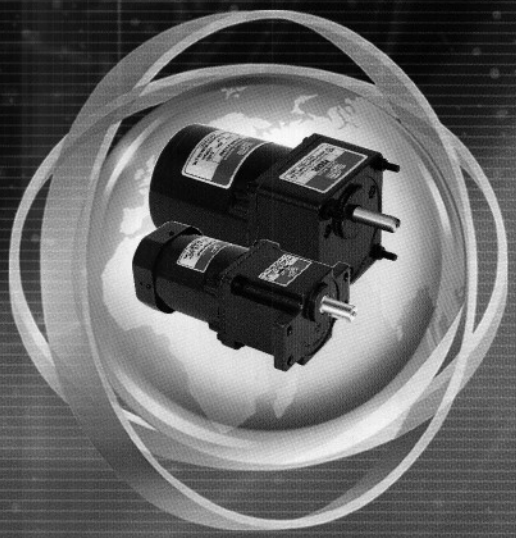
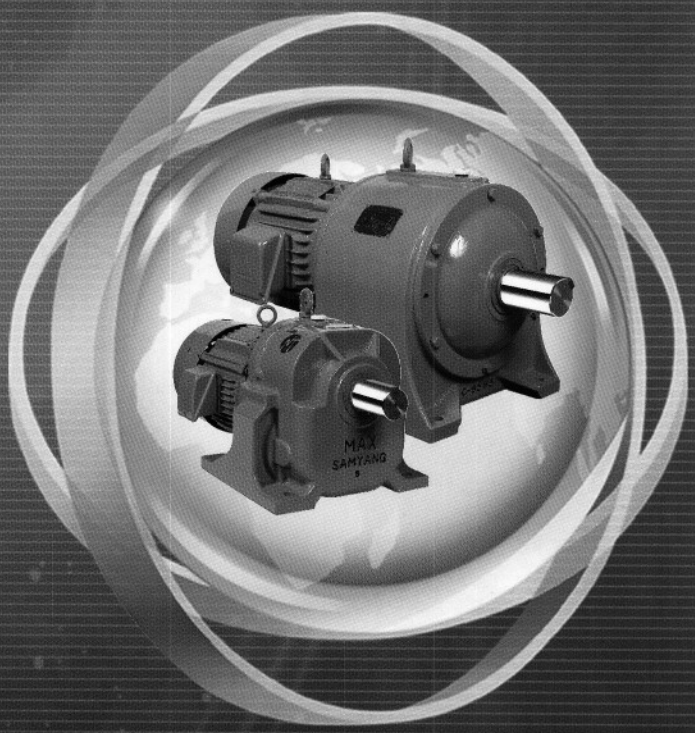
# 5 GEARED MOTORS



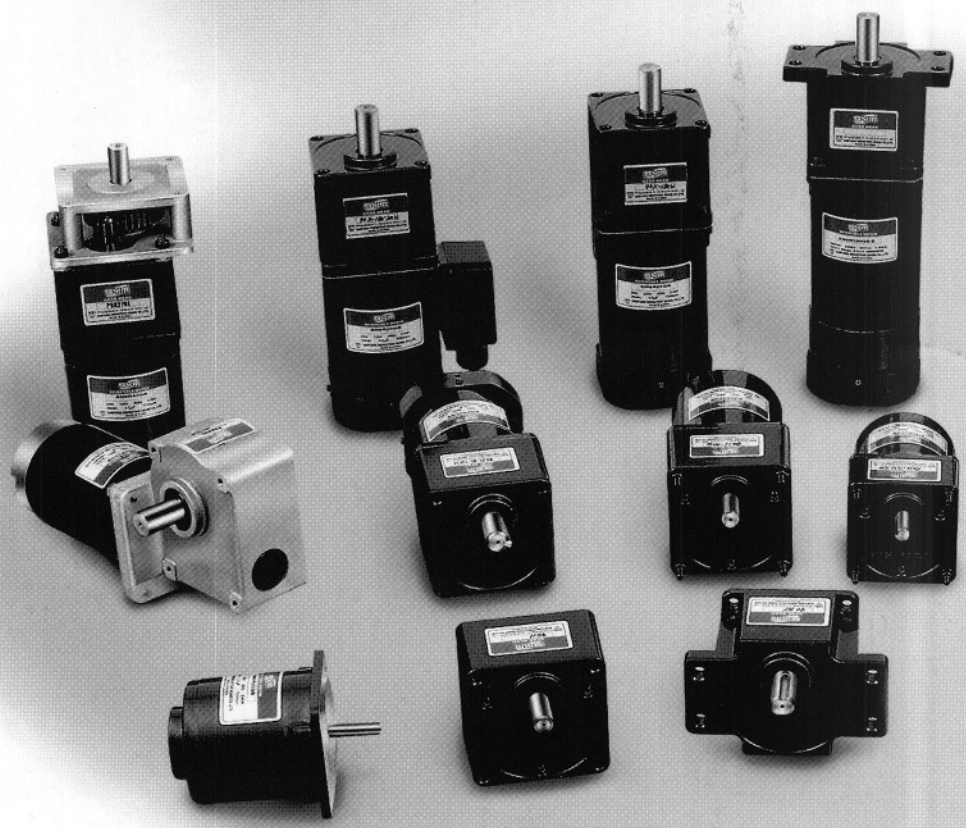




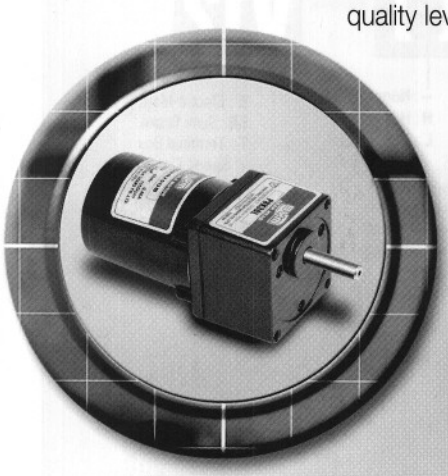
# 삼양의 기술력이 만든 최고의 품질!

# 소형기어드 모터!

SYM

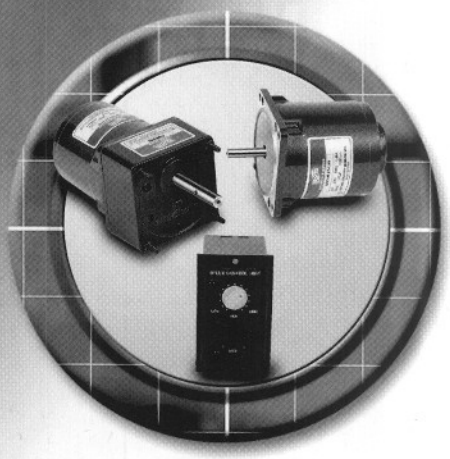


Quality, Technique, Cost, Delivery are the competitive of SAMYANG Reduction Gears.
You will meet SAMYANG SYM geared motor at every where in the world in near future.
It is the time you can save cost and upgrade your quality level of geared motored equipments.



INDUCTION MOTOR

ELECTRO MAGNETIC BRAKE MOTOR



SPEED CONTROL MOTOR

# 제품분류표

## CODE TREE

### MOTOR CODE

| MAKER | SIZE | MOTOR TYPE | WATT | SHAFT | VOLTAGE | LOAD | | OPTION |
|---|---|---|---|---|---|---|---|---|
| SM | 8 | N | 40 | G | B | [ ] | — | V12 |

**MAKER**
- SM : SAMYANG MOTOR

**SIZE**
- 6 : □ 60mm
- 7 : □ 70mm
- 8 : □ 80mm
- 9 : □ 90mm

**MOTOR TYPE**
- N : Induction Motor
- R : Reversible Motor

**WATT**
- 06 : 6W
- 15 : 15W
- 25 : 25W
- 40 : 40W
- 60 : 60W
- 90 : 90W
- 120 : 120W
- 150 : 150W
- 180 : 180W
- 200 : 200W

**SHAFT**
- G : Gear Screw Type
- S : Straight Type
- D : D-Cut Type
- K : Key Type

**VOLTAGE**
- A : AC 110V-1Ø -60Hz-4P
- B : AC 220V-1Ø -60Hz-4P
- C : AC 100V-1Ø -50/60Hz-4P
- D : AC 200V-1Ø -50/60Hz-4P
- E : AC 115V-1Ø -60Hz-4P
- X : AC 220/240V-1Ø -50Hz-4P
- U : AC 200V-3Ø -50/60Hz-4P
- T : AC 220V-3Ø -50/60Hz-4P
- S : AC 380-440V-3Ø -50/60Hz-4P

**LOAD**
- – : Normal
- H : Heavy Load
- L : Light Load

**OPTION**
- E : Electro-Mag. Brake
- SB: Semi Brake
- T : Terminal Box
- V: Speed Control
  - V12 : 12 Volt TG
  - V24 : 24 Volt TG
- EV : Electro Mag. Brake Plus Speed Control

### GEAR HEAD CODE

| TYPE | SIZE | SHAFT | RATIO | LOAD FRAME | | OPTION |
|---|---|---|---|---|---|---|
| P | 9 | K | 180 | KF | — | SL150 |

**TYPE**
- P : Parallel Shaft
- C : Concentric Shaft
- R : Right angle Shaft

**SIZE**
- 6 : □ 60mm
- 7 : □ 70mm
- 8 : □ 80mm
- 9 : □ 90mm

**SHAFT**
- G : Gear Screw Type
- S : Straight Type
- D : D-Cut Type
- K : Key Type

**RATIO**

Reduction Ratio
- 03 : 1 / 3
- 05 : 1 / 5
- 075 : 7.5 / 1
- ⋮
- 10 : 1 / 10
- 100 : 1 /100
- ⋮
- 1750 : 1 / 1750

**LOAD FRAME**
- L : Light
- H : Heavy
- HF : Heavy + Flange
- K : King
- KF : King + Flange

**OPTION**
- SL# : Shaft Length #mm
- 1GHT : 1ST GEAR H/T
- 1GPOM : 1ST GEAR POM (ACETAL)

▶ **BOOST - IN GEAR HEAD**

| CODE | SIZE |
|---|---|
| BST 60N10 | □ 60mm Light |
| BST 80N10 | □ 80mm Light |
| BST 90N10 | □ 90mm Light |
| BST 90H10 | □ 90mm Heavy |
| BST 90K10 | □ 90mm King |

# 소형모터·기어헤드

## MOTOR · GEAR HEAD

### 소형모터 (MOTOR)

| 동 력 (POWER) | 모터형식 (TYPE OF MOTOR) | INDUCTION | REVERSIBLE | EB-BRAKE | SPEED CONTROL | EB +SPEED CTRL |
|---|---|---|---|---|---|---|
| 6W | 민 축 D-SHAFT | SM6N06DB | SM6R06DB | SM6R06DB-E | SM6R06DB-V12 | SM6R06DB-EV12 |
| | 기어축 G-SHAFT | SM6N06GB | SM6R06GB | SM6R06GB-E | SM6R06GB-V12 | SM6R06GB-EV12 |
| 15W | 민 축 D-SHAFT | SM7N15DB | SM7R15DB | SM7R15DB-E | SM7R15DB-V12 | SM7R15DB-EV12 |
| | 기어축 G-SHAFT | SM7N15GB | SM7R15GB | SM7R15GB-E | SM7R15GB-V12 | SM7R15GB-EV12 |
| 15W | 민 축 D-SHAFT | SM8N15DB | SM8R15DB | SM8R15DB-E | SM8R15DB-V12 | SM8R15DB-EV12 |
| | 기어축 G-SHAFT | SM8N15GB | SM8R15GB | SM8R15GB-E | SM8R15GB-V12 | SM8R15GB-EV12 |
| 20W | 민 축 D-SHAFT | SM8N20DB | SM8R20DB | SM8R20DB-E | SM8R20DB-V12 | SM8R20DB-EV12 |
| | 기어축 G-SHAFT | SM8N20GB | SM8R20GB | SM8R20GB-E | SM8R20GB-V12 | SM8R20GB-EV12 |
| 25W | 민 축 D-SHAFT | SM8N25DB | SM8R25DB | SM8R25DB-E | SM8R25DB-V12 | SM8R25DB-EV12 |
| | 기어축 G-SHAFT | SM8N25GB | SM8R25GB | SM8R25GB-E | SM8R25GB-V12 | SM8R25GB-EV12 |
| 40W | 민 축 D-SHAFT | SM9N40DB | SM9R40DB | SM9R40DB-E | SM9R40DB-V12 | SM9R40DB-EV12 |
| | 기어축 G-SHAFT | SM9N40GB | SM9R40GB | SM9R40GB-E | SM9R40GB-V12 | SM9R40GB-EV12 |
| | H 기 어 HG-SHAFT | SM9N40GBH | SM9R40GBH | SM9R40GBH-E | SM9R40GBH-V12 | SM9R40GBH-EV12 |
| 60W | 민 축 D-SHAFT | SM9N60DB | SM9R60DB | SM9R60DB-E | SM9R60DB-V12 | SM9R60DB-EV12 |
| | 기어축 G-SHAFT | SM9N60GB | SM9R60GB | SM9R60GB-E | SM9R60GB-V12 | SM9R60GB-EV12 |
| 90W | 민 축 D-SHAFT | SM9N90DB | SM9R90DB | SM9R90DB-E | SM9R90DB-V12 | SM9R90DB-EV12 |
| | 기어축 G-SHAFT | SM9N90GB | SM9R90GB | SM9R90GB-E | SM9R90GB-V12 | SM9R90GB-EV12 |
| 120W | 민 축 D-SHAFT | SM9N120DB | | SM9N120DB-E | | |
| | 기어축 G-SHAFT | SM9N120GB | | SM9N120GB-E | | |
| | 킹기어 KG-SHAFT | SM9N120GBK | | SM9N120GBK-E | | |
| 150W | 민 축 D-SHAFT | SM9N150DB | | SM9N150DB-E | | |
| | 기어축 G-SHAFT | SM9N150GB | | SM9N150GB-E | | |
| | 킹기어 KG-SHAFT | SM9N150GBK | | SM9N150GBK-E | | |
| 180W | 민 축 D-SHAFT | SM9N180DB | | SM9N180DB-E | | |
| | 기어축 G-SHAFT | SM9N180GB | | SM9N180GB-E | | |
| 200W | 민 축 D-SHAFT | SM9N200DB | | SM9N200DB-E | | |
| | 기어축 G-SHAFT | SM9N200GB | | SM9N200GB-E | | |

· 기어축인 경우 정격 기어 헤드와 조정됨. 기어 헤드에 따라 기어가 달라짐. 민축은 D자 형임.
· 전압은 220Vac기준이므로[B]로 표기되어 있음. 전원이 다를 경우에는 기호가 달라짐.
· 150Watt, 200Watt는 기본형의 크기에서는 삼상 전원만 사용함.

· D-SHAFT : Motor shaft to be round bar with D-cut seat.
· G-SHAFT : Motor shaft to be helical gear for SYM gear head.(normal)
· HG-SHAFT : Motor shaft to be helical gear for heavy gear head.
· KG-SHAFT : Motor shaft to be helical gear for king gear head.
· Geared shaft to be matched with speicfied gear head or optional (HG,KG)

· SPEED CONTROL 전압은 12V AC기준임.
· EB형 REVERSIBLE은 90W까지만 있고, 그 이상은INDUCTION MOTOR적용.

· 220VAG-60 HZ is type on the table for example only.
Please specify input requirements exactly
· 150WATT, 220WATT : No single Phase of input available.
· 12 VAC is standard for speed controller generation.
· Reversible motors are available up to 90 watt.

### 소형기어헤드 (GEAR HEAD)

| 크 기 SIZE | 출력축 SHAFT | 일반형N L:LIGHT | | 강력형H H:HEAVY | | 강력플랜지HF HF:HEAVY+FLANGE | | 킹형K K:KING | | 킹플랜지KF KF:KING+FLANGE | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Model | 동력(W) | Model | 동력(W) | Model | 동력(W) | Model | 동력(W) | Model | 동력(W) |
| 60mm | 평행형 PARALLEL<br>동심형 CONCENTRIC<br>직교형 RIGHT | P6D##L<br>C6D##L<br>R6D##L | 6W | | | | | | | | |
| 70mm | 평행형 PARALLEL<br>동심형 CONCENTRIC<br>직교형 RIGHT | P7K##L<br>C7K##L<br>R7K##L | 15W | | | | | | | | |
| 80mm | 평행형 PARALLEL<br>동심형 CONCENTRIC<br>직교형 RIGHT | P8K##L<br>C8K##L<br>R8K##L | 15W<br>25W | | | | | | | | |
| 90mm | 평행형 PARALLEL<br>동심형 CONCENTRIC<br>직교형 RIGHT | P9K##L<br>C9K##L<br>R9K##L | 40W | P9K##H<br>C9K##H<br>R9K##H | 60W,90W<br>120W<br>150W | P9K##HF<br>C9K##HF<br>R9K##HF | 60W,90W<br>120W<br>150W | P9K##K<br>C9K##K<br>R9K##K | 180W<br>200W | P9K##KF<br>C9K##KF<br>R9K##KF | 180W<br>200W |

· ##에는 기어 비율을 기입함.
· 출력축의 형상에 따라 추가 사항을 기입하면 됨.

· Gear ratio to be filled at '##'.
· Options to be added to the code.(Shaft configurations · · ·)

· 동심형은 유성 기어를 사용함.
· 직교형은 웜 기어 형식이 표준임.

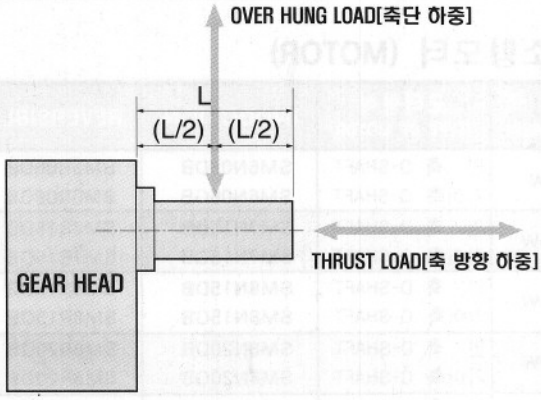
· Planetary gears may be used in concentric type.
· Worm gearing may be used in right angle type.

GEARED MOTORS

## OVER HUNG과 THRUST하중 (OVERHUNG LOAD AND THRUST LOAD)

▶ 축단하중은 축에 직각으로 걸리는 하중으로 감속기가 출력축과 사용기계와의 연결시 체인, 기어, 벨트등을 사용하는 경우에 축단 하중이 걸리게 됩니다. 축단하중이 크게 작용하면 축이 휘며, 진동, 베어링의 파손 또는 CASE에 CRACK이 발생되는 원인이 되므로 반드시 축단하중을 검토하여 주십시오.

▶ Overhung Load(OHL) is a load which directs orthogonal to a shaft as radial load, generated by chain, gear, pulley, belt transmission.
OHL causes bending, misalignment, vibration, bearing failure, foot failure or crack of structures when exceeds the capability. When you select a reducer, OHL should be considered into the system design.




## 각 GEAR HEAD별 OVER HUNG LOAD표(La) (Allowable Over-Hung Load (La))

| MODEL | GEAR RATIO | MAX.허용 토오크(Kg·cm) ALLOWABLE LOAD TORQUE(Kg·cm) | 허용 축단하중(La) (L/2위치) (Kg) ALLOWABLE OHL(Center OS)Kgf | 허용 스러스트 하중(Kg) ALLOWABLE THRUST LOAD(Kgf) | 비 고 REMARKS |
|---|---|---|---|---|---|
| P60N | 20 ~ 200 | 30 | 12 | 3 | P80N20Watt MEDUM SPECIAL은 50%적용 50% CAPABILITY FOR 20WATT SPECIAL TYPE |
| P80N | 20 ~ 200 | 80 | 25 | 5 | |
| P90N | 20 ~ 200 | 100 | 35 | 10 | |
| P90H,HF | 3 ~ 200 | 200 | 60 | 15 | |
| P90K,KF | 3 ~ 200 | 300 | 70 | | |

· 허용 토오크는 감속비별로 틀립니다.(각 GEAR HEAD 토오크표 참조)
· GEAR RATIO 1/18 이하의 허용 축단 하중은 50~30%낮아짐.
· O.H.L 의 작용 위치가 멀어질수록 허용 O.H.L 도 작아짐.
· Allowable Load Torque will be dependent on gear ratio. Refer to the torque table of detail data sheet.
· Allowable OHL shall be 50~70 % of listed for the gear ratio 1/2 ~ 1/18
· Allowable OHL shall be reduced at the point of load locates further than middle of shaft length

## OVER HUNG LOAD계산 (Calculating OHL Capacity)

$$Lr = \frac{K \times T \times Sf}{R}$$

Lr : Over Hung Load(Kg)
K : 구동방법에 의한 계수 (Pulley Factor)
T : GEAR HEAD 출력축에 있어서 전달 토오크(Kg·cm) (Load Torque ( kg-cm))
Sf : 설계자 안전계수 (Safety Factor by Designer)
R : 치차, PULLEY 등의 유효 반경(cm) (Radius of Loading Pulley or Gear)

Lr ≧ La 이면 기어헤드를 더 큰 것으로 선정하십시오.
Lr < La should be required. If not, replace by bigger gear box.

구동방법에 따른 계수표(K) (Table : Pulley Factors (K))

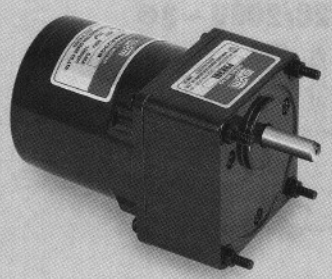
| 구동방법 (DRIVING METHOD) | K |
|---|---|
| CHAIN TRANSMISSION | 1.0 |
| GEAR TRANSMISSION | 1.25 |
| V-BELT TRANSMISSION | 1.5 |
| FLAT BELT TRANSMISSION | 2.5 |

# 제품의 소개
## INTRODUCTIONS

### INDUCTION MOTOR

연속 운전 정격용 모터의 대표적인 기종으로서, Condenser 운전형 단상 모터와 콘덴서가 필요없는 삼상 모터 2종류가 있습니다.

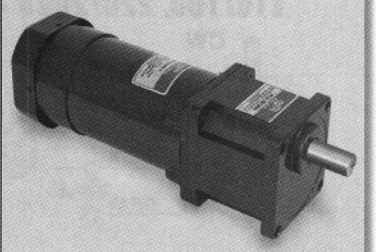
Typical AC motors for continuous run under the loads.
Single phase input type with condenser or three phases input type without condenser will provide you to select wide range of applications.



### 브레이크 모터
### ELECTRO-MAGNETIC BRAKE MOTOR

전자 브레이크를 장착한 모터입니다. 무여자 작동형( NormClosed) B-Type 전자 브레이크를 채택하였습니다. 정지시 확실한 유지력을 갖추며, 안전성을 확보할 수 있습니다.

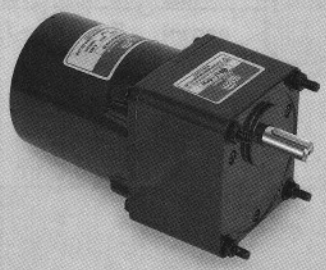
Electric motors with electro-magnetic brake inclosed. B-Type of brake (Normally closed) is the default type unless specified in order for EB-Motor.
B-typed motor will be held during electric power off.



### REVERSIBLE MOTOR

단속 운전 정격용 모터 기종으로서, 콘덴서 운전형 단상 모터입니다.
외관은 INDUCTION MOTOR와 거의 같지만 모터를 순간적으로 정지,기동 또는 역방향 기동이 가능하므로 정역 운전을 자주 반복할 때 적합합니다.

Electric motor having semi-disk brake inclosed so that it can stop and run reverse direction within a second.It looks similar to Induction motor but is applied to the equipment that run and stop and rerun or reverse run frequently and continuous running within 30 minutes.



### 속도제어 MOTOR
### SPEED CONTROL MOTOR

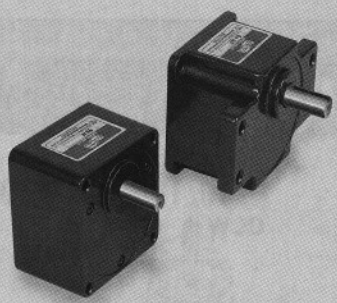
속도 측정 Unit 및 컨트롤 Unit를 조합하여 회전속도를 자유자재로 조절할 수 있습니다.
속도제어 콘트롤 Unit를 필요로 합니다.

Electric motor having Tacho-Generator inclosed and external control unit combined. It requires speed control unit separately.

### 기어헤드
### GEAR HEAD

SY모터중 기어형 출력축에 직결하여 사용할 수 있도록 제조된 감속기 Unit입니다.
□60mm , □80mm, □90mm의 크기로 모터 부착부와 크기를 맞출 수 있습니다.
경하중에 사용되는 일반형과 비교적 큰 부하용인 강력형, 대용량인 킹 사이즈로 대별되며 강력형과 킹사이즈는 플랜지형이 있어 설치 사용에 편리합니다.

Gear Box Reducer which was designed to be installed with SYM motor.
Size of boxes are□60 mm, □80 mm, □90 mm to fit with motors
Light type, Heavy Type, King type and Flanged Types will provide you wide variety of choice.



### 속도 콘트롤러
### SPEED CONTROL UNIT

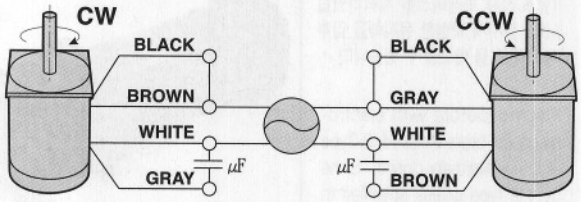
속도 콘트롤러는 Unit형과 PACK형이 있습니다마는 당사에서는 일반 사용자들에게 가장 널리 이용되는 Unit형을 기본으로 채택하고 있습니다.
디지털모델에는 피이드 백 제어기능이 있는 고급형과 단순표시 기능만 있는 보급형이 있습니다.
아날로그와 보급형은 회전속도 가감 기능만 있습니다.

Separate unit to control speed control motor by Volume Handle.
Unit type is the standard for default order.

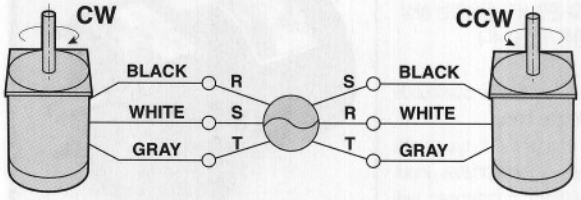
# 전원 결선도 종합표(WIRINGS TO MOTOR)

## INDUCTION MOTOR

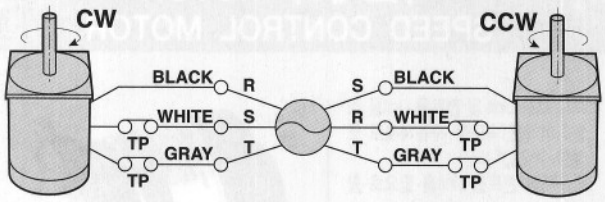
### 110/100, 220/200V - 1∅



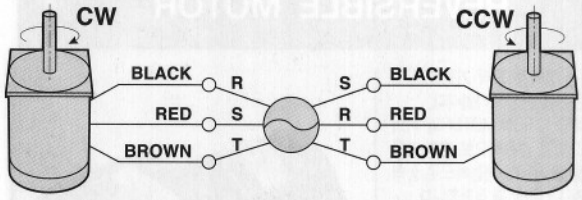

### 220/200V - 3∅



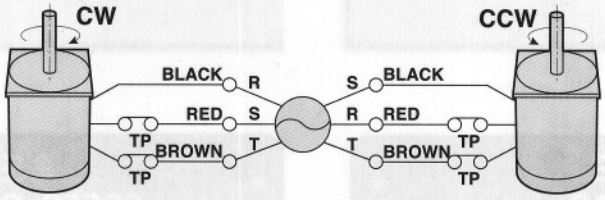

### 220/200V - 3∅(TP)




### 380/440V - 3∅

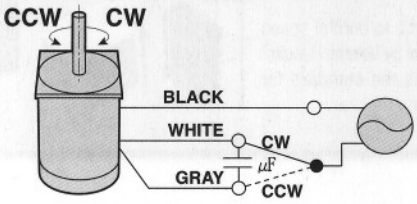



### 380/440V - 3∅(TP)

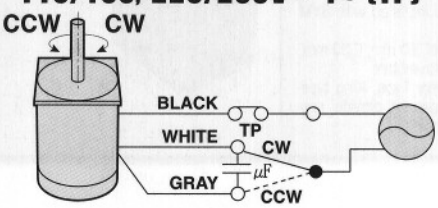



## REVERSIBLE MOTOR

### 110/100, 220/200V - 1∅

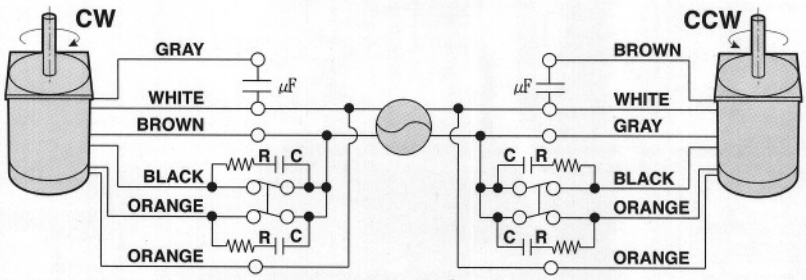



### 110/100, 220/200V - 1∅(TP)



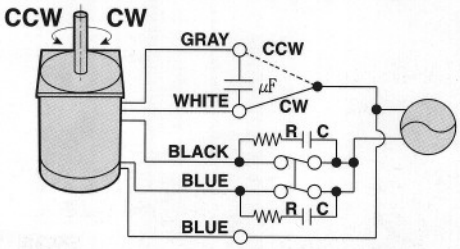
# ELECTRO MAGNETIC BRAKE MOTOR

## 220/200V - 1∅ (INDUCTION)



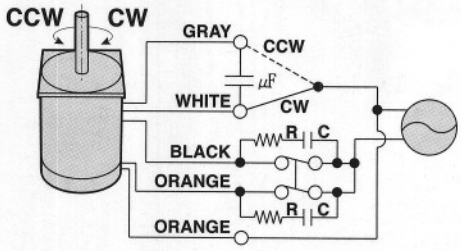

R : 10 ~ 200 Ω
C : 0.1 ~ 0.5 μF

## 100/110V - 1∅ (REVERSIBLE)



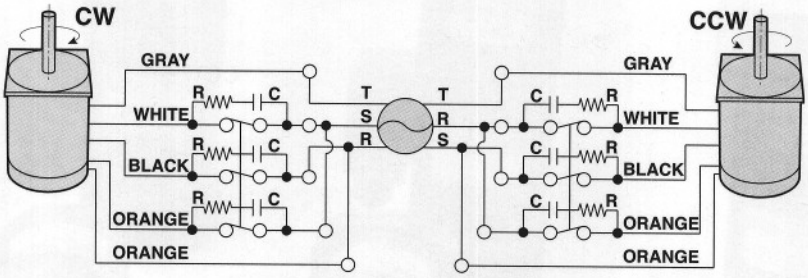

R : 10 ~ 100 Ω
C : 0.1 ~ 0.50 μF

## 220/200V - 1∅ (REVERSIBLE)



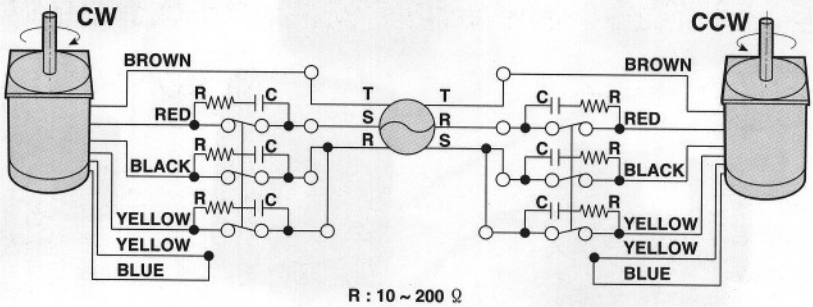

R : 10 ~ 100 Ω
C : 0.1 ~ 0.50 μF

## 220/200V - 3∅ (INDUCTION)

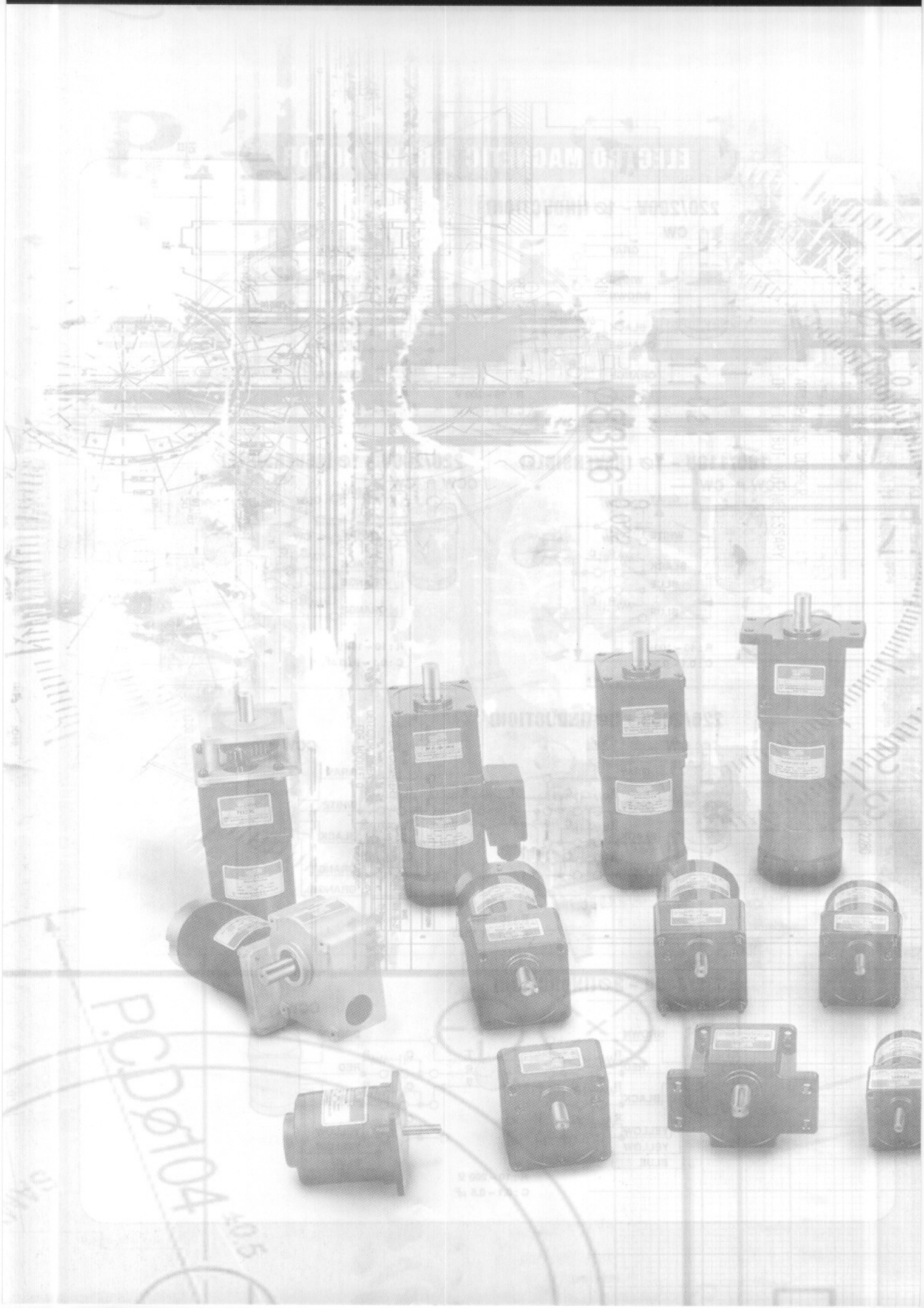



R : 10 ~ 100 Ω
C : 0.1 ~ 0.50 μF

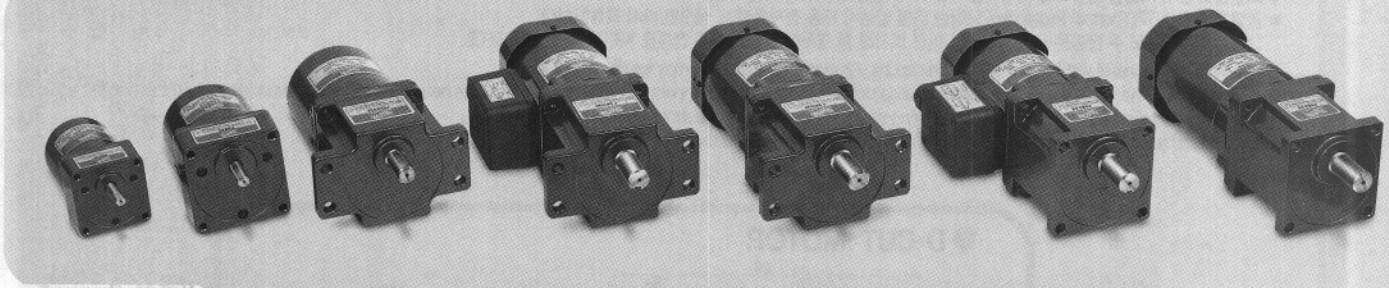
## 380/440V - 3∅ (INDUCTION)

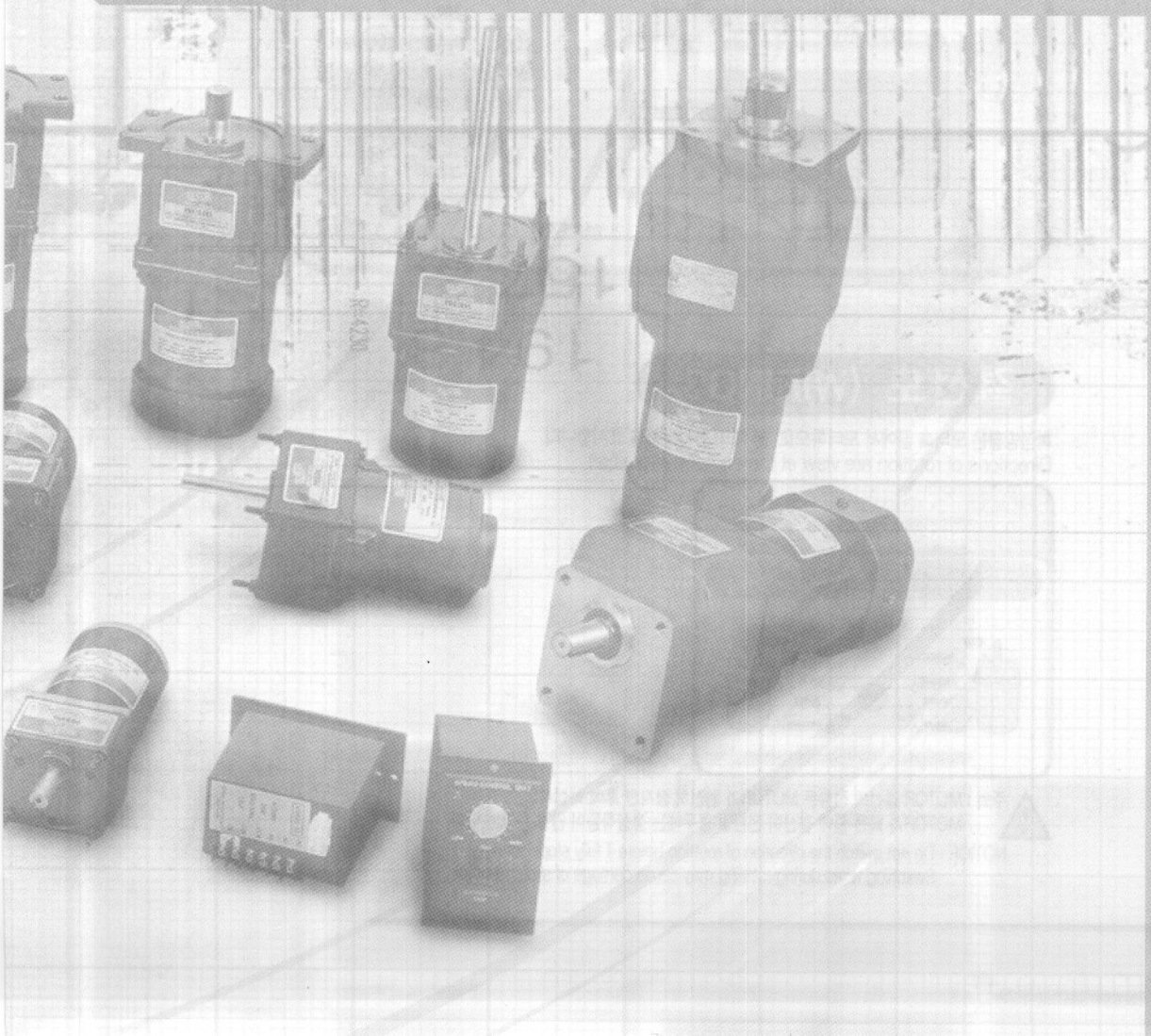



R : 10 ~ 200 Ω
C : 0.1 ~ 0.5 μF



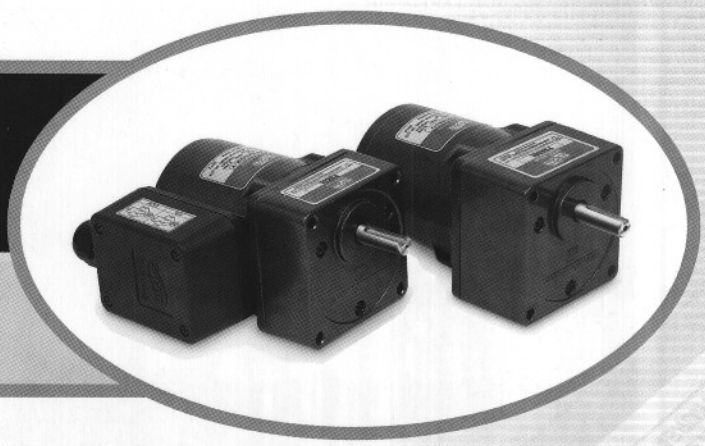
# INDUCTION MOTOR





# 6W

## INDUCTION MOTOR
## □60mm
## LEAD WIRE TYPE

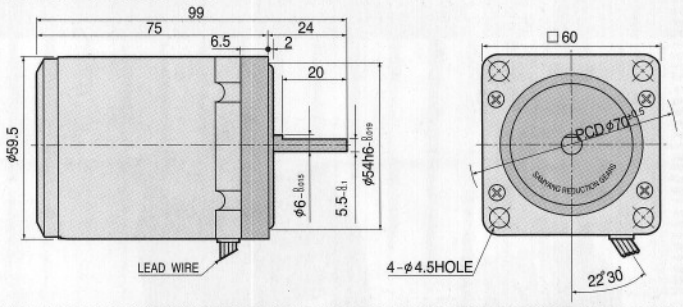


## MOTOR SPECIFICATIONS

| Model | Output | Input | | | Mag. Poles | Run Duty | Ratings | | | | Start Torque | | Condenser |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Volt | Phase | Freq. | | | Current | Speed | Torque | | | | |
| | Watt | V | | Hz | | min | Amp | rpm | Kg-cm | N-m | Kg-cm | N-m | (μF) |
| SM6N06GB | 6 | 220 | 1ø | 60 | 4 | Cont. | 0.11 | 1550 | 0.45 | 0.044 | 0.65 | 0.064 | 0.7 |

- 모델별로 정격 사양을 준수하여 사용하십시오. 모터 손상의 주 요인이 됩니다.
- 과열 보호형인 TP(Thermal Protective) 모터는 과열 발생시 자동 정지되지만, 식으면 다시 작동됩니다.
  그러나 정지시에도 주 전원은 살아 있으므로 어떤 조치를 할 경우에는 반드시 주 전원을 차단한 후 조작하십시오.
- Please load and install within the rated specifications. Or motor or gear head may be damaged.
- TP(Thermally Protected) type of motor may be stop(power off) itself when temperature sensor in the motor is heated up to limited temperature and then restart again after the motor and sensor is cooled down. But during stops, do not operate the motor manually.
  If you intend to operate the motor, disconnect main power switch before touch.

