | 11.8 | 14 | 20 | 24 | 28 | 35 | 43 | 51 | 57 | 64 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 |

* Enter the gear ratio in the box (□) within the model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.

* The speed is calculated by dividing the motor's synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.

* The actual speed is 2~20% less than the displayed value, depending on the size of the load.

* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 80kgfcm (8N.m, 71lb-in).

Dimension

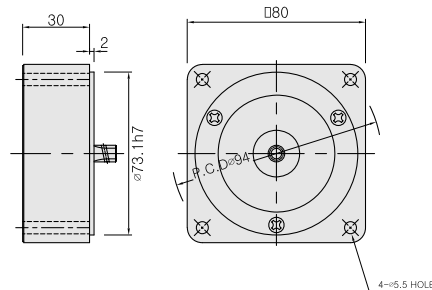
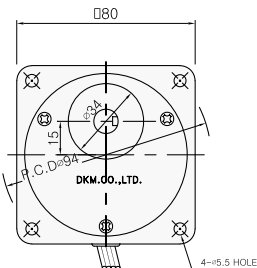
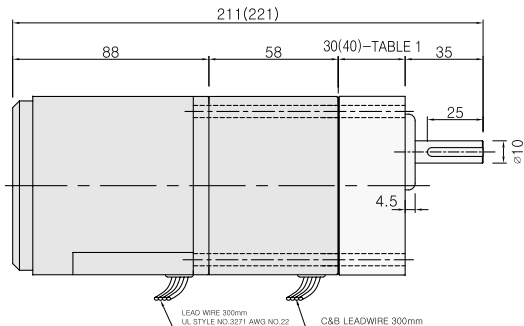
LEAD WIRE TYPE

GEARED MOTOR

* MOTOR MODEL : 8CIDG□-25G(NO FAN)
 * HEAD MODEL : 8GB□3BMH - 8GB□360BMH

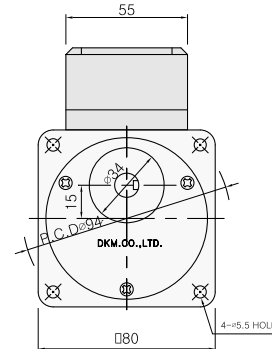
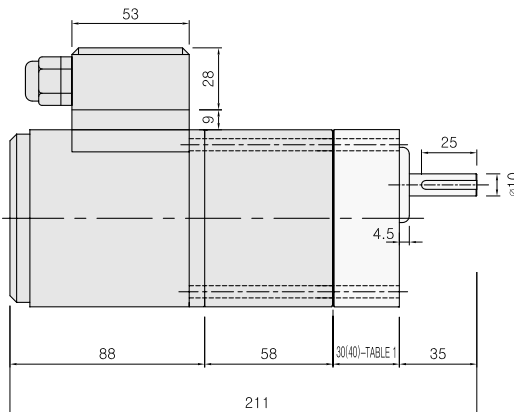
INTER-DECIMAL GEARHEAD

* MODEL : 8XD10M□



TERMINAL BOX TYPE

* MOTOR MODEL : 8CIDG□-25G-T(NO FAN)



GEARHEAD OUTPUT

| MODEL | SHAFT |
|-------------------------|-------|
| ROUND TYPE | |
| 8GBS3BMH ~8GBS360BMH | |
| D-CUT TYPE | |
| 8GBD3BMH ~8GBD360BMH | |
| KEY TYPE | |
| 8GBK3BMH ~8GBK360BMH | |

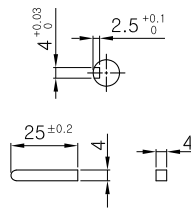
30(40)-TABLE 1

| SIZE(mm) | GEAR RATIO |
|----------|------------------------|
| 30 | 8GB□3BMH - 8GB□18BMH |
| 40 | 8GB□25BMH - 8GB□360BMH |

WEIGHT

| PART | WEIGHT(Kg) | |
|------------------|-------------------------|------|
| MOTOR | 1.6 | |
| CLUTCH & BRAKE | 1.05 | |
| DECIMAL GEARHEAD | 0.44 | |
| GEAR | 8GB□3BMH - 8GB□18BMH | 0.48 |
| | 8GB□25BMH - 8GB□30BMH | 0.61 |
| HEAD | 8GB□36BMH - 8GB□180BMH | 0.67 |
| | 8GB□200BMH - 8GB□360BMH | 0.63 |

KEY SPEC



MOTOR OUTPUT

| MODEL | SHAFT |
|------------|-------|
| GEAR TYPE | |
| 8CIDG□-25G | |

* Note : Above table indicates output shaft dimension made by user's request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Please refer to page 115, page 25.

CLUTCH & BRAKE MOTOR 40W

□90mm(3.54in.)



LEAD WIRE TYPE



TERMINAL BOX TYPE



Motor Specification

| Model 9CIDG□-40G : Pinion Shaft Type | | Output | Voltage | Freq. | Motor Model | Gearhead Model |
|---|-------------------|---------|------------------|-------|-------------------|----------------|
| Lead Wire Type | Terminal Box Type | HP W | VAC | Hz | (INDUCTION MOTOR) | |
| ⓉP 9CIDGA-40G | 9CIDGA-40G-T | 1/15 40 | Single Phase 110 | 60 | 9IDGA-40G | 9GBK□BMH |
| ⓉP 9CIDGB-40G | 9CIDGB-40G-T | | Single Phase 115 | 60 | 9IDGB-40G | |
| ⓉP 9CIDGC-40G | 9CIDGC-40G-T | | Single Phase 220 | 50 | 9IDGC-40G | |
| ⓉP 9CIDGD-40G | 9CIDGD-40G-T | | Single Phase 220 | 60 | 9IDGD-40G | |
| ⓉP 9CIDGE-40G | 9CIDGE-40G-T | | Single Phase 230 | 50 | 9IDGE-40G | |
| ⓉP 9CIDGF-40G | 9CIDGF-40G-T | | Single Phase 230 | 60 | 9IDGF-40G | |
| ⓉP 9CIDGG-40G | 9CIDGG-40G-T | | Three phase 220 | 50 | 9IDGG-40G | |
| ⓉP 9CIDGH-40G | 9CIDGH-40G-T | | Three phase 220 | 60 | 9IDGH-40G | |
| ⓉP 9CIDGI-40G | 9CIDGI-40G-T | | Three phase 230 | 50 | 9IDGI-40G | |
| ⓉP 9CIDGJ-40G | 9CIDGJ-40G-T | | Three phase 230 | 60 | 9IDGJ-40G | |
| ⓉP 9CIDGK-40G | 9CIDGK-40G-T | | Three phase 380 | 50 | 9IDGK-40G | |
| ⓉP 9CIDGL-40G | 9CIDGL-40G-T | | Three phase 380 | 60 | 9IDGL-40G | |
| ⓉP 9CIDGM-40G | 9CIDGM-40G-T | | Three phase 400 | 50 | 9IDGM-40G | |
| ⓉP 9CIDGN-40G | 9CIDGN-40G-T | | Three phase 440 | 50 | 9IDGN-40G | |
| ⓉP 9CIDGO-40G | 9CIDGO-40G-T | | Three phase 440 | 60 | 9IDGO-40G | |

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.