## D-CUT MOTOR

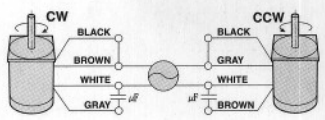



## 결선도 (WIRINGS)

회전방향은 모터축 끝에서 모터쪽으로 볼 때의 회전방향을 표시합니다.
Directions of rotation are view at the end of motor shaft.

- 100/110V-1ø
- 200/220V-1ø

### CW/CCW

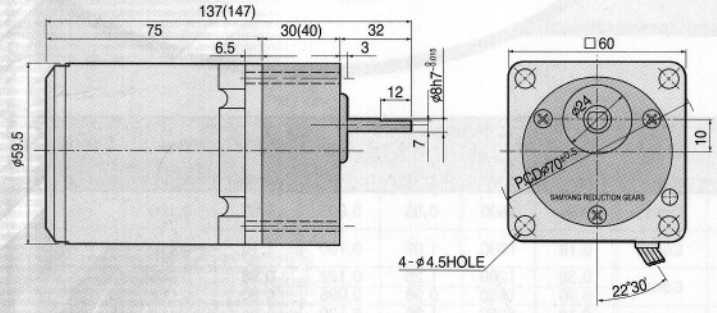



⚠ 주의 : MOTOR 결선의 전환은 MOTOR가 완전히 정지한 후에 하십시오.
MOTOR가 회전 중에 결선이 전환될 경우에는 정상작동이 안될 수 있습니다.

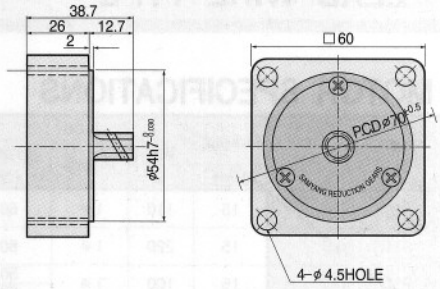
NOTICE : Do not switch the direction of rotation before it fully stops rotating.
Switching wires during rotating may cause damage of system/motor.

# DIMENSIONS

## GEARED MOTOR




## BOOST-IN GEAR HEAD
(BST 60N 10)




## WEIGHT

| PART | | WEIGHT(kg) |
|---|---|---|
| MOTOR | | 0.72 |
| BOOST-IN GEAR HEAD | | 0.18 |
| GEAR HEAD | 1/3~1/18 | 0.25 |
| | 1/20~1/40 | 0.30 |
| | 1/50~1/200 | 0.33 |

## GEAR HEAD 연결 사용시의 허용 부하 TORQUE (Kg-cm)
## ALLOWABLE LOAD TORQUE WHEN ASSEMBLED WITH GEAR HEAD

### 60Hz

| Model P6D□L | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 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 |
| | kg-cm | 0.9 | 1.0 | 1.4 | 1.7 | 2.1 | 2.6 | 2.9 | 3.6 | 4.3 | 5.1 | 5.1 | 6.3 | 7.6 | 9.1 | 10.1 | 11.4 | 13.6 | 17.0 | 20.5 | 22.7 | 27.3 | 30.0 | 30.0 | 30.0 |
| | N-m | 0.08 | 0.10 | 0.14 | 0.17 | 0.21 | 0.25 | 0.28 | 0.35 | 0.42 | 0.50 | 0.50 | 0.62 | 0.74 | 0.89 | 0.99 | 1.11 | 1.34 | 1.67 | 2.00 | 2.23 | 2.67 | 2.94 | 2.94 | 2.94 |

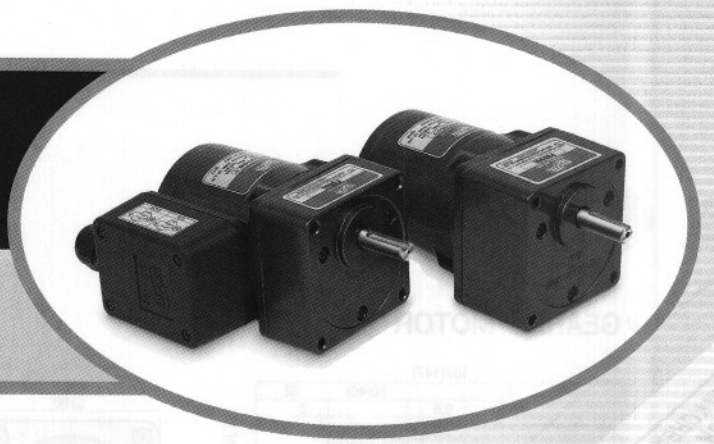
### 50Hz

| Model P6D□L | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | rpm | 500 | 416.7 | 300 | 250 | 200 | 166.7 | 150 | 120 | 100 | 83.33 | 75 | 60 | 50 | 41.67 | 37.5 | 30 | 25 | 20 | 16.67 | 15 | 12.5 | 10 | 8.333 | 7.5 |
| | kg-cm | 1.0 | 1.2 | 1.7 | 2.1 | 2.6 | 3.1 | 3.4 | 4.3 | 5.1 | 6.2 | 6.1 | 7.6 | 9.1 | 10.9 | 12.2 | 13.6 | 16.4 | 20.5 | 24.5 | 27.3 | 30.0 | 30.0 | 30.0 | 30.0 |
| | N-m | 0.10 | 0.12 | 0.17 | 0.20 | 0.25 | 0.30 | 0.34 | 0.42 | 0.50 | 0.60 | 0.60 | 0.74 | 0.89 | 1.07 | 1.19 | 1.34 | 1.60 | 2.00 | 2.41 | 2.67 | 2.94 | 2.94 | 2.94 | 2.94 |

- 모델명 내의 □안에는 감속비(Gear Ratio)가 기입됩니다.
- 감속비 증폭 (BOOST-IN) 중간 연결 기어 헤드(x10)를 연결한 경우의 허용 토오크는 상기 표의 최대 허용 토오크를 초과하지 않습니다. (RATIO 200초과)
- 출력축의 회전 방향은 ■색이 모터 축과 동일하며, 그 외는 반대 방향입니다.
- 출력 회전수는 모터의 동기 회전수 (60Hz의 경우 1800 RPM)를 기준으로 감속된 값을 나타내었습니다. 실부하에 따라 1~20% 정도 줄어들 수 있습니다.
- Gear ratio to be typed(filled) in the □of model.
- When you assemble gear head with Boost-In Gear Head(X10), allowable load torque shall not be greater than the maximum allowable torque in the listed ( Gear ratio more than 200 : 1)
- Direction of output shaft is same to motor shaft direction for the colored. ■
- Output RPM is calculated under the theoretical 60 Hz electromotive RPM. It may be reduced 1 ~ 20% dependent on the load applied actually.

# 15W

## INDUCTION MOTOR
## □70mm
## LEAD WIRE TYPE

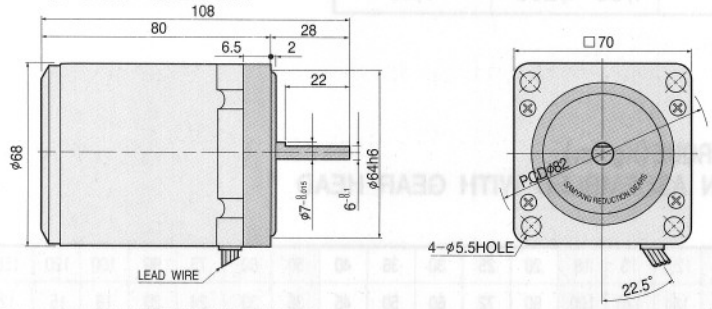


## MOTOR SPECIFICATIONS

| Model | Output | Input | | | Mag. Poles | Run Duty | Ratings | | | | Start Torque | | Condenser |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Volt | Phase | Freq. | | | Current | Speed | Torque | | | | |
| | Watt | V | | Hz | | min | Amp | rpm | Kg-cm | N-m | Kg-cm | N-m | (μF) |
| SM7N15GA | 15 | 110 | 1ø | 60 | 4 | Cont. | 0.36 | 1600 | 0.95 | 0.095 | 1.00 | 0.100 | 0.5 |
| SM7N15GB | 15 | 220 | 1ø | 60 | 4 | Cont. | 0.18 | 1600 | 1.02 | 0.100 | 1.10 | 0.110 | 1.3 |
| SM7N15GC | 15 | 100 | 1ø | 50 | 4 | Cont. | 0.38 | 1200 | 1.25 | 0.122 | 0.98 | 0.096 | 5.0 |
| | | | | 60 | | | 0.36 | 1550 | 0.98 | 0.096 | 0.90 | 0.088 | |
| SM7N15GD | 15 | 200 | 1ø | 50 | 4 | Cont. | 0.18 | 1250 | 1.20 | 0.120 | 0.85 | 0.085 | 1.3 |
| | | | | 60 | | | 0.17 | 1550 | 1.00 | 0.100 | | | |
| SM7N15GE | 15 | 115 | 1ø | 60 | 4 | Cont. | 0.32 | 1600 | 1.00 | 0.100 | 1.10 | 0.110 | 4.5 |
| SM7N15GX | 15 | 220 | 1ø | 50 | 4 | Cont. | 0.17 | 1200 | 1.17 | 0.114 | 0.90 | 0.088 | 1.0 |
| | | 240 | | | | | 0.16 | 1300 | 1.10 | 0.108 | 1.06 | 0.104 | |

- 모델별로 정격 사양을 준수하여 사용하십시오. 모터 손상의 주 요인이 됩니다.
- 과열 보호형인 TP(Thermal Protective) 모터는 과열 발생시 자동 정지되지만, 식으면 다시 작동됩니다.
  그러나 정지시에도 주 전원은 살아 있으므로 어떤 조치를 할 경우에는 반드시 주 전원을 차단한 후 조작하십시오.
- Please load and install within the rated specifications. Or motor or gear head may be damaged.
- TP(Thermally Protected) type of motor may be stop(power off) itself when temperature sensor in the motor is heated up to limited temperature and then restart again after the motor and sensor is cooled down. But during stops, do not operate the motor manually. If you intend to operate the motor, disconnect main power switch before touch.

### D-CUT MOTOR

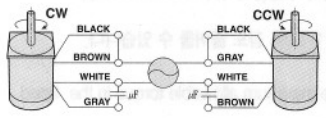



## 결선도 (WIRINGS)

회전방향은 모터축 끝에서 모터쪽으로 볼 때의 회전방향을 표시합니다.
Directions of rotation are view at the end of motor shaft.

- 100/110V-1ø
- 200/220V-1ø

### CW/CCW

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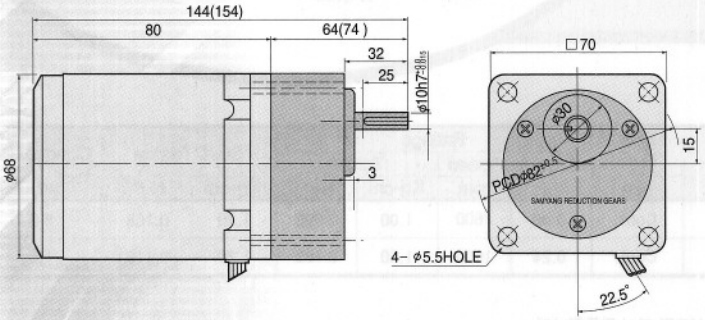
MOTOR가 회전 중에 결선이 전환될 경우에는 정상작동이 안될 수 있습니다.

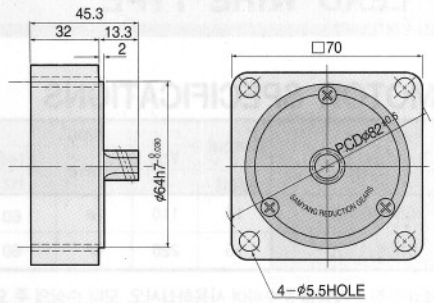
NOTICE : Do not switch the direction of rotation before it fully stops rotating.
Switching wires during rotating may cause damage of system/motor.

# DIMENSIONS

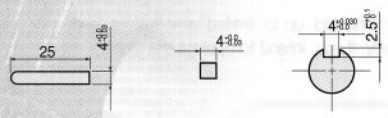
## GEARED MOTOR




## BOOST-IN GEAR HEAD
(BST 70N 10)




## KEY SPEC




## WEIGHT

| PART | | WEIGHT(kg) |
|---|---|---|
| MOTOR | | 1.06 |
| BOOST-IN GEAR HEAD | | 0.35 |
| GEAR HEAD | 1/3~1/18 | 0.36 |
| | 1/20~1/40 | 0.45 |
| | 1/50~1/200 | 0.5 |

## GEAR HEAD 연결 사용시의 허용 부하 TORQUE (Kg-cm)
## ALLOWABLE LOAD TORQUE WHEN ASSEMBLED WITH GEAR HEAD

### 60Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 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 |
| P7K□L | kg-cm | 2.1 | 2.6 | 3.6 | 4.3 | 5.4 | 6.4 | 7.1 | 8.9 | 10.7 | 12.9 | 12.7 | 15.8 | 19.0 | 22.8 | 25.3 | 28.4 | 34.1 | 42.6 | 51.1 | 56.8 | 60.0 | 60.0 | 60.0 | 60.0 |
| | N-m | 0.21 | 0.25 | 0.35 | 0.42 | 0.52 | 0.63 | 0.70 | 0.87 | 1.05 | 1.26 | 1.24 | 1.55 | 1.86 | 2.23 | 2.48 | 2.78 | 3.34 | 4.18 | 5.01 | 5.57 | 5.88 | 5.88 | 5.88 | 5.88 |

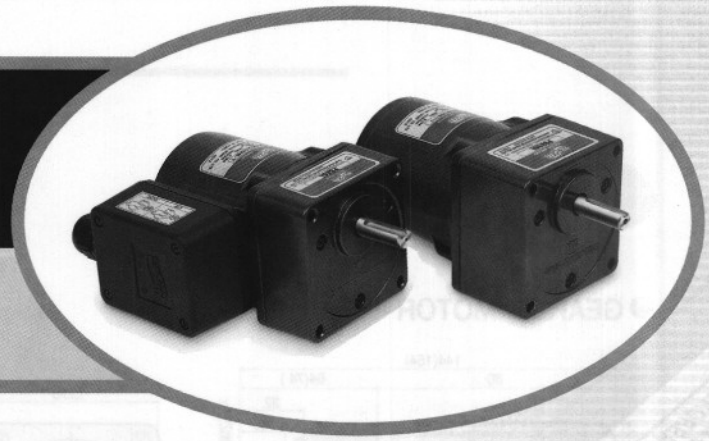
### 50Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | rpm | 500 | 416.7 | 300 | 250 | 200 | 166.7 | 150 | 120 | 100 | 83.33 | 75 | 60 | 50 | 41.67 | 37.5 | 30 | 25 | 20 | 16.67 | 15 | 12.5 | 10 | 8.333 | 7.5 |
| P7K□L | kg-cm | 2.6 | 3.1 | 4.3 | 5.1 | 6.4 | 7.7 | 8.6 | 10.7 | 12.9 | 15.4 | 15.2 | 19.0 | 22.8 | 27.3 | 30.4 | 34.1 | 40.9 | 51.1 | 60.0 | 60.0 | 60.0 | 60.0 | 60.0 | 60.0 |
| | N-m | 0.25 | 0.30 | 0.42 | 0.50 | 0.63 | 0.76 | 0.84 | 1.05 | 1.26 | 1.51 | 1.49 | 1.86 | 2.23 | 2.68 | 2.98 | 3.34 | 4.01 | 5.01 | 5.88 | 5.88 | 5.88 | 5.88 | 5.88 | 5.88 |

- 모델명 내의 □안에는 감속비(Gear Ratio)가 기입됩니다.
- 감속비 증폭 (BOOST-IN) 중간 연결 기어 헤드(x10)를 연결한 경우의 허용 토오크는 상기 표의 최대 허용 토오크를 초과하지 않습니다. (RATIO 200초과)
- 출력축의 회전 방향은 ■색이 모터 축과 동일하며, 그 외는 반대 방향입니다.
- 출력 회전수는 모터의 동기 회전수 (60Hz의 경우 1800 RPM)를 기준으로 감속된 값을 나타내었습니다. 실부하에 따라 1~20% 정도 줄어들 수 있습니다.
- Gear ratio to be typed(filled) in the □of model.
- When you assemble gear head with Boost-In Gear Head(X10), allowable load torque shall not be greater than the maximum allowable torque in the listed ( Gear ratio more than 200 : 1)
- Direction of output shaft is same to motor shaft direction for the colored. ■
- Output RPM is calculated under the theoretical 60 Hz electromotive RPM. It may be reduced 1 ~ 20% dependent on the load applied actually.

# 15W

## INDUCTION MOTOR
## □80mm
## LEAD WIRE TYPE

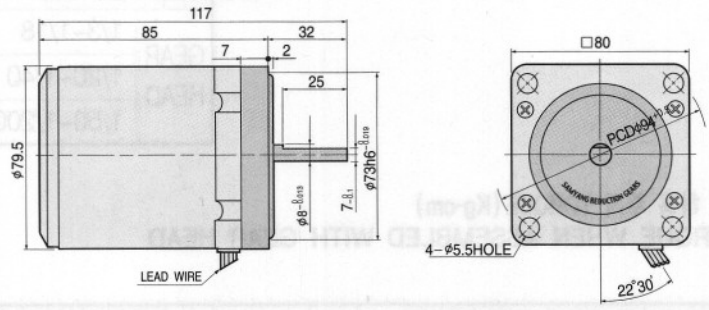


## MOTOR SPECIFICATIONS

| Model | Output | Input | | | Mag. Poles | Run Duty | Ratings | | | | Start Torque | | Condenser |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Volt | Phase | Freq. | | | Current | Speed | Torque | | | | |
| | Watt | V | | Hz | | min | Amp | rpm | Kg-cm | N-m | Kg-cm | N-m | (uF) |
| SM8N15GA | 15 | 110 | 1ø | 60 | 4 | Cont. | 0.48 | 1600 | 1.00 | 0.098 | 1.10 | 0.108 | 5.0 |
| SM8N15GB | 15 | 220 | 1ø | 60 | 4 | Cont. | 0.24 | 1600 | 1.10 | 0.108 | 1.20 | 0.118 | 1.5 |

- 모델별로 정격 사양을 준수하여 사용하십시오. 모터 손상의 주 요인이 됩니다.
- 과열 보호형인 TP(Thermal Protective) 모터는 과열 발생시 자동 정지되지만, 식으면 다시 작동됩니다.
  그러나 정지시에도 주 전원은 살아 있으므로 어떤 조치를 할 경우에는 반드시 주 전원을 차단한 후 조작하십시오.
- Please load and install within the rated specifications. Or motor or gear head may be damaged.
- TP(Thermally Protected) type of motor may be stop(power off) itself when temperature sensor in the motor is heated up to limited temperature and then restart again after the motor and sensor is cooled down. But during stops, do not operate the motor manually. If you intend to operate the motor, disconnect main power switch before touch.

## D-CUT MOTOR

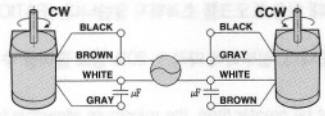



## 결선도 (WIRINGS)

회전방향은 모터축 끝에서 모터쪽으로 볼 때의 회전방향을 표시합니다.
Directions of rotation are view at the end of motor shaft.

- 100/110V-1ø
- 200/220V-1ø

### CW/CCW

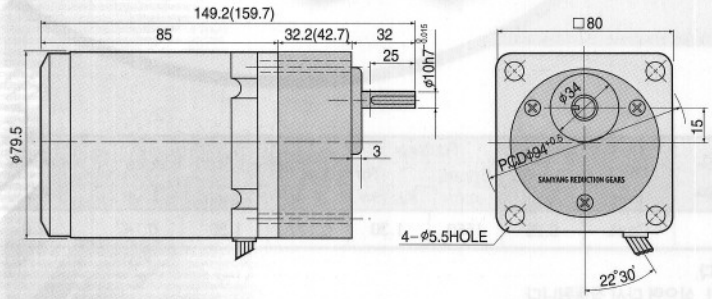



주의 : MOTOR 결선의 전환은 MOTOR가 완전히 정지한 후에 하십시오.
MOTOR가 회전 중에 결선이 전환될 경우에는 정상작동이 안될 수 있습니다.

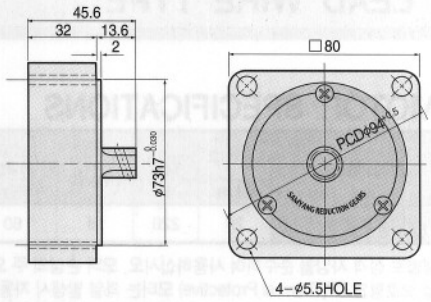
NOTICE : Do not switch the direction of rotation before it fully stops rotating.
Switching wires during rotating may cause damage of system/motor.

# DIMENSIONS

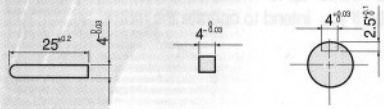
## GEARED MOTOR




## BOOST-IN GEAR HEAD
(BST 80N 10)




## KEY SPEC




## WEIGHT

| PART | | WEIGHT(kg) |
|---|---|---|
| MOTOR | | 1.16 |
| BOOST-IN GEAR HEAD | | 0.43 |
| GEAR HEAD | 1/3~1/18 | 0.43 |
| | 1/20~1/40 | 0.57 |
| | 1/50~1/200 | 0.60 |

## GEAR HEAD 연결 사용시의 허용 부하 TORQUE (Kg-cm)
## ALLOWABLE LOAD TORQUE WHEN ASSEMBLED WITH GEAR HEAD

### 60Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 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 |
| P8K□L | kg-cm | 2.1 | 2.6 | 3.6 | 4.3 | 5.4 | 6.4 | 7.1 | 8.9 | 10.7 | 12.9 | 12.7 | 15.8 | 19.0 | 22.8 | 25.3 | 28.4 | 34.1 | 42.6 | 51.1 | 56.8 | 68.2 | 80.0 | 80.0 | 80.0 |
| | N-m | 0.21 | 0.25 | 0.35 | 0.42 | 0.52 | 0.63 | 0.70 | 0.87 | 1.05 | 1.26 | 1.24 | 1.55 | 1.86 | 2.23 | 2.48 | 2.78 | 3.34 | 4.18 | 5.01 | 5.57 | 6.68 | 7.84 | 7.84 | 7.84 |

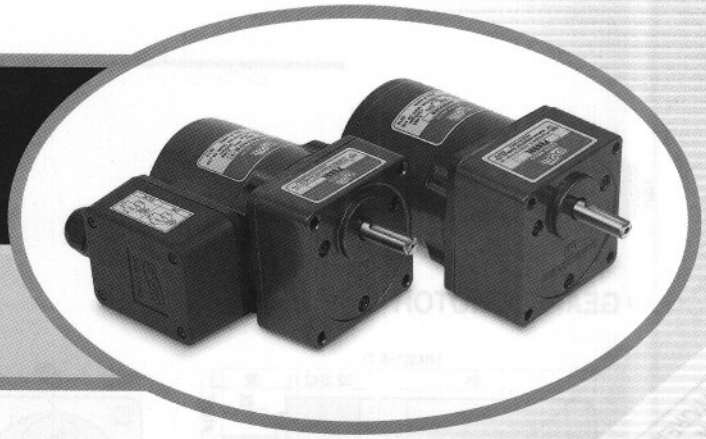
### 50Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | rpm | 500 | 416.7 | 300 | 250 | 200 | 166.7 | 150 | 120 | 100 | 83.33 | 75 | 60 | 50 | 41.67 | 37.5 | 30 | 25 | 20 | 16.67 | 15 | 12.5 | 10 | 8.333 | 7.5 |
| P8K□L | kg-cm | 2.6 | 3.1 | 4.3 | 5.1 | 6.4 | 7.7 | 8.6 | 10.7 | 12.9 | 15.4 | 15.2 | 19.0 | 22.8 | 27.3 | 30.4 | 34.1 | 40.9 | 51.1 | 61.4 | 68.2 | 80.0 | 80.0 | 80.0 | 80.0 |
| | N-m | 0.25 | 0.30 | 0.42 | 0.50 | 0.63 | 0.76 | 0.84 | 1.05 | 1.26 | 1.51 | 1.49 | 1.86 | 2.23 | 2.68 | 2.98 | 3.34 | 4.01 | 5.01 | 6.01 | 6.68 | 7.84 | 7.84 | 7.84 | 7.84 |

- 모델명 내의 □안에는 감속비(Gear Ratio)가 기입됩니다.
- 감속비 증폭 (BOOST-IN) 중간 연결 기어 헤드(x10)를 연결한 경우의 허용 토오크는 상기 표의 최대 허용 토오크를 초과하지 않습니다. (RATIO 200초과)
- 출력축의 회전 방향은 ■색이 모터 축과 동일하며, 그 외는 반대 방향입니다.
- 출력 회전수는 모터의 동기 회전수 (60Hz의 경우 1800 RPM)를 기준으로 감속된 값을 나타내었습니다. 실부하에 따라 1~20% 정도 줄어들 수 있습니다.
- Gear ratio to be typed(filled) in the □of model.
- When you assemble gear head with Boost-In Gear Head(X10), allowable load torque shall not be greater than the maximum allowable torque in the listed ( Gear ratio more than 200 : 1)
- Direction of output shaft is same to motor shaft direction for the colored. ■
- Output RPM is calculated under the theoretical 60 Hz electromotive RPM. It may be reduced 1 ~ 20% dependent on the load applied actually.

# 20W

## INDUCTION MOTOR
## □80mm MEDIUM SPECIAL
## LEAD WIRE TYPE

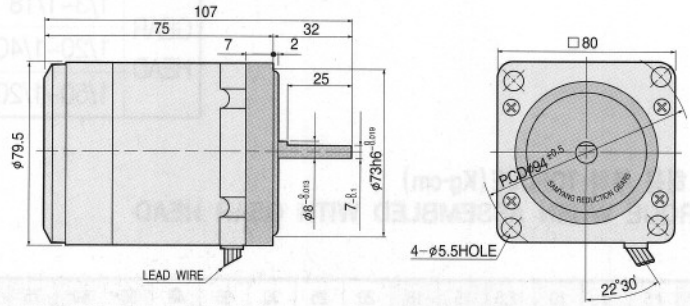


## MOTOR SPECIFICATIONS

| Model | Output | Input | | | Mag. Poles | Run Duty | Ratings | | | | Start Torque | | Condenser |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Volt | Phase | Freq. | | | Current | Speed | Torque | | | | |
| | Watt | V | | Hz | | min | Amp | rpm | Kg-cm | N-m | Kg-cm | N-m | (μF) |
| SM8N20GB | 20 | 220 | 1ø | 60 | 4 | Cont. | 0.25 | 1550 | 1.30 | 0.127 | 1.50 | 0.147 | 2.0 |

- 모델별로 정격 사양을 준수하여 사용하십시오. 모터 손상의 주 요인이 됩니다.
- 과열 보호형인 TP(Thermal Protective) 모터는 과열 발생시 자동 정지되지만, 식으면 다시 작동됩니다.
  그러나 정지시에도 주 전원은 살아 있으므로 어떤 조치를 할 경우에는 반드시 주 전원을 차단한 후 조작하십시오.
- Please load and install within the rated specifications. Or motor or gear head may be damaged.
- TP(Thermally Protected) type of motor may be stop(power off) itself when temperature sensor in the motor is heated up to limited temperature and then restart again after the motor and sensor is cooled down. But during stops, do not operate the motor manually. If you intend to operate the motor, disconnect main power switch before touch.

## D-CUT MOTOR

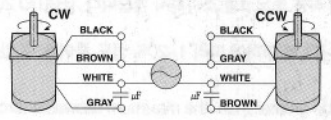



## 결선도 (WIRINGS)

회전방향은 모터축 끝에서 모터쪽으로 볼 때의 회전방향을 표시합니다.
Directions of rotation are view at the end of motor shaft.

- 100/110V-1ø
- 200/220V-1ø

### CW/CCW

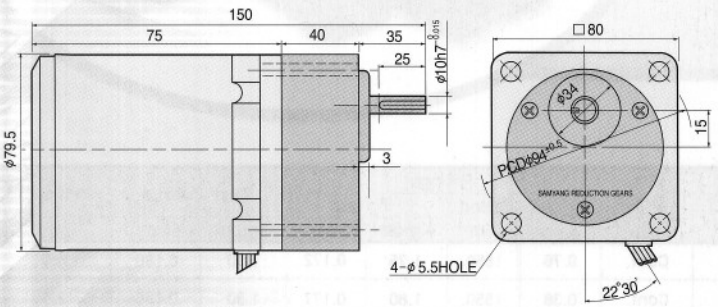



⚠ 주의 : MOTOR 결선의 전환은 MOTOR가 완전히 정지한 후에 하십시오.
MOTOR가 회전 중에 결선이 전환될 경우에는 정상작동이 안될 수 있습니다.

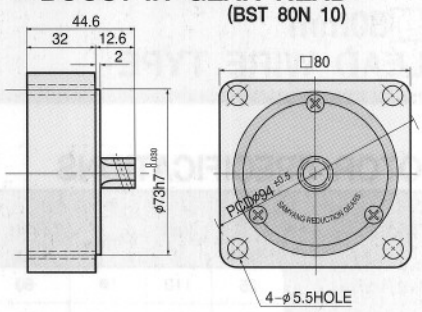
NOTICE : Do not switch the direction of rotation before it fully stops rotating.
Switching wires during rotating may cause damage of system/motor.

# DIMENSIONS

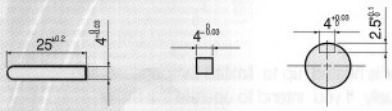
## GEARED MOTOR




## BOOST-IN GEAR HEAD
(BST 80N 10)




## KEY SPEC




## WEIGHT

| PART | | WEIGHT(kg) |
|---|---|---|
| MOTOR | | 1.30 |
| BOOST-IN GEAR HEAD | | 0.43 |
| GEAR HEAD | 1/3~1/18 | 0.38 |
| | 1/20~1/40 | 0.52 |
| | 1/50~1/200 | 0.55 |

## GEAR HEAD 연결 사용시의 허용 부하 TORQUE (Kg-cm)
## ALLOWABLE LOAD TORQUE WHEN ASSEMBLED WITH GEAR HEAD

### 60Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 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 |
| P8K□L-MD | kg-cm | 2.9 | 3.4 | 4.8 | 5.7 | 7.1 | 8.6 | 9.5 | 11.9 | 14.3 | 17.1 | 16.9 | 21.1 | 25.3 | 30.4 | 33.8 | 37.9 | 45.5 | 56.8 | 68.2 | 75.8 | 80.0 | 80.0 | 80.0 | 80.0 |
| | N-m | 0.28 | 0.34 | 0.47 | 0.56 | 0.70 | 0.84 | 0.93 | 1.17 | 1.40 | 1.68 | 1.65 | 2.07 | 2.48 | 2.98 | 3.31 | 3.71 | 4.45 | 5.57 | 6.68 | 7.42 | 7.84 | 7.84 | 7.84 | 7.84 |

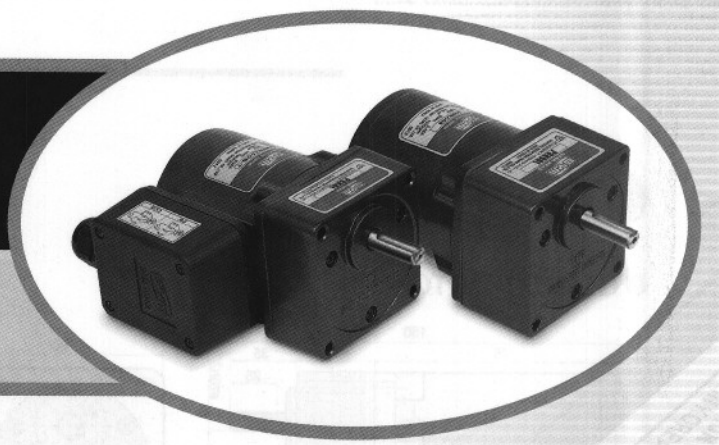
### 50Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | rpm | 500 | 416.7 | 300 | 250 | 200 | 166.7 | 150 | 120 | 100 | 83.33 | 75 | 60 | 50 | 41.67 | 37.5 | 30 | 25 | 20 | 16.67 | 15 | 12.5 | 10 | 8.333 | 7.5 |
| P8K□L-MD | kg-cm | 3.4 | 4.1 | 5.7 | 6.9 | 8.6 | 10.3 | 11.4 | 14.3 | 17.1 | 20.6 | 20.3 | 25.3 | 30.4 | 36.5 | 40.5 | 45.5 | 54.5 | 68.2 | 80.0 | 80.0 | 80.0 | 80.0 | 80.0 | 80.0 |
| | N-m | 0.34 | 0.40 | 0.56 | 0.67 | 0.84 | 1.01 | 1.12 | 1.40 | 1.68 | 2.02 | 1.99 | 2.48 | 2.98 | 3.57 | 3.97 | 4.45 | 5.35 | 6.68 | 7.84 | 7.84 | 7.84 | 7.84 | 7.84 | 7.84 |

- 모델명 내의 □안에는 감속비(Gear Ratio)가 기입됩니다.
- 감속비 증폭 (BOOST-IN) 중간 연결 기어 헤드(x10)를 연결한 경우의 허용 토오크는 상기 표의 최대 허용 토오크를 초과하지 않습니다. (RATIO 200초과)
- 출력축의 회전 방향은 ■색이 모터 축과 동일하며, 그 외는 반대 방향입니다.
- 출력 회전수는 모터의 동기 회전수 (60Hz의 경우 1800 RPM)를 기준으로 감속된 값을 나타내었습니다. 실부하에 따라 1~20% 정도 줄어들 수 있습니다.
- Gear ratio to be typed(filled) in the □of model.
- When you assemble gear head with Boost-In Gear Head(X10), allowable load torque shall not be greater than the maximum allowable torque in the listed ( Gear ratio more than 200 : 1)
- Direction of output shaft is same to motor shaft direction for the colored. ■
- Output RPM is calculated under the theoretical 60 Hz electromotive RPM. It may be reduced 1 ~ 20% dependent on the load applied actually.

# 25W

## INDUCTION MOTOR
## □80mm
## LEAD WIRE TYPE

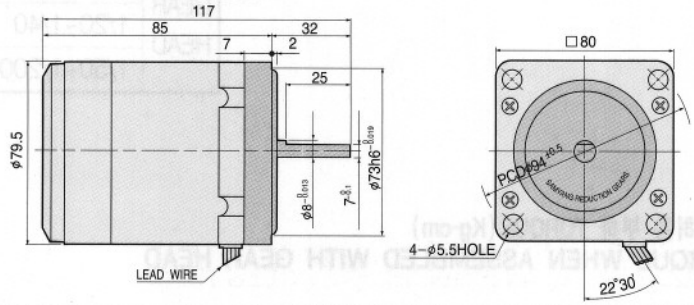


## MOTOR SPECIFICATIONS

| Model | Output | Input | | | Mag. | Run | Ratings | | | | Start Torque | | Condenser |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Volt | Phase | Freq. | Poles | Duty | Current | Speed | Torque | | | | |
| | Watt | V | | Hz | | min | Amp | rpm | Kg-cm | N-m | Kg-cm | N-m | (μF) |
| SM8N25GA | 25 | 110 | 1ø | 60 | 4 | Cont. | 0.76 | 1550 | 1.75 | 0.172 | 1.90 | 0.186 | 6.0 |
| SM8N25GB | 25 | 220 | 1ø | 60 | 4 | Cont. | 0.38 | 1550 | 1.80 | 0.177 | 1.90 | 0.186 | 2.0 |

- 모델별로 정격 사양을 준수하여 사용하십시오. 모터 손상의 주 요인이 됩니다.
- 과열 보호형인 TP(Thermal Protective) 모터는 과열 발생시 자동 정지되지만, 식으면 다시 작동됩니다.
  그러나 정지시에도 주 전원은 살아 있으므로 어떤 조치를 할 경우에는 반드시 주 전원을 차단한 후 조작하십시오.
- Please load and install within the rated specifications. Or motor or gear head may be damaged.
- TP(Thermally Protected) type of motor may be stop(power off) itself when temperature sensor in the motor is heated up to limited temperature and then restart again after the motor and sensor is cooled down. But during stops, do not operate the motor manually. If you intend to operate the motor, disconnect main power switch before touch.

### D-CUT MOTOR

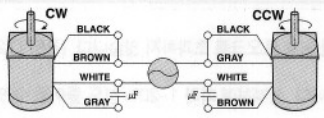



## 결선도 (WIRINGS)

회전방향은 모터축 끝에서 모터쪽으로 볼 때의 회전방향을 표시합니다.
Directions of rotation are view at the end of motor shaft.

- 100/110V-1ø
- 200/220V-1ø

### CW/CCW

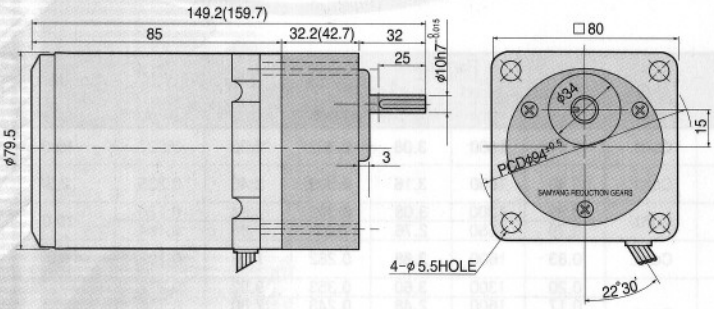



⚠ 주의 : MOTOR 결선의 전환은 MOTOR가 완전히 정지한 후에 하십시오.
MOTOR가 회전 중에 결선이 전환될 경우에는 정상작동이 안될 수 있습니다.

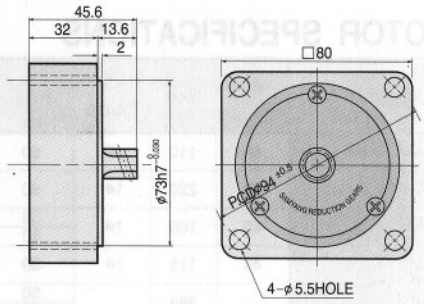
NOTICE : Do not switch the direction of rotation before it fully stops rotating.
Switching wires during rotating may cause damage of system/motor.

# DIMENSIONS

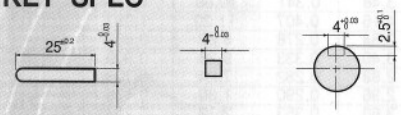
## GEARED MOTOR




## BOOST-IN GEAR HEAD
(BST 80N 10)




## KEY SPEC




## WEIGHT

| PART | | WEIGHT(kg) |
|---|---|---|
| MOTOR | | 1.48 |
| BOOST-IN GEAR HEAD | | 0.43 |
| GEAR HEAD | 1/3~1/18 | 0.43 |
| | 1/20~1/40 | 0.57 |
| | 1/50~1/200 | 0.60 |

## GEAR HEAD 연결 사용시의 허용 부하 TORQUE (Kg-cm)
## ALLOWABLE LOAD TORQUE WHEN ASSEMBLED WITH GEAR HEAD

### 60Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 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 |
| P8K□L | kg-cm | 3.6 | 4.3 | 6.0 | 7.1 | 8.9 | 10.7 | 11.9 | 14.9 | 17.9 | 21.4 | 21.1 | 26.4 | 31.7 | 38.0 | 42.2 | 47.3 | 56.8 | 71.0 | 80.0 | 80.0 | 80.0 | 80.0 | 80.0 | 80.0 |
| | N-m | 0.35 | 0.42 | 0.58 | 0.70 | 0.87 | 1.05 | 1.17 | 1.46 | 1.75 | 2.10 | 2.07 | 2.59 | 3.10 | 3.72 | 4.14 | 4.64 | 5.57 | 6.96 | 7.84 | 7.84 | 7.84 | 7.84 | 7.84 | 7.84 |

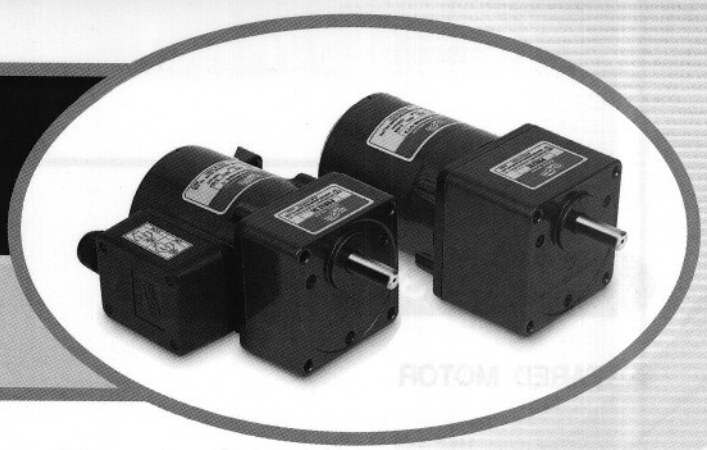
### 50Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | rpm | 500 | 416.7 | 300 | 250 | 200 | 166.7 | 150 | 120 | 100 | 83.33 | 75 | 60 | 50 | 41.67 | 37.5 | 30 | 25 | 20 | 16.7 | 15 | 12.5 | 10 | 8.333 | 7.5 |
| P8K□L | kg-cm | 4.3 | 5.1 | 7.1 | 8.6 | 10.7 | 12.9 | 14.3 | 17.9 | 21.4 | 25.7 | 25.3 | 31.7 | 38.0 | 45.6 | 50.6 | 56.8 | 68.2 | 80.0 | 80.0 | 80.0 | 80.0 | 80.0 | 80.0 | 80.0 |
| | N-m | 0.42 | 0.50 | 0.70 | 0.84 | 1.05 | 1.26 | 1.40 | 1.75 | 2.10 | 2.52 | 2.48 | 3.10 | 3.72 | 4.47 | 4.96 | 5.57 | 6.68 | 7.84 | 7.84 | 7.84 | 7.84 | 7.84 | 7.84 | 7.84 |

- 모델명 내의 □안에는 감속비(Gear Ratio)가 기입됩니다.
- 감속비 증폭 (BOOST-IN) 중간 연결 기어 헤드(x10)를 연결한 경우의 허용 토오크는 상기 표의 최대 허용 토오크를 초과하지 않습니다. (RATIO 200초과)
- 출력축의 회전 방향은 ■색이 모터 축과 동일하며, 그 외는 반대 방향입니다.
- 출력 회전수는 모터의 동기 회전수 (60Hz의 경우 1800 RPM)를 기준으로 감속된 값을 나타내었습니다. 실부하에 따라 1~20% 정도 줄어들 수 있습니다.
- Gear ratio to be typed(filled) in the □of model.
- When you assemble gear head with Boost-In Gear Head(X10), allowable load torque shall not be greater than the maximum allowable torque in the listed ( Gear ratio more than 200 : 1)
- Direction of output shaft is same to motor shaft direction for the colored. ■
- Output RPM is calculated under the theoretical 60 Hz electromotive RPM. It may be reduced 1 ~ 20% dependent on the load applied actually.