ⓉP : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature Drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. By attaching F2 FAN additionally, temperature reducing of over 10℃ could be available.

Permissible Torque When using gearhead

60Hz

| Model | speed RPM (r/min) | 900 | 600 | 500 | 360 | 300 | 240 | 200 | 180 | 144 | 120 | 100 | 72 | 60 | 50 | 45 | 36 | 30 | 24 | 20 | 18 | 15 | 12 | 10 | |
|----------------------|-------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Motor/Gearhead | Gear Ratio | 2 | 3 | 3.6 | 5 | 6 | 7.5 | 9 | 10 | 12.5 | 15 | 18 | 25 | 30 | 36 | 40 | 50 | 60 | 75 | 90 | 100 | 120 | 150 | 180 | |
| 9CIDG□-40G / 9GBK□MH | kgf cm | 5.0 | 6.8 | 8.2 | 11.3 | 13.6 | 17.0 | 20.4 | 22.7 | 28.4 | 34.0 | 40.8 | 51.1 | 61.3 | 73.6 | 81.5 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | N.m | 0.50 | 0.68 | 0.82 | 1.13 | 1.36 | 1.70 | 2.04 | 2.27 | 2.84 | 3.40 | 4.08 | 5.11 | 6.1 | 7.4 | 8.2 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| | lb-in | 4.4 | 6.0 | 7.2 | 10.0 | 12.0 | 15.0 | 18.0 | 20.0 | 25.1 | 30.0 | 36.0 | 45.1 | 54.1 | 65.0 | 72.0 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 |

50Hz

| Model | speed RPM (r/min) | 750 | 500 | 417 | 300 | 250 | 200 | 167 | 150 | 120 | 100 | 83 | 60 | 50 | 42 | 38 | 30 | 25 | 20 | 17 | 15 | 13 | 10 | 8 | |
|----------------------|-------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Motor/Gearhead | Gear Ratio | 2 | 3 | 3.6 | 5 | 6 | 7.5 | 9 | 10 | 12.5 | 15 | 18 | 25 | 30 | 36 | 40 | 50 | 60 | 75 | 90 | 100 | 120 | 150 | 180 | |
| 9CIDG□-40G / 9GBK□MH | kgf cm | 6.0 | 8.3 | 9.9 | 13.8 | 16.5 | 20.7 | 24.8 | 27.5 | 34.4 | 41.3 | 49.6 | 62.1 | 74.5 | 89.4 | 99.1 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | N.m | 0.60 | 0.83 | 0.99 | 1.38 | 1.65 | 2.07 | 2.48 | 2.75 | 3.44 | 4.13 | 4.96 | 6.21 | 7.5 | 8.9 | 9.9 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| | lb-in | 5.3 | 7.3 | 8.7 | 12.2 | 14.6 | 18.3 | 21.9 | 24.3 | 30.4 | 36.5 | 43.8 | 54.8 | 65.8 | 78.9 | 87.5 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 |

* Enter the gear ratio in the box (□) within the model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.

* The speed is calculated by dividing the motor's synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.

* The actual speed is 2~20% less than the displayed value, depending on the size of the load.

* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 100kgfcm (10N.m, 88lb-in).

Dimension

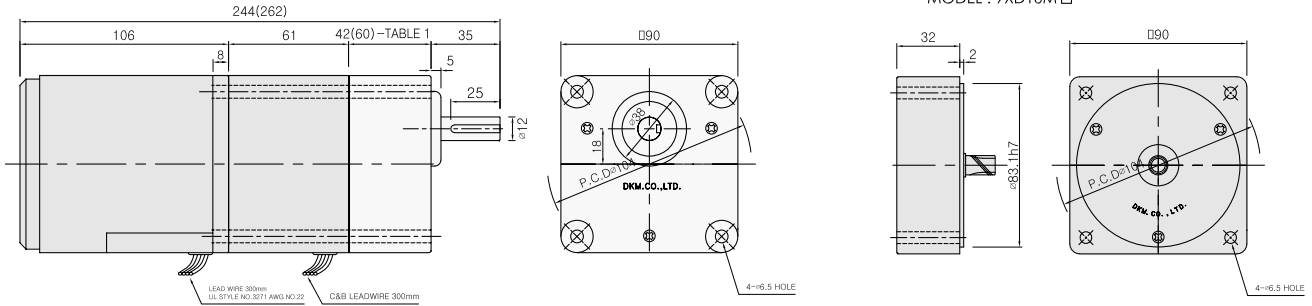
LEAD WIRE TYPE

◆ GEARED MOTOR

* MOTOR MODEL : 9CIDG□-40G (NO FAN)
* HEAD MODEL : 9GB□3MH - 9GB□180MH

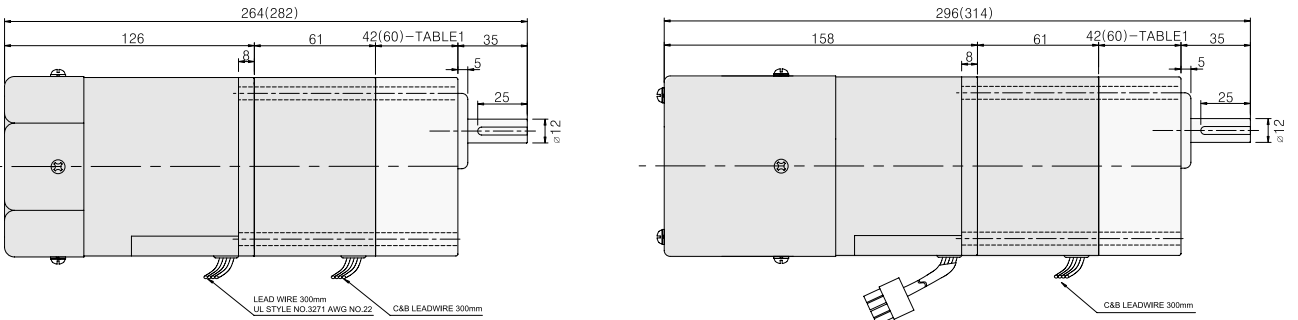
◆ INTER-DECIMAL GEARHEAD

* MODEL : 9XD10M□



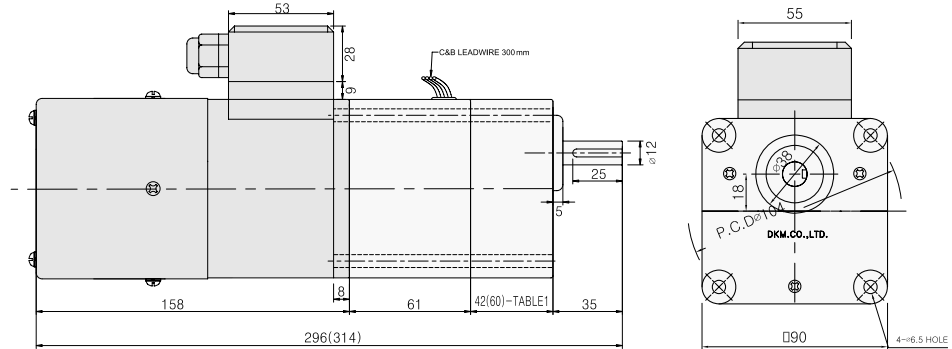
* MOTOR MODEL : 9CIDG□-40FG (GENERAL FAN)
* GEARHEAD MODEL : 9GB□3MH - 9GB□180MH

* MOTOR MODEL : 9CIDG□-40F2G (POWERFUL FAN)
* GEARHEAD MODEL : 9GB□3BH - 9GB□180BH



TERMINAL BOX TYPE

* MOTOR MODEL :
9CIDG□-40F2G-T (NO FAN)

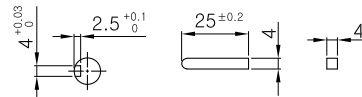


* Note : There are 3 kinds of fan type (No Fan / General Fan / Powerful Fan).
Customer can choose fan type according to wanted rating time.

◆ GEARHEAD OUTPUT

| MODEL | SHAFT |
|-----------------------|-------|
| ROUND TYPE | |
| 9GBS3MH ~9GBS180MH | |
| D-CUT TYPE | |
| 9GBD3MH ~9GBD180MH | |
| KEY TYPE | |
| 9GBK3MH ~9GBK180MH | |

◆ KEY SPEC



◆ WEIGHT

| PART | WEIGHT(Kg) | |
|------------------|-------------------------|------|
| MOTOR | 2.4 | |
| CLUTCH & BRAKE | 1.35 | |
| DECIMAL GEARHEAD | 0.5 | |
| GEAR HEAD | 9GB□3MH - 9GB□15MH | 0.67 |
| | 9GB□18MH - 9GB□30MH | 0.96 |
| | 9GB□36MH - 9GB□180MH | 1.07 |

◆ 42(60)-TABLE 1

| SIZE(mm) | GEAR RATIO |
|----------|----------------------|
| 42 | 9GB□3MH - 9GB□15MH |
| 60 | 9GB□18MH - 9GB□180MH |

◆ MOTOR OUTPUT

| MODEL | SHAFT |
|-------------|-------|
| GEAR TYPE | |
| 9CIDG□-40 G | |

* Note : Above table indicates output shaft dimension made by user's request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Please refer to page 115, page 25.

CLUTCH & BRAKE MOTOR 60W

□90mm(3.54in.)



LEAD WIRE TYPE



TERMINAL BOX TYPE



Motor Specification

| Model 9CIDG□-60FP : Pinion Shaft Type | | Output | Voltage | Freq. | Motor Model | Gearhead Model |
|--|-------------------|-----------------|------------------|------------|-------------------|----------------|
| Lead Wire Type | Terminal Box Type | HP W | VAC | Hz | (INDUCTION MOTOR) | |
| TP 9CIDGA-60FP | 9CIDGA-60FP-T | 1/12 60 | Single Phase 110 | 60 | 9IDGA-60FP | 9PB(F)K□BH |
| TP 9CIDGB-60FP | 9CIDGB-60FP-T | | Single Phase 115 | 60 | 9IDGB-60FP | |
| TP 9CIDGC-60FP | 9CIDGC-60FP-T | | Single Phase 220 | 50 | 9IDGC-60FP | |
| TP 9CIDGD-60FP | 9CIDGD-60FP-T | | Single Phase 220 | 60 | 9IDGD-60FP | |
| TP 9CIDGE-60FP | 9CIDGE-60FP-T | | Single Phase 230 | 50 | 9IDGE-60FP | |
| TP 9CIDGF-60FP | 9CIDGF-60FP-T | | Single Phase 230 | 60 | 9IDGF-60FP | |
| TP 9CIDGG-60FP | 9CIDGG-60FP-T | | Three phase 220 | 50 | 9IDGG-60FP | |
| TP 9CIDGH-60FP | 9CIDGH-60FP-T | | Three phase 220 | 60 | 9IDGH-60FP | |
| TP 9CIDGI-60FP | 9CIDGI-60FP-T | | Three phase 230 | 50 | 9IDGI-60FP | |
| TP 9CIDGJ-60FP | 9CIDGJ-60FP-T | | Three phase 230 | 60 | 9IDGJ-60FP | |
| TP 9CIDGK-60FP | 9CIDGK-60FP-T | | Three phase 380 | 50 | 9IDGK-60FP | |
| TP 9CIDGL-60FP | 9CIDGL-60FP-T | | Three phase 380 | 60 | 9IDGL-60FP | |
| TP 9CIDGM-60FP | 9CIDGM-60FP-T | | Three phase 400 | 50 | 9IDGM-60FP | |
| TP 9CIDGN-60FP | 9CIDGN-60FP-T | | Three phase 440 | 50 | 9IDGN-60FP | |
| TP 9CIDGO-60FP | 9CIDGO-60FP-T | Three phase 440 | 60 | 9IDGO-60FP | | |

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.

Ⓣ : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature Drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. By attaching F2 FAN additionally, temperature reducing of over 10℃ could be available.

Permissible Torque When using gearhead

60Hz

| Model | speed RPM (r/min) | 900 | 600 | 500 | 360 | 300 | 240 | 200 | 144 | 120 | 100 | 90 | 72 | 60 | 50 | 45 | 36 | 30 | 24 | 20 | 18 | 15 | 12 | 10 | |
|----------------|---------------------|--------|-----|-----|------|------|------|------|------|------|------|------|------|------|------|-----|------|------|------|------|-----|-----|-----|-----|-----|
| Motor/Gearhead | Gear Ratio | 2 | 3 | 3.6 | 5 | 6 | 7.5 | 9 | 12.5 | 15 | 18 | 20 | 25 | 30 | 36 | 40 | 50 | 60 | 75 | 90 | 100 | 120 | 150 | 180 | |
| 9CIDG□-60FP | 9PBK□BH 9PFBK□BH | kgf cm | 7.5 | 9.7 | 11.7 | 16.2 | 19.4 | 24.3 | 29.2 | 36.5 | 43.8 | 52.6 | 59.0 | 66.0 | 79.2 | 95 | 106 | 132 | 158 | 177 | 200 | 200 | 200 | 200 | 200 |
| | | N.m | 0.8 | 1.0 | 1.2 | 1.6 | 1.9 | 2.4 | 2.9 | 3.7 | 4.4 | 5.3 | 5.9 | 6.6 | 7.9 | 9.5 | 10.6 | 13.2 | 15.8 | 17.7 | 20 | 20 | 20 | 20 | 20 |
| | | lb-in | 6.6 | 8.6 | 10 | 14 | 17 | 21 | 26 | 32 | 39 | 46 | 52 | 58 | 70 | 84 | 94 | 117 | 140 | 156 | 177 | 177 | 177 | 177 | 177 |