# 40W

## INDUCTION MOTOR
## □90mm
## LEAD WIRE TYPE

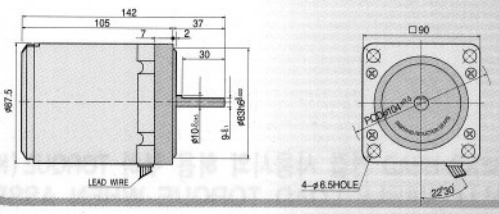


## MOTOR SPECIFICATIONS

| Model | Output | Input | | | Mag. Poles | Run Duty | Ratings | | | | Start Torque | | Condenser |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Volt | Phase | Freq. | | | Current | Speed | Torque | | | | |
| | Watt | V | | Hz | | min | Amp | rpm | Kg-cm | N-m | Kg-cm | N-m | (μF) |
| SM9N40GA | 40 | 110 | 1ø | 60 | 4 | Cont. | 0.81 | 1600 | 3.08 | 0.302 | 2.32 | 0.227 | 10.0 |
| SM9N40GB | 40 | 220 | 1ø | 60 | 4 | Cont. | 0.40 | 1600 | 3.16 | 0.309 | 2.40 | 0.235 | 2.5 |
| SM9N40GC | 40 | 100 | 1ø | 50 | 4 | Cont. | 0.89 | 1300 | 3.08 | 0.302 | 1.84 | 0.180 | 10.0 |
| | | | | 60 | | | 0.79 | 1550 | 2.76 | 0.27 | 1.88 | 0.184 | |
| SM9N40GE | 40 | 115 | 1ø | 60 | 4 | Cont. | 0.83 | 1600 | 2.88 | 0.282 | 1.96 | 0.192 | 8.0 |
| SM9N40GS | 40 | 380 | 3ø | 50 | 4 | Cont. | 0.20 | 1300 | 3.60 | 0.353 | 9.92 | 0.972 | |
| | | | | 60 | | | 0.17 | 1600 | 2.48 | 0.243 | 7.80 | 0.764 | |
| | | 440 | | 50 | | | 0.25 | 1300 | 4.92 | 0.482 | 13.32 | 1.305 | |
| | | | | 60 | | | 0.20 | 1600 | 3.48 | 0.341 | 10.60 | 1.039 | |
| SM9N40GT | 40 | 220 | 3ø | 50 | 4 | Cont. | 0.41 | 1300 | 4.16 | 0.407 | 11.20 | 1.097 | |
| | | | | 60 | | | 0.34 | 1600 | 2.84 | 0.278 | 8.80 | 0.862 | |
| SM9N40GU | 40 | 200 | 3ø | 50 | 4 | Cont. | 0.37 | 1300 | 3.40 | 0.333 | 9.28 | 0.909 | |
| | | | | 60 | | | 0.34 | 1550 | 2.88 | 0.282 | 7.24 | 0.709 | |
| SM9N40GX | 40 | 220 | 1ø | 50 | 4 | Cont. | 0.41 | 1300 | 2.96 | 0.290 | 1.80 | 0.176 | 2.0 |
| | | 240 | | | | | 0.44 | 1300 | 3.60 | 0.353 | 2.12 | 0.207 | |

- 모델별로 정격 사양을 준수하여 사용하십시오. 모터 손상의 주 요인이 됩니다.
- 과열 보호형인 TP(Thermal Protective) 모터는 과열 발생시 자동 정지되지만, 식으면 다시 작동됩니다. 그러나 정지시에도 주 전원은 살아 있으므로 어떤 조치를 할 경우에는 반드시 주 전원을 차단한 후 조작하십시오.
- Please load and install within the rated specifications. Or motor or gear head may be damaged.
- TP(Thermally Protected) type of motor may be stop(power off) itself when temperature sensor in the motor is heated up to limited temperature and then restart again after the motor and sensor is cooled down. But during stops, do not operate the motor manually. If you intend to operate the motor, disconnect main power switch before touch.

## D-CUT MOTOR

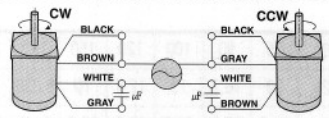



## 결선도 (WIRINGS)

회전방향은 모터축 끝에서 모터쪽으로 볼 때의 회전방향을 표시합니다. Directions of rotation are view at the end of motor shaft.

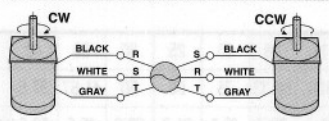
• 100/110V-1ø • 200/220V-1ø

CW/CCW



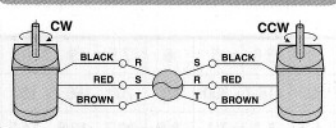

• 200/220-3ø

CW/CCW



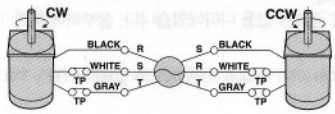

• 380/440-3ø

CW/CCW



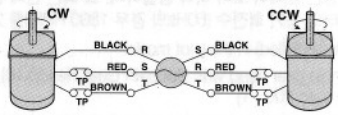

• 200/220- 3ø (TP)

CW/CCW




• 380/440-3ø (TP)

CW/CCW

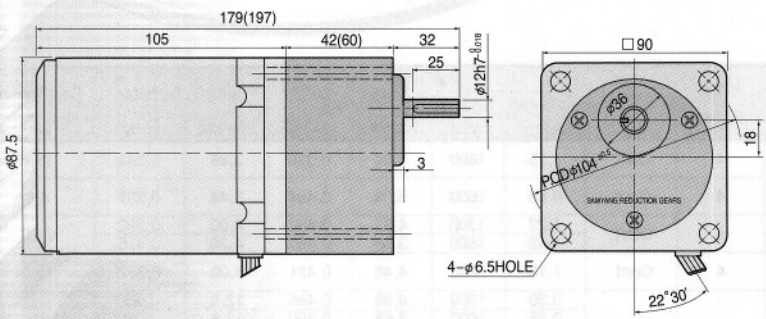



주의 : MOTOR 결선의 전환은 MOTOR가 완전히 정지한 후에 하십시오.
MOTOR가 회전 중에 결선이 전환될 경우에는 정상작동이 안될 수 있습니다.

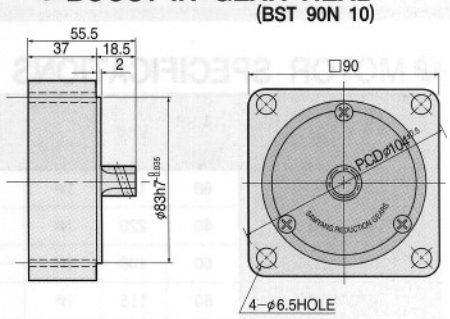
NOTICE : Do not switch the direction of rotation before it fully stops rotating.
Switching wires during rotating may cause damage of system/motor.

# DIMENSIONS

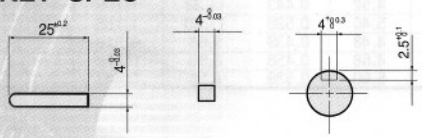
## GEARED MOTOR




## BOOST-IN GEAR HEAD
(BST 90N 10)




## KEY SPEC




## WEIGHT

| PART | | WEIGHT(kg) |
|---|---|---|
| MOTOR | | 2.35 |
| BOOST-IN GEAR HEAD | | 0.60 |
| GEAR HEAD | 1/3~1/18 | 0.75 |
| | 1/20~1/40 | 1.05 |
| | 1/50~1/200 | 1.15 |

## GEAR HEAD 연결 사용시의 허용 부하 TORQUE(Kg-cm)
## ALLOWABLE LOAD TORQUE WHEN ASSEMBLED WITH GEAR HEAD

### 60Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 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 |
| P9K□L | kg-cm | 5.7 | 6.9 | 9.5 | 11.4 | 14.3 | 17.1 | 19.0 | 23.8 | 28.6 | 34.3 | 33.8 | 42.2 | 50.6 | 60.8 | 67.5 | 75.8 | 90.9 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | N-m | 0.56 | 0.67 | 0.93 | 1.12 | 1.40 | 1.68 | 1.87 | 2.33 | 2.80 | 3.36 | 3.31 | 4.14 | 4.96 | 5.96 | 6.62 | 7.42 | 8.91 | 9.80 | 9.80 | 9.80 | 9.80 | 9.80 | 9.80 | 9.80 |

### 50Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | rpm | 500 | 416.7 | 300 | 250 | 200 | 166.7 | 150 | 120 | 100 | 83.33 | 75 | 60 | 50 | 41.67 | 37.5 | 30 | 25 | 20 | 16.67 | 15 | 12.5 | 10 | 8.333 | 7.5 |
| P9K□L | kg-cm | 6.9 | 8.2 | 11.4 | 13.7 | 17.1 | 20.6 | 22.9 | 28.6 | 34.3 | 41.1 | 40.5 | 50.6 | 60.8 | 72.9 | 81.0 | 90.9 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | N-m | 0.67 | 0.81 | 1.12 | 1.34 | 1.68 | 2.02 | 2.24 | 2.80 | 3.36 | 4.03 | 3.97 | 4.96 | 5.96 | 7.15 | 7.94 | 8.91 | 9.80 | 9.80 | 9.80 | 9.80 | 9.80 | 9.80 | 9.80 | 9.80 |

- 모델명 내의 □안에는 감속비(Gear Ratio)가 기입됩니다.
- 감속비 증폭 (BOOST-IN) 중간 연결 기어 헤드(x10)를 연결한 경우의 허용 토오크는 상기 표의 최대 허용 토오크를 초과하지 않습니다. (RATIO 200초과)
- 출력축의 회전 방향은 ■색이 모터 축과 동일하며, 그 외는 반대 방향입니다.
- 출력 회전수는 모터의 동기 회전수 (60Hz의 경우 1800 RPM)를 기준으로 감속된 값을 나타내었습니다. 실부하에 따라 1~20% 정도 줄어들 수 있습니다.
- Gear ratio to be typed(filled) in the □of model.
- When you assemble gear head with Boost-In Gear Head(X10), allowable load torque shall not be greater than the maximum allowable torque in the listed ( Gear ratio more than 200 : 1)
- Direction of output shaft is same to motor shaft direction for the colored. ■
- Output RPM is calculated under the theoretical 60 Hz electromotive RPM. It may be reduced 1 ~ 20% dependent on the load applied actually.

# 60W

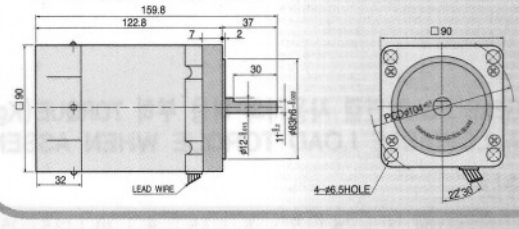
## INDUCTION MOTOR
## □90mm
## LEAD WIRE TYPE

## MOTOR SPECIFICATIONS

| Model | Output | Input | | | Mag. Poles | Run Duty | Ratings | | | | Start Torque | | Condenser |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Volt | Phase | Freq. | | | Current | Speed | Torque | | | | |
| | Watt | V | | Hz | | min | Amp | rpm | Kg-cm | N-m | Kg-cm | N-m | (μF) |
| SM9N60GA | 60 | 110 | 1ø | 60 | 4 | Cont. | 1.15 | 1600 | 4.04 | 0.396 | 3.48 | 0.341 | 15.0 |
| SM9N60GB | 60 | 220 | 1ø | 60 | 4 | Cont. | 0.68 | 1600 | 5.04 | 0.494 | 3.44 | 0.337 | 4.0 |
| SM9N60GC | 60 | 100 | 1ø | 50 | 4 | Cont. | 1.27 | 1300 | 4.92 | 0.482 | 4.00 | 0.392 | 21.0 |
| | | | | 60 | | | 1.48 | 1600 | 3.68 | 0.360 | 4.24 | 0.415 | |
| SM9N60GE | 60 | 115 | 1ø | 60 | 4 | Cont. | 1.18 | 1600 | 4.40 | 0.431 | 4.00 | 0.392 | 15.0 |
| SM9N60GS | 60 | 380 | 3ø | 50 | 4 | Cont. | 0.30 | 1300 | 4.96 | 0.486 | 12.4 | 1.26 | |
| | | | | 60 | | | 0.25 | 1600 | 3.68 | 0.360 | 13.6 | 1.39 | |
| | | 440 | | 50 | | | 0.38 | 1300 | 6.60 | 0.647 | 16.2 | 1.65 | |
| | | | | 60 | | | 0.30 | 1600 | 4.84 | 0.474 | 13.4 | 1.37 | |
| SM9N60GT | 60 | 220 | 3ø | 50 | 4 | Cont. | 0.70 | 1300 | 6.16 | 0.603 | 13.20 | 1.293 | |
| | | | | 60 | | | 0.56 | 1600 | 4.52 | 0.443 | 11.32 | 1.109 | |
| SM9N60GU | 60 | 200 | 3ø | 50 | 4 | Cont. | 0.62 | 1300 | 5.40 | 0.529 | 11.80 | 1.156 | |
| | | | | 60 | | | 0.57 | 1550 | 4.48 | 0.439 | 9.68 | 0.948 | |
| SM9N60GX | 60 | 220 | 1ø | 50 | 4 | Cont. | 0.58 | 1300 | 4.68 | 0.458 | 3.80 | 0.372 | 4.0 |
| | | 240 | | | | | 0.64 | 1300 | 5.60 | 0.539 | 4.56 | 0.447 | |

- 모델별로 정격 사양을 준수하여 사용하십시오. 모터 손상의 주 요인이 됩니다.
- 과열 보호형인 TP(Thermal Protective) 모터는 과열 발생시 자동 정지되지만, 식으면 다시 작동됩니다. 그러나 정지시에도 주 전원은 살아 있으므로 어떤 조치를 할 경우에는 반드시 주 전원을 차단한 후 조작하십시오.
- Please load and install within the rated specifications. Or motor or gear head may be damaged.
- TP(Thermally Protected) type of motor may be stop(power off) itself when temperature sensor in the motor is heated up to limited temperature and then restart again after the motor and sensor is cooled down. But during stops, do not operate the motor manually. If you intend to operate the motor, disconnect main power switch before touch.

## D-CUT MOTOR

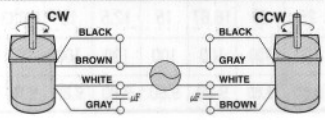



## 결선도 (WIRINGS)

회전방향은 모터축 끝에서 모터쪽으로 볼 때의 회전방향을 표시합니다. Directions of rotation are view at the end of motor shaft.

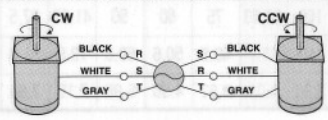
• 100/110V-1ø • 200/220V-1ø

CW/CCW



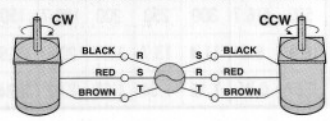

• 200/220-3ø

CW/CCW



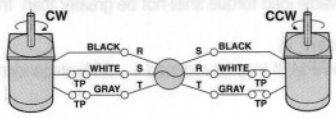

• 380/440-3ø

CW/CCW



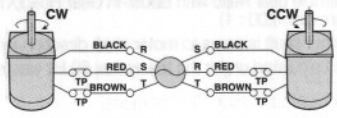

• 200/220- 3ø (TP)

CW/CCW




• 380/440-3ø (TP)

CW/CCW

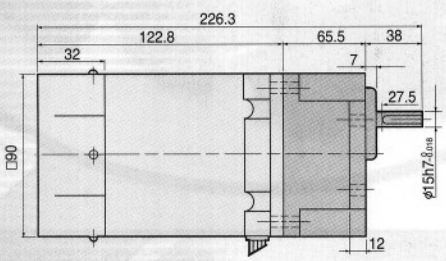



⚠ 주의 : MOTOR 결선의 전환은 MOTOR가 완전히 정지한 후에 하십시오. MOTOR가 회전 중에 결선이 전환될 경우에는 정상작동이 안될 수 있습니다.

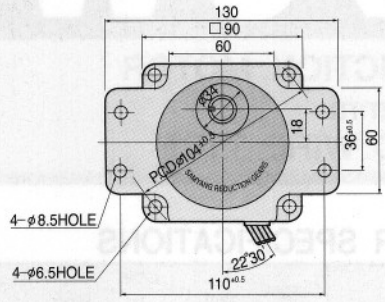
NOTICE : Do not switch the direction of rotation before it fully stops rotating. Switching wires during rotating may cause damage of system/motor.

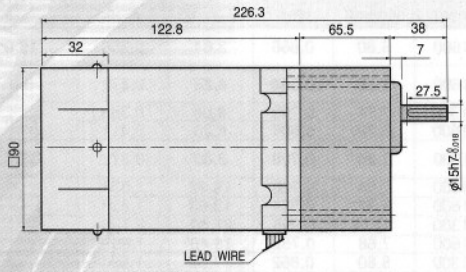
# DIMENSIONS

## GEARED MOTOR

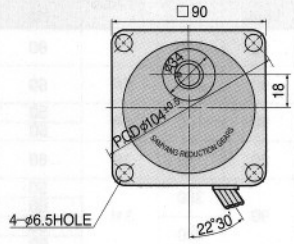



◀ HF TYPE ▶

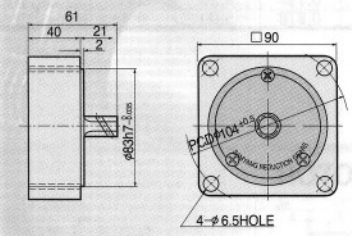



◀ H TYPE ▶



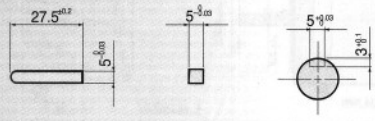

## BOOST-IN GEAR HEAD (BST 90H 10)




## WEIGHT

| PART | | WEIGHT(kg) |
|---|---|---|
| MOTOR | | 2.50 |
| BOOST- IN GEAR HEAD | | 0.65 |
| GEAR HEAD | 1/3~1/10 | 1.20 |
| | 1/12.5~1/20 | 1.30 |
| | 1/25~1/60 | 1.40 |
| | 1/75~1/200 | 1.45 |

## KEY SPEC




## GEAR HEAD 연결 사용시의 허용 부하 TORQUE (Kg-cm)
## ALLOWABLE LOAD TORQUE WHEN ASSEMBLED WITH GEAR HEAD

### 60Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P9K□HF P9K□H | 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 |
| | kg-cm | 8.6 | 10.3 | 14.3 | 17.1 | 21.4 | 25.7 | 28.6 | 31.7 | 38.0 | 45.6 | 50.6 | 56.8 | 68.2 | 81.8 | 90.9 | 114 | 136 | 156 | 187 | 200 | 200 | 200 | 200 | 200 |
| | N-m | 0.84 | 1.01 | 1.40 | 1.68 | 2.10 | 2.52 | 2.80 | 3.10 | 3.72 | 4.47 | 4.96 | 5.57 | 6.7 | 8.0 | 8.9 | 11.1 | 13.4 | 15.3 | 18.3 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 |

### 50Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P9K□HF P9K□H | rpm | 500 | 416.7 | 300 | 250 | 200 | 166.7 | 150 | 120 | 100 | 83.33 | 75 | 60 | 50 | 41.67 | 37.5 | 30 | 25 | 20 | 16.67 | 15 | 12.5 | 10 | 8.333 | 7.5 |
| | kg-cm | 10.3 | 12.3 | 17.1 | 20.6 | 25.7 | 30.9 | 34.3 | 38.0 | 45.6 | 54.7 | 60.8 | 68.2 | 81.8 | 98.2 | 109 | 136 | 164 | 187 | 200 | 200 | 200 | 200 | 200 | 200 |
| | N-m | 1.01 | 1.21 | 1.68 | 2.02 | 2.52 | 3.02 | 3.36 | 3.72 | 4.47 | 5.36 | 5.96 | 6.68 | 8.0 | 9.6 | 10.7 | 13.4 | 16.0 | 18.3 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 |

- 모델명 내의 □안에는 감속비(Gear Ratio)가 기입됩니다.
- 감속비 증폭 (BOOST-IN) 중간 연결 기어 헤드(x10)를 연결한 경우의 허용 토오크는 상기 표의 최대 허용 토오크를 초과하지 않습니다. (RATIO 200초과)
- 출력축의 회전 방향은 ■색이 모터 축과 동일하며, 그 외는 반대 방향입니다.
- 출력 회전수는 모터의 동기 회전수 (60Hz의 경우 1800 RPM)를 기준으로 감속된 값을 나타내었습니다. 실부하에 따라 1~20% 정도 줄어들 수 있습니다.
- Gear ratio to be typed(filled) in the □of model.
- When you assemble gear head with Boost-In Gear Head(X10), allowable load torque shall not be greater than the maximum allowable torque in the listed ( Gear ratio more than 200 : 1)
- Direction of output shaft is same to motor shaft direction for the colored. ■
- Output RPM is calculated under the theoretical 60 Hz electromotive RPM. It may be reduced 1 ~ 20% dependent on the load applied actually.

# 90W

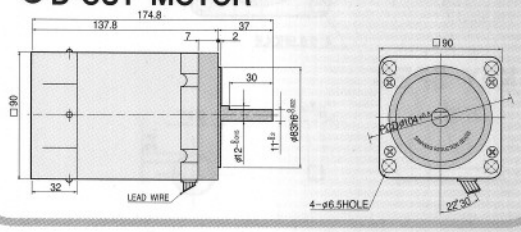
## INDUCTION MOTOR
## □90mm
## LEAD WIRE TYPE

## MOTOR SPECIFICATIONS

| Model | Output | Input | | | Mag. Poles | Run Duty | Ratings | | | | Start Torque | | Condenser |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Volt | Phase | Freq. | | | Current | Speed | Torque | | | | |
| | Watt | V | | Hz | | min | Amp | rpm | Kg-cm | N-m | Kg-cm | N-m | (μF) |
| SM9N90GA | 90 | 110 | 1ø | 60 | 4 | Cont. | 1.66 | 1600 | 6.80 | 0.666 | 3.64 | 0.356 | 19.0 |
| SM9N90GB | 90 | 220 | 1ø | 60 | 4 | Cont. | 0.85 | 1600 | 7.08 | 0.694 | 4.28 | 0.419 | 5.0 |
| SM9N90GC | 90 | 100 | 1ø | 50 | 4 | Cont. | 1.74 | 1300 | 7.24 | 0.709 | 4.08 | 0.399 | 23.0 |
| | | | | 60 | | | 1.70 | 1600 | 6.20 | 0.607 | 4.20 | 0.411 | |
| SM9N90GE | 90 | 115 | 1ø | 60 | 4 | Cont. | 1.71 | 1600 | 7.24 | 0.709 | 3.80 | 0.372 | 19.0 |
| SM9N90GS | 90 | 380 | 3ø | 50 | 4 | Cont. | 0.39 | 1300 | 7.84 | 0.768 | 16.92 | 1.658 | |
| | | | | 60 | | | 0.33 | 1600 | 5.32 | 0.521 | 13.60 | 1.333 | |
| | | 440 | | 50 | | | 0.45 | 1300 | 10.16 | 0.995 | 21.80 | 2.136 | |
| | | | | 60 | | | 0.38 | 1600 | 7.68 | 0.752 | 18.40 | 1.803 | |
| SM9N90GT | 90 | 220 | 3ø | 50 | 4 | Cont. | 0.71 | 1300 | 8.80 | 0.862 | 17.32 | 1.697 | |
| | | | | 60 | | | 0.66 | 1600 | 6.36 | 0.623 | 14.20 | 1.391 | |
| SM9N90GU | 90 | 200 | 3ø | 50 | 4 | Cont. | 0.72 | 1300 | 7.88 | 0.772 | 14.92 | 1.462 | |
| | | | | 60 | | | 0.66 | 1550 | 6.24 | 0.611 | 11.92 | 1.168 | |
| SM9N90GX | 90 | 220 | 1ø | 50 | 4 | Cont. | 0.79 | 1300 | 7.52 | 0.737 | 4.20 | 0.411 | 4.5 |
| | | 240 | | | | | 0.85 | 1300 | 8.96 | 0.878 | 5.00 | 0.49 | |

- 모델별로 정격 사양을 준수하여 사용하십시오. 모터 손상의 주 요인이 됩니다.
- 과열 보호형인 TP(Thermal Protective) 모터는 과열 발생시 자동 정지되지만, 식으면 다시 작동됩니다.
  그러나 정지시에도 주 전원은 살아 있으므로 어떤 조치를 할 경우에는 반드시 주 전원을 차단한 후 조작하십시오.
- Please load and install within the rated specifications. Or motor or gear head may be damaged.
- TP(Thermally Protected) type of motor may be stop(power off) itself when temperature sensor in the motor is heated up to limited temperature and then restart again after the motor and sensor is cooled down. But during stops, do not operate the motor manually. If you intend to operate the motor, disconnect main power switch before touch.

## D-CUT MOTOR

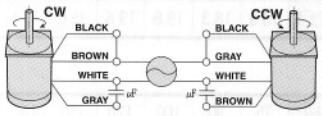



## 결선도 (WIRINGS)

회전방향은 모터축 끝에서 모터쪽으로 볼 때의 회전방향을 표시합니다. Directions of rotation are view at the end of motor shaft.

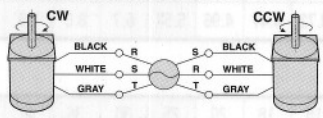
• 100/110V-1ø • 200/220V-1ø

CW/CCW



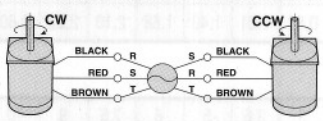

• 200/220-3ø

CW/CCW



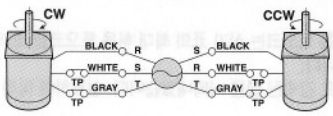

• 380/440-3ø

CW/CCW



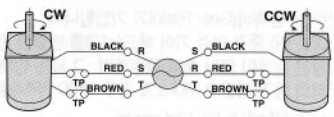

• 200/220- 3ø (TP)

CW/CCW




• 380/440-3ø (TP)

CW/CCW

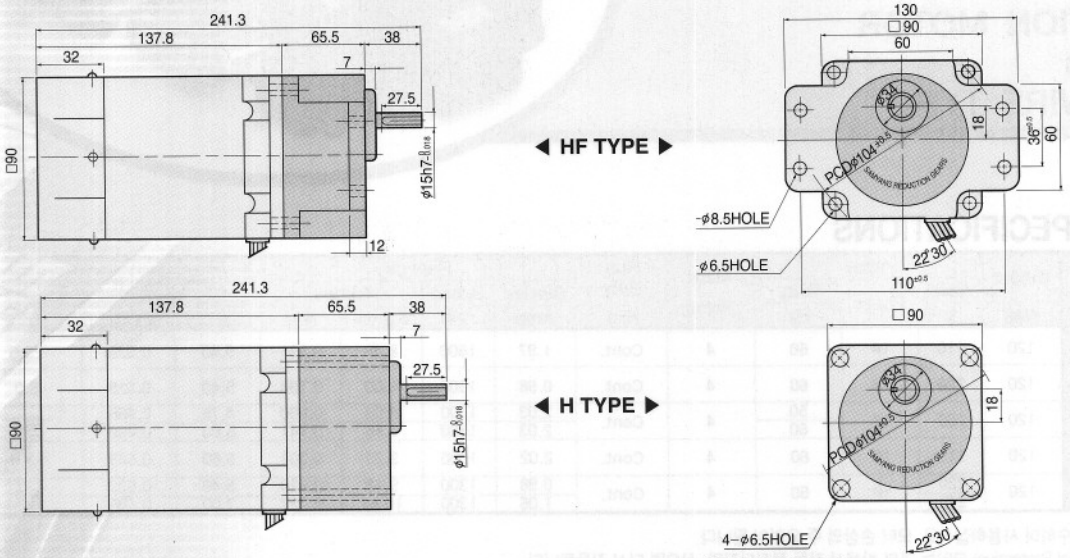



⚠ 주의 : MOTOR 결선의 전환은 MOTOR가 완전히 정지한 후에 하십시오.
MOTOR가 회전 중에 결선이 전환될 경우에는 정상작동이 안될 수 있습니다.

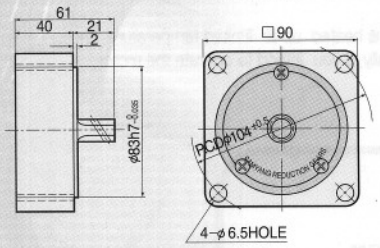
NOTICE : Do not switch the direction of rotation before it fully stops rotating.
Switching wires during rotating may cause damage of system/motor.

# DIMENSIONS

## GEARED MOTOR



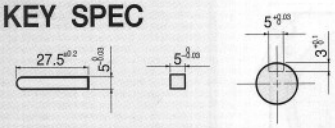

## BOOST-IN GEAR HEAD (BST 90H 10)




## WEIGHT

| PART | | WEIGHT(kg) |
|---|---|---|
| MOTOR | | 3.00 |
| BOOST- IN GEAR HEAD | | 0.65 |
| GEAR HEAD | 1/3~1/10 | 1.20 |
| | 1/12.5~1/20 | 1.30 |
| | 1/25~1/60 | 1.40 |
| | 1/75~1/200 | 1.45 |

## KEY SPEC




## GEAR HEAD 연결 사용시의 허용 부하 TORQUE (Kg-cm)
## ALLOWABLE LOAD TORQUE WHEN ASSEMBLED WITH GEAR HEAD

### 60Hz

| Model P9K□HF P9K□H | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 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 |
| | kg-cm | 12.9 | 15.4 | 21.4 | 25.7 | 32.1 | 38.6 | 42.9 | 47.5 | 57.0 | 68.4 | 76.0 | 85.2 | 102 | 123 | 136 | 170 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 |
| | N-m | 1.26 | 1.51 | 2.10 | 2.52 | 3.15 | 3.78 | 4.20 | 4.65 | 5.58 | 6.70 | 7.45 | 8.35 | 10.0 | 12.0 | 13.4 | 16.7 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 |

### 50Hz

| Model P9K□HF P9K□H | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | rpm | 500 | 416.7 | 300 | 250 | 200 | 166.7 | 150 | 120 | 100 | 83.33 | 75 | 60 | 50 | 41.67 | 37.5 | 30 | 25 | 20 | 16.67 | 15 | 12.5 | 10 | 8.333 | 7.5 |
| | kg-cm | 15.4 | 18.5 | 25.7 | 30.9 | 38.6 | 46.3 | 51.4 | 57.0 | 68.4 | 82.0 | 91.2 | 102 | 123 | 147 | 164 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 |
| | N-m | 1.51 | 1.81 | 2.52 | 3.02 | 3.78 | 4.54 | 5.04 | 5.58 | 6.70 | 8.04 | 8.93 | 10.02 | 12.0 | 14.4 | 16.0 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 |

- 모델명 내의 □안에는 감속비(Gear Ratio)가 기입됩니다.
- 감속비 증폭 (BOOST-IN) 중간 연결 기어 헤드(x10)를 연결한 경우의 허용 토오크는 상기 표의 최대 허용 토오크를 초과하지 않습니다. (RATIO 200초과)
- 출력축의 회전 방향은 ▩색이 모터 축과 동일하며, 그 외는 반대 방향입니다.
- 출력 회전수는 모터의 동기 회전수 (60Hz의 경우 1800 RPM)를 기준으로 감속된 값을 나타내었습니다. 실부하에 따라 1~20% 정도 줄어들 수 있습니다.
- Gear ratio to be typed(filled) in the □of model.
- When you assemble gear head with Boost-In Gear Head(X10), allowable load torque shall not be greater than the maximum allowable torque in the listed (Gear ratio more than 200 : 1)
- Direction of output shaft is same to motor shaft direction for the colored. ▩
- Output RPM is calculated under the theoretical 60 Hz electromotive RPM. It may be reduced 1 ~ 20% dependent on the load applied actually.

# 120W

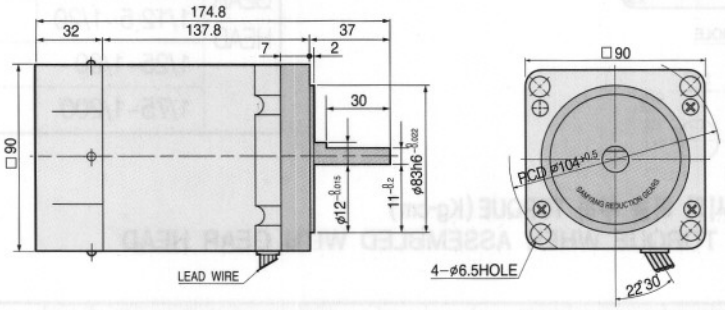
## INDUCTION MOTOR
## □90mm
## LEAD WIRE TYPE

## MOTOR SPECIFICATIONS

| Model | Output | Input | | | Mag. | Run | Ratings | | | | Start Torque | | Condenser |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Volt | Phase | Freq. | Poles | Duty | Current | Speed | Torque | | | | |
| | Watt | V | | Hz | | min | Amp | rpm | Kg-cm | N-m | Kg-cm | N-m | (μF) |
| SM9N120GA | 120 | 110 | 1ø | 60 | 4 | Cont. | 1.97 | 1600 | 8.48 | 0.831 | 5.40 | 0.529 | 25.0 |
| SM9N120GB | 120 | 220 | 1ø | 60 | 4 | Cont. | 0.98 | 1600 | 8.00 | 0.784 | 5.40 | 0.529 | 6.0 |
| SM9N120GC | 120 | 100 | 1ø | 50 | 4 | Cont. | 2.03 | 1300 | 9.08 | 0.890 | 4.76 | 0.466 | 28.0 |
| | | | | 60 | | | 2.03 | 1600 | 7.56 | 0.741 | 5.00 | 0.490 | |
| SM9N120GE | 120 | 115 | 1ø | 60 | 4 | Cont. | 2.02 | 1600 | 9.20 | 0.901 | 5.60 | 0.549 | 23.0 |
| SM9N120GX | 120 | 220 | 1ø | 50 | 4 | Cont. | 0.98 | 1300 | 9.48 | 0.929 | 5.40 | 0.529 | 6.0 |
| | | 240 | | | | | 1.06 | 1300 | 10.84 | 1.027 | 7.00 | 0.686 | |

- 모델별로 정격 사양을 준수하여 사용하십시오. 모터 손상의 주 요인이 됩니다.
- 과열 보호형인 TP(Thermal Protective) 모터는 과열 발생시 자동 정지되지만, 식으면 다시 작동됩니다.
  그러나 정지시에도 주 전원은 살아 있으므로 어떤 조치를 할 경우에는 반드시 주 전원을 차단한 후 조작하십시오.
- Please load and install within the rated specifications. Or motor or gear head may be damaged.
- TP(Thermally Protected) type of motor may be stop(power off) itself when temperature sensor in the motor is heated up to limited temperature and then restart again after the motor and sensor is cooled down. But during stops, do not operate the motor manually. If you intend to operate the motor, disconnect main power switch before touch.

### D-CUT MOTOR

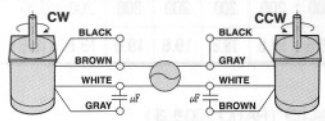



## 결선도 (WIRINGS)

회전방향은 모터축 끝에서 모터쪽으로 볼 때의 회전방향을 표시합니다. Directions of rotation are view at the end of motor shaft.

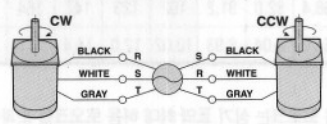
• 100/110V 200/220-1ø

CW/CCW



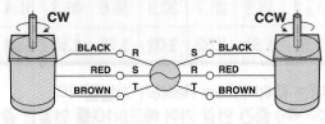

• 200/220-3ø

CW/CCW




• 380/440-3ø

CW/CCW

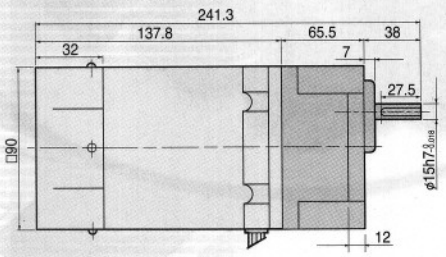



⚠ 주의 : MOTOR 결선의 전환은 MOTOR가 완전히 정지한 후에 하십시오.
MOTOR가 회전 중에 결선이 전환될 경우에는 정상작동이 안될 수 있습니다.

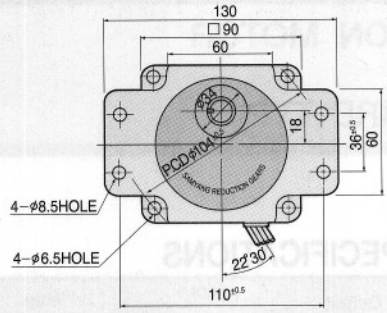
NOTICE : Do not switch the direction of rotation before it fully stops rotating.
Switching wires during rotating may cause damage of system/motor.

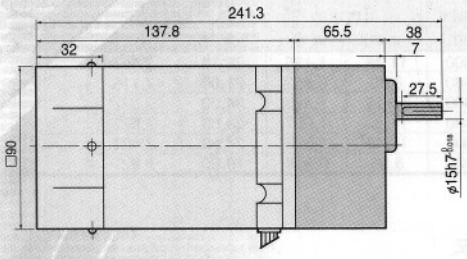
# DIMENSIONS

## GEARED MOTOR

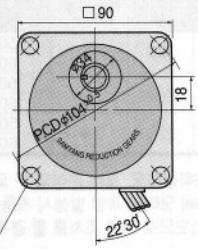



◀ HF TYPE ▶

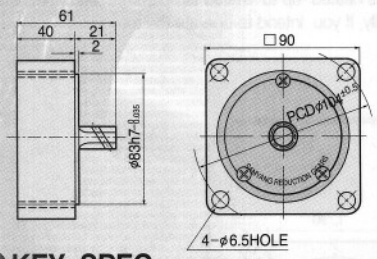



◀ H TYPE ▶




## BOOST-IN GEAR HEAD (BST 90H 10)




## KEY SPEC


## WEIGHT

| PART | | WEIGHT(kg) |
|---|---|---|
| MOTOR | | 3.00 |
| BOOST- IN GEAR HEAD | | 0.65 |
| GEAR HEAD | 1/3~1/10 | 1.20 |
| | 1/12.5~1/20 | 1.30 |
| | 1/25~1/60 | 1.40 |
| | 1/75~1/200 | 1.45 |

## GEAR HEAD 연결 사용시의 허용 부하 TORQUE (Kg-cm)
## ALLOWABLE LOAD TORQUE WHEN ASSEMBLED WITH GEAR HEAD

### 60Hz

| Model P9K□HF P9K□H | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 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 |
| | kg-cm | 17.1 | 20.6 | 28.6 | 34.3 | 42.9 | 51.4 | 57.1 | 63.3 | 76.0 | 91.2 | 101 | 114 | 136 | 164 | 182 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 |
| | N-m | 1.68 | 2.02 | 2.80 | 3.36 | 4.20 | 5.04 | 5.60 | 6.20 | 7.45 | 8.93 | 9.93 | 11.1 | 13.4 | 16.0 | 17.8 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 |

### 50Hz

| Model P9K□HF P9K□H | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | rpm | 500 | 416.7 | 300 | 250 | 200 | 166.7 | 150 | 120 | 100 | 83.33 | 75 | 60 | 50 | 41.67 | 37.5 | 30 | 25 | 20 | 16.67 | 15 | 12.5 | 10 | 8.333 | 7.5 |
| | kg-cm | 20.6 | 24.7 | 34.3 | 41.1 | 51.4 | 61.7 | 68.6 | 76.0 | 91.2 | 109 | 122 | 136 | 164 | 196 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 |
| | N-m | 2.02 | 2.42 | 3.36 | 4.03 | 5.04 | 6.05 | 6.72 | 7.45 | 8.93 | 10.7 | 11.9 | 13.4 | 16.0 | 19.2 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 |

- 모델명 내의 □안에는 감속비(Gear Ratio)가 기입됩니다.
- 감속비 증폭 (BOOST-IN) 중간 연결 기어 헤드(x10)를 연결한 경우의 허용 토오크는 상기 표의 최대 허용 토오크를 초과하지 않습니다. (RATIO 200초과)
- 출력축의 회전 방향은 ■색이 모터 축과 동일하며, 그 외는 반대 방향입니다.
- 출력 회전수는 모터의 동기 회전수 (60Hz의 경우 1800 RPM)를 기준으로 감속된 값을 나타내었습니다. 실부하에 따라 1~20% 정도 줄어들 수 있습니다.
- Gear ratio to be typed(filled) in the □of model.
- When you assemble gear head with Boost-In Gear Head(X10), allowable load torque shall not be greater than the maximum allowable torque in the listed ( Gear ratio more than 200 : 1)
- Direction of output shaft is same to motor shaft direction for the colored. ■
- Output RPM is calculated under the theoretical 60 Hz electromotive RPM. It may be reduced 1 ~ 20% dependent on the load applied actually.

# 150W

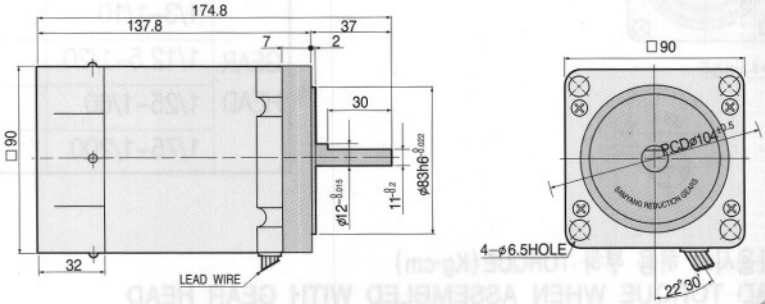
## INDUCTION MOTOR
## □90mm
## LEAD WIRE TYPE

## MOTOR SPECIFICATIONS

| Model | Output | Input | | | Mag. | Run | Ratings | | | | Start Torque | | Condenser |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Volt | Phase | Freq. | Poles | Duty | Current | Speed | Torque | | | | |
| | Watt | V | | Hz | | min | Amp | rpm | Kg-cm | N-m | Kg-cm | N-m | (μF) |
| SM9N150GS | 150 | 380 | 3ø | 50 | 4 | Cont. | 0.55 | 1300 | 11.48 | 1.125 | 26.16 | 2.563 | |
| | | | | 60 | | | 0.44 | 1600 | 8.80 | 0.862 | 21.60 | 2.116 | |
| | | 440 | | 50 | | | 0.68 | 1300 | 15.16 | 1.485 | 34.00 | 3.332 | |
| | | | | 60 | | | 0.51 | 1600 | 11.20 | 1.097 | 28.80 | 2.822 | |
| SM9N150GT | 150 | 220 | 3ø | 50 | 4 | Cont. | 1.02 | 1300 | 12.48 | 1.223 | 24.80 | 2.403 | |
| | | | | 60 | | | 0.85 | 1600 | 8.96 | 0.878 | 19.60 | 1.921 | |

- 모델별로 정격 사양을 준수하여 사용하십시오. 모터 손상의 주 요인이 됩니다.
- 과열 보호형인 TP(Thermal Protective) 모터는 과열 발생시 자동 정지되지만, 식으면 다시 작동됩니다.
  그러나 정지시에도 주 전원은 살아 있으므로 어떤 조치를 할 경우에는 반드시 주 전원을 차단한 후 조작하십시오.
- Please load and install within the rated specifications. Or motor or gear head may be damaged.
- TP(Thermally Protected) type of motor may be stop(power off) itself when temperature sensor in the motor is heated up to limited temperature and then restart again after the motor and sensor is cooled down. But during stops, do not operate the motor manually. If you intend to operate the motor, disconnect main power switch before touch.

## D-CUT MOTOR

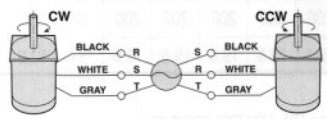



## 결선도 (WIRINGS)

회전방향은 모터축 끝에서 모터쪽으로 볼 때의 회전방향을 표시합니다.
Directions of rotation are view at the end of motor shaft.

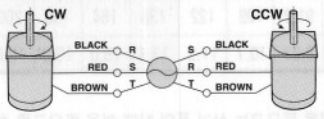
• 200/220-3ø

**CW/CCW**




• 380/440-3ø

**CW/CCW**

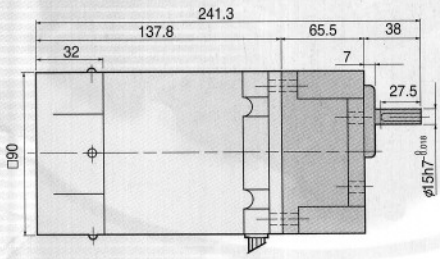



⚠ 주의 : MOTOR 결선의 전환은 MOTOR가 완전히 정지한 후에 하십시오.
MOTOR가 회전 중에 결선이 전환될 경우에는 정상작동이 안될 수 있습니다.

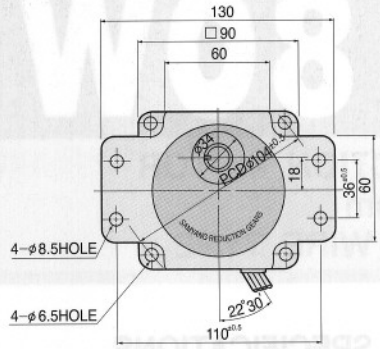
NOTICE : Do not switch the direction of rotation before it fully stops rotating.
Switching wires during rotating may cause damage of system/motor.

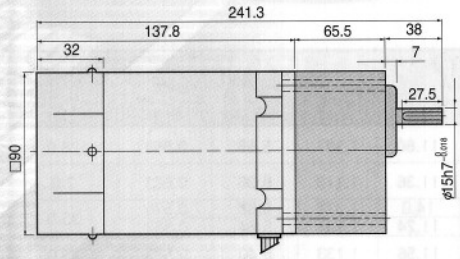
# DIMENSIONS

## GEARED MOTOR

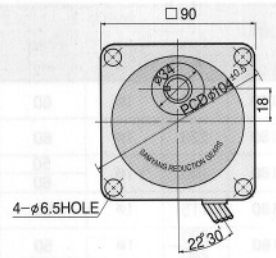



◀ HF TYPE ▶

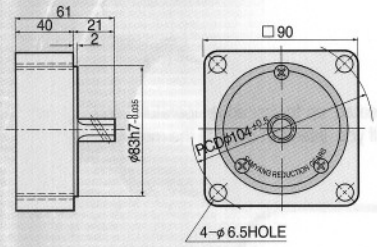



◀ H TYPE ▶



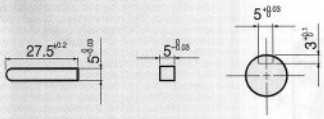

## BOOST-IN GEAR HEAD (BST 90H 10)




## WEIGHT

| PART | | WEIGHT(kg) |
|---|---|---|
| MOTOR | | 3.10 |
| BOOST- IN GEAR HEAD | | 0.65 |
| GEAR HEAD | 1/3~1/10 | 1.20 |
| | 1/12.5~1/20 | 1.30 |
| | 1/25~1/60 | 1.40 |
| | 1/75~1/200 | 1.45 |

## KEY SPEC




## GEAR HEAD 연결 사용시의 허용 부하 TORQUE (Kg-cm)
## ALLOWABLE LOAD TORQUE WHEN ASSEMBLED WITH GEAR HEAD

### 60Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P9K□HF P9K□H | 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 |
| | kg-cm | 21.4 | 25.7 | 35.7 | 42.9 | 53.6 | 64.3 | 71.4 | 79.1 | 95.0 | 114 | 127 | 142 | 170 | 205 | 227 | 284 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 |
| | N-m | 2.10 | 2.52 | 3.50 | 4.20 | 5.25 | 6.30 | 7.00 | 7.76 | 9.31 | 11.2 | 12.4 | 13.9 | 16.7 | 20.0 | 22.3 | 27.8 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 |

### 50Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P9K□HF P9K□H | rpm | 500 | 416.7 | 300 | 250 | 200 | 166.7 | 150 | 120 | 100 | 83.33 | 75 | 60 | 50 | 41.67 | 37.5 | 30 | 25 | 20 | 16.67 | 15 | 12.5 | 10 | 8.333 | 7.5 |
| | kg-cm | 25.7 | 30.9 | 42.9 | 51.4 | 64.3 | 77.1 | 85.7 | 95.0 | 114 | 137 | 152 | 170 | 205 | 245 | 273 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 |
| | N-m | 2.52 | 3.02 | 4.20 | 5.04 | 6.30 | 7.56 | 8.40 | 9.31 | 11.17 | 13.4 | 14.9 | 16.7 | 20.0 | 24.1 | 26.7 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 |

- 모델명 내의 □안에는 감속비(Gear Ratio)가 기입됩니다.
- 감속비 증폭 (BOOST-IN) 중간 연결 기어 헤드(x10)를 연결한 경우의 허용 토오크는 상기 표의 최대 허용 토오크를 초과하지 않습니다. (RATIO 200초과)
- 출력축의 회전 방향은 ▩색이 모터 축과 동일하며, 그 외는 반대 방향입니다.
- 출력 회전수는 모터의 동기 회전수 (60Hz의 경우 1800 RPM)를 기준으로 감속된 값을 나타내었습니다. 실부하에 따라 1~20% 정도 줄어들 수 있습니다.
- Gear ratio to be typed(filled) in the □of model.
- When you assemble gear head with Boost-In Gear Head(X10), allowable load torque shall not be greater than the maximum allowable torque in the listed ( Gear ratio more than 200 : 1)
- Direction of output shaft is same to motor shaft direction for the colored.▩
- Output RPM is calculated under the theoretical 60 Hz electromotive RPM. It may be reduced 1 ~ 20% dependent on the load applied actually.

# 180W

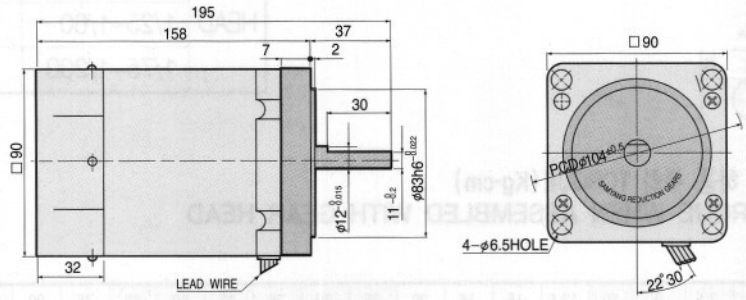
## INDUCTION MOTOR
## □90mm
## LEAD WIRE TYPE

## MOTOR SPECIFICATIONS

| Model | Output | Input | | | Mag. Poles | Run Duty | Ratings | | | | Start Torque | | Condenser |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Volt | Phase | Freq. | | | Current | Speed | Torque | | | | |
| | Watt | V | | Hz | | min | Amp | rpm | Kg-cm | N-m | Kg-cm | N-m | (μF) |
| SM9N180GA | 180 | 110 | 1ø | 60 | 4 | Cont. | 2.73 | 1600 | 11.60 | 1.137 | 5.68 | 0.556 | 28.0 |
| SM9N180GB | 180 | 220 | 1ø | 60 | 4 | Cont. | 1.34 | 1600 | 11.36 | 1.113 | 6.36 | 0.623 | 7.0 |
| SM9N180GC | 180 | 100 | 1ø | 50 | 4 | Cont. | 14.0 | 1250 | 14.0 | 1.372 | 5.88 | 0.576 | 35.0 |
| | | | | 60 | | | 11.24 | 1600 | 11.24 | 1.101 | 5.64 | 0.552 | |
| SM9N180GE | 180 | 115 | 1ø | 60 | 4 | Cont. | 2.76 | 1600 | 11.56 | 1.133 | 5.40 | 0.529 | 25.0 |
| SM9N180GX | 180 | 220 | 1ø | 50 | 4 | Cont. | 1.32 | 1200 | 13.24 | 1.297 | 6.52 | 0.639 | 7.0 |
| | | 240 | | | | | 1.27 | 1300 | 14.00 | 1.372 | 7.48 | 0.733 | |

- 모델별로 정격 사양을 준수하여 사용하십시오. 모터 손상의 주 요인이 됩니다.
- 과열 보호형인 TP(Thermal Protective) 모터는 과열 발생시 자동 정지되지만, 식으면 다시 작동됩니다.
  그러나 정지시에도 주 전원은 살아 있으므로 어떤 조치를 할 경우에는 반드시 주 전원을 차단한 후 조작하십시오.
- Please load and install within the rated specifications. Or motor or gear head may be damaged.
- TP(Thermally Protected) type of motor may be stop(power off) itself when temperature sensor in the motor is heated up to limited temperature and then restart again after the motor and sensor is cooled down. But during stops, do not operate the motor manually. If you intend to operate the motor, disconnect main power switch before touch.

## D-CUT MOTOR

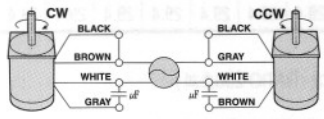



## 결선도 (WIRINGS)

회전방향은 모터축 끝에서 모터쪽으로 볼 때의 회전방향을 표시합니다. Directions of rotation are view at the end of motor shaft.

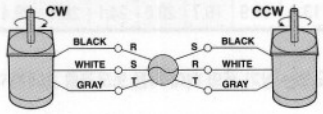
• 100/110V 200/220-1ø

**CW/CCW**



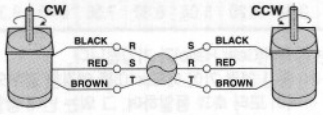

• 200/220-3ø

**CW/CCW**




• 380/440-3ø

**CW/CCW**

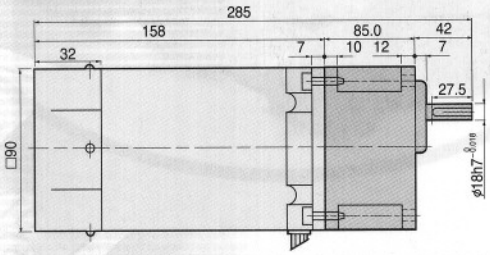



⚠ 주의 : MOTOR 결선의 전환은 MOTOR가 완전히 정지한 후에 하십시오.
MOTOR가 회전 중에 결선이 전환될 경우에는 정상작동이 안될 수 있습니다.

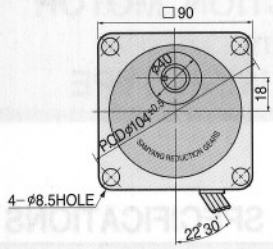
NOTICE : Do not switch the direction of rotation before it fully stops rotating.
Switching wires during rotating may cause damage of system/motor.

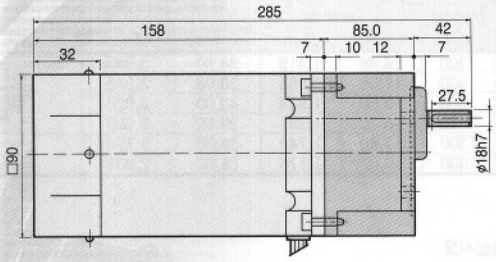
# DIMENSIONS

## GEARED MOTOR

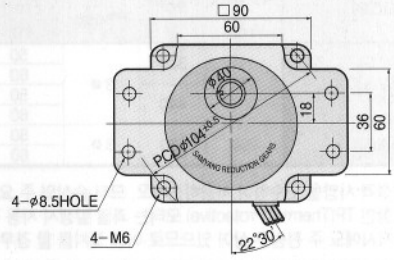



◀ K TYPE ▶

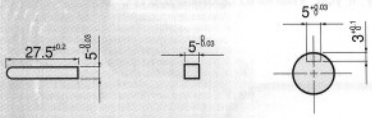



◀ KF TYPE ▶




## KEY SPEC




## WEIGHT

| PART | | WEIGHT(kg) |
|---|---|---|
| MOTOR | | 3.80 |
| GEAR HEAD | 1/3~1/10 | 1.70 |
| | 1/12.5~1/20 | 1.83 |
| | 1/25~1/200 | 1.93 |
| | 1/75~1/200 | 1.98 |

## GEAR HEAD 연결 사용시의 허용 부하 TORQUE(Kg-cm)
## ALLOWABLE LOAD TORQUE WHEN ASSEMBLED WITH GEAR HEAD

### 60Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 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 |
| P9K□KF<br>P9K□K | kg-cm | 25.7 | 30.9 | 42.9 | 51.4 | 64.3 | 77.1 | 85.7 | 95.0 | 114 | 137 | 152 | 170 | 205 | 245 | 273 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 |
| | N-m | 2.52 | 3.02 | 2.20 | 5.04 | 6.30 | 7.56 | 8.40 | 9.31 | 11.17 | 13.4 | 14.9 | 16.7 | 20.0 | 24.1 | 26.7 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 |

### 50Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | rpm | 500 | 416.7 | 300 | 250 | 200 | 166.7 | 150 | 120 | 100 | 83.33 | 75 | 60 | 50 | 41.67 | 37.5 | 30 | 25 | 20 | 16.67 | 15 | 12.5 | 10 | 8.333 | 7.5 |
| P9K□KF<br>P9K□K | kg-cm | 30.9 | 37.0 | 51.4 | 61.7 | 77.1 | 92.6 | 103 | 114 | 137 | 164 | 182 | 205 | 245 | 295 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 |
| | N-m | 3.02 | 3.63 | 5.04 | 6.05 | 7.56 | 9.07 | 10.1 | 11.2 | 13.40 | 16.1 | 17.9 | 20.0 | 24.1 | 28.9 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 |

- 모델명 내의 □안에는 감속비(Gear Ratio)가 기입됩니다.
- 감속비 증폭 (BOOST-IN) 중간 연결 기어 헤드(x10)를 연결한 경우의 허용 토오크는 상기 표의 최대 허용 토오크를 초과하지 않습니다. (RATIO 200초과).
- 출력축의 회전 방향은 ■색이 모터 축과 동일하며, 그 외는 반대 방향입니다.
- 출력 회전수는 모터의 동기 회전수 (60Hz의 경우 1800 RPM)를 기준으로 감속된 값을 나타내었습니다. 실부하에 따라 1~20% 정도 줄어들 수 있습니다.
- Gear ratio to be typed(filled) in the □of model.
- When you assemble gear head with Boost-In Gear Head(X10), allowable load torque shall not be greater than the maximum allowable torque in the listed ( Gear ratio more than 200 : 1)
- Direction of output shaft is same to motor shaft direction for the colored. ■
- Output RPM is calculated under the theoretical 60 Hz electromotive RPM. It may be reduced 1 ~ 20% dependent on the load applied actually.

# 200W

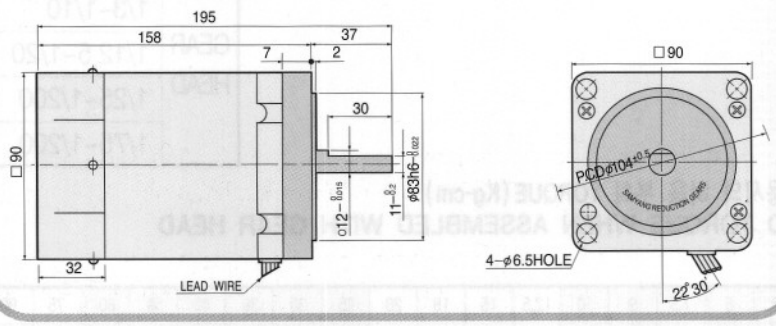
## INDUCTION MOTOR
## □90mm
## LEAD WIRE TYPE

## MOTOR SPECIFICATIONS

| Model | Output | Input | | | Mag. | Run | Ratings | | | | Start Torque | | Condenser |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Volt | Phase | Freq. | Poles | Duty | Current | Speed | Torque | | | | |
| | Watt | V | | Hz | | min | Amp | rpm | Kg-cm | N-m | Kg-cm | N-m | (μF) |
| SM9N200GS | 200 | 380 | 3ø | 50 | 4 | Cont. | 0.65 | 1300 | 14.48 | 1.419 | 38.40 | 3.763 | |
| | | | | 60 | | | 0.57 | 1600 | 11.08 | 1.085 | 30.08 | 2.948 | |
| | | 440 | | 50 | | | 0.82 | 1300 | 18.60 | 1.823 | 40.00 | 3.920 | |
| | | | | 60 | | | 0.66 | 1600 | 14.20 | 1.391 | 39.80 | 3.900 | |
| SM9N200GT | 200 | 220 | 3ø | 50 | 4 | Cont. | 1.45 | 1300 | 17.80 | 1.744 | 38.00 | 3.724 | |
| | | | | 60 | | | 1.16 | 1600 | 12.00 | 1.176 | 28.60 | 2.803 | |

- 모델별로 정격 사양을 준수하여 사용하십시오. 모터 손상의 주 요인이 됩니다.
- 과열 보호형인 TP(Thermal Protective) 모터는 과열 발생시 자동 정지되지만, 식으면 다시 작동됩니다.
  그러나 정지시에도 주 전원은 살아 있으므로 어떤 조치를 할 경우에는 반드시 주 전원을 차단한 후 조작하십시오.
- Please load and install within the rated specifications. Or motor or gear head may be damaged.
- TP(Thermally Protected) type of motor may be stop(power off) itself when temperature sensor in the motor is heated up to limited temperature and then restart again after the motor and sensor is cooled down. But during stops, do not operate the motor manually. If you intend to operate the motor, disconnect main power switch before touch.

## D-CUT MOTOR

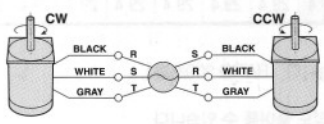



## 결선도 (WIRINGS)

회전방향은 모터축 끝에서 모터쪽으로 볼 때의 회전방향을 표시합니다. Directions of rotation are view at the end of motor shaft.

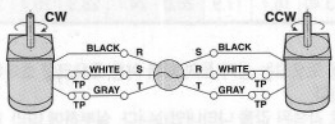
• 200/220-3ø

**CW/CCW**



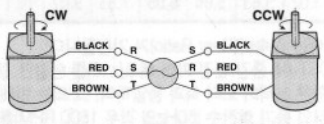

• 200/220-3ø (TP)

**CW/CCW**




• 380/440-3ø

**CW/CCW**

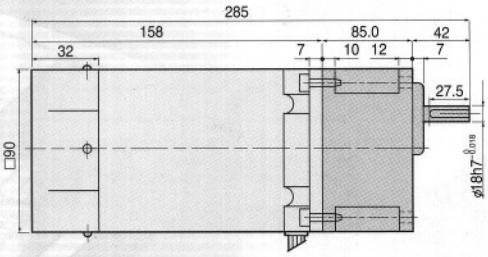



⚠ 주의 : MOTOR 결선의 전환은 MOTOR가 완전히 정지한 후에 하십시오.
MOTOR가 회전 중에 결선이 전환될 경우에는 정상작동이 안될 수 있습니다.

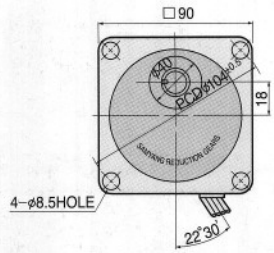
NOTICE : Do not switch the direction of rotation before it fully stops rotating.
Switching wires during rotating may cause damage of system/motor.

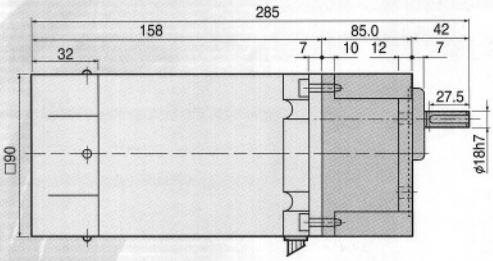
# DIMENSIONS

## GEARED MOTOR

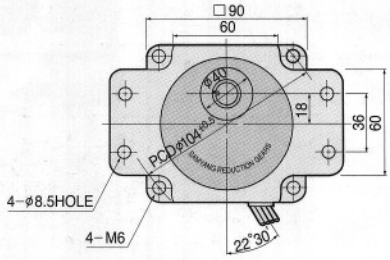



◀ K TYPE ▶

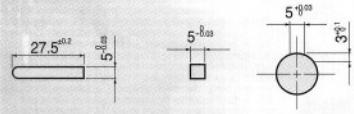



◀ KF TYPE ▶




## KEY SPEC



## WEIGHT

| PART | | WEIGHT(kg) |
|---|---|---|
| MOTOR | | 3.90 |
| GEAR HEAD | 1/3~1/10 | 1.70 |
| | 1/12.5~1/20 | 1.83 |
| | 1/25~1/60 | 1.93 |
| | 1/75~1/200 | 1.98 |

## GEAR HEAD 연결 사용시의 허용 부하 TORQUE(Kg-cm)
## ALLOWABLE LOAD TORQUE WHEN ASSEMBLED WITH GEAR HEAD

### 60Hz

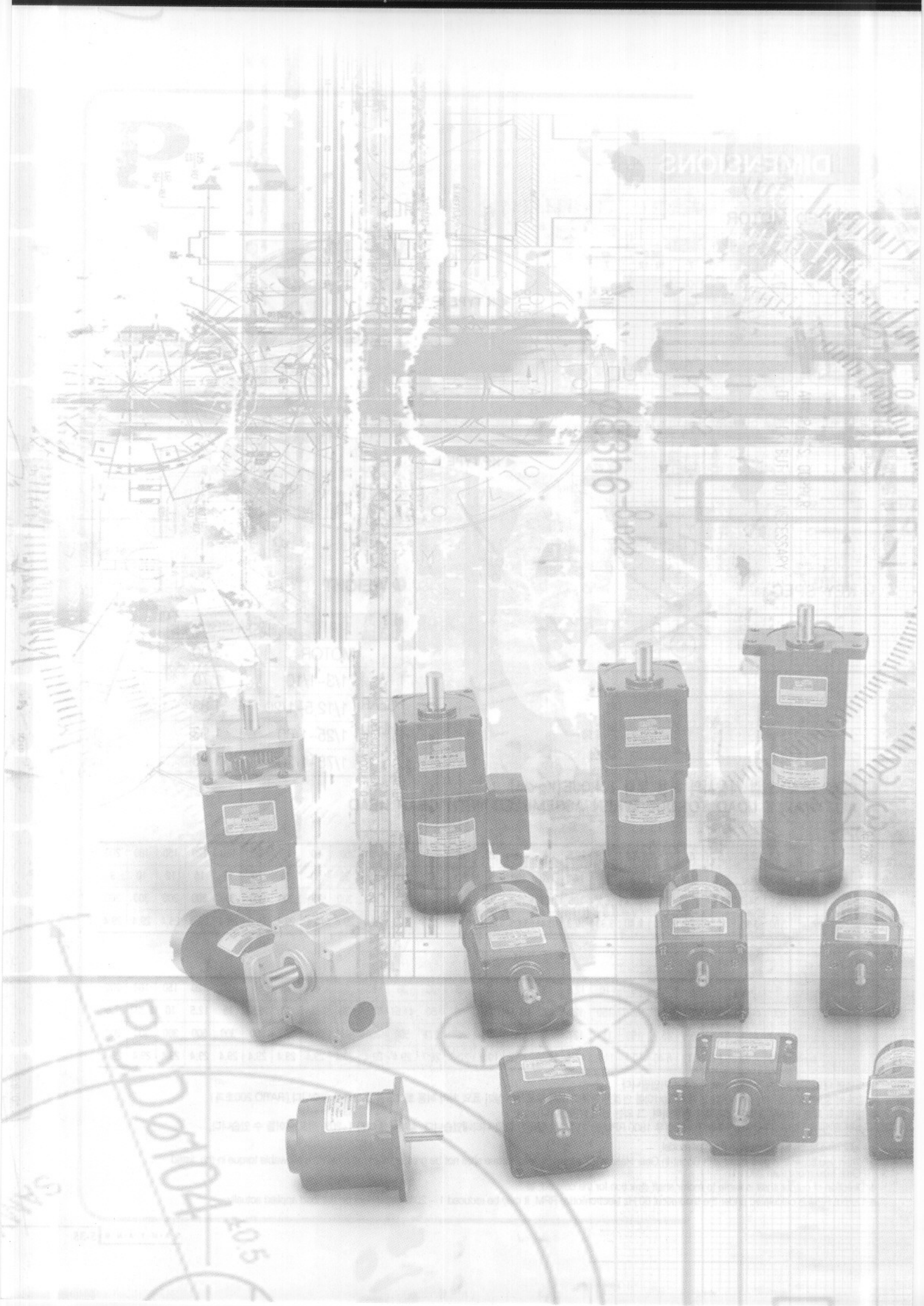
| Model | RATIO | 3 | 3.6 | 5 | 6 | 7.5 | 9 | 10 | 12.5 | 15 | 18 | 20 | 25 | 30 | 36 | 40 | 50 | 60 | 75 | 90 | 100 | 120 | 150 | 180 | 200 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P9K□KF P9K□K | rpm | 600 | 500 | 360 | 300 | 240 | 200 | 180 | 144 | 120 | 100 | 90 | 72 | 60 | 50 | 45 | 36 | 30 | 24 | 20 | 18 | 15 | 12 | 10 | 9 |
| | kg-cm | 28.6 | 34.3 | 47.6 | 57.1 | 71.4 | 85.7 | 95.2 | 106 | 127 | 152 | 169 | 189 | 227 | 273 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 |
| | N-m | 2.80 | 3.36 | 4.67 | 5.60 | 7.00 | 8.40 | 9.33 | 10.3 | 12.41 | 14.9 | 16.5 | 18.6 | 22.3 | 26.7 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 |

### 50Hz

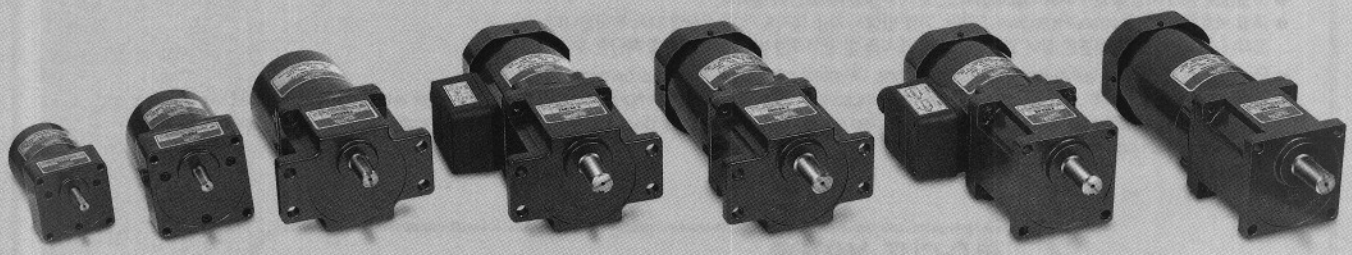
| Model | RATIO | 3 | 3.6 | 5 | 6 | 7.5 | 9 | 10 | 12.5 | 15 | 18 | 20 | 25 | 30 | 36 | 40 | 50 | 60 | 75 | 90 | 100 | 120 | 150 | 180 | 200 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P9K□KF P9K□K | rpm | 500 | 416.7 | 300 | 250 | 200 | 166.7 | 150 | 120 | 100 | 83.33 | 75 | 60 | 50 | 41.67 | 37.5 | 30 | 25 | 20 | 16.67 | 15 | 12.5 | 10 | 8.333 | 7.5 |
| | kg-cm | 34.3 | 41.1 | 57.1 | 68.6 | 85.7 | 103 | 114 | 127 | 152 | 182 | 203 | 227 | 273 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 |
| | N-m | 3.36 | 4.03 | 5.60 | 6.72 | 8.40 | 10.1 | 11.2 | 12.4 | 14.89 | 17.9 | 19.9 | 22.3 | 26.7 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 |

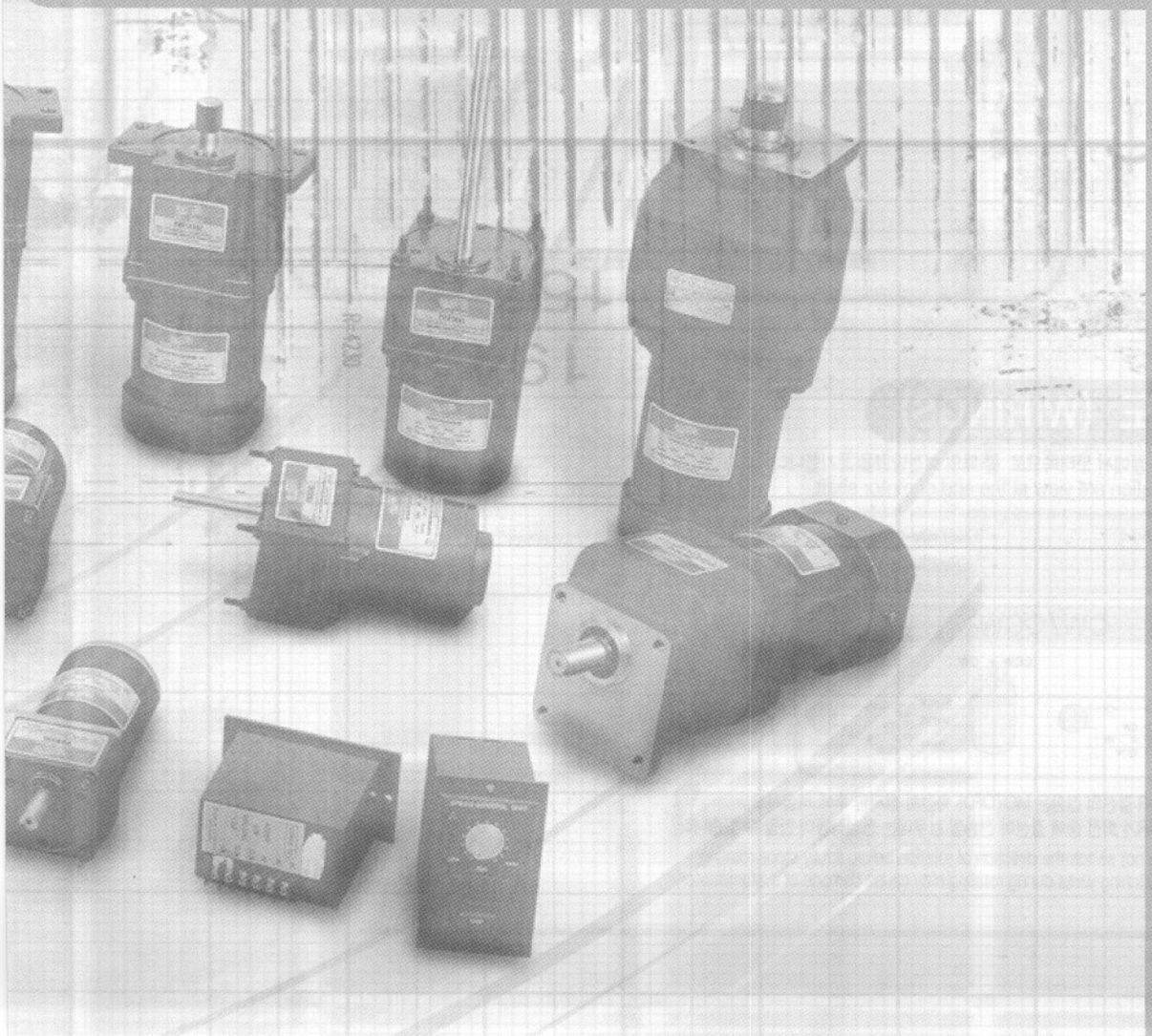
- 모델명 내의 □안에는 감속비(Gear Ratio)가 기입됩니다.
- 감속비 증폭 (BOOST-IN) 중간 연결 기어 헤드(x10)를 연결한 경우의 허용 토오크는 상기 표의 최대 허용 토오크를 초과하지 않습니다.(RATIO 200초과)
- 출력축의 회전 방향은 ■색이 모터 축과 동일하며, 그 외는 반대 방향입니다.
- 출력 회전수는 모터의 동기 회전수 (60Hz의 경우 1800 RPM)를 기준으로 감속된 값을 나타내었습니다. 실부하에 따라 1~20% 정도 줄어들 수 있습니다.

- Gear ratio to be typed(filled) in the □of model.
- When you assemble gear head with Boost-In Gear Head(X10), allowable load torque shall not be greater than the maximum allowable torque in the listed ( Gear ratio more than 200 : 1)
- Direction of output shaft is same to motor shaft direction for the colored. ■
- Output RPM is calculated under the theoretical 60 Hz electromotive RPM. It may be reduced 1 ~ 20% dependent on the load applied actually.



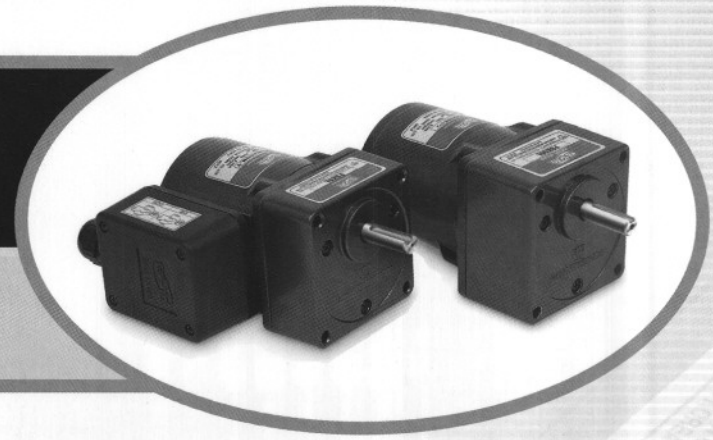
# REVERSIBLE MOTOR





# 6W

## REVERSIBLE MOTOR
## □60mm
## LEAD WIRE TYPE

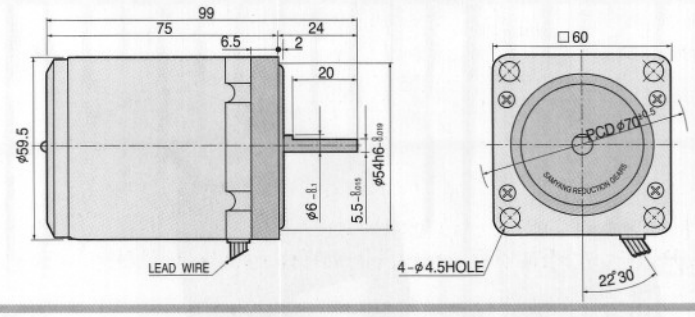


## MOTOR SPECIFICATIONS

| Model | Output | Input | | | Mag. Poles | Run Duty | Ratings | | | | Start Torque | | Condenser |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Volt | Phase | Freq. | | | Current | Speed | Torque | | | | |
| | Watt | V | | Hz | | min | Amp | rpm | Kg-cm | N-m | Kg-cm | N-m | (μF) |
| SM6R06GB | 6 | 220 | 1ø | 60 | 4 | 30 | 0.12 | 1550 | 0.42 | 0.041 | 0.71 | 0.069 | 0.8 |

- 모델별로 정격 사양을 준수하여 사용하십시오. 모터 손상의 주 요인이 됩니다.
- 과열 보호형인 TP(Thermal Protective) 모터는 과열 발생시 자동 정지되지만, 식으면 다시 작동됩니다.
  그러나 정지시에도 주 전원은 살아 있으므로 어떤 조치를 할 경우에는 반드시 주 전원을 차단한 후 조작하십시오.
- Please load and install within the rated specifications. Or motor or gear head may be damaged.
- TP(Thermally Protected) type of motor may be stop(power off) itself when temperature sensor in the motor is heated up to limited temperature and then restart again after the motor and sensor is cooled down. But during stops, do not operate the motor manually. If you intend to operate the motor, disconnect main power switch before touch.

## D-CUT MOTOR

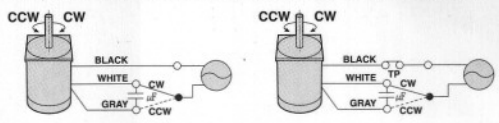



## 결선도 (WIRINGS)

회전방향은 모터축 끝에서 모터쪽으로 볼 때의 회전방향을 표시합니다.
Directions of rotation are view at the end of motor shaft.

- 100/110V-1ø
- 200/220V-1ø
- 100/110V-1ø (TP)
- 200/220V-1ø (TP)

### CW/CCW

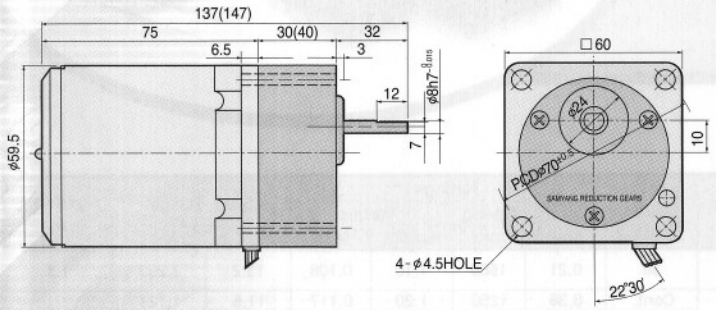



⚠ 주의 : MOTOR 결선의 전환은 MOTOR가 완전히 정지한 후에 하십시오.
MOTOR가 회전 중에 결선이 전환될 경우에는 정상작동이 안될 수 있습니다.

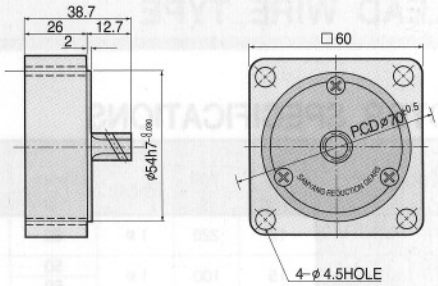
NOTICE : Do not switch the direction of rotation before it fully stops rotating.
Switching wires during rotating may cause damage of system/motor.