50Hz

| Model | speed RPM (r/min) | 750 | 500 | 417 | 300 | 250 | 200 | 167 | 120 | 100 | 83 | 75 | 60 | 50 | 42 | 38 | 30 | 25 | 20 | 17 | 15 | 13 | 10 | 8 | |
|----------------|---------------------|--------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|------|------|-----|-----|-----|-----|-----|-----|-----|
| Motor/Gearhead | Gear Ratio | 2 | 3 | 3.6 | 5 | 6 | 7.5 | 9 | 12.5 | 15 | 18 | 20 | 25 | 30 | 36 | 40 | 50 | 60 | 75 | 90 | 100 | 120 | 150 | 180 | |
| 9CIDG□-60FP | 9PBK□BH 9PFBK□BH | kgf cm | 10.0 | 12.2 | 14.6 | 20.3 | 24 | 30 | 37 | 46 | 55 | 66 | 72 | 83 | 99 | 119 | 132 | 165 | 198 | 200 | 200 | 200 | 200 | 200 | 200 |
| | | N.m | 1.0 | 1.2 | 1.5 | 2.0 | 2.4 | 3.0 | 3.7 | 4.6 | 5.5 | 6.6 | 7.2 | 8.3 | 9.9 | 11.9 | 13.2 | 16.5 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| | | lb-in | 8.8 | 10.8 | 12.9 | 17.9 | 21.5 | 26.8 | 32.2 | 40.3 | 48.4 | 58.0 | 63.6 | 72.8 | 87 | 105 | 117 | 146 | 175 | 177 | 177 | 177 | 177 | 177 | 177 |

* Enter the gear ratio in the box (□) within the model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.

* The speed is calculated by dividing the motor's synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.

* The actual speed is 2~20% less than the displayed value, depending on the size of the load.

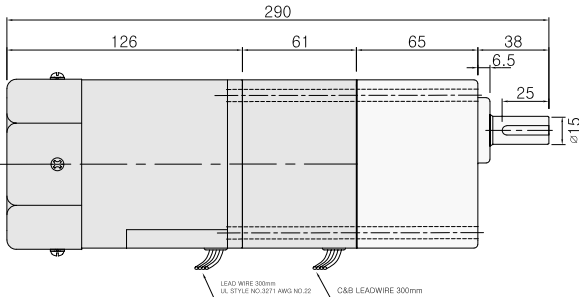
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 200kgfcm (20N.m, 177lb-in).

Dimension

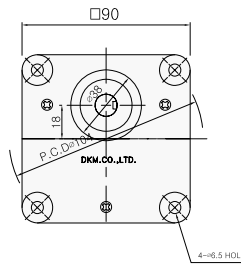
● LEAD WIRE TYPE

◆ GEARED MOTOR

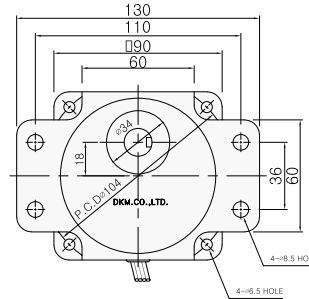
- * MOTOR MODEL : 9CIDG□-60FP (GENERAL FAN)
- * HEAD MODEL : 9PB□3MH - 9PB□180BH



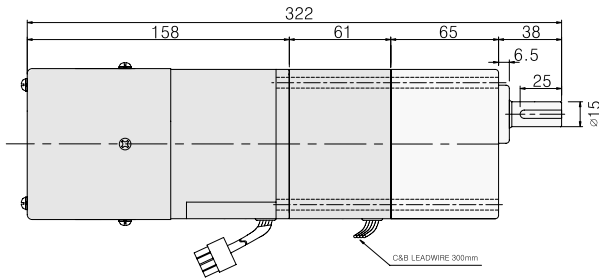
- * GEARHEAD MODEL : 9PB□3BH - 9PB□180BH



- * GEARHEAD MODEL : 9PF□3BH - 9PF□180BH

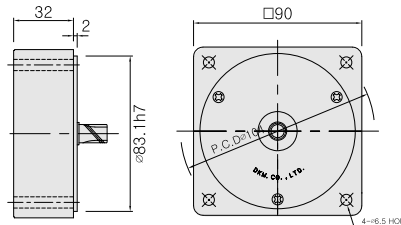


- * MOTOR MODEL : 9CIDG□-60F2P (POWERFUL FAN)
- * GEARHEAD MODEL : 9PB□3BH - 9PB□180BH

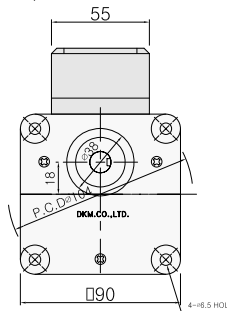
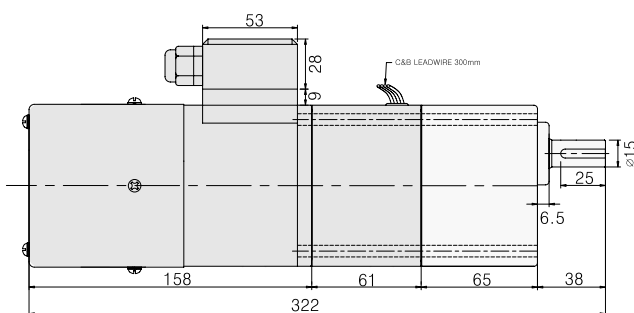


◆ INTER-DECIMAL GEARHEAD

- * MODEL : 9XD10M□



● TERMINAL BOX TYPE * MOTOR MODEL : 9CIDG□-60F2P-T (POWERFUL FAN)



* Note :There are 2 kinds of fan type (General Fan / Powerful Fan). Customer can choose fan type according to wanted rating time.

◆ GEARHEAD OUTPUT

| MODEL | SHAFT |
|-----------------------|-------|
| ROUND TYPE | |
| 9P□S3BH ~9P□S180BH | |
| D-CUT TYPE | |
| 9P□D3BH ~9P□D180BH | |
| KEY TYPE | |
| 9P□K3BH ~9P□K180BH | |

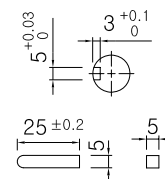
◆ WEIGHT

| PART | WEIGHT(Kg) |
|--------------------------|------------|
| MOTOR | 2.6 |
| CLUTCH & BRAKE | 1.35 |
| DECIMAL GEARHEAD | 0.5 |
| GEAR HEAD | |
| 9P□□3BH - 9P□□9BH | 1.3 |
| 9P□□12.5BH - 9P□□18BH | 1.3 |
| 9P□□25BH - 9P□□60BH | 1.4 |
| 9P□□90BH - 9P□□180BH | 1.4 |

◆ MOTOR OUTPUT

| MODEL | SHAFT |
|-----------|-------|
| 9CIDG□-60 | |

◆ KEY SPEC



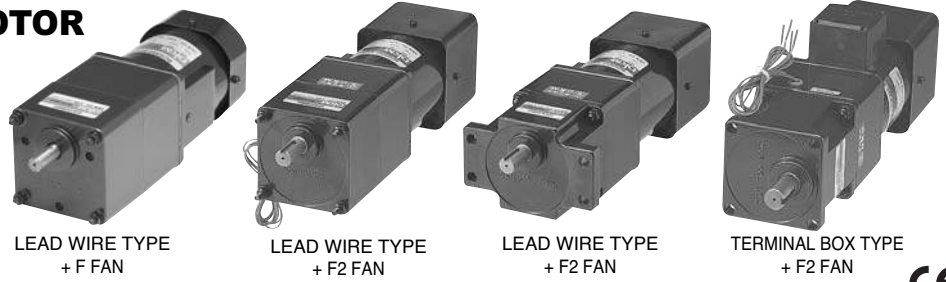
* Note : Above table indicates output shaft dimension made by user's request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Please refer to page 115, page 25.

CLUTCH & BRAKE MOTOR 90W

□90mm(3.54in.)



Motor Specification

| Model 9CIDG□-90FP(H) : Pinion Shaft Type | | Output | Voltage | Freq. | Motor Model | Gearhead Model |
|---|-------------------|-----------------|------------------|---------------|-------------------|-----------------------------|
| Lead Wire Type | Terminal Box Type | HP W | VAC | Hz | (INDUCTION MOTOR) | |
| ⓉP 9CIDGA-90FP(H) | 9CIDGA-90FP(H)-T | 1/8 90 | Single Phase 110 | 60 | 9IDGA-90FP(H) | 9PB(F)K□BH or 9HBK□BH |
| ⓉP 9CIDGB-90FP(H) | 9CIDGB-90FP(H)-T | | Single Phase 115 | 60 | 9IDGB-90FP(H) | |
| ⓉP 9CIDGC-90FP(H) | 9CIDGC-90FP(H)-T | | Single Phase 220 | 50 | 9IDGC-90FP(H) | |
| ⓉP 9CIDGD-90FP(H) | 9CIDGD-90FP(H)-T | | Single Phase 220 | 60 | 9IDGD-90FP(H) | |
| ⓉP 9CIDGE-90FP(H) | 9CIDGE-90FP(H)-T | | Single Phase 230 | 50 | 9IDGE-90FP(H) | |
| ⓉP 9CIDGF-90FP(H) | 9CIDGF-90FP(H)-T | | Single Phase 230 | 60 | 9IDGF-90FP(H) | |
| ⓉP 9CIDGG-90FP(H) | 9CIDGG-90FP(H)-T | | Three phase 220 | 50 | 9IDGG-90FP(H) | |
| ⓉP 9CIDGH-90FP(H) | 9CIDGH-90FP(H)-T | | Three phase 220 | 60 | 9IDGH-90FP(H) | |
| ⓉP 9CIDGI-90FP(H) | 9CIDGI-90FP(H)-T | | Three phase 230 | 50 | 9IDGI-90FP(H) | |
| ⓉP 9CIDGJ-90FP(H) | 9CIDGJ-90FP(H)-T | | Three phase 230 | 60 | 9IDGJ-90FP(H) | |
| ⓉP 9CIDGK-90FP(H) | 9CIDGK-90FP(H)-T | | Three phase 380 | 50 | 9IDGK-90FP(H) | |
| ⓉP 9CIDGL-90FP(H) | 9CIDGL-90FP(H)-T | | Three phase 380 | 60 | 9IDGL-90FP(H) | |
| ⓉP 9CIDGM-90FP(H) | 9CIDGM-90FP(H)-T | | Three phase 400 | 50 | 9IDGM-90FP(H) | |
| ⓉP 9CIDGN-90FP(H) | 9CIDGN-90FP(H)-T | | Three phase 440 | 50 | 9IDGN-90FP(H) | |
| ⓉP 9CIDGO-90FP(H) | 9CIDGO-90FP(H)-T | Three phase 440 | 60 | 9IDGO-90FP(H) | | |

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.

ⓉP : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature Drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. By attaching F2 FAN additionally, temperature reducing of over 10℃ could be available.

Permissible Torque When using gearhead

60Hz

| Model | speed RPM (r/min) | 900 | 600 | 500 | 360 | 300 | 240 | 200 | 144 | 120 | 100 | 90 | 72 | 60 | 50 | 45 | 36 | 30 | 24 | 20 | 18 | 15 | 12 | 10 | |
|----------------|-------------------|--------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Motor/Gearhead | Gear Ratio | 2 | 3 | 3.6 | 5 | 6 | 7.5 | 9 | 12.5 | 15 | 18 | 20 | 25 | 30 | 36 | 40 | 50 | 60 | 75 | 90 | 100 | 120 | 150 | 180 | |
| 9CIDG□-90FP | 9PBK□BH | kgf cm | 12 | 14.6 | 17.5 | 24.3 | 29.2 | 36.5 | 43.7 | 54.8 | 65.7 | 78.8 | 88.0 | 99 | 119 | 143 | 158 | 198 | 200 | 200 | 200 | 200 | 200 | 200 | 200 |
| | 9PFK□BH | N.m | 1.2 | 1.5 | 1.8 | 2.4 | 2.9 | 3.7 | 4.4 | 5.5 | 6.6 | 7.9 | 8.8 | 9.9 | 12 | 14 | 16 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| | | lb-in | 10.6 | 12.9 | 15.5 | 21.5 | 25.8 | 32.2 | 38.6 | 48.4 | 58.0 | 69.6 | 77.7 | 87.4 | 105 | 126 | 140 | 175 | 177 | 177 | 177 | 177 | 177 | 177 | 177 |
| 9CIDG□-90FH | 9HBK□BH | kgf cm | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 198 | 232 | 259 | 300 | 300 | 300 | 300 | 300 |
| | | N.m | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 20 | 23 | 26 | 30 | 30 | 30 | 30 |
| | | lb-in | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 175 | 205 | 229 | 265 | 265 | 265 | 265 | 265 |