# DIMENSIONS

## GEARED MOTOR




## BOOST-IN GEAR HEAD




## WEIGHT

| PART | | WEIGHT(kg) |
|---|---|---|
| MOTOR | | 0.75 |
| BOOST-IN GEAR HEAD | | 0.18 |
| GEAR HEAD | 1/3~1/18 | 0.25 |
| | 1/20~1/40 | 0.30 |
| | 1/50~1/200 | 0.33 |

## GEAR HEAD 연결 사용시의 허용 부하 TORQUE (Kg-cm)
## ALLOWABLE LOAD TORQUE WHEN ASSEMBLED WITH GEAR HEAD

### 60Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 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 |
| P6D□L | kg-cm | 0.9 | 1.0 | 1.4 | 1.7 | 2.1 | 2.6 | 2.9 | 3.6 | 4.3 | 5.1 | 5.1 | 6.3 | 7.6 | 9.1 | 10.1 | 11.4 | 13.6 | 17.0 | 20.5 | 22.7 | 27.3 | 30.0 | 30.0 | 30.0 |
| | N-m | 0.08 | 0.10 | 0.14 | 0.17 | 0.21 | 0.25 | 0.28 | 0.35 | 0.42 | 0.50 | 0.50 | 0.62 | 0.74 | 0.89 | 0.99 | 1.11 | 1.34 | 1.67 | 2.00 | 2.23 | 2.67 | 2.94 | 2.94 | 2.94 |

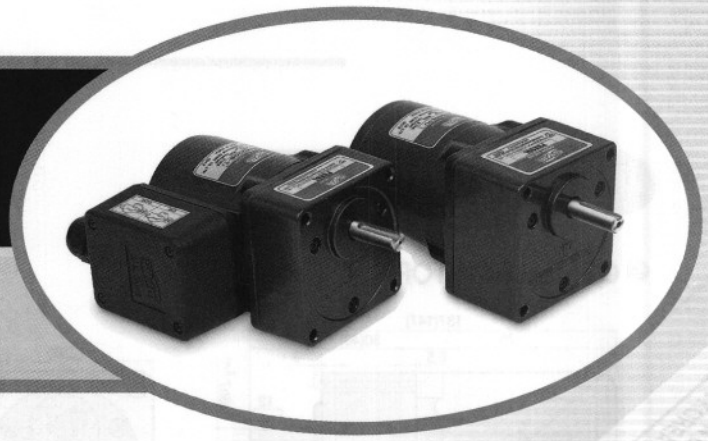
### 50Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | rpm | 500 | 416.7 | 300 | 250 | 200 | 166.7 | 150 | 120 | 100 | 83.33 | 75 | 60 | 50 | 41.67 | 37.5 | 30 | 25 | 20 | 16.67 | 15 | 12.5 | 10 | 8.333 | 7.5 |
| P6D□L | kg-cm | 1.0 | 1.2 | 1.7 | 2.1 | 2.6 | 3.1 | 3.4 | 4.3 | 5.1 | 6.2 | 6.1 | 7.6 | 9.1 | 10.9 | 12.2 | 13.6 | 16.4 | 20.5 | 24.5 | 27.3 | 30.0 | 30.0 | 30.0 | 30.0 |
| | N-m | 0.10 | 0.12 | 0.17 | 0.20 | 0.25 | 0.30 | 0.34 | 0.42 | 0.50 | 0.60 | 0.60 | 0.74 | 0.89 | 1.07 | 1.19 | 1.34 | 1.60 | 2.00 | 2.41 | 2.67 | 2.94 | 2.94 | 2.94 | 2.94 |

- 모델명 내의 □안에는 감속비(Gear Ratio)가 기입됩니다.
- 감속비 증폭 (BOOST-IN) 중간 연결 기어 헤드(x10)를 연결한 경우의 허용 토오크는 상기 표의 최대 허용 토오크를 초과하지 않습니다. (RATIO 200초과)
- 출력축의 회전 방향은 ■색이 모터 축과 동일하며, 그 외는 반대 방향입니다.
- 출력 회전수는 모터의 동기 회전수 (60Hz의 경우 1800 RPM)를 기준으로 감속된 값을 나타내었습니다. 실부하에 따라 1~20% 정도 줄어들 수 있습니다.
- Gear ratio to be typed(filled) in the □of model.
- When you assemble gear head with Boost-In Gear Head(X10), allowable load torque shall not be greater than the maximum allowable torque in the listed ( Gear ratio more than 200 : 1)
- Direction of output shaft is same to motor shaft direction for the colored. ■
- Output RPM is calculated under the theoretical 60 Hz electromotive RPM. It may be reduced 1 ~ 20% dependent on the load applied actually.

# 15W

## REVERSIBLE MOTOR
## □70mm
## LEAD WIRE TYPE

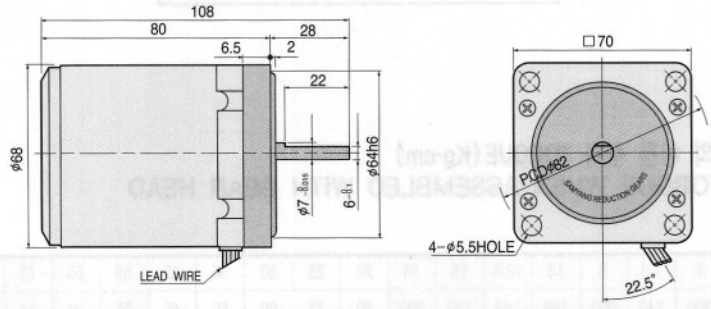


## MOTOR SPECIFICATIONS

| Model | Output | Input | | | Mag. | Run Duty | Ratings | | | | Start Torque | | Condenser |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Volt | Phase | Freq. | | | Current | Speed | Torque | | | | |
| | Watt | V | | Hz | Poles | min | Amp | rpm | Kg-cm | N-m | Kg-cm | N-m | (μF) |
| SM7R15GB | 15 | 220 | 1ø | 60 | 4 | 30 | 0.21 | 1600 | 1.10 | 0.108 | 13.2 | 1.293 | 1.5 |
| SM7R15GC | 15 | 100 | 1ø | 50 | 4 | Cont. | 0.38 | 1250 | 1.20 | 0.117 | 11.5 | 1.127 | 6.0 |
| | | | | 60 | | - | 0.40 | 1600 | 0.92 | 0.090 | 12.0 | 1.176 | |
| SM7R15GX | 15 | 220 | 1ø | 50 | 4 | - | 0.17 | 1300 | 1.14 | 0.111 | 1.21 | 0.118 | 1.3 |
| | | 240 | | | | Cont. | 0.19 | 1300 | 1.35 | 0.106 | 1.45 | 0.142 | |

- 모델별로 정격 사양을 준수하여 사용하십시오. 모터 손상의 주 요인이 됩니다.
- 과열 보호형인 TP(Thermal Protective) 모터는 과열 발생시 자동 정지되지만, 식으면 다시 작동됩니다.
  그러나 정지시에도 주 전원은 살아 있으므로 어떤 조치를 할 경우에는 반드시 주 전원을 차단한 후 조작하십시오.
- Please load and install within the rated specifications. Or motor or gear head may be damaged.
- TP(Thermally Protected) type of motor may be stop(power off) itself when temperature sensor in the motor is heated up to limited temperature and then restart again after the motor and sensor is cooled down. But during stops, do not operate the motor manually. If you intend to operate the motor, disconnect main power switch before touch.

## D-CUT MOTOR

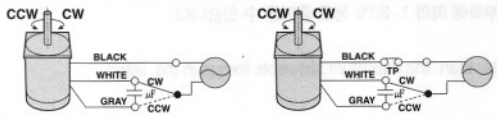



## 결선도 (WIRINGS)

회전방향은 모터축 끝에서 모터쪽으로 볼 때의 회전방향을 표시합니다.
Directions of rotation are view at the end of motor shaft.

- 100/110V-1ø
- 200/220V-1ø
- 100/110V-1ø (TP)
- 200/220V-1ø (TP)

### CW/CCW

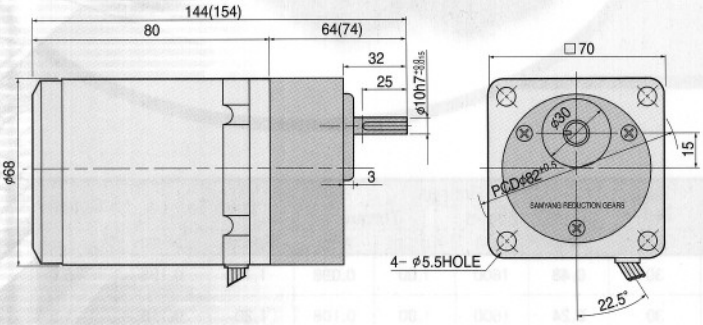



주의 : MOTOR 결선의 전환은 MOTOR가 완전히 정지한 후에 하십시오.
MOTOR가 회전 중에 결선이 전환될 경우에는 정상작동이 안될 수 있습니다.

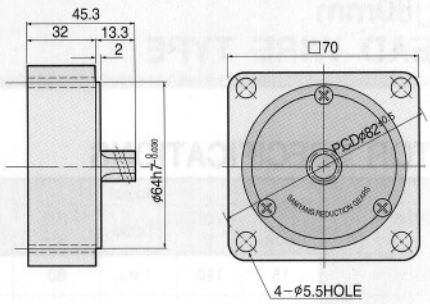
NOTICE : Do not switch the direction of rotation before it fully stops rotating.
Switching wires during rotating may cause damage of system/motor.

# DIMENSIONS

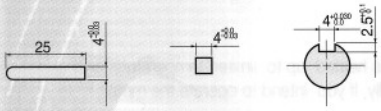
## GEARED MOTOR




## BOOST-IN GEAR HEAD




## KEY SPEC




## WEIGHT

| PART | | WEIGHT(kg) |
|---|---|---|
| MOTOR | | 1.07 |
| BOOST-IN GEAR HEAD | | 0.35 |
| GEAR HEAD | 1/3~1/18 | 0.36 |
| | 1/20~1/40 | 0.45 |
| | 1/50~1/200 | 0.5 |

## GEAR HEAD 연결 사용시의 허용 부하 TORQUE (Kg-cm)
## ALLOWABLE LOAD TORQUE WHEN ASSEMBLED WITH GEAR HEAD

### 60Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 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 |
| P7K□L | kg-cm | 2.1 | 2.6 | 3.6 | 4.3 | 5.4 | 6.4 | 7.1 | 8.9 | 10.7 | 12.9 | 12.7 | 15.8 | 19.0 | 22.8 | 25.3 | 28.4 | 34.1 | 42.6 | 51.1 | 56.8 | 60.0 | 60.0 | 60.0 | 60.0 |
| | N-m | 0.21 | 0.25 | 0.35 | 0.42 | 0.52 | 0.63 | 0.70 | 0.87 | 1.05 | 1.26 | 1.24 | 1.55 | 1.86 | 2.23 | 2.48 | 2.78 | 3.34 | 4.18 | 5.01 | 5.57 | 5.88 | 5.88 | 5.88 | 5.88 |

### 50Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | rpm | 500 | 416.7 | 300 | 250 | 200 | 166.7 | 150 | 120 | 100 | 83.33 | 75 | 60 | 50 | 41.67 | 37.5 | 30 | 25 | 20 | 16.67 | 15 | 12.5 | 10 | 8.333 | 7.5 |
| P7K□L | kg-cm | 2.6 | 3.1 | 4.3 | 5.1 | 6.4 | 7.7 | 8.6 | 10.7 | 12.9 | 15.4 | 15.2 | 19.0 | 22.8 | 27.3 | 30.4 | 34.1 | 40.9 | 51.1 | 60.0 | 60.0 | 60.0 | 60.0 | 60.0 | 60.0 |
| | N-m | 0.25 | 0.30 | 0.42 | 0.50 | 0.63 | 0.76 | 0.84 | 1.05 | 1.26 | 1.51 | 1.49 | 1.86 | 2.23 | 2.68 | 2.98 | 3.34 | 4.01 | 5.01 | 5.88 | 5.88 | 5.88 | 5.88 | 5.88 | 5.88 |

- 모델명 내의 □안에는 감속비(Gear Ratio)가 기입됩니다.
- 감속비 증폭 (BOOST-IN) 중간 연결 기어 헤드(x10)를 연결한 경우의 허용 토오크는 상기 표의 최대 허용 토오크를 초과하지 않습니다. (RATIO 200초과)
- 출력축의 회전 방향은 ■색이 모터 축과 동일하며, 그 외는 반대 방향입니다.
- 출력 회전수는 모터의 동기 회전수 (60Hz의 경우 1800 RPM)를 기준으로 감속된 값을 나타내었습니다. 실부하에 따라 1~20% 정도 줄어들 수 있습니다.
- Gear ratio to be typed(filled) in the □of model.
- When you assemble gear head with Boost-In Gear Head(X10), allowable load torque shall not be greater than the maximum allowable torque in the listed ( Gear ratio more than 200 : 1)
- Direction of output shaft is same to motor shaft direction for the colored. ■
- Output RPM is calculated under the theoretical 60 Hz electromotive RPM. It may be reduced 1 ~ 20% dependent on the load applied actually.

# 15W

## REVERSIBLE MOTOR
## □80mm
## LEAD WIRE TYPE

## MOTOR SPECIFICATIONS

| Model | Output | Input | | | Mag. | Run Duty | Ratings | | | | Start Torque | | Condenser |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Volt | Phase | Freq. | Poles | | Current | Speed | Torque | | | | |
| | Watt | V | | Hz | | min | Amp | rpm | Kg-cm | N-m | Kg-cm | N-m | (μF) |
| SM8R15GA | 15 | 110 | 1 ø | 60 | 4 | 30 | 0.48 | 1600 | 1.00 | 0.098 | 1.10 | 0.108 | 5.0 |
| SM8R15GB | 15 | 220 | 1 ø | 60 | 4 | 30 | 0.24 | 1600 | 1.00 | 0.108 | 1.20 | 0.118 | 1.5 |

- 모델별로 정격 사양을 준수하여 사용하십시오. 모터 손상의 주 요인이 됩니다.
- 과열 보호형인 TP(Thermal Protective) 모터는 과열 발생시 자동 정지되지만, 식으면 다시 작동됩니다.
  그러나 정지시에도 주 전원은 살아 있으므로 어떤 조치를 할 경우에는 반드시 주 전원을 차단한 후 조작하십시오.
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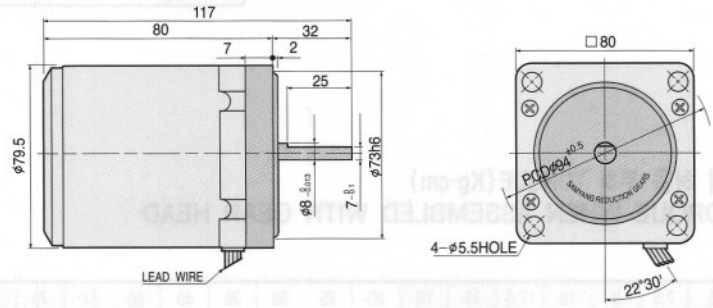
- TP(Thermally Protected) type of motor may be stop(power off) itself when temperature sensor in the motor is heated up to limited temperature and then restart again after the motor and sensor is cooled down. But during stops, do not operate the motor manually. If you intend to operate the motor, disconnect main power switch before touch.

## D-CUT MOTOR

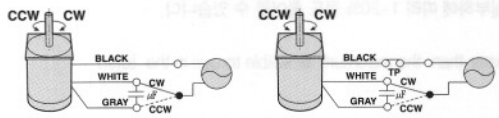



## 결선도 (WIRINGS)

회전방향은 모터축 끝에서 모터쪽으로 볼 때의 회전방향을 표시합니다.
Directions of rotation are view at the end of motor shaft.

- 100/110V-1ø
- 200/220V-1ø
- 100/110V-1ø (TP)
- 200/220V-1ø (TP)

### CW/CCW

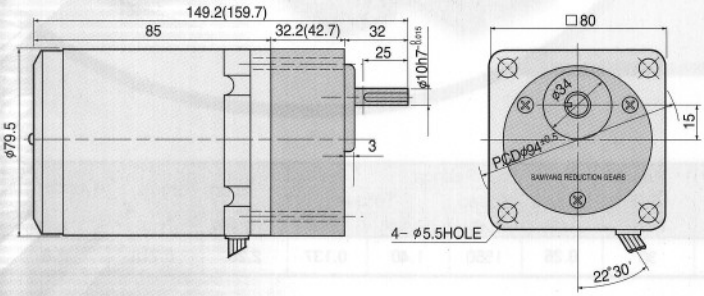



주의 : MOTOR 결선의 전환은 MOTOR가 완전히 정지한 후에 하십시오.
MOTOR가 회전 중에 결선이 전환될 경우에는 정상작동이 안될 수 있습니다.

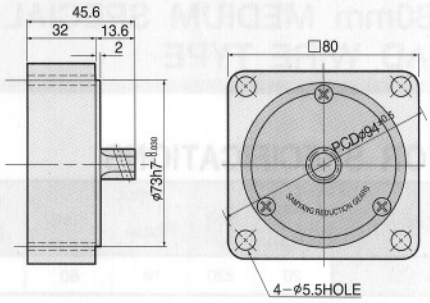
NOTICE : Do not switch the direction of rotation before it fully stops rotating.
Switching wires during rotating may cause damage of system/motor.

# DIMENSIONS

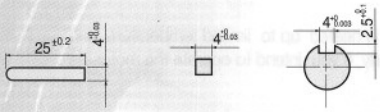
## GEARED MOTOR




## BOOST-IN GEAR HEAD




## KEY SPEC




## WEIGHT

| PART | | WEIGHT(kg) |
|---|---|---|
| MOTOR | | 1.46 |
| BOOST-IN GEAR HEAD | | 0.43 |
| GEAR HEAD | 1/3~1/18 | 0.43 |
| | 1/20~1/40 | 0.57 |
| | 1/50~1/200 | 0.60 |

## GEAR HEAD 연결 사용시의 허용 부하 TORQUE (Kg-cm)
## ALLOWABLE LOAD TORQUE WHEN ASSEMBLED WITH GEAR HEAD

### 60Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 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 |
| P7K□L | kg-cm | 2.1 | 2.6 | 3.6 | 4.3 | 5.4 | 6.4 | 7.1 | 8.9 | 10.7 | 12.9 | 12.7 | 15.8 | 19.0 | 22.8 | 25.3 | 28.4 | 34.1 | 42.6 | 51.1 | 56.8 | 68.2 | 80.0 | 80.0 | 80.0 |
| | N·m | 0.21 | 0.25 | 0.35 | 0.42 | 0.52 | 0.63 | 0.70 | 0.87 | 1.05 | 1.26 | 1.24 | 1.55 | 1.86 | 2.23 | 2.48 | 2.78 | 3.34 | 4.18 | 5.01 | 5.57 | 6.68 | 7.84 | 7.84 | 7.84 |

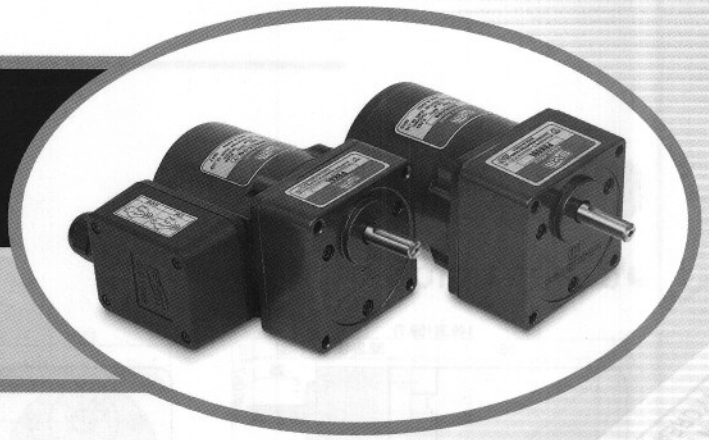
### 50Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | rpm | 500 | 416.7 | 300 | 250 | 200 | 166.7 | 150 | 120 | 100 | 83.33 | 75 | 60 | 50 | 41.67 | 37.5 | 30 | 25 | 20 | 16.67 | 15 | 12.5 | 10 | 8.333 | 7.5 |
| P7K□L | kg-cm | 2.6 | 3.1 | 4.3 | 5.1 | 6.4 | 7.7 | 8.6 | 10.7 | 12.9 | 15.4 | 15.2 | 19.0 | 22.8 | 27.3 | 30.4 | 34.1 | 40.9 | 51.1 | 61.4 | 68.2 | 80.0 | 80.0 | 80.0 | 80.0 |
| | N·m | 0.25 | 0.30 | 0.42 | 0.50 | 0.63 | 0.76 | 0.84 | 1.05 | 1.26 | 1.51 | 1.49 | 1.86 | 2.23 | 2.68 | 2.98 | 3.34 | 4.01 | 5.01 | 6.01 | 6.68 | 7.84 | 7.84 | 7.84 | 7.84 |

- 모델명 내의 □안에는 감속비(Gear Ratio)가 기입됩니다.
- 감속비 증폭 (BOOST-IN) 중간 연결 기어 헤드(x10)를 연결한 경우의 허용 토오크는 상기 표의 최대 허용 토오크를 초과하지 않습니다. (RATIO 200초과)
- 출력축의 회전 방향은 ■색이 모터 축과 동일하며, 그 외는 반대 방향입니다.
- 출력 회전수는 모터의 동기 회전수 (60Hz의 경우 1800 RPM)를 기준으로 감속된 값을 나타내었습니다. 실부하에 따라 1~20% 정도 줄어들 수 있습니다.
- Gear ratio to be typed(filled) in the □of model.
- When you assemble gear head with Boost-In Gear Head(X10), allowable load torque shall not be greater than the maximum allowable torque in the listed ( Gear ratio more than 200 : 1)
- Direction of output shaft is same to motor shaft direction for the colored. ■
- Output RPM is calculated under the theoretical 60 Hz electromotive RPM. It may be reduced 1 ~ 20% dependent on the load applied actually.

# 20W

## REVERSIBLE MOTOR
## □80mm MEDIUM SPECIAL
## LEAD WIRE TYPE

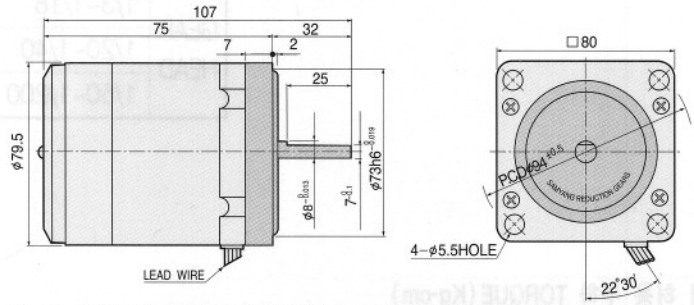


## MOTOR SPECIFICATIONS

| Model | Output | Input | | | Mag. Poles | Run Duty | Ratings | | | | Start Torque | | Condenser |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Volt | Phase | Freq. | | | Current | Speed | Torque | | | | |
| | Watt | V | | Hz | | min | Amp | rpm | Kg-cm | N-m | Kg-cm | N-m | (μF) |
| SM8R20GB | 20 | 220 | 1ø | 60 | 4 | 30 | 0.26 | 1550 | 1.40 | 0.137 | 2.20 | 0.216 | 3.0 |

- 모델별로 정격 사양을 준수하여 사용하십시오. 모터 손상의 주 요인이 됩니다.
- 과열 보호형인 TP(Thermal Protective) 모터는 과열 발생시 자동 정지되지만, 식으면 다시 작동됩니다.
  그러나 정지시에도 주 전원은 살아 있으므로 어떤 조치를 할 경우에는 반드시 주 전원을 차단한 후 조작하십시오.
- Please load and install within the rated specifications. Or motor or gear head may be damaged.
- TP(Thermally Protected) type of motor may be stop(power off) itself when temperature sensor in the motor is heated up to limited temperature and then restart again after the motor and sensor is cooled down. But during stops, do not operate the motor manually. If you intend to operate the motor, disconnect main power switch before touch.

### D-CUT MOTOR

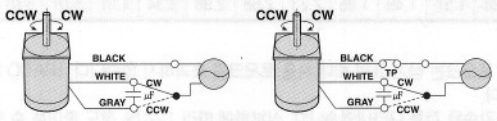



## 결선도 (WIRINGS)

회전방향은 모터축 끝에서 모터쪽으로 볼 때의 회전방향을 표시합니다.
Directions of rotation are view at the end of motor shaft.

- 100/110V-1ø
- 100/110V-1ø (TP)
- 200/220V-1ø
- 200/220V-1ø (TP)

### CW/CCW

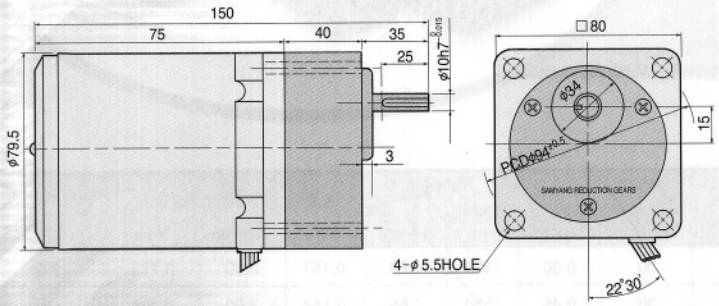



⚠ 주의 : MOTOR 결선의 전환은 MOTOR가 완전히 정지한 후에 하십시오.
MOTOR가 회전 중에 결선이 전환될 경우에는 정상작동이 안될 수 있습니다.

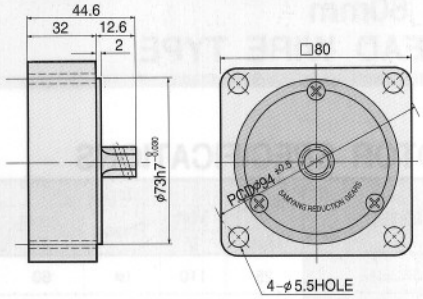
NOTICE : Do not switch the direction of rotation before it fully stops rotating.
Switching wires during rotating may cause damage of system/motor.

# DIMENSIONS

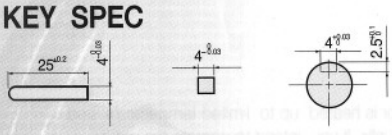
## GEARED MOTOR




## BOOST-IN GEAR HEAD




## KEY SPEC



## WEIGHT

| PART | | WEIGHT(kg) |
|---|---|---|
| MOTOR | | 1.30 |
| BOOST-IN GEAR HEAD | | 0.43 |
| GEAR HEAD | 1/3~1/18 | 0.38 |
| | 1/20~1/40 | 0.52 |
| | 1/50~1/200 | 0.55 |

## GEAR HEAD 연결 사용시의 허용 부하 TORQUE (Kg-cm)
## ALLOWABLE LOAD TORQUE WHEN ASSEMBLED WITH GEAR HEAD

### 60Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 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 |
| P8K□L-MD | kg-cm | 2.9 | 3.4 | 4.8 | 5.7 | 7.1 | 8.6 | 9.5 | 11.9 | 14.3 | 17.1 | 16.9 | 21.1 | 25.3 | 30.4 | 33.8 | 37.9 | 45.5 | 56.8 | 68.2 | 75.8 | 80.0 | 80.0 | 80.0 | 80.0 |
| | N-m | 0.28 | 0.34 | 0.47 | 0.56 | 0.70 | 0.84 | 0.93 | 1.17 | 1.40 | 1.68 | 16.5 | 2.07 | 2.48 | 2.98 | 3.31 | 3.71 | 4.45 | 5.57 | 6.68 | 7.42 | 7.84 | 7.84 | 7.84 | 7.84 |

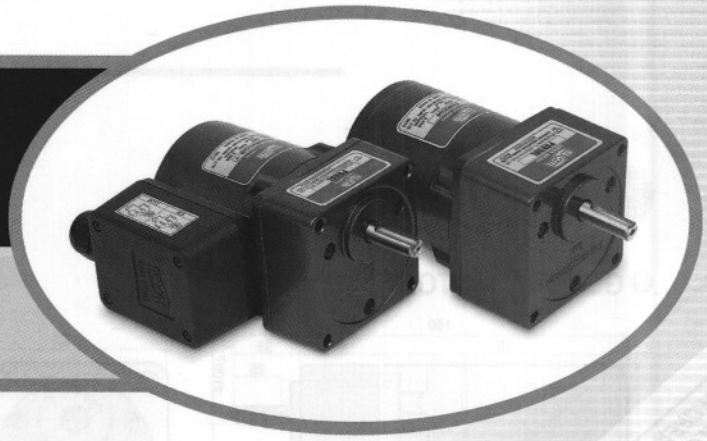
### 50Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | rpm | 500 | 416.7 | 300 | 250 | 200 | 166.7 | 150 | 120 | 100 | 83.33 | 75 | 60 | 50 | 41.67 | 37.5 | 30 | 25 | 20 | 16.67 | 15 | 12.5 | 10 | 8.333 | 7.5 |
| P8K□L-MD | kg-cm | 3.4 | 4.1 | 5.7 | 6.9 | 8.6 | 10.3 | 11.4 | 14.3 | 17.1 | 20.6 | 20.3 | 25.3 | 30.4 | 36.5 | 40.5 | 45.5 | 54.5 | 68.2 | 80.0 | 80.0 | 80.0 | 80.0 | 80.0 | 80.0 |
| | N-m | 0.34 | 0.40 | 0.56 | 0.67 | 0.84 | 1.01 | 1.12 | 1.40 | 1.68 | 2.02 | 1.99 | 2.48 | 2.98 | 3.57 | 3.97 | 4.45 | 5.35 | 6.68 | 7.84 | 7.84 | 7.84 | 7.84 | 7.84 | 7.84 |

- 모델명 내의 □안에는 감속비(Gear Ratio)가 기입됩니다.
- 감속비 증폭 (BOOST-IN) 중간 연결 기어 헤드(x10)를 연결한 경우의 허용 토오크는 상기 표의 최대 허용 토오크를 초과하지 않습니다. (RATIO 200초과)
- 출력축의 회전 방향은 ■색이 모터 축과 동일하며, 그 외는 반대 방향입니다.
- 출력 회전수는 모터의 동기 회전수 (60Hz의 경우 1800 RPM)를 기준으로 감속된 값을 나타내었습니다. 실부하에 따라 1~20% 정도 줄어들 수 있습니다.
- Gear ratio to be typed(filled) in the □of model.
- When you assemble gear head with Boost-In Gear Head(X10), allowable load torque shall not be greater than the maximum allowable torque in the listed ( Gear ratio more than 200 : 1)
- Direction of output shaft is same to motor shaft direction for the colored. ■
- Output RPM is calculated under the theoretical 60 Hz electromotive RPM. It may be reduced 1 ~ 20% dependent on the load applied actually.

# 25W

## REVERSIBLE MOTOR
## □80mm
## LEAD WIRE TYPE

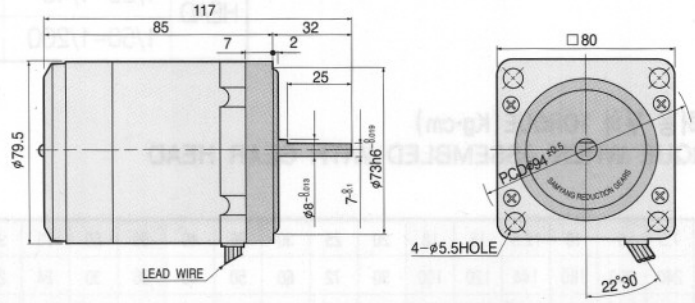


## MOTOR SPECIFICATIONS

| Model | Output | Input | | | Mag. Poles | Run Duty | Ratings | | | | Start Torque | | Condenser |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Volt | Phase | Freq. | | | Current | Speed | Torque | | | | |
| | Watt | V | | Hz | | min | Amp | rpm | Kg-cm | N-m | Kg-cm | N-m | (μF) |
| SM8R25GA | 25 | 110 | 1ø | 60 | 4 | 30 | 0.90 | 1550 | 1.60 | 0.157 | 2.80 | 0.275 | 12.0 |
| SM8R25GB | 25 | 220 | 1ø | 60 | 4 | 30 | 0.45 | 1550 | 1.65 | 0.162 | 3.00 | 0.294 | 3.0 |

- 모델별로 정격 사양을 준수하여 사용하십시오. 모터 손상의 주 요인이 됩니다.
- 과열 보호형인 TP(Thermal Protective) 모터는 과열 발생시 자동 정지되지만, 식으면 다시 작동됩니다.
  그러나 정지시에도 주 전원은 살아 있으므로 어떤 조치를 할 경우에는 반드시 주 전원을 차단한 후 조작하십시오.
- Please load and install within the rated specifications. Or motor or gear head may be damaged.
- TP(Thermally Protected) type of motor may be stop(power off) itself when temperature sensor in the motor is heated up to limited temperature and then restart again after the motor and sensor is cooled down. But during stops, do not operate the motor manually. If you intend to operate the motor, disconnect main power switch before touch.

## D-CUT MOTOR

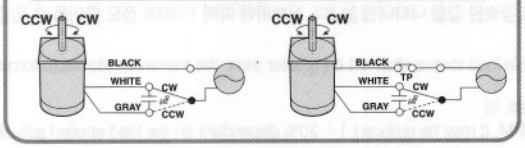



## 결선도 (WIRINGS)

회전방향은 모터축 끝에서 모터쪽으로 볼 때의 회전방향을 표시합니다.
Directions of rotation are view at the end of motor shaft.

- 100/110V-1ø
- 100/110V-1ø (TP)
- 200/220V-1ø
- 200/220V-1ø (TP)

### CW/CCW

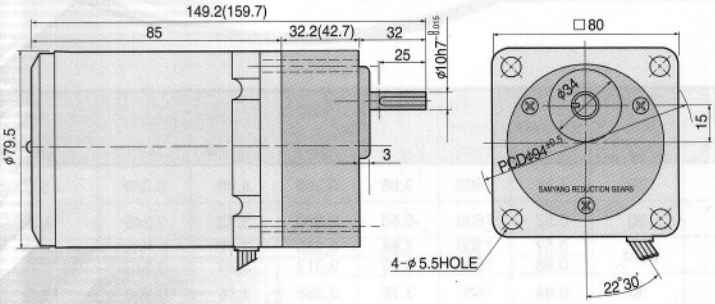



⚠ 주의 : MOTOR 결선의 전환은 MOTOR가 완전히 정지한 후에 하십시오.
MOTOR가 회전 중에 결선이 전환될 경우에는 정상작동이 안될 수 있습니다.

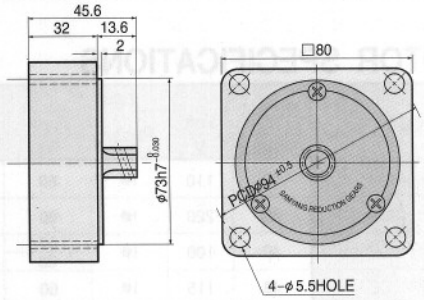
NOTICE : Do not switch the direction of rotation before it fully stops rotating.
Switching wires during rotating may cause damage of system/motor.

# DIMENSIONS

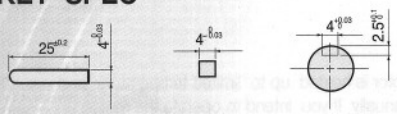
## GEARED MOTOR




## BOOST-IN GEAR HEAD




## KEY SPEC



## WEIGHT

| PART | | WEIGHT(kg) |
|---|---|---|
| MOTOR | | 1.50 |
| BOOST-IN GEAR HEAD | | 0.43 |
| GEAR HEAD | 1/3~1/18 | 0.43 |
| | 1/20~1/40 | 0.57 |
| | 1/50~1/200 | 0.60 |

## GEAR HEAD 연결 사용시의 허용 부하 TORQUE (Kg-cm)
## ALLOWABLE LOAD TORQUE WHEN ASSEMBLED WITH GEAR HEAD

### 60Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 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 |
| P8K□L | kg-cm | 3.6 | 4.3 | 6.0 | 7.1 | 8.9 | 10.7 | 11.9 | 14.9 | 17.9 | 21.4 | 21.1 | 26.4 | 31.7 | 38.0 | 42.2 | 47.3 | 56.8 | 71.0 | 80.0 | 80.0 | 80.0 | 80.0 | 80.0 | 80.0 |
| | N·m | 0.35 | 0.42 | 0.58 | 0.70 | 0.87 | 1.05 | 1.17 | 1.46 | 1.75 | 2.10 | 2.07 | 2.59 | 3.10 | 3.72 | 4.14 | 4.64 | 5.57 | 6.96 | 7.84 | 7.84 | 7.84 | 7.84 | 7.84 | 7.84 |

### 50Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | rpm | 500 | 416.7 | 300 | 250 | 200 | 166.7 | 150 | 120 | 100 | 83.33 | 75 | 60 | 50 | 41.67 | 37.5 | 30 | 25 | 20 | 16.67 | 15 | 12.5 | 10 | 8.333 | 7.5 |
| P8K□L | kg-cm | 4.3 | 5.1 | 7.1 | 8.6 | 10.7 | 12.9 | 14.3 | 17.9 | 21.4 | 25.7 | 25.3 | 31.7 | 38.0 | 45.6 | 50.6 | 56.8 | 68.2 | 80.0 | 80.0 | 80.0 | 80.0 | 80.0 | 80.0 | 80.0 |
| | N·m | 0.42 | 0.50 | 0.70 | 0.84 | 1.05 | 1.26 | 1.40 | 1.75 | 2.10 | 2.52 | 2.48 | 3.10 | 3.72 | 4.47 | 4.96 | 5.57 | 6.68 | 7.84 | 7.84 | 7.84 | 7.84 | 7.84 | 7.84 | 7.84 |

- 모델명 내의 □안에는 감속비(Gear Ratio)가 기입됩니다.
- 감속비 증폭 (BOOST-IN) 중간 연결 기어 헤드(x10)를 연결한 경우의 허용 토오크는 상기 표의 최대 허용 토오크를 초과하지 않습니다. (RATIO 200초과)
- 출력축의 회전 방향은 ■색이 모터 축과 동일하며, 그 외는 반대 방향입니다.
- 출력 회전수는 모터의 동기 회전수 (60Hz의 경우 1800 RPM)를 기준으로 감속된 값을 나타내었습니다. 실부하에 따라 1~20% 정도 줄어들 수 있습니다.
- Gear ratio to be typed(filled) in the □of model.
- When you assemble gear head with Boost-In Gear Head(X10), allowable load torque shall not be greater than the maximum allowable torque in the listed ( Gear ratio more than 200 : 1)
- Direction of output shaft is same to motor shaft direction for the colored. ■
- Output RPM is calculated under the theoretical 60 Hz electromotive RPM. It may be reduced 1 ~ 20% dependent on the load applied actually.

# 40W

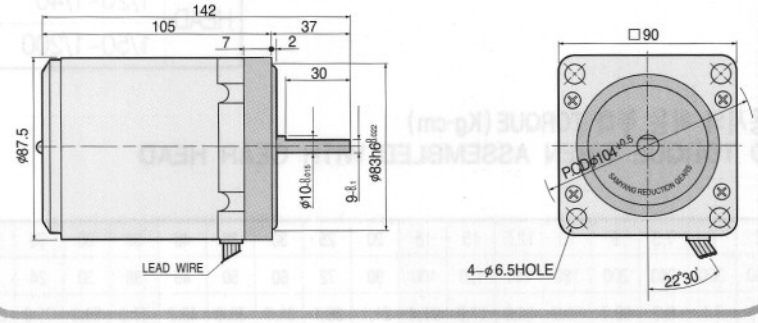
## REVERSIBLE MOTOR
## □90mm
## LEAD WIRE TYPE

## MOTOR SPECIFICATIONS

| Model | Output | Input | | | Mag. | Run | Ratings | | | | Start Torque | | Condenser |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Volt | Phase | Freq. | Poles | Duty | Current | Speed | Torque | | | | |
| | Watt | V | | Hz | | min | Amp | rpm | Kg-cm | N-m | Kg-cm | N-m | (μF) |
| SM9R40GA | 40 | 110 | 1ø | 60 | 4 | 30 | 1.11 | 1600 | 3.88 | 0.380 | 4.08 | 0.340 | 15.0 |
| SM9R40GB | 40 | 220 | 1ø | 60 | 4 | 30 | 0.52 | 1600 | 3.60 | 0.353 | 3.52 | 0.345 | 3.7 |
| SM9R40GC | 40 | 100 | 1ø | 50 | 4 | Cont. | 0.57 | 1300 | 3.88 | 0.380 | 3.12 | 0.305 | 15.0 |
| | | | | 60 | | | 0.68 | 1600 | 3.20 | 0.313 | 3.20 | 0.313 | |
| SM9R40GE | 40 | 115 | 1ø | 60 | 4 | 30 | 0.94 | 1600 | 3.76 | 0.368 | 3.16 | 0.309 | 12.0 |

- 모델별로 정격 사양을 준수하여 사용하십시오. 모터 손상의 주 요인이 됩니다.
- 과열 보호형인 TP(Thermal Protective) 모터는 과열 발생시 자동 정지되지만, 식으면 다시 작동됩니다.
  그러나 정지시에도 주 전원은 살아 있으므로 어떤 조치를 할 경우에는 반드시 주 전원을 차단한 후 조작하십시오.
- Please load and install within the rated specifications. Or motor or gear head may be damaged.
- TP(Thermally Protected) type of motor may be stop(power off) itself when temperature sensor in the motor is heated up to limited temperature and then restart again after the motor and sensor is cooled down. But during stops, do not operate the motor manually. If you intend to operate the motor, disconnect main power switch before touch.

## D-CUT MOTOR

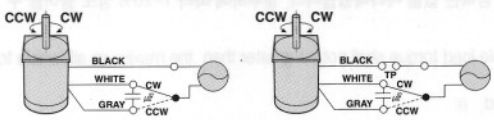



## 결선도 (WIRINGS)

회전방향은 모터축 끝에서 모터쪽으로 볼 때의 회전방향을 표시합니다.
Directions of rotation are view at the end of motor shaft.

- 100/110V-1ø
- 200/220V-1ø
- 100/110V-1ø (TP)
- 200/220V-1ø (TP)

### CW/CCW




주의 : MOTOR 결선의 전환은 MOTOR가 완전히 정지한 후에 하십시오.
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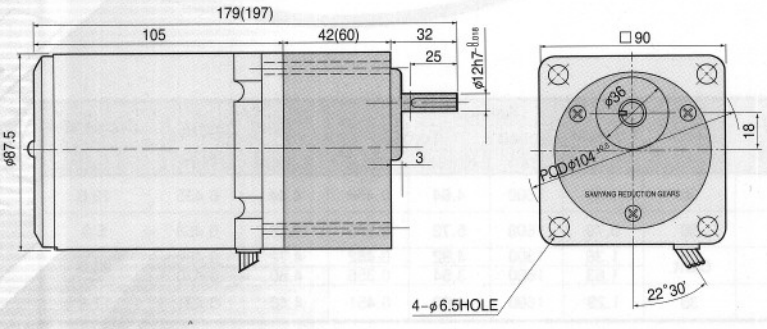
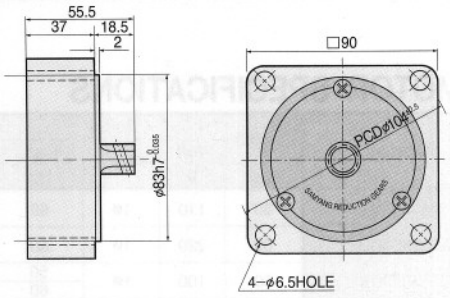
NOTICE : Do not switch the direction of rotation before it fully stops rotating.
Switching wires during rotating may cause damage of system/motor.