50Hz

| Model | speed RPM (r/min) | 750 | 500 | 417 | 300 | 250 | 200 | 167 | 120 | 100 | 83 | 75 | 60 | 50 | 42 | 38 | 30 | 25 | 20 | 17 | 15 | 13 | 10 | 8 | |
|----------------|-------------------|--------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Motor/Gearhead | Gear Ratio | 2 | 3 | 3.6 | 5 | 6 | 7.5 | 9 | 12.5 | 15 | 18 | 20 | 25 | 30 | 36 | 40 | 50 | 60 | 75 | 90 | 100 | 120 | 150 | 180 | |
| 9CIDG□-90FP | 9PBK□BH | kgf cm | 15 | 18.2 | 21.9 | 30.4 | 36.5 | 45.6 | 54.7 | 68.4 | 82.1 | 98.6 | 110 | 124 | 150 | 180 | 199 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 |
| | 9PFK□BH | N.m | 1.5 | 1.8 | 2.2 | 3.0 | 3.7 | 4.6 | 5.5 | 6.8 | 8.2 | 9.9 | 11 | 12 | 15 | 18 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| | | lb-in | 13.2 | 16.1 | 19.3 | 26.8 | 32.2 | 40.3 | 48.3 | 60 | 72 | 87 | 97 | 109 | 132 | 159 | 176 | 177 | 177 | 177 | 177 | 177 | 177 | 177 | 177 |
| 9CIDG□-90FH | 9HBK□BH | kgf cm | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 241 | 289 | 300 | 300 | 300 | 300 | 300 | 300 |
| | | N.m | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 24 | 29 | 30 | 30 | 30 | 30 | 30 |
| | | lb-in | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 213 | 255 | 265 | 265 | 265 | 265 | 265 | 265 |

* Enter the gear ratio in the box (□) within the gearhead model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.

* The speed is calculated by dividing the motor's synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.

* The actual speed is 2~20% less than the displayed value, depending on the size of the load.

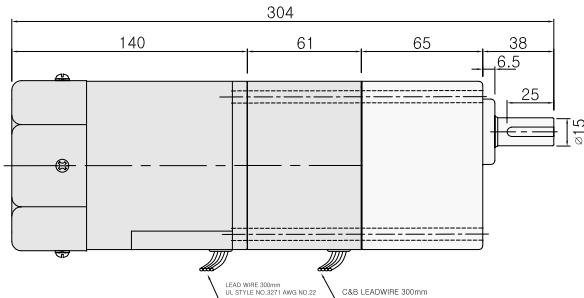
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 200kgfcm (P type) / 300kgfcm (H type).

Dimension

LEAD WIRE TYPE

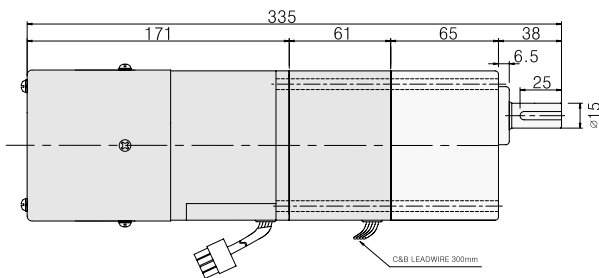
GEARED MOTOR

* MOTOR MODEL : 9CIDG□-90FP (GENERAL FAN)

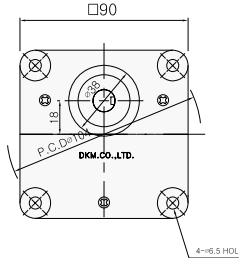


* MOTOR MODEL : 9CIDG□-90F2P (POWERFUL FAN)

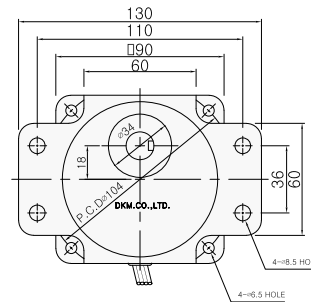
* GEARHEAD MODEL : 9PB□3BH - 9PB□180BH



* GEARHEAD MODEL : 9PB□3BH - 9PB□180BH

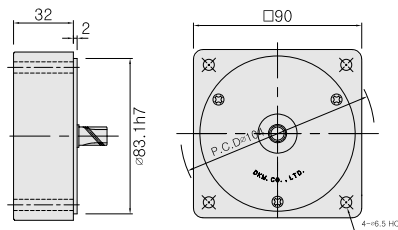


* GEARHEAD MODEL : 9PF□3BH - 9PF□180BH



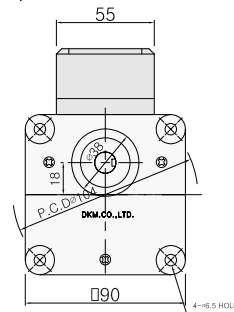
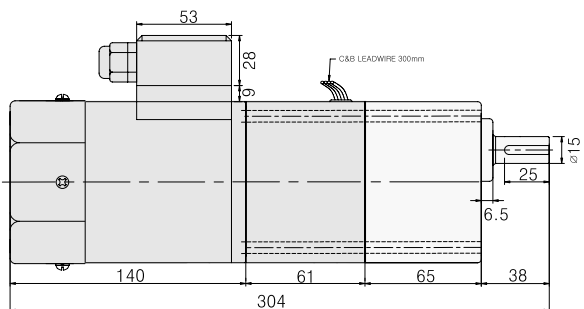
INTER-DECIMAL GEARHEAD

* MODEL : 9XD10M□



TERMINAL BOX TYPE

* MOTOR MODEL : 9CIDG□-90FP-T (POWERFUL FAN)



GEARHEAD OUTPUT

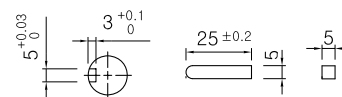
| MODEL | SHAFT |
|-----------------------|-------|
| ROUND TYPE | |
| 9P□S3BH ~9P□S180BH | |
| D-CUT TYPE | |
| 9P□D3BH ~9P□D180BH | |
| KEY TYPE | |
| 9P□K3BH ~9P□K180BH | |

* Note : There are 2 kinds of fan type (General Fan / Powerful Fan).
Customer can choose fan type according to wanted rating time.

WEIGHT

| PART | WEIGHT(Kg) | |
|------------------|--------------------------|-----|
| MOTOR | 3.0 | |
| CLUTCH & BRAKE | 1.35 | |
| DECIMAL GEARHEAD | 0.5 | |
| GEAR HEAD | 9P□□3BH - 9P□□9BH | 1.3 |
| | 9P□□12.5BH - 9P□□18BH | 1.3 |
| | 9P□□25BH - 9P□□60BH | 1.4 |
| | 9P□□90BH - 9P□□180BH | 1.4 |

KEY SPEC



MOTOR OUTPUT

| MODEL | SHAFT |
|-----------|-------|
| GEAR TYPE | |
| 9CIDG□-90 | |

* Note : Above table indicates output shaft dimension made by user's request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Please refer to page 115, page 25.