# DIMENSIONS

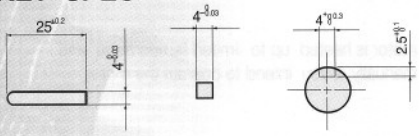
## GEARED MOTOR




## BOOST-IN GEAR HEAD




## KEY SPEC




## WEIGHT

| PART | | WEIGHT(kg) |
|---|---|---|
| MOTOR | | 2.40 |
| BOOST-IN GEAR HEAD | | 0.60 |
| GEAR HEAD | 1/3~1/18 | 0.75 |
| | 1/20~1/40 | 1.05 |
| | 1/50~1/200 | 1.15 |

## GEAR HEAD 연결 사용시의 허용 부하 TORQUE(Kg-cm)
## ALLOWABLE LOAD TORQUE WHEN ASSEMBLED WITH GEAR HEAD

### 60Hz

| Model P9K□L | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 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 |
| | kg-cm | 5.7 | 6.9 | 9.5 | 11.4 | 14.3 | 17.1 | 19.0 | 23.8 | 28.6 | 34.3 | 33.8 | 42.2 | 50.6 | 60.8 | 67.5 | 75.8 | 90.9 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | N-m | 0.56 | 0.67 | 0.93 | 1.12 | 1.40 | 1.68 | 1.87 | 2.33 | 2.80 | 3.36 | 3.31 | 4.14 | 4.96 | 5.96 | 6.62 | 7.42 | 8.91 | 9.80 | 9.80 | 9.80 | 9.80 | 9.80 | 9.80 | 9.80 |

### 50Hz

| Model P9K□L | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | rpm | 500 | 416.7 | 300 | 250 | 200 | 166.7 | 150 | 120 | 100 | 83.33 | 75 | 60 | 50 | 41.67 | 37.5 | 30 | 25 | 20 | 16.67 | 15 | 12.5 | 10 | 8.333 | 7.5 |
| | kg-cm | 6.9 | 8.2 | 11.4 | 13.7 | 17.1 | 20.6 | 22.9 | 28.6 | 34.3 | 41.1 | 40.5 | 50.6 | 60.8 | 72.9 | 81.0 | 90.9 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | N-m | 0.67 | 0.81 | 1.12 | 1.34 | 1.68 | 2.02 | 2.24 | 2.80 | 3.36 | 4.03 | 3.97 | 4.96 | 5.96 | 7.15 | 7.94 | 8.91 | 9.80 | 9.80 | 9.80 | 9.80 | 9.80 | 9.80 | 9.80 | 9.80 |

- 모델명 내의 □안에는 감속비(Gear Ratio)가 기입됩니다.
- 감속비 증폭 (BOOST-IN) 중간 연결 기어 헤드(x10)를 연결한 경우의 허용 토오크는 상기 표의 최대 허용 토오크를 초과하지 않습니다. (RATIO 200초과)
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- Gear ratio to be typed(filled) in the □of model.
- When you assemble gear head with Boost-In Gear Head(X10), allowable load torque shall not be greater than the maximum allowable torque in the listed (Gear ratio more than 200 : 1)
- Direction of output shaft is same to motor shaft direction for the colored. ■
- Output RPM is calculated under the theoretical 60 Hz electromotive RPM. It may be reduced 1 ~ 20% dependent on the load applied actually.

# 60W

## REVERSIBLE MOTOR
## □90mm
## LEAD WIRE TYPE

## MOTOR SPECIFICATIONS

| Model | Output | Input | | | Mag. | Run Duty | Ratings | | | | Start Torque | | Condenser |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Volt | Phase | Freq. | Poles | | Current | Speed | Torque | | | | |
| | Watt | V | | Hz | | min | Amp | rpm | Kg-cm | N-m | Kg-cm | N-m | (μF) |
| SM9R60GA | 60 | 110 | 1ø | 60 | 4 | 30 | 1.38 | 1600 | 4.64 | 0.454 | 4.44 | 0.435 | 19.0 |
| SM9R60GB | 60 | 220 | 1ø | 60 | 4 | 30 | 0.79 | 1600 | 5.72 | 0.560 | 4.68 | 0.458 | 5.0 |
| SM9R60GC | 60 | 100 | 1ø | 50 | 4 | Cont. | 1.36 | 1300 | 4.92 | 0.482 | 4.72 | 0.462 | 23.0 |
| | | | | 60 | | | 1.63 | 1600 | 3.64 | 0.356 | 4.80 | 0.470 | |
| SM9R60GE | 60 | 115 | 1ø | 60 | 4 | 30 | 1.29 | 1600 | 4.60 | 0.451 | 4.40 | 0.431 | 17.0 |

- 모델별로 정격 사양을 준수하여 사용하십시오. 모터 손상의 주 요인이 됩니다.
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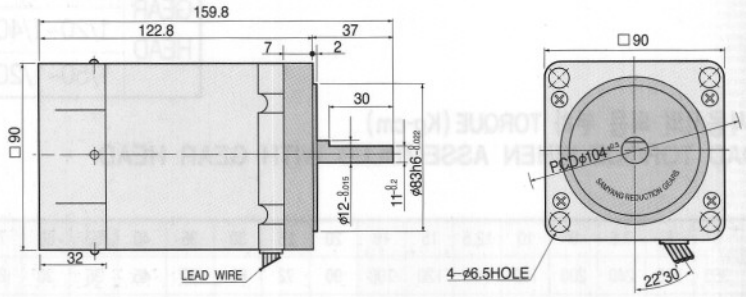
## D-CUT MOTOR




## 결선도 (WIRINGS)

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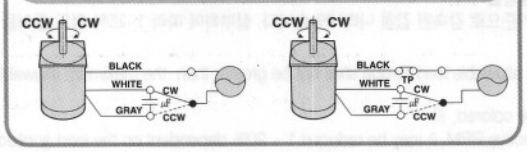
Directions of rotation are view at the end of motor shaft.

- 100/110V-1ø
- 100/110V-1ø (TP)
- 200/220V-1ø
- 200/220V-1ø (TP)

### CW/CCW




주의 : MOTOR 결선의 전환은 MOTOR가 완전히 정지한 후에 하십시오.
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NOTICE : Do not switch the direction of rotation before it fully stops rotating.
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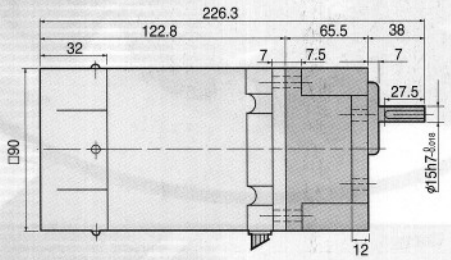
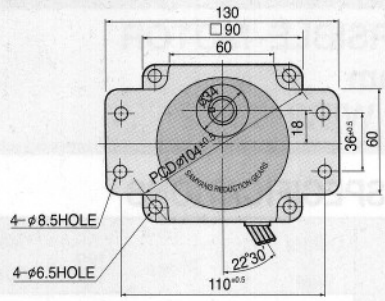
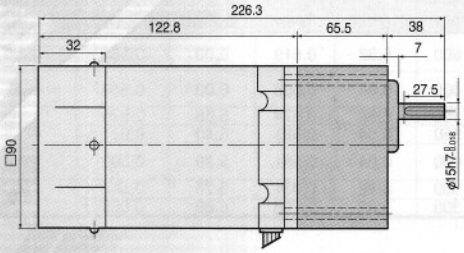
# DIMENSIONS

## GEARED MOTOR

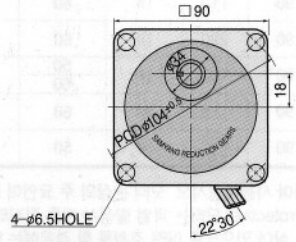



◀ HF TYPE ▶

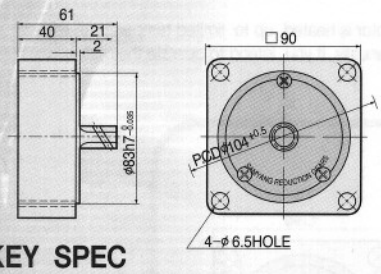


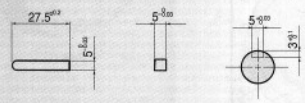

◀ H TYPE ▶




## BOOST-IN GEAR HEAD




## KEY SPEC




## WEIGHT

| PART | | WEIGHT(kg) |
|---|---|---|
| MOTOR | | 2.55 |
| BOOST- IN GEAR HEAD | | 0.65 |
| GEAR HEAD | 1/3~1/10 | 1.20 |
| | 1/12.5~1/20 | 1.30 |
| | 1/25~1/60 | 1.40 |
| | 1/75~1/200 | 1.45 |

## GEAR HEAD 연결 사용시의 허용 부하 TORQUE (Kg-cm)
## ALLOWABLE LOAD TORQUE WHEN ASSEMBLED WITH GEAR HEAD

### 60Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 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 |
| P9K□HF | kg-cm | 8.6 | 10.3 | 14.3 | 17.1 | 21.4 | 25.7 | 28.6 | 31.7 | 38.0 | 45.6 | 50.6 | 56.8 | 68.2 | 81.8 | 90.9 | 114 | 136 | 156 | 187 | 200 | 200 | 200 | 200 | 200 |
| | N-m | 0.84 | 1.01 | 1.40 | 1.68 | 2.10 | 2.52 | 2.80 | 3.10 | 3.72 | 4.47 | 4.96 | 5.57 | 6.7 | 8.0 | 8.9 | 11.1 | 13.4 | 15.3 | 18.3 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 |

### 50Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | rpm | 500 | 416.7 | 300 | 250 | 200 | 166.7 | 150 | 120 | 100 | 83.33 | 75 | 60 | 50 | 41.67 | 37.5 | 30 | 25 | 20 | 16.67 | 15 | 12.5 | 10 | 8.333 | 7.5 |
| P9K□HF | kg-cm | 10.3 | 12.3 | 17.1 | 20.6 | 25.7 | 30.9 | 34.3 | 38.0 | 45.6 | 54.7 | 60.8 | 68.2 | 81.8 | 98.2 | 109 | 136 | 164 | 187 | 200 | 200 | 200 | 200 | 200 | 200 |
| | N-m | 1.01 | 1.21 | 1.68 | 2.02 | 2.52 | 3.02 | 3.36 | 3.72 | 4.47 | 5.36 | 5.96 | 6.68 | 8.0 | 9.6 | 10.7 | 13.4 | 16.0 | 18.3 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 |

- 모델명 내의 □안에는 감속비(Gear Ratio)가 기입됩니다.
- 감속비 증폭 (BOOST-IN) 중간 연결 기어 헤드(x10)를 연결한 경우의 허용 토오크는 상기 표의 최대 허용 토오크를 초과하지 않습니다. (RATIO 200초과)
- 출력축의 회전 방향은 ■색이 모터 축과 동일하며, 그 외는 반대 방향입니다.
- 출력 회전수는 모터의 동기 회전수 (60Hz의 경우 1800 RPM)를 기준으로 감속된 값을 나타내었습니다. 실부하에 따라 1~20% 정도 줄어들 수 있습니다.
- Gear ratio to be typed(filled) in the □of model.
- When you assemble gear head with Boost-In Gear Head(X10), allowable load torque shall not be greater than the maximum allowable torque in the listed ( Gear ratio more than 200 : 1)
- Direction of output shaft is same to motor shaft direction for the colored. ■
- Output RPM is calculated under the theoretical 60 Hz electromotive RPM. It may be reduced 1 ~ 20% dependent on the load applied actually.

# 90W

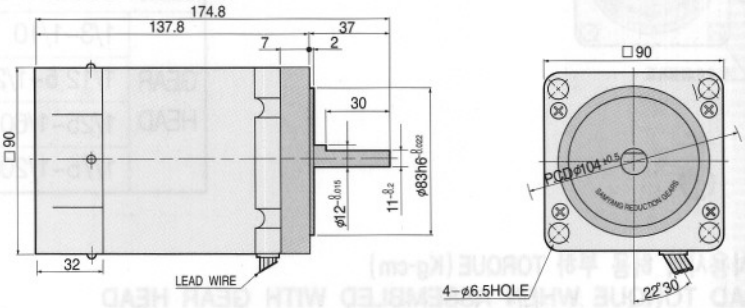
## REVERSIBLE MOTOR
## □90mm
## LEAD WIRE TYPE

## MOTOR SPECIFICATIONS

| Model | Output | Input | | | Mag. | Run Duty | Ratings | | | | Start Torque | | Condenser |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Volt | Phase | Freq. | Poles | | Current | Speed | Torque | | | | |
| | Watt | V | | Hz | | min | Amp | rpm | Kg-cm | N-m | Kg-cm | N-m | (μF) |
| SM9R90GA | 90 | 110 | 1ø | 60 | 4 | 30 | 1.72 | 1600 | 6.32 | 0.619 | 6.00 | 0.588 | 24.0 |
| SM9R90GB | 90 | 220 | 1ø | 60 | 4 | 30 | 0.86 | 1600 | 6.08 | 0.596 | 6.00 | 0.588 | 6.0 |
| SM9R90GC | 90 | 100 | 1ø | 50 | 4 | Cont. | 1.81 | 1300 | 6.88 | 0.674 | 5.88 | 0.576 | 30.0 |
| | | | | 60 | | | 2.09 | 1550 | 6.04 | 0.591 | 6.40 | 0.627 | |
| SM9R90GE | 90 | 115 | 1ø | 60 | 4 | 30 | 1.54 | 1600 | 6.04 | 0.591 | 5.20 | 0.509 | 20.0 |
| SM9R90GX | 90 | 220 | 1ø | 50 | 4 | - | 0.84 | 1300 | 8.48 | 0.831 | 5.76 | 0.564 | 6.0 |
| | | 240 | | | | Cont. | 0.92 | 1300 | 9.88 | 0.968 | 6.80 | 0.666 | |

- 모델별로 정격 사양을 준수하여 사용하십시오. 모터 손상의 주 요인이 됩니다.
- 과열 보호형인 TP(Thermal Protective) 모터는 과열 발생시 자동 정지되지만, 식으면 다시 작동됩니다.
  그러나 정지시에도 주 전원은 살아 있으므로 어떤 조치를 할 경우에는 반드시 주 전원을 차단한 후 조작하십시오.
- Please load and install within the rated specifications. Or motor or gear head may be damaged.
- TP(Thermally Protected) type of motor may be stop(power off) itself when temperature sensor in the motor is heated up to limited temperature and then restart again after the motor and sensor is cooled down. But during stops, do not operate the motor manually. If you intend to operate the motor, disconnect main power switch before touch.

## D-CUT MOTOR

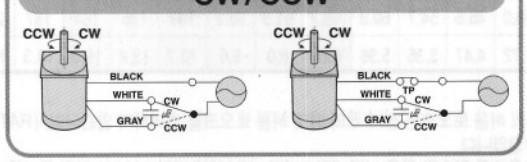



## 결선도 (WIRINGS)

회전방향은 모터축 끝에서 모터쪽으로 볼 때의 회전방향을 표시합니다.
Directions of rotation are view at the end of motor shaft.

- 100/110V-1ø
- 200/220V-1ø
- 100/110V-1ø (TP)
- 200/220V-1ø (TP)

### CW/CCW

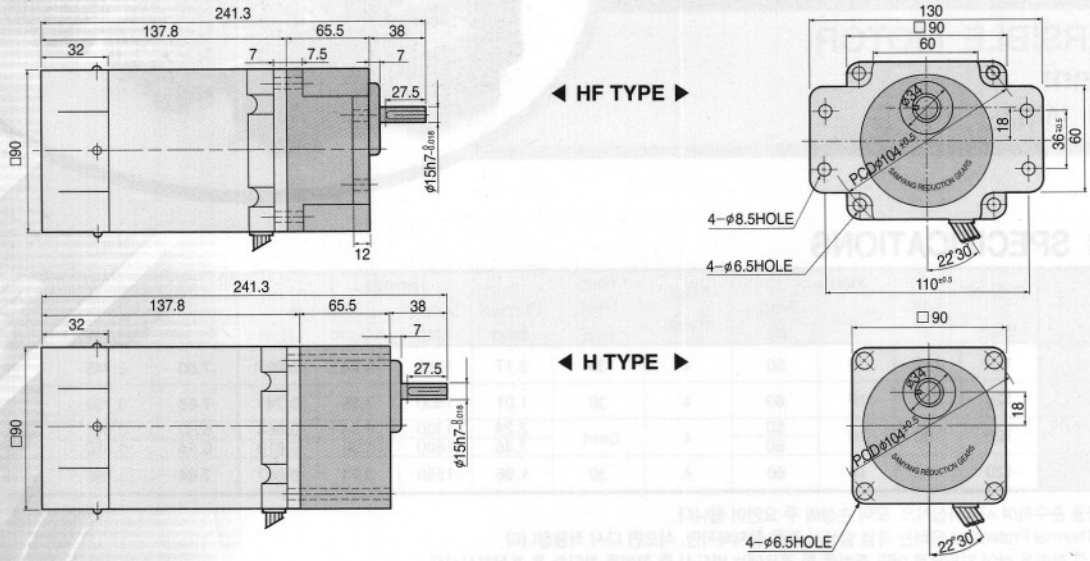



주의 : MOTOR 결선의 전환은 MOTOR가 완전히 정지한 후에 하십시오.
MOTOR가 회전 중에 결선이 전환될 경우에는 정상작동이 안될 수 있습니다.

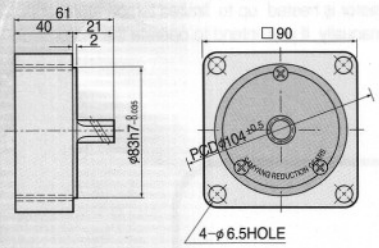
NOTICE : Do not switch the direction of rotation before it fully stops rotating.
Switching wires during rotating may cause damage of system/motor.

# DIMENSIONS

## GEARED MOTOR



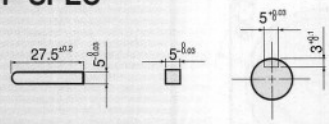

## BOOST-IN GEAR HEAD




## WEIGHT

| PART | | WEIGHT(kg) |
|---|---|---|
| MOTOR | | 3.10 |
| BOOST- IN GEAR HEAD | | 0.65 |
| GEAR HEAD | 1/3~1/10 | 1.20 |
| | 1/12.5~1/20 | 1.30 |
| | 1/25~1/60 | 1.40 |
| | 1/75~1/200 | 1.45 |

## KEY SPEC




## GEAR HEAD 연결 사용시의 허용 부하 TORQUE (Kg-cm)
## ALLOWABLE LOAD TORQUE WHEN ASSEMBLED WITH GEAR HEAD

### 60Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P9K□HF P9K□H | 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 |
| | kg-cm | 12.9 | 15.4 | 21.4 | 25.7 | 32.1 | 38.6 | 42.9 | 47.5 | 57.0 | 68.4 | 76.0 | 85.2 | 102 | 123 | 136 | 170 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 |
| | N-m | 1.26 | 1.51 | 2.10 | 2.52 | 3.15 | 3.78 | 4.20 | 4.65 | 5.58 | 6.70 | 7.45 | 8.35 | 10.0 | 12.0 | 13.4 | 16.7 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 |

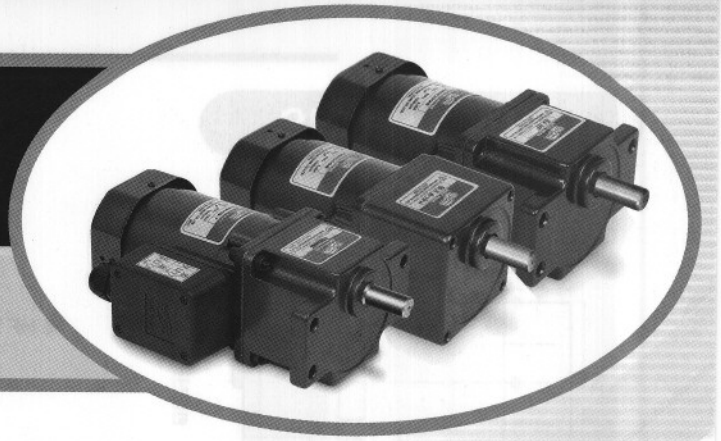
### 50Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P9K□HF P9K□H | rpm | 500 | 416.7 | 300 | 250 | 200 | 166.7 | 150 | 120 | 100 | 83.33 | 75 | 60 | 50 | 41.67 | 37.5 | 30 | 25 | 20 | 16.67 | 15 | 12.5 | 10 | 8.333 | 7.5 |
| | kg-cm | 15.4 | 18.5 | 25.7 | 30.9 | 38.6 | 46.3 | 51.4 | 57.0 | 68.4 | 82.0 | 91.2 | 102 | 123 | 147 | 164 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 |
| | N-m | 1.51 | 1.81 | 2.52 | 3.02 | 3.78 | 4.54 | 5.04 | 5.58 | 6.70 | 8.04 | 8.93 | 10.02 | 12.0 | 14.4 | 16.0 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 |

- 모델명 내의 □안에는 감속비(Gear Ratio)가 기입됩니다.
- 감속비 증폭 (BOOST-IN) 중간 연결 기어 헤드(x10)를 연결한 경우의 허용 토오크는 상기 표의 최대 허용 토오크를 초과하지 않습니다. (RATIO 200초과)
- 출력축의 회전 방향은 ■색이 모터 축과 동일하며, 그 외는 반대 방향입니다.
- 출력 회전수는 모터의 동기 회전수 (60Hz의 경우 1800 RPM)를 기준으로 감속된 값을 나타내었습니다. 실부하에 따라 1~20% 정도 줄어들 수 있습니다.
- Gear ratio to be typed(filled) in the □of model.
- When you assemble gear head with Boost-In Gear Head(X10), allowable load torque shall not be greater than the maximum allowable torque in the listed ( Gear ratio more than 200 : 1)
- Direction of output shaft is same to motor shaft direction for the colored. ■
- Output RPM is calculated under the theoretical 60 Hz electromotive RPM. It may be reduced 1 ~ 20% dependent on the load applied actually.

# 120W

## REVERSIBLE MOTOR
## □90mm
## LEAD WIRE TYPE

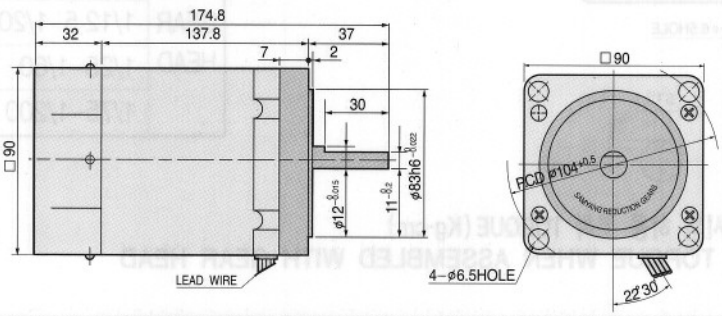


## MOTOR SPECIFICATIONS

| Model | Output | Input | | | Mag. | Run | Ratings | | | | Start Torque | | Condenser |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Volt | Phase | Freq. | Poles | Duty | Current | Speed | Torque | | | | |
| | Watt | V | | Hz | | min | Amp | rpm | Kg-cm | N-m | Kg-cm | N-m | (μF) |
| SM9R120GA | 120 | 110 | 1ø | 60 | 4 | 30 | 2.17 | 1550 | 8.24 | 0.807 | 7.60 | 0.745 | 28.0 |
| SM9R120GB | 120 | 220 | 1ø | 60 | 4 | 30 | 1.01 | 1600 | 7.56 | 0.741 | 7.68 | 0.752 | 7.0 |
| SM9R120GC | 120 | 100 | 1ø | 50 | 4 | Cont. | 2.24 | 1300 | 9.84 | 0.964 | 6.60 | 0.647 | 35.0 |
| | | | | 60 | | | 2.46 | 1600 | 8.36 | 0.819 | 6.64 | 0.650 | |
| SM9R120GE | 120 | 115 | 1ø | 60 | 4 | 30 | 1.96 | 1550 | 8.24 | 0.807 | 7.04 | 0.690 | 25.0 |

- 모델별로 정격 사양을 준수하여 사용하십시오. 모터 손상의 주 요인이 됩니다.
- 과열 보호형인 TP(Thermal Protective) 모터는 과열 발생시 자동 정지되지만, 식으면 다시 작동됩니다.
  그러나 정지시에도 주 전원은 살아 있으므로 어떤 조치를 할 경우에는 반드시 주 전원을 차단한 후 조작하십시오.
- Please load and install within the rated specifications. Or motor or gear head may be damaged.
- TP(Thermally Protected) type of motor may be stop(power off) itself when temperature sensor in the motor is heated up to limited temperature and then restart again after the motor and sensor is cooled down. But during stops, do not operate the motor manually. If you intend to operate the motor, disconnect main power switch before touch.

## D-CUT MOTOR

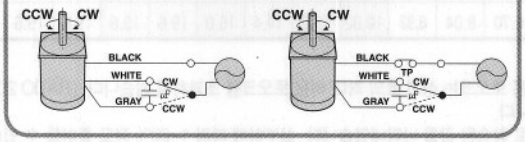



## 결선도 (WIRINGS)

회전방향은 모터축 끝에서 모터쪽으로 볼 때의 회전방향을 표시합니다.
Directions of rotation are view at the end of motor shaft.

- 100/110V-1ø
- 200/220V-1ø
- 100/110V-1ø (TP)
- 200/220V-1ø (TP)

### CW/CCW

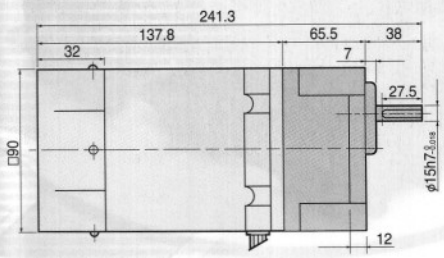



주의 : MOTOR 결선의 전환은 MOTOR가 완전히 정지한 후에 하십시오.
MOTOR가 회전 중에 결선이 전환될 경우에는 정상작동이 안될 수 있습니다.

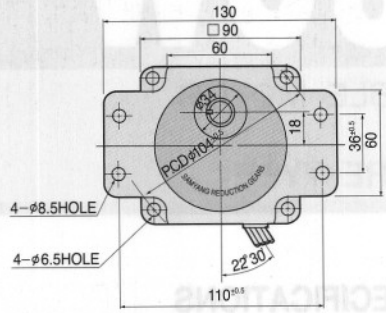
NOTICE : Do not switch the direction of rotation before it fully stops rotating.
Switching wires during rotating may cause damage of system/motor.

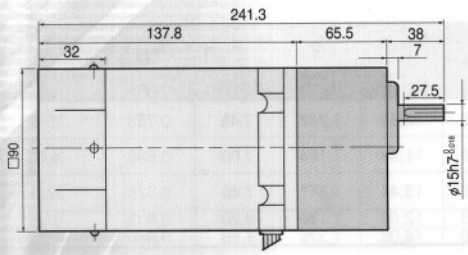
# DIMENSIONS

## GEARED MOTOR

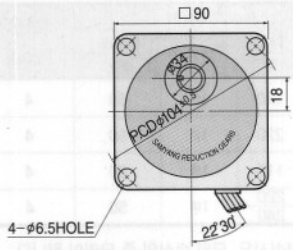



◀ HF TYPE ▶

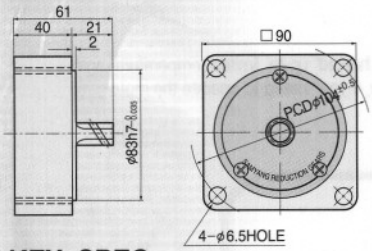


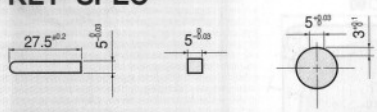

◀ H TYPE ▶




## BOOST-IN GEAR HEAD (BST 90H 10)




## KEY SPEC




## WEIGHT

| PART | | WEIGHT(kg) |
|---|---|---|
| MOTOR | | 3.00 |
| BOOST- IN GEAR HEAD | | 0.65 |
| GEAR HEAD | 1/3~1/10 | 1.20 |
| | 1/12.5~1/20 | 1.30 |
| | 1/25~1/60 | 1.40 |
| | 1/75~1/200 | 1.45 |

## GEAR HEAD 연결 사용시의 허용 부하 TORQUE (Kg-cm)
## ALLOWABLE LOAD TORQUE WHEN ASSEMBLED WITH GEAR HEAD

### 60Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P9K□HF P9K□H | 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 |
| | kg-cm | 17.1 | 20.6 | 28.6 | 34.3 | 42.9 | 51.4 | 57.1 | 63.3 | 76.0 | 91.2 | 101 | 114 | 136 | 164 | 182 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 |
| | N-m | 1.68 | 2.02 | 2.80 | 3.36 | 4.20 | 5.04 | 5.60 | 6.20 | 7.45 | 8.93 | 9.93 | 11.1 | 13.4 | 16.0 | 17.8 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 |

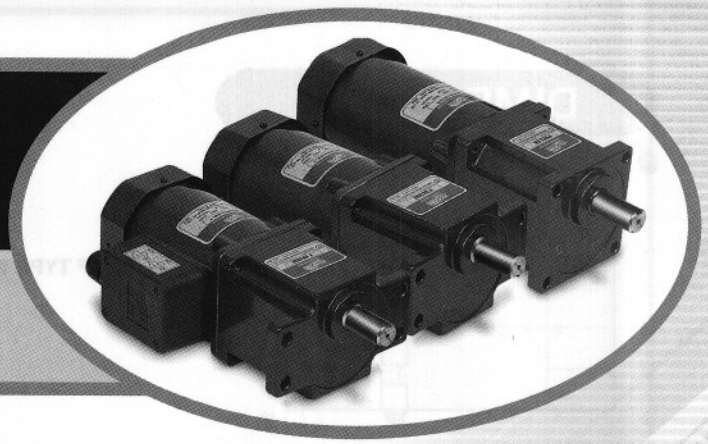
### 50Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P9K□HF P9K□H | rpm | 500 | 416.7 | 300 | 250 | 200 | 166.7 | 150 | 120 | 100 | 83.33 | 75 | 60 | 50 | 41.67 | 37.5 | 30 | 25 | 20 | 16.67 | 15 | 12.5 | 10 | 8.333 | 7.5 |
| | kg-cm | 20.6 | 24.7 | 34.3 | 41.1 | 51.4 | 61.7 | 68.6 | 76.0 | 91.2 | 109 | 122 | 136 | 164 | 196 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 |
| | N-m | 2.02 | 2.42 | 3.36 | 4.03 | 5.04 | 6.05 | 6.72 | 7.45 | 8.93 | 10.7 | 11.9 | 13.4 | 16.0 | 19.2 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 |

- 모델명 내의 □안에는 감속비(Gear Ratio)가 기입됩니다.
- 감속비 증폭 (BOOST-IN) 중간 연결 기어 헤드(x10)를 연결한 경우의 허용 토오크는 상기 표의 최대 허용 토오크를 초과하지 않습니다. (RATIO 200초과)
- 출력축의 회전 방향은 ■색이 모터 축과 동일하며, 그 외는 반대 방향입니다.
- 출력 회전수는 모터의 동기 회전수 (60Hz의 경우 1800 RPM)를 기준으로 감속된 값을 나타내었습니다. 실부하에 따라 1~20% 정도 줄어들 수 있습니다.
- Gear ratio to be typed(filled) in the □of model.
- When you assemble gear head with Boost-In Gear Head(X10), allowable load torque shall not be greater than the maximum allowable torque in the listed ( Gear ratio more than 200 : 1)
- Direction of output shaft is same to motor shaft direction for the colored, ■
- Output RPM is calculated under the theoretical 60 Hz electromotive RPM. It may be reduced 1 ~ 20% dependent on the load applied actually.

# 180W

## REVERSIBLE MOTOR
## □90mm
## LEAD WIRE TYPE

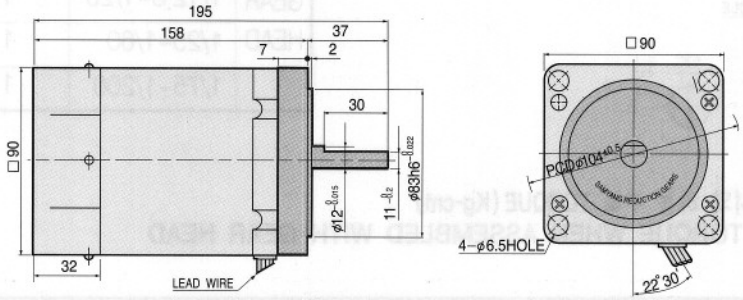


## MOTOR SPECIFICATIONS

| Model | Output | Input | | | Mag. | Run Duty | Ratings | | | | Start Torque | | Condenser |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Volt | Phase | Freq. | Poles | | Current | Speed | Torque | | | | |
| | Watt | V | | Hz | | min | Amp | rpm | Kg-cm | N-m | Kg-cm | N-m | (μF) |
| SM9R180GA | 180 | 110 | 1ø | 60 | 4 | 30 | 2.87 | 1600 | 12.68 | 1.242 | 7.48 | 0.733 | 35.0 |
| SM9R180GB | 180 | 220 | 1ø | 60 | 4 | 30 | 1.38 | 1600 | 11.88 | 1.164 | 7.00 | 0.686 | 8.0 |
| SM9R180GE | 180 | 115 | 1ø | 60 | 4 | 30 | 2.98 | 1600 | 13.44 | 1.317 | 7.40 | 0.725 | 32.0 |
| SM9R180GX | 180 | 220 | 1ø | 50 | 4 | - | 1.17 | 1300 | 12.00 | 1.176 | 8.20 | 0.803 | 8.0 |
| | | 240 | | | | Cont. | 1.25 | 1300 | 14.00 | 1.376 | 9.80 | 0.960 | |

- 모델별로 정격 사양을 준수하여 사용하십시오. 모터 손상의 주 요인이 됩니다.
- 과열 보호형인 TP(Thermal Protective) 모터는 과열 발생시 자동 정지되지만, 식으면 다시 작동됩니다.
  그러나 정지시에도 주 전원은 살아 있으므로 어떤 조치를 할 경우에는 반드시 주 전원을 차단한 후 조작하십시오.
- Please load and install within the rated specifications. Or motor or gear head may be damaged.
- TP(Thermally Protected) type of motor may be stop(power off) itself when temperature sensor in the motor is heated up to limited temperature and then restart again after the motor and sensor is cooled down. But during stops, do not operate the motor manually. If you intend to operate the motor, disconnect main power switch before touch.

## D-CUT MOTOR

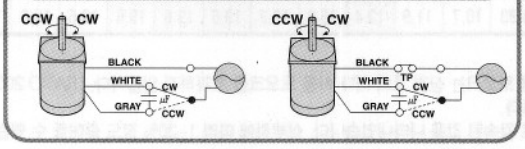



## 결선도 (WIRINGS)

회전방향은 모터축 끝에서 모터쪽으로 볼 때의 회전방향을 표시합니다.
Directions of rotation are view at the end of motor shaft.

- 100/110V-1ø
- 200/220V-1ø
- 100/110V-1ø (TP)
- 200/220V-1ø (TP)

### CW/CCW

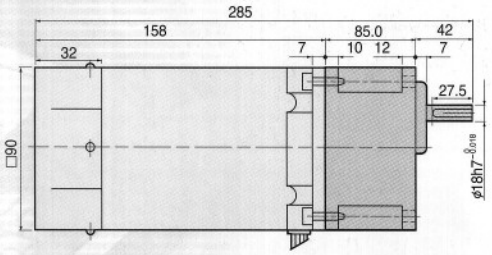



⚠ 주의 : MOTOR 결선의 전환은 MOTOR가 완전히 정지한 후에 하십시오.
MOTOR가 회전 중에 결선이 전환될 경우에는 정상작동이 안될 수 있습니다.

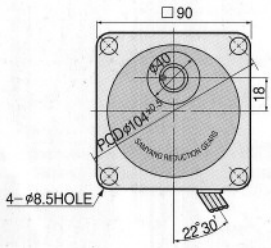
NOTICE : Do not switch the direction of rotation before it fully stops rotating.
Switching wires during rotating may cause damage of system/motor.

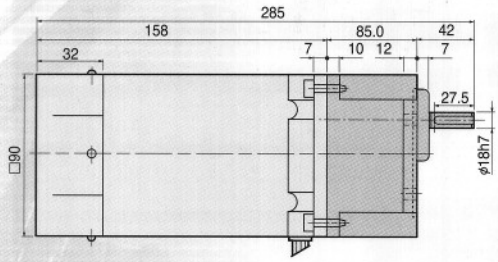
# DIMENSIONS

## GEARED MOTOR

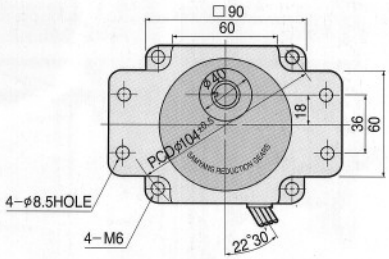



◀ K TYPE ▶

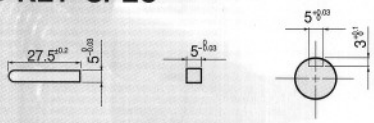



◀ KF TYPE ▶




## KEY SPEC



## WEIGHT

| PART | | WEIGHT(kg) |
|---|---|---|
| MOTOR | | 3.80 |
| GEAR HEAD | 1/3~1/10 | 1.70 |
| | 1/12.5~1/20 | 1.83 |
| | 1/25~1/200 | 1.93 |
| | 1/75~1/200 | 1.98 |

## GEAR HEAD 연결 사용시의 허용 부하 TORQUE(Kg-cm)
## ALLOWABLE LOAD TORQUE WHEN ASSEMBLED WITH GEAR HEAD

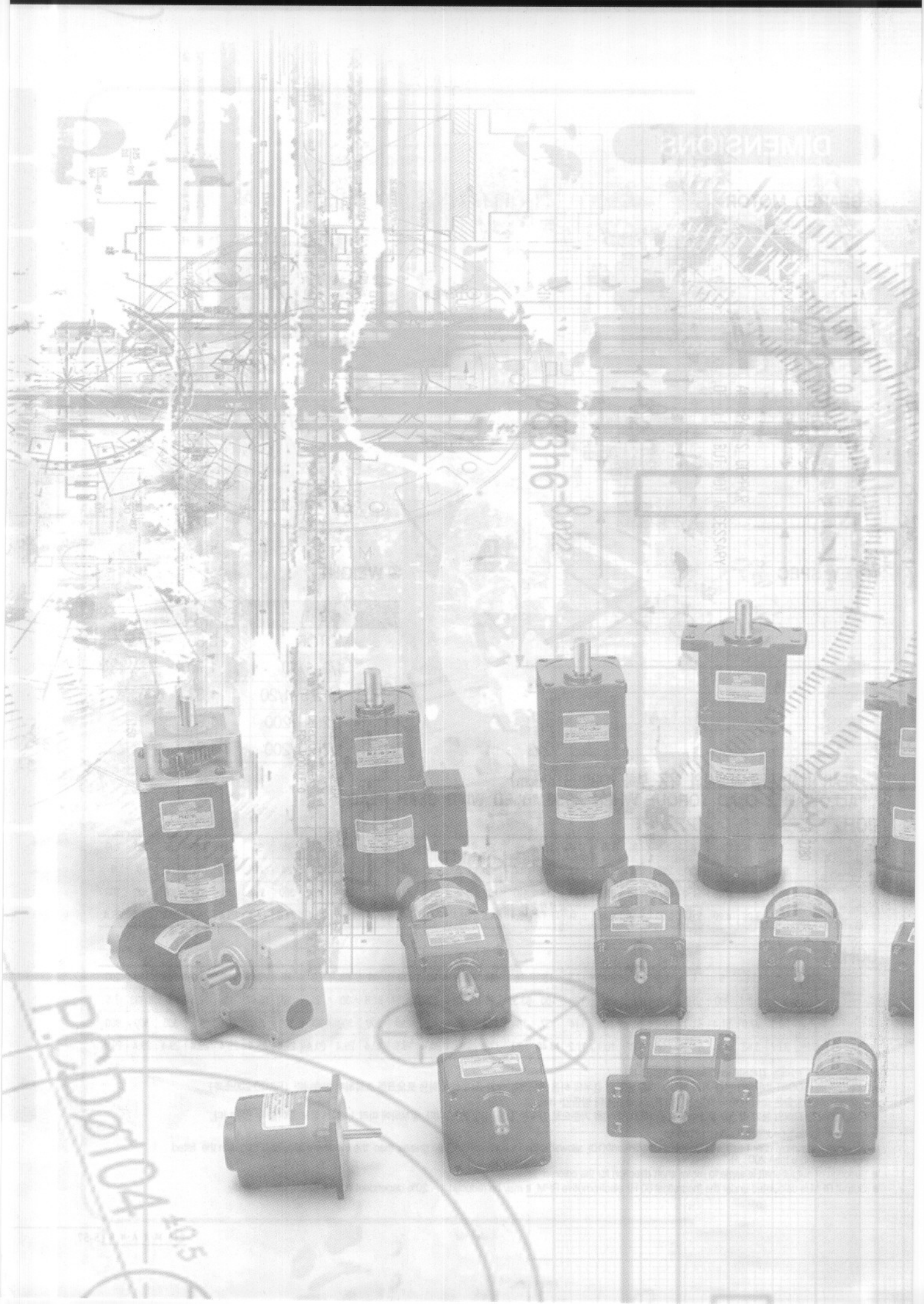
### 60Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P9K□KF P9K□K | 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 |
| | kg-cm | 25.7 | 30.9 | 42.9 | 51.4 | 64.3 | 77.1 | 85.7 | 95.0 | 114 | 137 | 152 | 170 | 205 | 245 | 273 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 |
| | N-m | 2.52 | 3.02 | 4.20 | 5.04 | 6.30 | 7.56 | 8.40 | 9.31 | 11.17 | 13.4 | 14.9 | 16.7 | 20.0 | 24.1 | 26.7 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 |

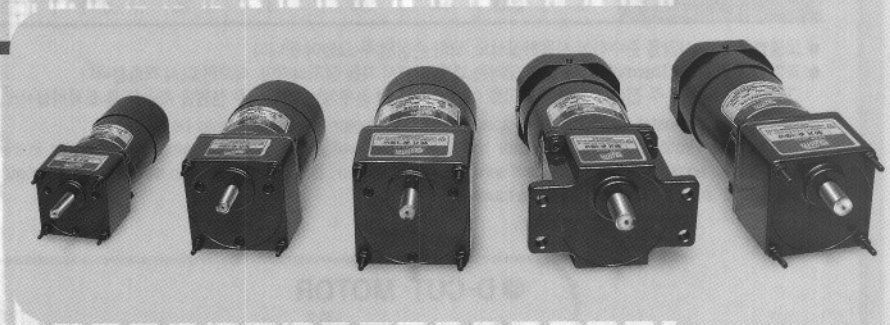
### 50Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P9K□KF P9K□K | rpm | 500 | 416.7 | 300 | 250 | 200 | 166.7 | 150 | 120 | 100 | 83.33 | 75 | 60 | 50 | 41.67 | 37.5 | 30 | 25 | 20 | 16.67 | 15 | 12.5 | 10 | 8.333 | 7.5 |
| | kg-cm | 30.9 | 37.0 | 51.4 | 61.7 | 77.1 | 92.6 | 103 | 114 | 137 | 164 | 182 | 205 | 245 | 295 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 |
| | N-m | 3.02 | 3.63 | 5.04 | 6.05 | 7.56 | 9.07 | 10.1 | 11.2 | 13.40 | 16.1 | 17.9 | 20.0 | 24.1 | 28.9 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 |

- 모델명 내의 □안에는 감속비(Gear Ratio)가 기입됩니다.
- 감속비 증폭 (BOOST-IN) 중간 연결 기어 헤드(x10)를 연결한 경우의 허용 토오크는 상기 표의 최대 허용 토오크를 초과하지 않습니다. (RATIO 200초과).
- 출력축의 회전 방향은 ■색이 모터 축과 동일하며, 그 외는 반대 방향입니다.
- 출력 회전수는 모터의 동기 회전수 (60Hz의 경우 1800 RPM)를 기준으로 감속된 값을 나타내었습니다. 실부하에 따라 1~20% 정도 줄어들 수 있습니다.
- Gear ratio to be typed(filled) in the □of model.
- When you assemble gear head with Boost-In Gear Head(X10), allowable load torque shall not be greater than the maximum allowable torque in the listed ( Gear ratio more than 200 : 1)
- Direction of output shaft is same to motor shaft direction for the colored. ■
- Output RPM is calculated under the theoretical 60 Hz electromotive RPM. It may be reduced 1 ~ 20% dependent on the load applied actually.