CLUTCH & BRAKE MOTOR 120W

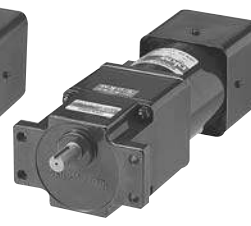
□90mm(3.54in.)



LEAD WIRE TYPE
+ F FAN



LEAD WIRE TYPE
+ F2 FAN



LEAD WIRE TYPE
+ F2 FAN



TERMINAL BOX TYPE
+ F2 FAN

Motor Specification



| Model 9CIDG□-120FP : Pinion Shaft Type | | Output | | Voltage | Freq. | Motor Model | Gearhead Model |
|---|-------------------|-----------------|-----|------------------|-------|-------------------|---|
| Lead Wire Type | Terminal Box Type | HP | W | VAC | Hz | (INDUCTION MOTOR) | |
| TP 9CIDGA-120FP(H) | 9CIDGA-120FP(H)-T | 1/6 | 120 | Single Phase 110 | 60 | 9IDGA-120FP(H) | 9PB(F)K□BH or 9HBK□BH |
| TP 9CIDGB-120FP(H) | 9CIDGB-120FP(H)-T | | | Single Phase 115 | 60 | 9IDGB-120FP(H) | |
| TP 9CIDGC-120FP(H) | 9CIDGC-120FP(H)-T | | | Single Phase 220 | 50 | 9IDGC-120FP(H) | |
| TP 9CIDGD-120FP(H) | 9CIDGD-120FP(H)-T | | | Single Phase 220 | 60 | 9IDGD-120FP(H) | |
| TP 9CIDGE-120FP(H) | 9CIDGE-120FP(H)-T | | | Single Phase 230 | 50 | 9IDGE-120FP(H) | |
| TP 9CIDGF-120FP(H) | 9CIDGF-120FP(H)-T | | | Single Phase 230 | 60 | 9IDGF-120FP(H) | |
| TP 9CIDGG-120FP(H) | 9CIDGG-120FP(H)-T | | | Three phase 220 | 50 | 9IDGG-120FP(H) | |
| TP 9CIDGH-120FP(H) | 9CIDGH-120FP(H)-T | | | Three phase 220 | 60 | 9IDGH-120FP(H) | |
| TP 9CIDGI-120FP(H) | 9CIDGI-120FP(H)-T | | | Three phase 230 | 50 | 9IDGI-120FP(H) | |
| TP 9CIDGJ-120FP(H) | 9CIDGJ-120FP(H)-T | | | Three phase 230 | 60 | 9IDGJ-120FP(H) | |
| TP 9CIDGK-120FP(H) | 9CIDGK-120FP(H)-T | | | Three phase 380 | 50 | 9IDGK-120FP(H) | |
| TP 9CIDGL-120FP(H) | 9CIDGL-120FP(H)-T | | | Three phase 380 | 60 | 9IDGL-120FP(H) | |
| TP 9CIDGM-120FP(H) | 9CIDGM-120FP(H)-T | | | Three phase 400 | 50 | 9IDGM-120FP(H) | |
| TP 9CIDGN-120FP(H) | 9CIDGN-120FP(H)-T | | | Three phase 440 | 50 | 9IDGN-120FP(H) | |
| TP 9CIDGO-120FP(H) | 9CIDGO-120FP(H)-T | Three phase 440 | 60 | 9IDGO-120FP(H) | | | |

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.

TP : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. By attaching F2 FAN additionally, temperature reducing of over 10℃ could be available.

Permissible Torque When using gearhead

60Hz

| Model | speed RPM (r/min) | 900 | 600 | 500 | 360 | 300 | 240 | 200 | 144 | 120 | 100 | 90 | 72 | 60 | 50 | 45 | 36 | 30 | 24 | 20 | 18 | 15 | 12 | 10 | |
|-----------------------------------|-------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Motor/Gearhead | Gear Ratio | 2 | 3 | 3.6 | 5 | 6 | 7.5 | 9 | 12.5 | 15 | 18 | 20 | 25 | 30 | 36 | 40 | 50 | 60 | 75 | 90 | 100 | 120 | 150 | 180 | |
| 9CIDG□-120FP / 9PBK□BH 9PFK□BH | kgf cm | 17.5 | 18.7 | 22.5 | 31.2 | 37.4 | 46.8 | 56.1 | 70.2 | 84.2 | 101 | 114 | 126 | 152 | 182 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 |
| | N.m | 1.8 | 1.9 | 2.3 | 3.1 | 3.7 | 4.7 | 5.6 | 7.0 | 8.4 | 10.1 | 11.4 | 12.6 | 15 | 18 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| | lb-in | 15.5 | 16.5 | 19.9 | 27.5 | 33.2 | 41.3 | 49.5 | 62.0 | 74 | 89 | 101 | 111 | 134 | 161 | 177 | 177 | 177 | 177 | 177 | 177 | 177 | 177 | 177 | 177 |
| 9CIDG□-120FH / 9HBK□BH | kgf cm | - | 20.6 | 24.8 | - | 41.1 | - | 61.7 | 77.2 | 93 | 111 | - | 139 | 167 | 200 | - | 220 | 240 | 300 | 300 | 300 | 300 | 300 | 300 | 300 |
| | N.m | - | 2.1 | 2.5 | - | 4.1 | - | 6.2 | 7.7 | 9.3 | 11.1 | - | 13.9 | 16.7 | 20.0 | - | 22 | 24 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| | lb-in | - | 18.2 | 21.9 | - | 36.3 | - | 54.5 | 68.2 | 81.8 | 98.1 | - | 122 | 148 | 177 | - | 194 | 212 | 265 | 265 | 265 | 265 | 265 | 265 | 265 |

50Hz

| Model | speed RPM (r/min) | 750 | 500 | 417 | 300 | 250 | 200 | 167 | 120 | 100 | 83 | 75 | 60 | 50 | 42 | 38 | 30 | 25 | 20 | 17 | 15 | 13 | 10 | 8 | |
|-----------------------------------|-------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Motor/Gearhead | Gear Ratio | 2 | 3 | 3.6 | 5 | 6 | 7.5 | 9 | 12.5 | 15 | 18 | 20 | 25 | 30 | 36 | 40 | 50 | 60 | 75 | 90 | 100 | 120 | 150 | 180 | |
| 9CIDG□-120FP / 9PBK□BH 9PFK□BH | kgf cm | 22.0 | 23.2 | 27.8 | 37.8 | 46.4 | 58.0 | 69.6 | 87.0 | 104 | 125 | 140 | 156 | 188 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 |
| | N.m | 2.20 | 2.32 | 2.78 | 3.87 | 4.64 | 5.80 | 6.96 | 8.7 | 10.4 | 12.5 | 14.0 | 15.6 | 19 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| | lb-in | 19.4 | 20.5 | 24.5 | 34.2 | 41.0 | 51.2 | 61.5 | 76.8 | 92 | 110 | 124 | 138 | 166 | 177 | 177 | 177 | 177 | 177 | 177 | 177 | 177 | 177 | 177 | 177 |
| 9CIDG□-120FH / 9HBK□BH | kgf cm | - | 25.5 | 30.6 | - | 51.0 | - | 76.6 | 95.7 | 114 | 138 | - | 172 | 207 | 220 | - | 240 | 260 | 300 | 300 | 300 | 300 | 300 | 300 | 300 |
| | N.m | - | 2.6 | 3.1 | - | 5.1 | - | 7.7 | 9.6 | 11.4 | 13.8 | - | 17.2 | 20.7 | 22 | - | 24 | 26 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| | lb-in | - | 22.5 | 27.0 | - | 45.1 | - | 67.6 | 84.5 | 101 | 121 | - | 152 | 182 | 194 | - | 212 | 230 | 265 | 265 | 265 | 265 | 265 | 265 | 265 |

* Enter the gear ratio in the box (□) within the gearhead model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.

* The speed is calculated by dividing the motor's synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.

* The actual speed is 2~20% less than the displayed value, depending on the size of the load.

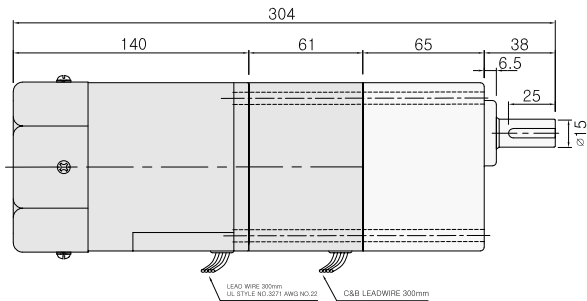
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 200kgfcm (P type) / 300kgfcm (H type).

Dimension

● LEAD WIRE TYPE

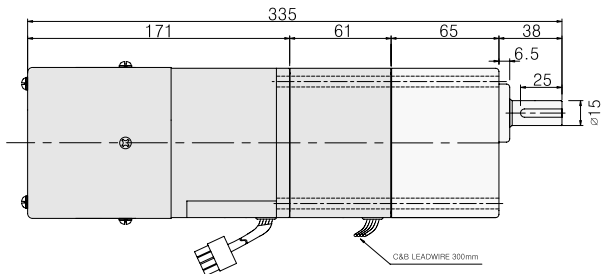
◆ GEARED MOTOR

* MOTOR MODEL : 9CIDG□-120FP (GENERAL FAN)

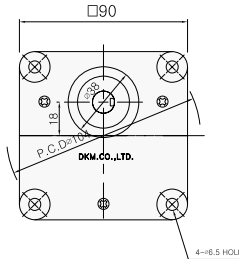


* MOTOR MODEL : 9CIDG□-120F2P (POWERFUL FAN)

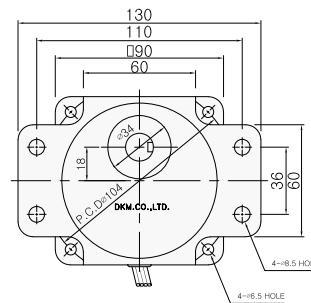
* GEARHEAD MODEL : 9PB□3BH - 9PB□180BH



* GEARHEAD MODEL :
9PB□3BH - 9PB□180BH

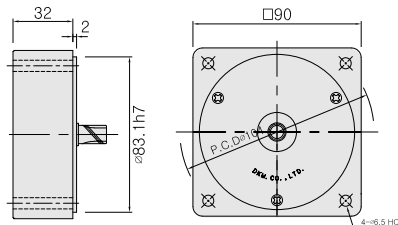


* GEARHEAD MODEL :
9PF□3BH - 9PF□180BH

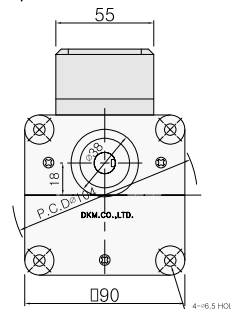
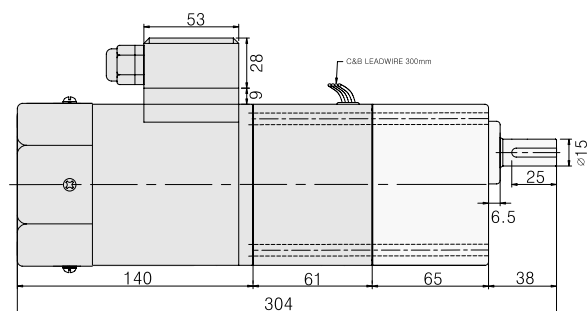


◆ INTER-DECIMAL GEARHEAD

* MODEL : 9XD10M□



● TERMINAL BOX TYPE * MOTOR MODEL : 9CIDG□-120FP-T (POWERFUL FAN)



* Note : There are 2 kinds of fan type (General Fan / Powerful Fan).
Customer can choose fan type according to wanted rating time.

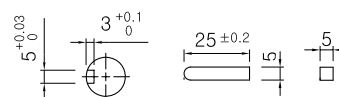
◆ GEARHEAD OUTPUT

| MODEL | SHAFT |
|-----------------------|-------|
| ROUND TYPE | |
| 9P□S3BH ~9P□S180BH | |
| D-CUT TYPE | |
| 9P□D3BH ~9P□D180BH | |
| KEY TYPE | |
| 9P□K3BH ~9P□K180BH | |

◆ WEIGHT

| PART | WEIGHT(Kg) | |
|------------------|-----------------------|-----|
| MOTOR | 3.0 | |
| CLUTCH & BRAKE | 1.35 | |
| DECIMAL GEARHEAD | 0.5 | |
| GEAR HEAD | 9P□□3BH - 9P□□9BH | 1.3 |
| | 9P□□12.5BH - 9P□□18BH | 1.3 |
| | 9P□□25BH - 9P□□60BH | 1.4 |
| | 9P□□90BH - 9P□□180BH | 1.4 |

◆ KEY SPEC



◆ MOTOR OUTPUT

| MODEL | SHAFT |
|------------|-------|
| GEAR TYPE | |
| 9CIDG□-120 | |

* Note : Above table indicates output shaft dimension made by user's request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Please refer to page 115, page 25.