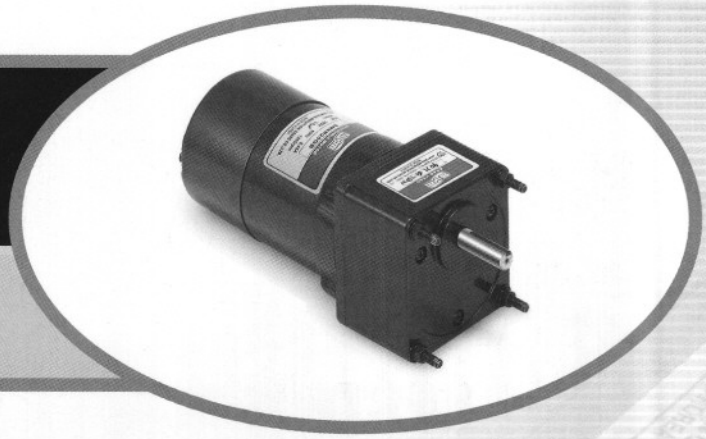


# ELECTRO MAGNETIC BRAKE MOTOR



# 6W

## ELECTRO MAGNETIC BRAKE MOTOR
## □60mm
## LEAD WIRE TYPE

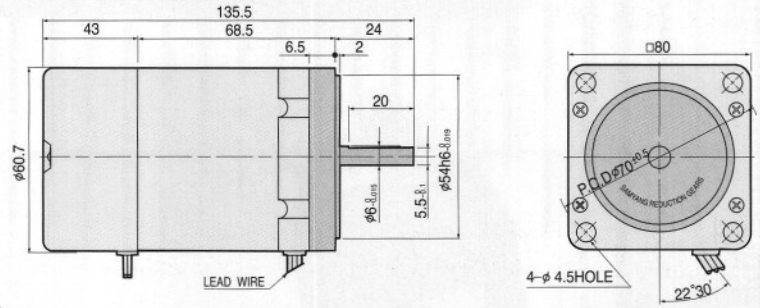


## MOTOR SPECIFICATIONS

| Model | Output | Input | | | Mag. | Run Duty | Ratings | | | | Start Torque | | Condenser |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Volt | Phase | Freq. | | | Current | Speed | Torque | | | | |
| | Watt | V | | Hz | Poles | min | Amp | rpm | Kg-cm | N-m | Kg-cm | N-m | (μF) |
| SM6R06GB-E | 6 | 220 | 1ø | 60 | 4 | 30 | 0.12 | 1550 | 0.42 | 0.041 | 0.71 | 0.069 | 0.8 |

- 모델별로 정격 사양을 준수하여 사용하십시오. 모터 손상의 주 요인이 됩니다.
- 과열 보호형인 TP(Thermal Protective) 모터는 과열 발생시 자동 정지되지만, 식으면 다시 작동됩니다.
  그러나 정지시에도 주 전원은 살아 있으므로 어떤 조치를 할 경우에는 반드시 주 전원을 차단한 후 조작하십시오.
- Please load and install within the rated specifications. Or motor or gear head may be damaged.
- TP(Thermally Protected) type of motor may be stop(power off) itself when temperature sensor in the motor is heated up to limited temperature and then restart again after the motor and sensor is cooled down. But during stops, do not operate the motor manually. If you intend to operate the motor, disconnect main power switch before touch.

## D-CUT MOTOR

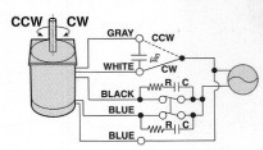



## 결선도 (WIRINGS)

회전방향은 모터축 끝에서 모터쪽으로 볼 때의 회전방향을 표시합니다.
Directions of rotation are view at the end of motor shaft.

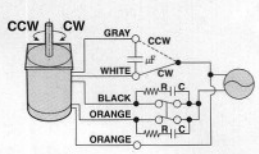
• 100/110V-1ø

**CW/CCW**




• 200/220V-1ø

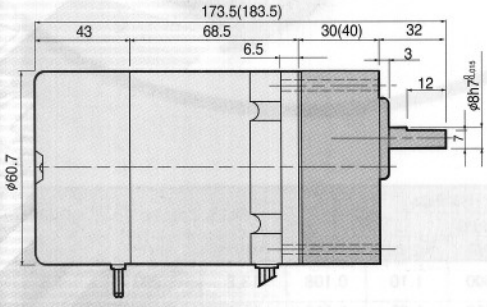
**CW/CCW**

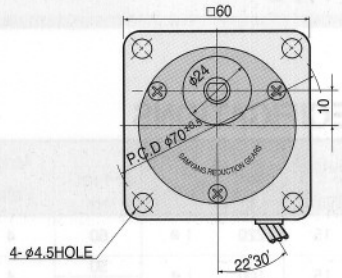



R=10~100Ω
C=0.1~0.50μF

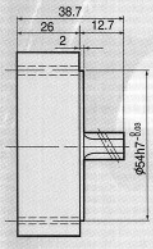
# DIMENSIONS

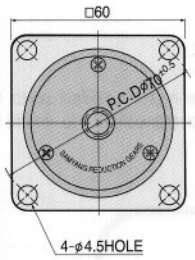
## GEARED MOTOR




## BOOST-IN GEAR HEAD




## WEIGHT

| PART | | WEIGHT(kg) |
|---|---|---|
| MOTOR | | 0.95 |
| BOOST-IN GEAR HEAD | | 0.18 |
| GEAR HEAD | 1/3 ~ 1/18 | 0.25 |
| | 1/20 ~ 1/40 | 0.30 |
| | 1/50 ~1/200 | 0.33 |

## GEAR HEAD 연결 사용시의 허용 부하 TORQUE (Kg-cm)
## ALLOWABLE LOAD TORQUE WHEN ASSEMBLED WITH GEAR HEAD

### 60Hz

| Model P6D□L | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 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 |
| | kg-cm | 0.9 | 1.0 | 1.4 | 1.7 | 2.1 | 2.6 | 2.9 | 3.6 | 4.3 | 5.1 | 5.1 | 6.3 | 7.6 | 9.1 | 10.1 | 11.4 | 13.6 | 17.0 | 20.5 | 22.7 | 27.3 | 30.0 | 30.0 | 30.0 |
| | N-m | 0.08 | 0.10 | 0.14 | 0.17 | 0.21 | 0.25 | 0.28 | 0.35 | 0.42 | 0.50 | 0.50 | 0.62 | 0.74 | 0.89 | 0.99 | 1.11 | 1.34 | 1.67 | 2.00 | 2.67 | 2.67 | 2.94 | 2.94 | 2.94 |

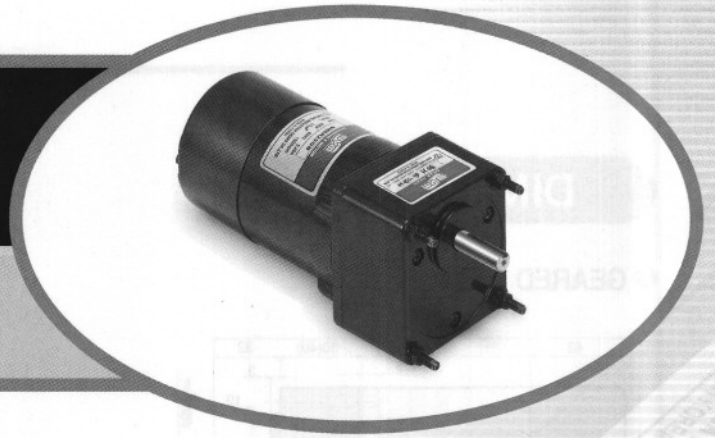
### 50Hz

| Model P6D□L | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | rpm | 500 | 416.7 | 300 | 250 | 200 | 166.7 | 150 | 120 | 100 | 83.33 | 75 | 60 | 50 | 41.67 | 37.5 | 30 | 25 | 20 | 16.67 | 15 | 12.5 | 10 | 8.333 | 7.5 |
| | kg-cm | 1.0 | 1.2 | 1.7 | 2.1 | 2.6 | 3.1 | 3.4 | 4.3 | 5.1 | 6.2 | 6.1 | 7.6 | 9.1 | 10.9 | 12.2 | 13.6 | 16.4 | 20.5 | 24.5 | 27.3 | 30.0 | 30.0 | 30.0 | 30.0 |
| | N-m | 0.10 | 0.12 | 0.17 | 0.20 | 0.25 | 0.30 | 0.34 | 0.42 | 0.50 | 0.60 | 0.60 | 0.74 | 0.89 | 1.07 | 1.19 | 1.34 | 1.60 | 2.00 | 2.41 | 2.67 | 2.94 | 2.94 | 2.94 | 2.94 |

- 모델명 내의 □위치에는 감속비(Gear Ratio)가 기입됩니다.
- 감속비 증폭 (BOOST-IN) 중간 연결 기어 헤드(x10)를 연결한 경우의 허용 토오크는 상기 표의 최대 허용 토오크를 초과하지 않습니다. (RATIO 200초과)
- 출력축의 회전 방향은 ▩색이 모터 축과 동일하며, 그 외는 반대 방향입니다.
- 출력 회전수는 모터의 동기 회전수 ( 60 Hz의 경우 1800 RPM ) 를 기준으로 감속된 값을 나타내었습니다. 실부하에 따라 1~20% 정도 줄어들 수 있습니다.
- Gear ratio to be typed(filled) in the □of model.
- When you assemble gear head with Boost-In Gear Head(X10), allowable load torque shall not be greater than the maximum allowable torque in the listed ( Gear ratio more than 200 : 1)
- Direction of output shaft is same to motor shaft direction for the colored. ▩
- Output RPM is calculated under the theoretical 60 Hz electromotive RPM. It may be reduced 1 ~ 20% dependent on the load applied actually.

# 15W

ELECTRO MAGNETIC BRAKE MOTOR
□70mm
LEAD WIRE TYPE

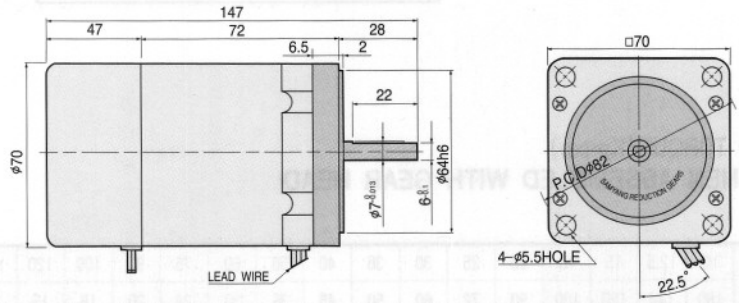


## MOTOR SPECIFICATIONS

| Model | Output | Input | | | Mag. Poles | Run Duty | Ratings | | | | Start Torque | | Condenser |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Volt | Phase | Freq. | | | Current | Speed | Torque | | | | |
| | Watt | V | | Hz | | min | Amp | rpm | Kg-cm | N-m | Kg-cm | N-m | (μF) |
| SM7R15GB-E | 15 | 220 | 1ø | 60 | 4 | 30 | 0.21 | 1600 | 1.10 | 0.108 | 13.2 | 1.293 | 1.5 |
| SM7R15GC-E | 15 | 100 | 1ø | 50 | 4 | Cont. | 0.38 | 1250 | 1.20 | 0.117 | 11.5 | 1.127 | 6.0 |
| | | | | 60 | | - | 0.40 | 1600 | 0.92 | 0.090 | 12.0 | 1.176 | |
| SM7R15GX-E | 15 | 220 | 1ø | 50 | 4 | - | 0.17 | 1300 | 1.14 | 0.111 | 1.21 | 0.118 | 1.3 |
| | | 240 | | | | Cont. | 0.19 | 1300 | 1.35 | 0.106 | 1.45 | 0.142 | |

- 모델별로 정격 사양을 준수하여 사용하십시오. 모터 손상의 주 요인이 됩니다.
- 과열 보호형인 TP(Thermal Protective) 모터는 과열 발생시 자동 정지되지만, 식으면 다시 작동됩니다.
  그러나 정지시에도 주 전원은 살아 있으므로 어떤 조치를 할 경우에는 반드시 주 전원을 차단한 후 조작하십시오.
- Please load and install within the rated specifications. Or motor or gear head may be damaged.
- TP(Thermally Protected) type of motor may be stop(power off) itself when temperature sensor in the motor is heated up to limited temperature and then restart again after the motor and sensor is cooled down. But during stops, do not operate the motor manually. If you intend to operate the motor, disconnect main power switch before touch.

## D-CUT MOTOR

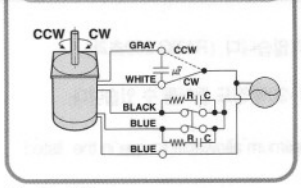



## 결선도 (WIRINGS)

회전방향은 모터축 끝에서 모터쪽으로 볼 때의 회전방향을 표시합니다.
Directions of rotation are view at the end of motor shaft.

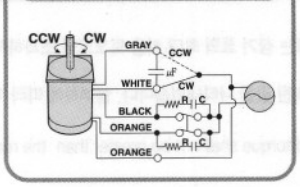
• 100/110V-1ø

CW/CCW




• 200/220V-1ø

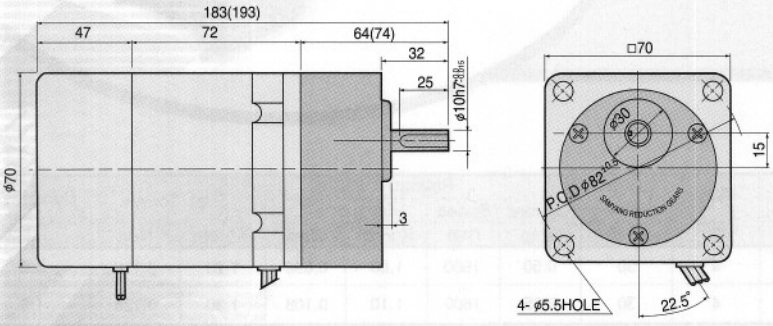
CW/CCW



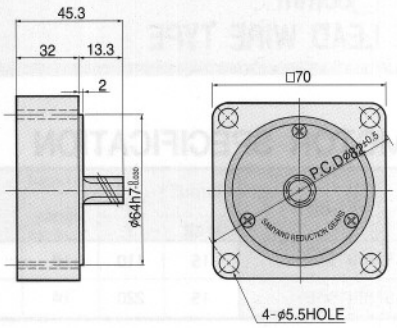

R=10~100Ω
C=0.1~0.50μF

# DIMENSIONS

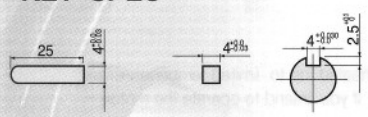
## GEARED MOTOR




## BOOST-IN GEAR HEAD




## KEY SPEC




## WEIGHT

| PART | | WEIGHT(kg) |
|---|---|---|
| MOTOR | | 1.46 |
| BOOST-IN GEAR HEAD | | 0.35 |
| GEAR HEAD | 1/3~1/18 | 0.36 |
| | 1/20~1/40 | 0.45 |
| | 1/50~1/200 | 0.5 |

## GEAR HEAD 연결 사용시의 허용 부하 TORQUE (Kg-cm)
## ALLOWABLE LOAD TORQUE WHEN ASSEMBLED WITH GEAR HEAD

### 60Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 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 |
| P7K□L | kg-cm | 2.1 | 2.6 | 3.6 | 4.3 | 5.4 | 6.4 | 7.1 | 8.9 | 10.7 | 12.9 | 12.7 | 15.8 | 19.0 | 22.8 | 25.3 | 28.4 | 34.1 | 42.6 | 51.1 | 56.8 | 60.0 | 60.0 | 60.0 | 60.0 |
| | N-m | 0.21 | 0.25 | 0.35 | 0.42 | 0.52 | 0.63 | 0.70 | 0.87 | 1.05 | 1.26 | 1.24 | 1.55 | 1.86 | 2.23 | 2.48 | 2.78 | 3.34 | 4.18 | 5.01 | 5.57 | 5.88 | 5.88 | 5.88 | 5.88 |

### 50Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | rpm | 500 | 416.7 | 300 | 250 | 200 | 166.7 | 150 | 120 | 100 | 83.33 | 75 | 60 | 50 | 41.67 | 37.5 | 30 | 25 | 20 | 16.67 | 15 | 12.5 | 10 | 8.333 | 7.5 |
| P7K□L | kg-cm | 2.6 | 3.1 | 4.3 | 5.1 | 6.4 | 7.7 | 8.6 | 10.7 | 12.9 | 15.4 | 15.2 | 19.0 | 22.8 | 27.3 | 30.4 | 34.1 | 40.9 | 51.1 | 60.0 | 60.0 | 60.0 | 60.0 | 60.0 | 60.0 |
| | N-m | 0.25 | 0.30 | 0.42 | 0.50 | 0.63 | 0.76 | 0.84 | 1.05 | 1.26 | 1.51 | 1.49 | 1.86 | 2.23 | 2.68 | 2.98 | 3.34 | 4.01 | 5.01 | 5.88 | 5.88 | 5.88 | 5.88 | 5.88 | 5.88 |

- 모델명 내의 □위치에는 감속비(Gear Ratio)가 기입됩니다.
- 감속비 증폭 (BOOST-IN) 중간 연결 기어 헤드(x10)를 연결한 경우의 허용 토오크는 상기 표의 최대 허용 토오크를 초과하지 않습니다. (RATIO 200초과)
- 출력축의 회전 방향은 ▩색이 모터 축과 동일하며, 그 외는 반대 방향입니다.
- 출력 회전수는 모터의 동기 회전수 (60Hz의 경우 1800 RPM)를 기준으로 감속된 값을 나타내었습니다. 실부하에 따라 1~20% 정도 줄어들 수 있습니다.
- Gear ratio to be typed(filled) in the □of model.
- When you assemble gear head with Boost-In Gear Head(X10), allowable load torque shall not be greater than the maximum allowable torque in the listed ( Gear ratio more than 200 : 1)
- Direction of output shaft is same to motor shaft direction for the colored. ▩
- Output RPM is calculated under the theoretical 60 Hz electromotive RPM. It may be reduced 1 ~ 20% dependent on the load applied actually.

# 15W

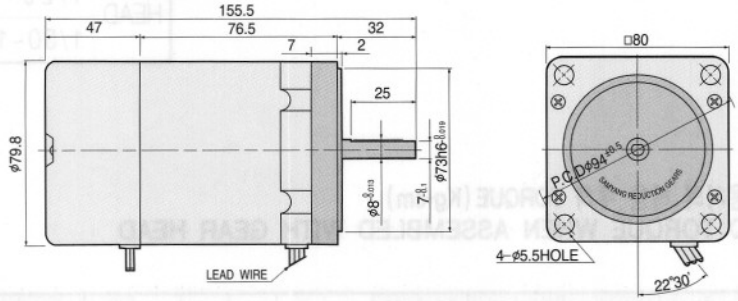
ELECTRO MAGNETIC BRAKE MOTOR
□80mm
LEAD WIRE TYPE

## MOTOR SPECIFICATION

| Model | Output | Input | | | Mag. | Run Duty | Ratings | | | | Start Torque | | Condenser |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Volt | Phase | Freq. | Poles | | Current | Speed | Torque | | | | |
| | Watt | V | | Hz | | min | Amp | rpm | Kg-cm | N-m | Kg-cm | N-m | (uF) |
| SM8R15GA-E | 15 | 110 | 1ø | 60 | 4 | 30 | 0.50 | 1600 | 1.00 | 0.098 | 1.20 | 0.118 | 5.0 |
| SM8R15GB-E | 15 | 220 | 1ø | 60 | 4 | 30 | 0.25 | 1600 | 1.10 | 0.108 | 1.30 | 0.128 | 1.5 |

- 모델별로 정격 사양을 준수하여 사용하십시오. 모터 손상의 주 요인이 됩니다.
- 과열 보호형인 TP(Thermal Protective) 모터는 과열 발생시 자동 정지되지만, 식으면 다시 작동됩니다.
  그러나 정지시에도 주 전원은 살아 있으므로 어떤 조치를 할 경우에는 반드시 주 전원을 차단한 후 조작하십시오.
- Please load and install within the rated specifications. Or motor or gear head may be damaged.
- TP(Thermally Protected) type of motor may be stop(power off) itself when temperature sensor in the motor is heated up to limited temperature and then restart again after the motor and sensor is cooled down. But during stops, do not operate the motor manually. If you intend to operate the motor, disconnect main power switch before touch.

## D-CUT MOTOR

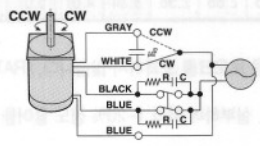



## 결선도 (WIRINGS)

회전방향은 모터축 끝에서 모터쪽으로 볼 때의 회전방향을 표시합니다.
Directions of rotation are view at the end of motor shaft.

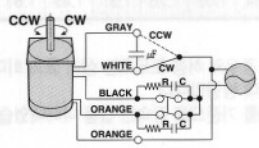
• 100/110V-1ø

CW/CCW




• 200/220V-1ø

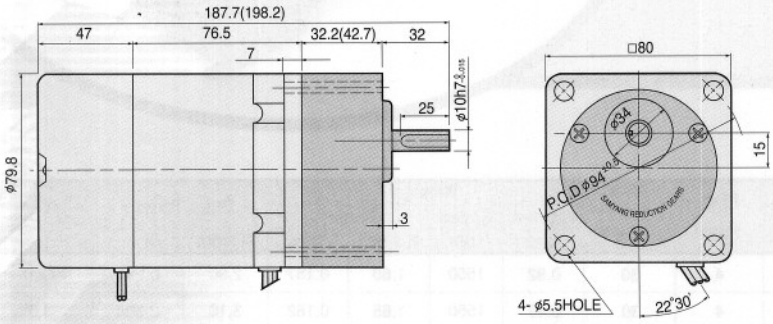
CW/CCW



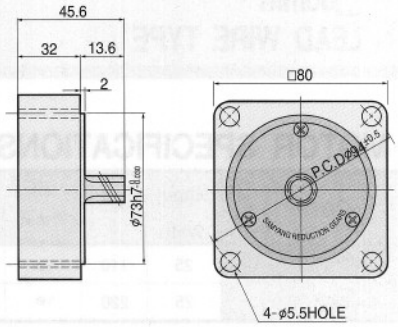

R=10~100Ω
C=0.1~0.50uF

# DIMENSIONS

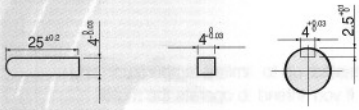
## GEARED MOTOR




## BOOST-IN GEAR HEAD




## KEY SPEC




## WEIGHT

| PART | | WEIGHT(kg) |
|---|---|---|
| MOTOR | | 1.85 |
| BOOST-IN GEAR HEAD | | 0.43 |
| GEAR HEAD | 1/3~1/18 | 0.43 |
| | 1/20~1/40 | 0.57 |
| | 1/50~1/200 | 0.60 |

## GEAR HEAD 연결 사용시의 허용 부하 TORQUE(Kg-cm)
## ALLOWABLE LOAD TORQUE WHEN ASSEMBLED WITH GEAR HEAD

### 60Hz

| Model P8K□L | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 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 |
| | kg-cm | 2.1 | 2.6 | 3.6 | 4.3 | 5.4 | 6.4 | 7.1 | 8.9 | 10.7 | 12.9 | 12.7 | 15.8 | 19.0 | 22.8 | 25.3 | 28.4 | 34.1 | 42.6 | 51.1 | 56.8 | 68.2 | 80.0 | 80.0 | 80.0 |
| | N-m | 0.21 | 0.25 | 0.35 | 0.42 | 0.52 | 0.63 | 0.70 | 0.87 | 1.05 | 1.26 | 1.24 | 1.55 | 1.86 | 2.23 | 2.48 | 2.78 | 3.34 | 4.18 | 5.01 | 5.57 | 6.68 | 7.84 | 7.84 | 7.84 |

### 50Hz

| Model P8K□L | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | rpm | 500 | 416.7 | 300 | 250 | 200 | 166.7 | 150 | 120 | 100 | 83.33 | 75 | 60 | 50 | 41.67 | 37.5 | 30 | 25 | 20 | 16.67 | 15 | 12.5 | 10 | 8.333 | 7.5 |
| | kg-cm | 2.6 | 3.1 | 4.3 | 5.1 | 6.4 | 7.7 | 8.6 | 10.7 | 12.9 | 15.4 | 15.2 | 19.0 | 22.8 | 27.3 | 30.4 | 34.1 | 40.9 | 51.1 | 61.4 | 68.2 | 80.0 | 80.0 | 80.0 | 80.0 |
| | N-m | 0.25 | 0.30 | 0.42 | 0.50 | 0.63 | 0.76 | 0.84 | 1.05 | 1.26 | 1.51 | 1.49 | 1.86 | 2.23 | 2.68 | 2.98 | 3.34 | 4.01 | 5.01 | 6.01 | 6.68 | 7.84 | 7.84 | 7.84 | 7.84 |

- 모델명 내의 □위치에는 감속비(Gear Ratio)가 기입됩니다.
- 감속비 증폭 (BOOST-IN) 중간 연결 기어 헤드(x10)를 연결한 경우의 허용 토오크는 상기 표의 최대 허용 토오크를 초과하지 않습니다. (RATIO 200초과)
- 출력축의 회전 방향은 ▩색이 모터 축과 동일하며, 그 외는 반대 방향입니다.
- 출력 회전수는 모터의 동기 회전수 (60Hz의 경우 1800 RPM)를 기준으로 감속된 값을 나타내었습니다. 실부하에 따라 1~20% 정도 줄어들 수 있습니다.
- Gear ratio to be typed(filled) in the □of model.
- When you assemble gear head with Boost-In Gear Head(X10), allowable load torque shall not be greater than the maximum allowable torque in the listed ( Gear ratio more than 200 : 1)
- Direction of output shaft is same to motor shaft direction for the colored. ▩
- Output RPM is calculated under the theoretical 60 Hz electromotive RPM. It may be reduced 1 ~ 20% dependent on the load applied actually.

# 25W

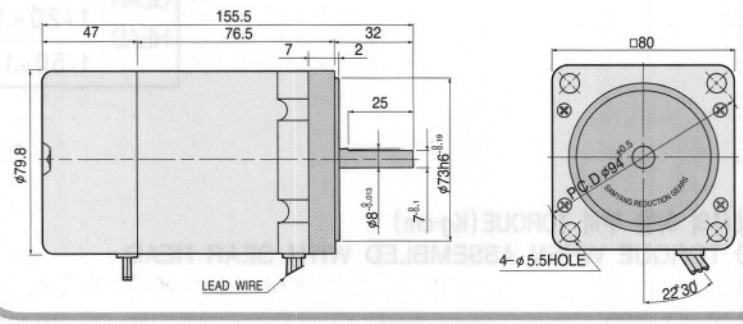
**ELECTRO MAGNETIC BRAKE MOTOR**
**□80mm**
**LEAD WIRE TYPE**

## MOTOR SPECIFICATIONS

| Model | Output | Input | | | Mag. | Run Duty | Ratings | | | | Start Torque | | Condenser |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Volt | Phase | Freq. | Poles | | Current | Speed | Torque | | | | |
| | Watt | V | | Hz | | min | Amp | rpm | Kg-cm | N-m | Kg-cm | N-m | (μF) |
| SM8R25GA-E | 25 | 110 | 1ø | 60 | 4 | 30 | 0.92 | 1550 | 1.60 | 0.157 | 2.90 | 0.284 | 12.0 |
| SM8R25GB-E | 25 | 220 | 1ø | 60 | 4 | 30 | 0.47 | 1550 | 1.65 | 0.162 | 3.10 | 0.304 | 3.0 |

- 모델별로 정격 사양을 준수하여 사용하십시오. 모터 손상의 주 요인이 됩니다.
- 과열 보호형인 TP(Thermal Protective) 모터는 과열 발생시 자동 정지되지만, 식으면 다시 작동됩니다.
  그러나 정지시에도 주 전원은 살아 있으므로 어떤 조치를 할 경우에는 반드시 주 전원을 차단한 후 조작하십시오.
- Please load and install within the rated specifications. Or motor or gear head may be damaged.
- TP(Thermally Protected) type of motor may be stop(power off) itself when temperature sensor in the motor is heated up to limited temperature and then restart again after the motor and sensor is cooled down. But during stops, do not operate the motor manually. If you intend to operate the motor, disconnect main power switch before touch.

## D-CUT MOTOR

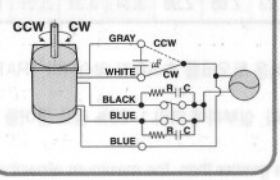



## 결선도 (WIRINGS)

회전방향은 모터축 끝에서 모터쪽으로 볼 때의 회전방향을 표시합니다.
Directions of rotation are view at the end of motor shaft.

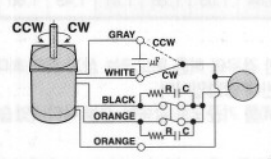
• 100/110V-1ø

**CW/CCW**




• 200/220V-1ø

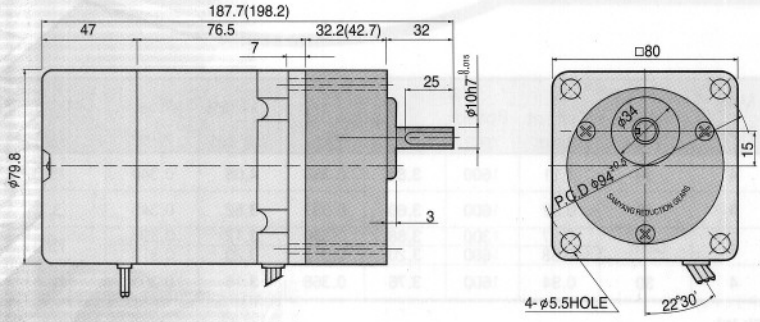
**CW/CCW**



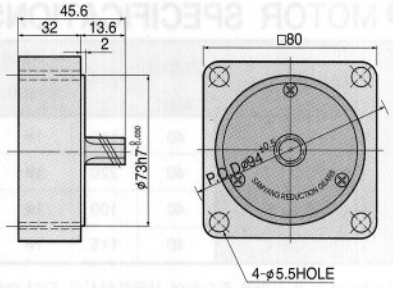

R=10~100Ω
C=0.1~0.50μF

# DIMENSIONS

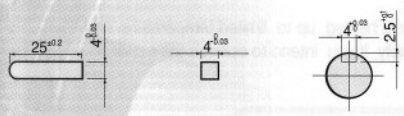
## GEARED MOTOR




## BOOST-IN GEAR HEAD




## KEY SPEC




## WEIGHT

| PART | | WEIGHT(kg) |
|---|---|---|
| MOTOR | | 1.90 |
| BOOST-IN GEAR HEAD | | 0.43 |
| GEAR HEAD | 1/3 ~ 1/18 | 0.43 |
| | 1/20 ~ 1/40 | 0.57 |
| | 1/50 ~ 1/200 | 0.60 |

## GEAR HEAD 연결 사용시의 허용 부하 TORQUE (Kg-cm)
## ALLOWABLE LOAD TORQUE WHEN ASSEMBLED WITH GEAR HEAD

### 60Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 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 |
| P8K□L | kg-cm | 3.6 | 4.3 | 6.0 | 7.1 | 8.9 | 10.7 | 11.9 | 14.9 | 17.9 | 21.4 | 21.1 | 26.4 | 31.7 | 38.0 | 42.2 | 47.3 | 56.8 | 71.0 | 80.0 | 80.0 | 80.0 | 80.0 | 80.0 | 80.0 |
| | N-m | 0.35 | 0.42 | 0.58 | 0.70 | 0.87 | 1.05 | 1.17 | 1.46 | 1.75 | 2.10 | 2.07 | 2.59 | 3.10 | 3.72 | 4.14 | 4.64 | 5.57 | 6.96 | 7.84 | 7.84 | 7.84 | 7.84 | 7.84 | 7.84 |

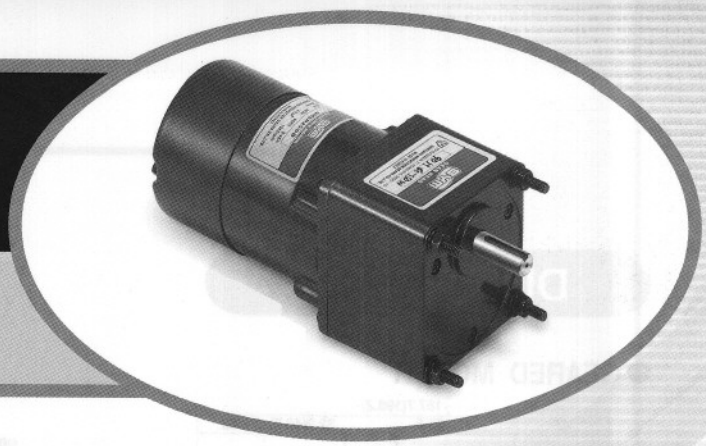
### 50Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | rpm | 500 | 416.7 | 300 | 250 | 200 | 166.7 | 150 | 120 | 100 | 83.33 | 75 | 60 | 50 | 41.67 | 37.5 | 30 | 25 | 20 | 16.67 | 15 | 12.5 | 10 | 8.333 | 7.5 |
| P8K□L | kg-cm | 4.3 | 5.1 | 7.1 | 8.6 | 10.7 | 12.9 | 14.3 | 17.9 | 21.4 | 25.7 | 25.3 | 31.7 | 38.0 | 45.6 | 50.6 | 56.8 | 68.2 | 80.0 | 80.0 | 80.0 | 80.0 | 80.0 | 80.0 | 80.0 |
| | N-m | 0.42 | 0.50 | 0.70 | 0.84 | 1.05 | 1.26 | 1.40 | 1.75 | 2.10 | 2.52 | 2.48 | 3.10 | 3.72 | 4.47 | 4.96 | 5.57 | 6.68 | 7.84 | 7.84 | 7.84 | 7.84 | 7.84 | 7.84 | 7.84 |

- 모델명 내의 □위치에는 감속비(Gear Ratio)가 기입됩니다.
- 감속비 증폭 (BOOST-IN) 중간 연결 기어 헤드(x10)를 연결한 경우의 허용 토오크는 상기 표의 최대 허용 토오크를 초과하지 않습니다. (RATIO 200초과)
- 출력축의 회전 방향은 ■색이 모터 축과 동일하며, 그 외는 반대 방향입니다.
- 출력 회전수는 모터의 동기 회전수 (60Hz의 경우 1800 RPM)를 기준으로 감속된 값을 나타내었습니다. 실부하에 따라 1~20% 정도 줄어들 수 있습니다.
- Gear ratio to be typed(filled) in the □of model.
- When you assemble gear head with Boost-In Gear Head(X10), allowable load torque shall not be greater than the maximum allowable torque in the listed ( Gear ratio more than 200 : 1)
- Direction of output shaft is same to motor shaft direction for the colored. ■
- Output RPM is calculated under the theoretical 60 Hz electromotive RPM. It may be reduced 1 ~ 20% dependent on the load applied actually.

# 40W

ELECTRO MAGNETIC BRAKE MOTOR
□90mm
LEAD WIRE TYPE

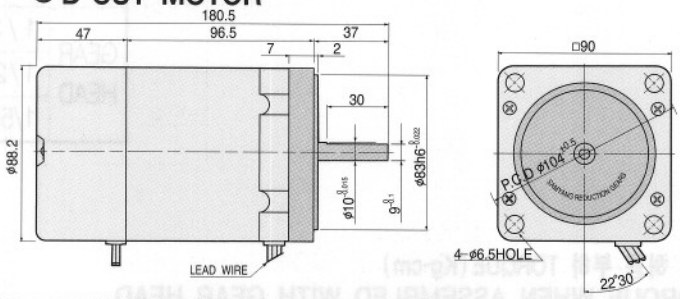


## MOTOR SPECIFICATIONS

| Model | Output | Input | | | Mag. Poles | Run Duty | Ratings | | | | Start Torque | | Condenser |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Volt | Phase | Freq. | | | Current | Speed | Torque | | | | |
| | Watt | V | | Hz | | min | Amp | rpm | Kg-cm | N-m | Kg-cm | N-m | (μF) |
| SM9R40GA-E | 40 | 110 | 1ø | 60 | 4 | 30 | 1.11 | 1600 | 3.88 | 0.380 | 4.08 | 0.340 | 15.0 |
| SM9R40GB-E | 40 | 220 | 1ø | 60 | 4 | 30 | 0.52 | 1600 | 3.60 | 0.353 | 3.52 | 0.345 | 3.7 |
| SM9R40GC-E | 40 | 100 | 1ø | 50 | 4 | Cont. | 0.57 | 1300 | 3.88 | 0.380 | 3.12 | 0.305 | 15.0 |
| | | | | 60 | | | 0.68 | 1600 | 3.20 | 0.313 | 3.20 | 0.313 | |
| SM9R40GE-E | 40 | 115 | 1ø | 60 | 4 | 30 | 0.94 | 1600 | 3.76 | 0.368 | 3.16 | 0.309 | 12.0 |

- 모델별로 정격 사양을 준수하여 사용하십시오. 모터 손상의 주 요인이 됩니다.
- 과열 보호형인 TP(Thermal Protective) 모터는 과열 발생시 자동 정지되지만, 식으면 다시 작동됩니다.
  그러나 정지시에도 주 전원은 살아 있으므로 어떤 조치를 할 경우에는 반드시 주 전원을 차단한 후 조작하십시오.
- Please load and install within the rated specifications. Or motor or gear head may be damaged.
- TP(Thermally Protected) type of motor may be stop(power off) itself when temperature sensor in the motor is heated up to limited temperature and then restart again after the motor and sensor is cooled down. But during stops, do not operate the motor manually. If you intend to operate the motor, disconnect main power switch before touch.

## D-CUT MOTOR

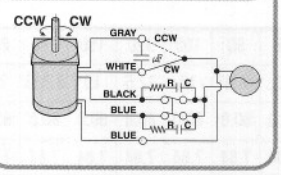



## 결선도 (WIRINGS)

회전방향은 모터축 끝에서 모터쪽으로 볼 때의 회전방향을 표시합니다. Directions of rotation are view at the end of motor shaft.

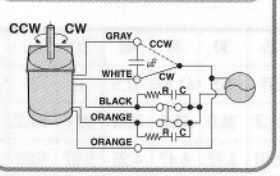
• 100/110V-1ø

CW/CCW



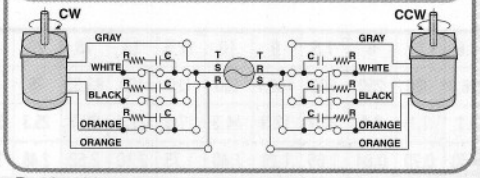

• 200/220V-1ø

CW/CCW




• 200/220V-3ø

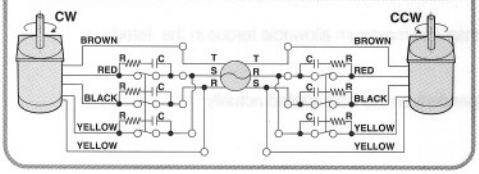
CW/CCW




R=10~100Ω
C=0.1~0.50μF

• 380/440V-3ø

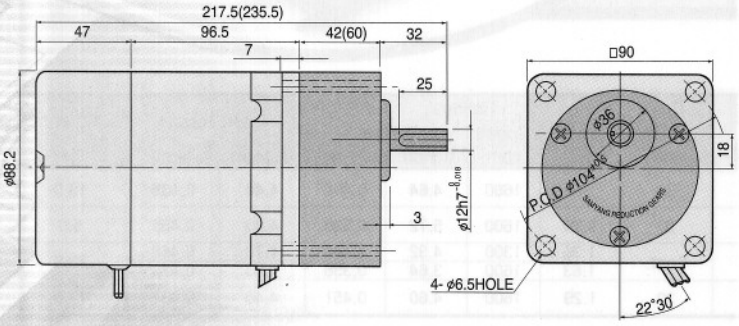
CW/CCW



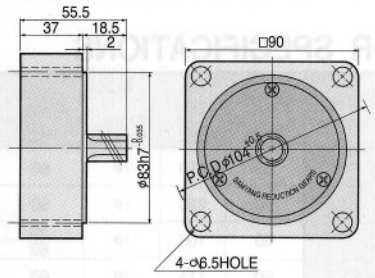

R=10~200Ω
C=0.1~0.50μF

# DIMENSIONS

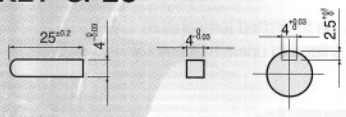
## GEARED MOTOR




## BOOST-IN GEAR HEAD




## KEY SPEC



## WEIGHT

| PART | | WEIGHT(kg) |
|---|---|---|
| MOTOR | | 2.75 |
| BOOST-IN GEAR HEAD | | 0.60 |
| GEAR HEAD | 1/3~1/18 | 0.75 |
| | 1/20~1/40 | 1.05 |
| | 1/50~1/200 | 1.15 |

## GEAR HEAD 연결 사용시의 허용 부하 TORQUE (Kg-cm)
## ALLOWABLE LOAD TORQUE WHEN ASSEMBLED WITH GEAR HEAD

### 60Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 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 |
| P9K□L | kg-cm | 5.7 | 6.9 | 9.5 | 11.4 | 14.3 | 17.1 | 19.0 | 23.8 | 28.6 | 34.3 | 33.8 | 42.2 | 50.6 | 60.8 | 67.5 | 75.8 | 90.9 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | N-m | 0.56 | 0.67 | 0.93 | 1.12 | 1.40 | 1.68 | 1.87 | 2.33 | 2.80 | 3.36 | 3.31 | 4.14 | 4.96 | 5.96 | 6.62 | 7.42 | 8.91 | 9.80 | 9.80 | 9.80 | 9.80 | 9.80 | 9.80 | 9.80 |

### 50Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | rpm | 500 | 416.7 | 300 | 250 | 200 | 166.7 | 150 | 120 | 100 | 83.33 | 75 | 60 | 50 | 41.67 | 37.5 | 30 | 25 | 20 | 16.67 | 15 | 12.5 | 10 | 8.333 | 7.5 |
| P9K□L | kg-cm | 6.9 | 8.2 | 11.4 | 13.7 | 17.1 | 20.6 | 22.9 | 28.6 | 34.3 | 41.1 | 40.5 | 50.6 | 60.8 | 72.9 | 81.0 | 90.9 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | N-m | 0.67 | 0.81 | 1.12 | 1.34 | 1.68 | 2.02 | 2.24 | 2.80 | 3.36 | 4.03 | 3.97 | 4.96 | 5.96 | 7.15 | 7.94 | 8.91 | 9.80 | 9.80 | 9.80 | 9.80 | 9.80 | 9.80 | 9.80 | 9.80 |

- 모델명 내의 □위치에는 감속비(Gear Ratio)가 기입됩니다.
- 감속비 증폭 (BOOST-IN) 중간 연결 기어 헤드(x10)를 연결한 경우의 허용 토오크는 상기 표의 최대 허용 토오크를 초과하지 않습니다. (RATIO 200초과)
- 출력축의 회전 방향은 ■색이 모터 축과 동일하며, 그 외는 반대 방향입니다.
- 출력 회전수는 모터의 동기 회전수 (60Hz의 경우 1800 RPM)를 기준으로 감속된 값을 나타내었습니다. 실부하에 따라 1~20% 정도 줄어들 수 있습니다.
- Gear ratio to be typed(filled) in the □of model.
- When you assemble gear head with Boost-In Gear Head(X10), allowable load torque shall not be greater than the maximum allowable torque in the listed ( Gear ratio more than 200 : 1)
- Direction of output shaft is same to motor shaft direction for the colored. ■
- Output RPM is calculated under the theoretical 60 Hz electromotive RPM. It may be reduced 1 ~ 20% dependent on the load applied actually.

# 60W

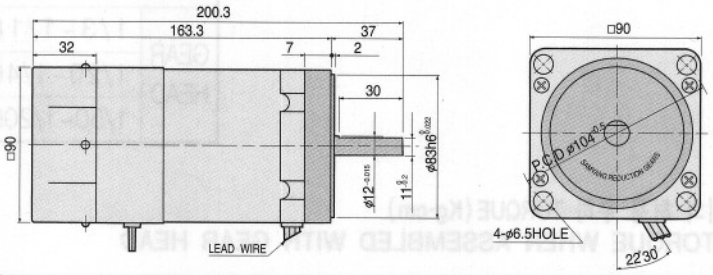
## ELECTRO MAGNETIC BRAKE MOTOR
## □90mm
## LEAD WIRE TYPE

## MOTOR SPECIFICATIONS

| Model | Output | Input | | | Mag. | Run | Ratings | | | | Start Torque | | Condenser |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Volt | Phase | Freq. | Poles | Duty | Current | Speed | Torque | | | | |
| | Watt | V | | Hz | | min | Amp | rpm | Kg-cm | N-m | Kg-cm | N-m | (μF) |
| SM9R60GA-E | 60 | 110 | 1ø | 60 | 4 | 30 | 1.38 | 1600 | 4.64 | 0.454 | 4.44 | 0.435 | 19.0 |
| SM9R60GB-E | 60 | 220 | 1ø | 60 | 4 | 30 | 0.79 | 1600 | 5.72 | 0.560 | 4.68 | 0.458 | 5.0 |
| SM9R60GC-E | 60 | 100 | 1ø | 50 | 4 | Cont. | 1.36 | 1300 | 4.92 | 0.482 | 4.72 | 0.462 | 23.0 |
| | | | | 60 | | | 1.63 | 1600 | 3.64 | 0.356 | 4.80 | 0.470 | |
| SM9R60GE-E | 60 | 115 | 1ø | 60 | 4 | 30 | 1.29 | 1600 | 4.60 | 0.451 | 4.40 | 0.431 | 17.0 |

- 모델별로 정격 사양을 준수하여 사용하십시오. 모터 손상의 주 요인이 됩니다.
- 과열 보호형인 TP(Thermal Protective) 모터는 과열 발생시 자동 정지되지만, 식으면 다시 작동됩니다.
  그러나 정지시에도 주 전원은 살아 있으므로 어떤 조치를 할 경우에는 반드시 주 전원을 차단한 후 조작하십시오.
- Please load and install within the rated specifications. Or motor or gear head may be damaged.
- TP(Thermally Protected) type of motor may be stop(power off) itself when temperature sensor in the motor is heated up to limited temperature and then restart again after the motor and sensor is cooled down. But during stops, do not operate the motor manually. If you intend to operate the motor, disconnect main power switch before touch.

## D-CUT MOTOR

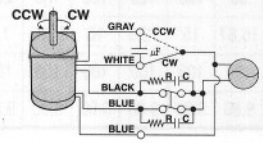



## 결선도 (WIRINGS)

회전방향은 모터축 끝에서 모터쪽으로 볼 때의 회전방향을 표시합니다. Directions of rotation are view at the end of motor shaft.

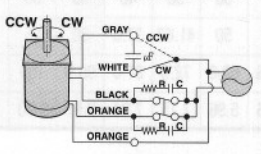
• 100/110V-1ø

CW/CCW



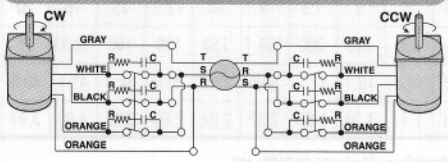

• 200/220V-1ø

CW/CCW




• 200/220V-3ø

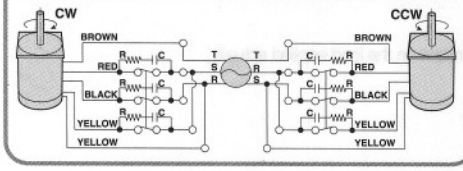
CW/CCW




R=10~100Ω
C=0.1~0.50μF

• 380/440V-3ø

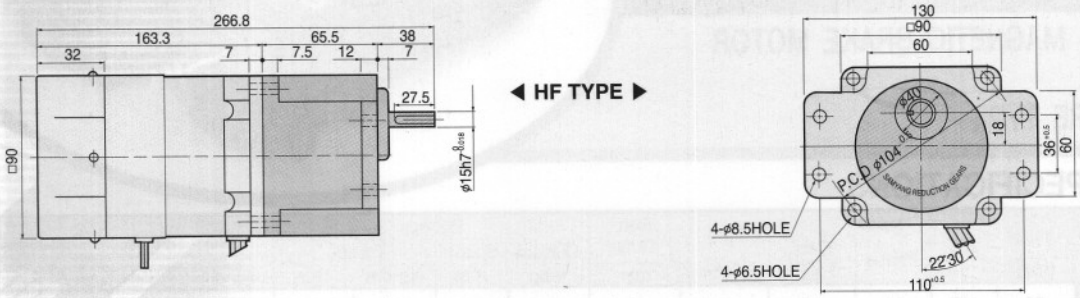
CW/CCW

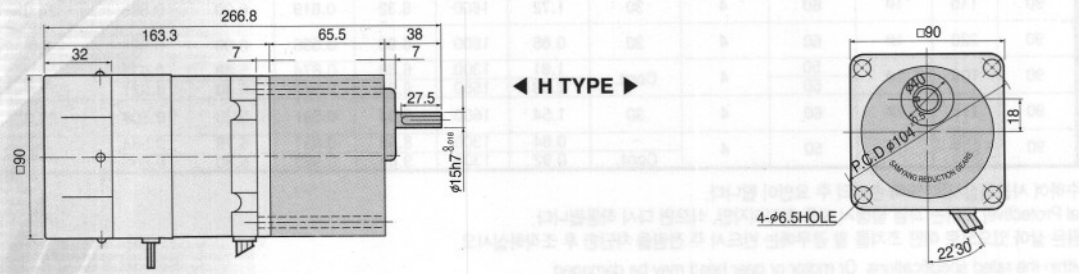



R=10~200Ω
C=0.1~0.50μF

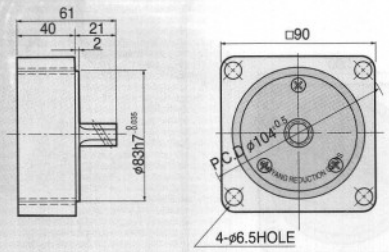
# DIMENSIONS

## GEARED MOTOR

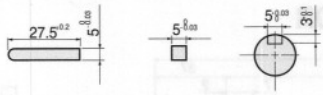



## BOOST-IN GEAR HEAD




## KEY SPEC



## WEIGHT

| PART | | WEIGHT(kg) |
|---|---|---|
| MOTOR | | 2.90 |
| BOOST-IN GEAR HEAD | | 0.65 |
| GEAR HEAD | 1/3~1/10 | 1.20 |
| | 1/12.5~1/20 | 1.30 |
| | 1/25~1/60 | 1.40 |
| | 1/75~1/200 | 1.45 |

## GEAR HEAD 연결 사용시의 허용 부하 TORQUE(Kg-cm)
## ALLOWABLE LOAD TORQUE WHEN ASSEMBLED WITH GEAR HEAD

### 60Hz

| Model P9K□HF P9K□H | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 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 |
| | kg-cm | 8.6 | 10.3 | 14.3 | 17.1 | 21.4 | 25.7 | 28.6 | 31.7 | 38.0 | 45.6 | 50.6 | 56.8 | 68.2 | 81.8 | 90.9 | 114 | 136 | 156 | 187 | 200 | 200 | 200 | 200 | 200 |
| | N-m | 0.84 | 1.01 | 1.40 | 1.68 | 2.10 | 2.52 | 2.80 | 3.10 | 3.72 | 4.47 | 4.96 | 5.57 | 6.7 | 8.0 | 8.9 | 11.1 | 13.4 | 15.3 | 18.3 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 |

### 50Hz

| Model P9K□HF P9K□H | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | rpm | 500 | 416.7 | 300 | 250 | 200 | 166.7 | 150 | 120 | 100 | 83.33 | 75 | 60 | 50 | 41.67 | 37.5 | 30 | 25 | 20 | 16.67 | 15 | 12.5 | 10 | 8.333 | 7.5 |
| | kg-cm | 10.3 | 12.3 | 17.1 | 20.6 | 25.7 | 30.9 | 34.3 | 38.0 | 45.6 | 54.7 | 60.8 | 68.2 | 81.8 | 98.2 | 109 | 136 | 164 | 187 | 200 | 200 | 200 | 200 | 200 | 200 |
| | N-m | 1.01 | 1.21 | 1.68 | 2.02 | 2.52 | 3.02 | 3.36 | 3.72 | 4.47 | 5.36 | 5.96 | 6.68 | 8.0 | 9.6 | 10.7 | 13.4 | 16.0 | 18.3 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 |

- 모델명 내의 □안에는 감속비(Gear Ratio)가 기입됩니다.
- 감속비 증폭 (BOOST-IN) 중간 연결 기어 헤드(x10)를 연결한 경우의 허용 토오크는 상기 표의 최대 허용 토오크를 초과하지 않습니다. (RATIO 200초과)
- 출력축의 회전 방향은 ■색이 모터 축과 동일하며, 그 외는 반대 방향입니다.
- 출력 회전수는 모터의 동기 회전수 (60Hz의 경우 1800 RPM)를 기준으로 감속된 값을 나타내었습니다. 실부하에 따라 1~20% 정도 줄어들 수 있습니다.
- Gear ratio to be typed(filled) in the □of model.
- When you assemble gear head with Boost-In Gear Head(X10), allowable load torque shall not be greater than the maximum allowable torque in the listed ( Gear ratio more than 200 : 1)
- Direction of output shaft is same to motor shaft direction for the colored. ■
- Output RPM is calculated under the theoretical 60 Hz electromotive RPM. It may be reduced 1 ~ 20% dependent on the load applied actually.

# 90W

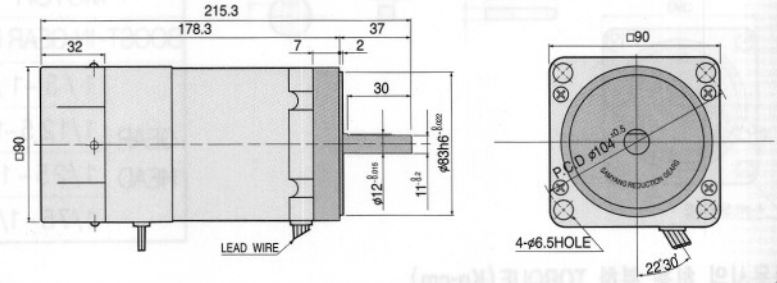
## ELECTRO MAGNETIC BRAKE MOTOR
## □90mm
## LEAD WIRE TYPE

## MOTOR SPECIFICATIONS

| Model | Output | Input | | | Mag. | Run | Ratings | | | | Start Torque | | Condenser |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Volt | Phase | Freq. | Poles | Duty | Current | Speed | Torque | | | | |
| | Watt | V | | Hz | | min | Amp | rpm | Kg-cm | N-m | Kg-cm | N-m | (μF) |
| SM9R90GA-E | 90 | 110 | 1ø | 60 | 4 | 30 | 1.72 | 1600 | 6.32 | 0.619 | 6.00 | 0.588 | 24.0 |
| SM9R90GB-E | 90 | 220 | 1ø | 60 | 4 | 30 | 0.86 | 1600 | 6.08 | 0.596 | 6.00 | 0.588 | 6.0 |
| SM9R90GC-E | 90 | 100 | 1ø | 50 | 4 | Cont. | 1.81 | 1300 | 6.88 | 0.674 | 5.88 | 0.576 | 30.0 |
| | | | | 60 | | | 2.09 | 1550 | 6.04 | 0.591 | 6.40 | 0.627 | |
| SM9R90GE-E | 90 | 115 | 1ø | 60 | 4 | 30 | 1.54 | 1600 | 6.04 | 0.591 | 5.20 | 0.509 | 20.0 |
| SM9R90GX-E | 90 | 220 | 1ø | 50 | 4 | - | 0.84 | 1300 | 8.48 | 0.831 | 5.76 | 0.564 | 6.0 |
| | | 240 | | | | Cont. | 0.92 | 1300 | 9.88 | 0.968 | 6.80 | 0.666 | |

- 모델별로 정격 사양을 준수하여 사용하십시오. 모터 손상의 주 요인이 됩니다.
- 과열 보호형인 TP(Thermal Protective) 모터는 과열 발생시 자동 정지되지만, 식으면 다시 작동됩니다.
  그러나 정지시에도 주 전원은 살아 있으므로 어떤 조치를 할 경우에는 반드시 주 전원을 차단한 후 조작하십시오.
- Please load and install within the rated specifications. Or motor or gear head may be damaged.
- TP(Thermally Protected) type of motor may be stop(power off) itself when temperature sensor in the motor is heated up to limited temperature and then restart again after the motor and sensor is cooled down. But during stops, do not operate the motor manually. If you intend to operate the motor, disconnect main power switch before touch.

## D-CUT MOTOR

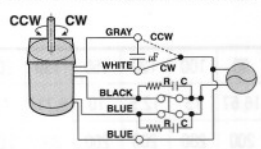



## 결선도 (WIRINGS)

회전방향은 모터축 끝에서 모터쪽으로 볼 때의 회전방향을 표시합니다. Directions of rotation are view at the end of motor shaft.

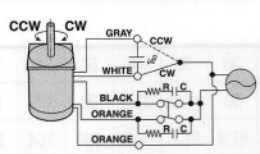
• 100/110V-1ø

CW/CCW



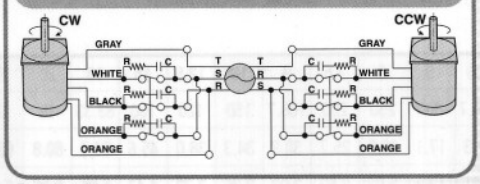

• 200/220V-1ø

CW/CCW




• 200/220V-3ø

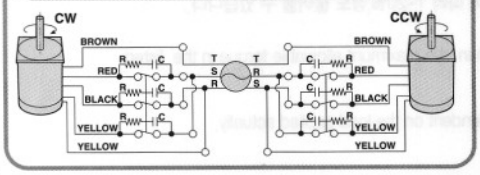
CW/CCW




R=10~100Ω
C=0.1~0.50μF

• 380/440V-3ø

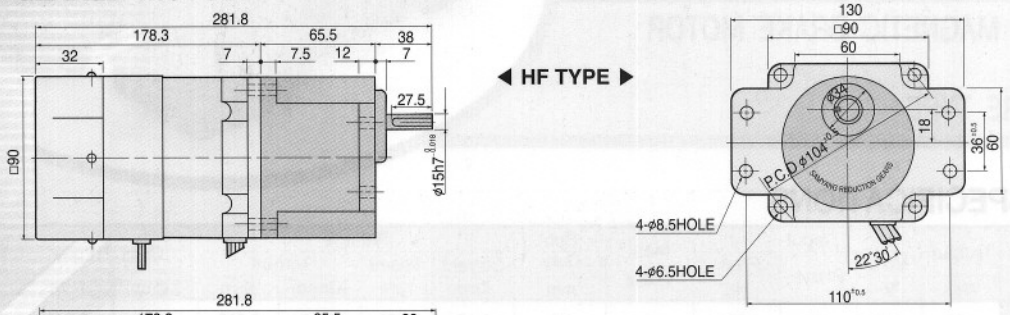
CW/CCW

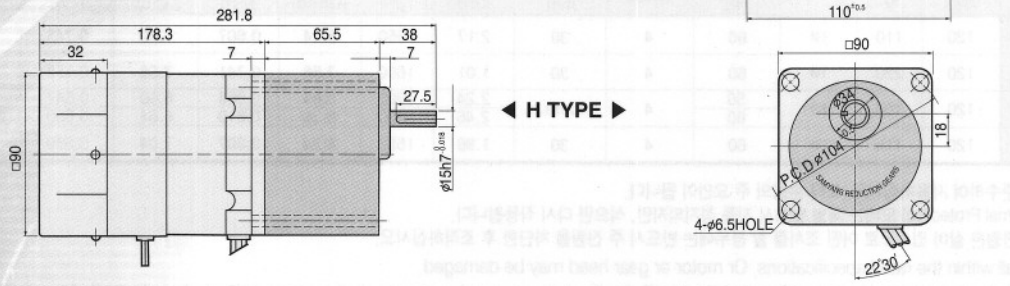



R=10~200Ω
C=0.1~0.50μF

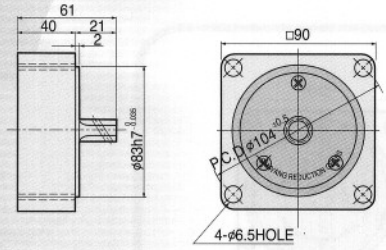
# DIMENSIONS

## GEARED MOTOR

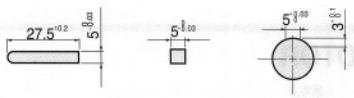



## BOOST-IN GEAR HEAD




## KEY SPEC




## WEIGHT

| PART | | WEIGHT(kg) |
|---|---|---|
| MOTOR | | 3.45 |
| BOOST-IN GEAR HEAD | | 0.65 |
| GEAR HEAD | 1/3~1/10 | 1.20 |
| | 1/12.5~1/20 | 1.30 |
| | 1/25~1/60 | 1.40 |
| | 1/75~1/200 | 1.45 |

## GEAR HEAD 연결 사용시의 허용 부하 TORQUE(Kg-cm)
## ALLOWABLE LOAD TORQUE WHEN ASSEMBLED WITH GEAR HEAD

### 60Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P9K□HF P9K□H | 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 |
| | kg-cm | 12.9 | 15.4 | 21.4 | 25.7 | 32.1 | 38.6 | 42.9 | 47.5 | 57.0 | 68.4 | 76.0 | 85.2 | 102 | 123 | 136 | 170 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 |
| | N-m | 1.26 | 1.51 | 2.10 | 2.52 | 3.15 | 3.78 | 4.20 | 4.65 | 5.58 | 6.70 | 7.45 | 8.35 | 10.0 | 12.0 | 13.4 | 16.7 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 |

### 50Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P9K□HF P9K□H | rpm | 500 | 416.7 | 300 | 250 | 200 | 166.7 | 150 | 120 | 100 | 83.33 | 75 | 60 | 50 | 41.67 | 37.5 | 30 | 25 | 20 | 16.67 | 15 | 12.5 | 10 | 8.333 | 7.5 |
| | kg-cm | 15.4 | 18.5 | 25.7 | 30.9 | 38.6 | 46.3 | 51.4 | 57.0 | 68.4 | 82.0 | 91.2 | 102 | 123 | 147 | 164 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 |
| | N-m | 1.51 | 1.81 | 2.52 | 3.02 | 3.78 | 4.54 | 5.04 | 5.58 | 6.70 | 8.04 | 8.93 | 10.02 | 12.0 | 14.4 | 16.0 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 |

- 모델명 내의 □안에는 감속비(Gear Ratio)가 기입됩니다.
- 감속비 증폭 (BOOST-IN) 중간 연결 기어 헤드(x10)를 연결한 경우의 허용 토오크는 상기 표의 최대 허용 토오크를 초과하지 않습니다. (RATIO 200초과)
- 출력축의 회전 방향은 ■색이 모터 축과 동일하며, 그 외는 반대 방향입니다.
- 출력 회전수는 모터의 동기 회전수 (60Hz의 경우 1800 RPM)를 기준으로 감속된 값을 나타내었습니다. 실부하에 따라 1~20% 정도 줄어들 수 있습니다.
- Gear ratio to be typed(filled) in the □of model.
- When you assemble gear head with Boost-In Gear Head(X10), allowable load torque shall not be greater than the maximum allowable torque in the listed ( Gear ratio more than 200 : 1)
- Direction of output shaft is same to motor shaft direction for the colored. ■
- Output RPM is calculated under the theoretical 60 Hz electromotive RPM. It may be reduced 1 ~ 20% dependent on the load applied actually.

# 120W

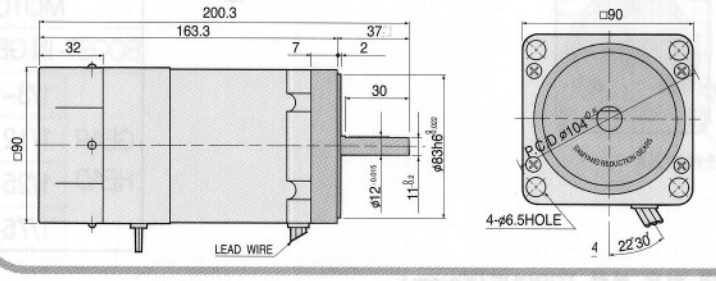
ELECTRO MAGNETIC BRAKE MOTOR
□90mm
LEAD WIRE TYPE

## MOTOR SPECIFICATIONS

| Model | Output | Input | | | Mag. | Run Duty | Ratings | | | | Start Torque | | Condenser |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Volt | Phase | Freq. | Poles | | Current | Speed | Torque | | | | |
| | Watt | V | | Hz | | min | Amp | rpm | Kg-cm | N-m | Kg-cm | N-m | (μF) |
| SM9R120GA-E | 120 | 110 | 1ø | 60 | 4 | 30 | 2.17 | 1550 | 8.24 | 0.807 | 7.60 | 0.745 | 28.0 |
| SM9R120GB-E | 120 | 220 | 1ø | 60 | 4 | 30 | 1.01 | 1600 | 7.56 | 0.741 | 7.68 | 0.752 | 7.0 |
| SM9R120GC-E | 120 | 100 | 1ø | 50 | 4 | Cont. | 2.24 | 1300 | 9.84 | 0.964 | 6.60 | 0.647 | 35.0 |
| | | | | 60 | | | 2.46 | 1600 | 8.36 | 0.819 | 6.64 | 0.650 | |
| SM9R120GE-E | 120 | 115 | 1ø | 60 | 4 | 30 | 1.96 | 1550 | 8.24 | 0.807 | 7.04 | 0.690 | 25.0 |

- 모델별로 정격 사양을 준수하여 사용하십시오. 모터 손상의 주 요인이 됩니다.
- 과열 보호형인 TP(Thermal Protective) 모터는 과열 발생시 자동 정지되지만, 식으면 다시 작동됩니다.
  그러나 정지시에도 주 전원은 살아 있으므로 어떤 조치를 할 경우에는 반드시 주 전원을 차단한 후 조작하십시오.
- Please load and install within the rated specifications. Or motor or gear head may be damaged.
- TP(Thermally Protected) type of motor may be stop(power off) itself when temperature sensor in the motor is heated up to limited temperature and then restart again after the motor and sensor is cooled down. But during stops, do not operate the motor manually. If you intend to operate the motor, disconnect main power switch before touch.

## D-CUT MOTOR

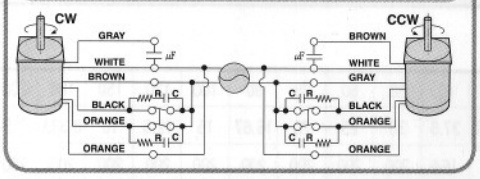



## 결선도 (WIRINGS)

회전방향은 모터축 끝에서 모터쪽으로 볼 때의 회전방향을 표시합니다. Directions of rotation are view at the end of motor shaft.

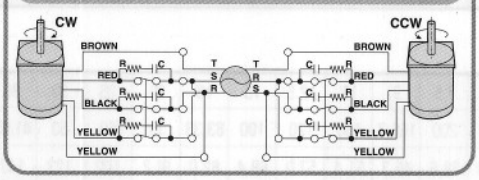
• 200/220V-1 ø

CW/CCW




• 380/440V-3 ø

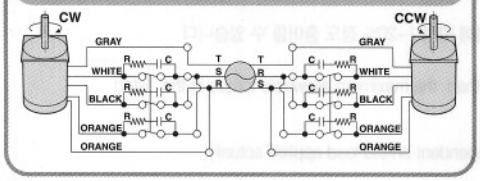
CW/CCW




R=10~200Ω
C=0.1~0.50μF

• 200/220V-3 ø

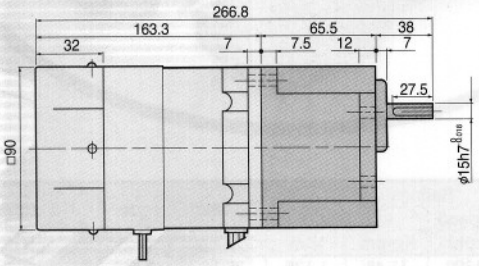
CW/CCW



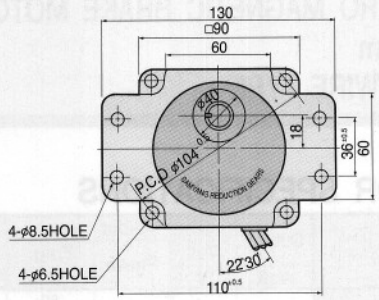

R=10~100Ω
C=0.1~0.50μF

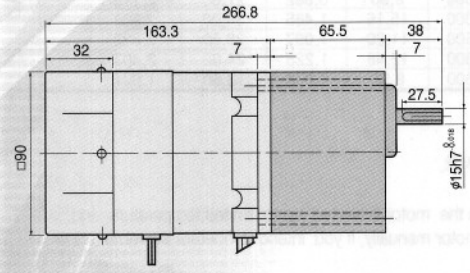
# DIMENSIONS

## GEARED MOTOR

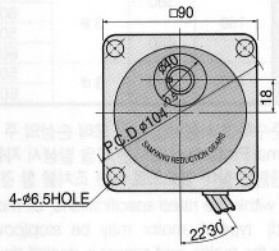



◀ HF TYPE ▶

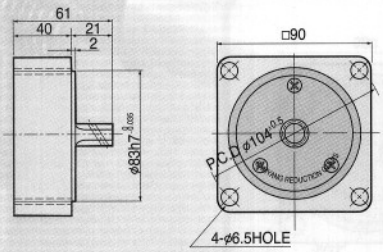


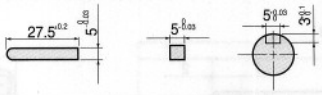

◀ H TYPE ▶




## BOOST-IN GEAR HEAD




## KEY SPEC




## WEIGHT

| PART | | WEIGHT(kg) |
|---|---|---|
| MOTOR | | 3.50 |
| BOOST-IN GEAR HEAD | | 0.65 |
| GEAR HEAD | 1/3~1/10 | 1.20 |
| | 1/12.5~1/20 | 1.30 |
| | 1/25~1/60 | 1.40 |
| | 1/75~1/200 | 1.45 |

## GEAR HEAD 연결 사용시의 허용 부하 TORQUE (Kg-cm)
## ALLOWABLE LOAD TORQUE WHEN ASSEMBLED WITH GEAR HEAD

### 60Hz

| Model P9K□HF P9K□H | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 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 |
| | kg-cm | 17.1 | 20.6 | 28.6 | 34.3 | 42.9 | 51.4 | 57.1 | 63.3 | 76.0 | 91.2 | 101 | 114 | 136 | 164 | 182 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 |
| | N-m | 1.68 | 2.02 | 2.80 | 3.36 | 4.20 | 5.04 | 5.60 | 6.20 | 7.45 | 8.93 | 9.93 | 11.1 | 13.4 | 16.0 | 17.8 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 |

### 50Hz

| Model P9K□HF P9K□H | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | rpm | 500 | 416.7 | 300 | 250 | 200 | 166.7 | 150 | 120 | 100 | 83.33 | 75 | 60 | 50 | 41.67 | 37.5 | 30 | 25 | 20 | 16.67 | 15 | 12.5 | 10 | 8.333 | 7.5 |
| | kg-cm | 20.6 | 24.7 | 34.3 | 41.1 | 51.4 | 61.7 | 68.6 | 76.0 | 91.2 | 109 | 122 | 136 | 164 | 196 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 |
| | N-m | 2.02 | 2.42 | 3.36 | 4.03 | 5.04 | 6.05 | 6.72 | 7.45 | 8.93 | 10.7 | 11.9 | 13.4 | 16.0 | 19.2 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 |

- 모델명 내의 □안에는 감속비(Gear Ratio)가 기입됩니다.
- 감속비 증폭 (BOOST-IN) 중간 연결 기어 헤드(x10)를 연결한 경우의 허용 토오크는 상기 표의 최대 허용 토오크를 초과하지 않습니다. (RATIO 200초과)
- 출력축의 회전 방향은 ■색이 모터 축과 동일하며, 그 외는 반대 방향입니다.
- 출력 회전수는 모터의 동기 회전수 (60Hz의 경우 1800 RPM)를 기준으로 감속된 값을 나타내었습니다. 실부하에 따라 1~20% 정도 줄어들 수 있습니다.
- 기어헤드의 허용 부하 토르크는 H, HF형일 때의 값이며, K, KF형일 경우에는 최대 허용 토르크가 300Kg-cm까지 증가될 수 있습니다.
- Gear ratio to be typed(filled) in the □of model.
- When you assemble gear head with Boost-In Gear Head(X10), allowable load torque shall not be greater than the maximum allowable torque in the listed (Gear ratio more than 200 : 1)
- Direction of output shaft is same to motor shaft direction for the colored. ■
- Output RPM is calculated under the theoretical 60 Hz electromotive RPM. It may be reduced 1 ~ 20% dependent on the load applied actually.

# 150W

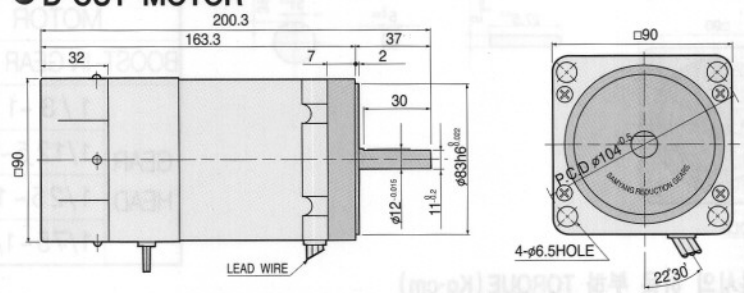
ELECTRO MAGNETIC BRAKE MOTOR
□90mm
LEAD WIRE TYPE

## MOTOR SPECIFICATIONS

| Model | Output | Input | | | Mag. | Run | Ratings | | | | Start Torque | | Condenser |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Volt | Phase | Freq. | Poles | Duty | Current | Speed | Torque | | | | |
| | Watt | V | | Hz | | min | Amp | rpm | Kg-cm | N-m | Kg-cm | N-m | (μF) |
| SM9N150GS-E | 150 | 380 | 3ø | 50 | 4 | Cont. | 0.55 | 1300 | 11.48 | 1.125 | 26.16 | 2.563 | |
| | | | | 60 | | | 0.44 | 1600 | 8.80 | 0.862 | 21.60 | 2.116 | |
| | | 440 | | 50 | | | 0.68 | 1300 | 15.16 | 1.485 | 34.00 | 3.332 | |
| | | | | 60 | | | 0.51 | 1600 | 11.20 | 1.097 | 28.80 | 2.822 | |
| SM9N150GT-E | 150 | 220 | 3ø | 50 | 4 | Cont. | 1.02 | 1300 | 12.48 | 1.223 | 24.80 | 2.403 | |
| | | | | 60 | | | 0.85 | 1600 | 8.96 | 0.878 | 19.60 | 1.921 | |

- 모델별로 정격 사양을 준수하여 사용하십시오. 모터 손상의 주 요인이 됩니다.
- 과열 보호형인 TP(Thermal Protective) 모터는 과열 발생시 자동 정지되지만, 식으면 다시 작동됩니다.
  그러나 정지시에도 주 전원은 살아 있으므로 어떤 조치를 할 경우에는 반드시 주 전원을 차단한 후 조작하십시오.
- Please load and install within the rated specifications. Or motor or gear head may be damaged.
- TP(Thermally Protected) type of motor may be stop(power off) itself when temperature sensor in the motor is heated up to limited temperature and then restart again after the motor and sensor is cooled down. But during stops, do not operate the motor manually. If you intend to operate the motor, disconnect main power switch before touch.

## D-CUT MOTOR

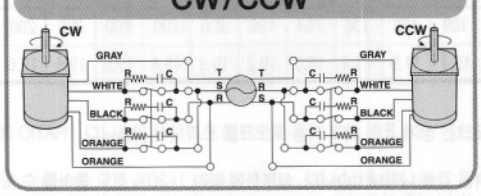



## 결선도 (WIRINGS)

회전방향은 모터축 끝에서 모터쪽으로 볼 때의 회전방향을 표시합니다.
Directions of rotation are view at the end of motor shaft.

• 200/220V-3ø

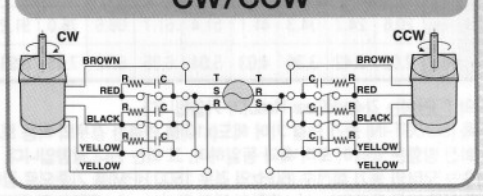
CW/CCW




R=10~100Ω
C=0.1~0.50μF

• 380/440V-3ø

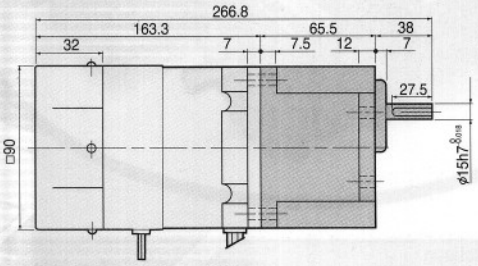
CW/CCW



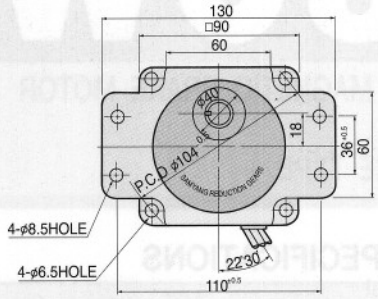

R=10~200Ω
C=0.1~0.50μF

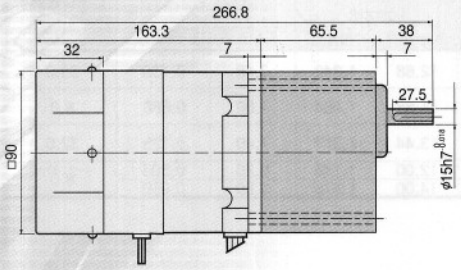
# DIMENSIONS

## GEARED MOTOR

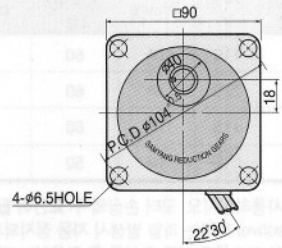



◀ HF TYPE ▶

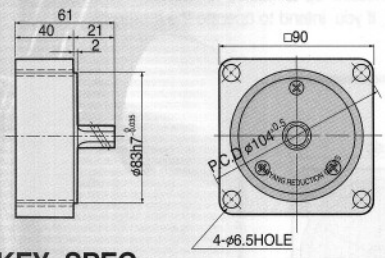


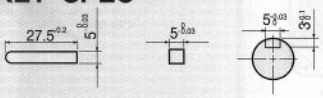

◀ H TYPE ▶




## BOOST-IN GEAR HEAD




## KEY SPEC




## WEIGHT

| PART | | WEIGHT(kg) |
|---|---|---|
| MOTOR | | 3.55 |
| BOOST-IN GEAR HEAD | | 0.65 |
| GEAR HEAD | 1/3~1/10 | 1.20 |
| | 1/12.5~1/20 | 1.30 |
| | 1/25~1/60 | 1.40 |
| | 1/75~1/200 | 1.45 |

## GEAR HEAD 연결 사용시의 허용 부하 TORQUE(Kg-cm)
## ALLOWABLE LOAD TORQUE WHEN ASSEMBLED WITH GEAR HEAD

### 60Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P9K□HF P9K□H | 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 |
| | kg-cm | 21.4 | 25.7 | 35.7 | 42.9 | 53.6 | 64.3 | 71.4 | 79.1 | 95.0 | 114 | 127 | 142 | 170 | 205 | 227 | 284 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 |
| | N-m | 2.10 | 2.52 | 3.50 | 4.20 | 5.25 | 6.30 | 7.00 | 7.76 | 9.31 | 11.2 | 12.4 | 13.9 | 16.7 | 20.0 | 22.3 | 27.8 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 |

### 50Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P9K□HF P9K□H | rpm | 500 | 416.7 | 300 | 250 | 200 | 166.7 | 150 | 120 | 100 | 83.33 | 75 | 60 | 50 | 41.67 | 37.5 | 30 | 25 | 20 | 16.67 | 15 | 12.5 | 10 | 8.333 | 7.5 |
| | kg-cm | 25.7 | 30.9 | 42.9 | 51.4 | 64.3 | 77.1 | 85.7 | 95.0 | 114 | 137 | 152 | 170 | 205 | 245 | 273 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 |
| | N-m | 2.52 | 3.02 | 4.20 | 5.04 | 6.30 | 7.56 | 8.40 | 9.31 | 11.17 | 13.4 | 14.9 | 16.7 | 20.0 | 24.1 | 26.7 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 |

- 모델명 내의 □안에는 감속비(Gear Ratio)가 기입됩니다.
- 감속비 증폭 (BOOST-IN) 중간 연결 기어 헤드(x10)를 연결한 경우의 허용 토오크는 상기 표의 최대 허용 토오크를 초과하지 않습니다. (RATIO 200초과)
- 출력축의 회전 방향은 ■색이 모터 축과 동일하며, 그 외는 반대 방향입니다.
- 출력 회전수는 모터의 동기 회전수 (60Hz의 경우 1800 RPM)를 기준으로 감속된 값을 나타내었습니다. 실부하에 따라 1~20% 정도 줄어들 수 있습니다.
- 기어헤드의 허용 부하 토르크는 H, HF형일 때의 값이며, K, KF형일 경우에는 최대 허용 토르크가 300Kg-cm까지 증가될 수 있습니다.
- Gear ratio to be typed(filled) in the □of model.
- When you assemble gear head with Boost-In Gear Head(X10), allowable load torque shall not be greater than the maximum allowable torque in the listed ( Gear ratio more than 200 : 1)
- Direction of output shaft is same to motor shaft direction for the colored. ■
- Output RPM is calculated under the theoretical 60 Hz electromotive RPM. It may be reduced 1 ~ 20% dependent on the load applied actually.

# 180W

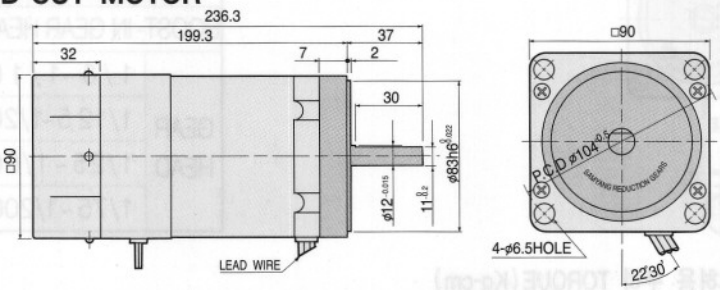
**ELECTRO MAGNETIC BRAKE MOTOR**
**□90mm**
**LEAD WIRE TYPE**

## MOTOR SPECIFICATIONS

| Model | Output | Input | | | Mag. Poles | Run Duty | Ratings | | | | Start Torque | | Condenser |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Volt | Phase | Freq. | | | Current | Speed | Torque | | | | |
| | Watt | V | | Hz | | min | Amp | rpm | Kg-cm | N-m | Kg-cm | N-m | (μF) |
| SM9R180GA-E | 180 | 110 | 1ø | 60 | 4 | 30 | 2.87 | 1600 | 12.68 | 1.242 | 7.48 | 0.733 | 35.0 |
| SM9R180GB-E | 180 | 220 | 1ø | 60 | 4 | 30 | 1.38 | 1600 | 11.88 | 1.164 | 7.00 | 0.686 | 8.0 |
| SM9R180GE-E | 180 | 115 | 1ø | 60 | 4 | 30 | 2.98 | 1600 | 13.44 | 1.317 | 7.40 | 0.725 | 32.0 |
| SM9R180GX-E | 180 | 220 | 1ø | 50 | 4 | - | 1.17 | 1300 | 12.00 | 1.176 | 8.20 | 0.803 | 8.0 |
| | | 240 | | | | Cont. | 1.25 | 1300 | 14.00 | 1.376 | 9.80 | 0.960 | |

- 모델별로 정격 사양을 준수하여 사용하십시오. 모터 손상의 주 요인이 됩니다.
- 과열 보호형인 TP(Thermal Protective) 모터는 과열 발생시 자동 정지되지만, 식으면 다시 작동됩니다.
  그러나 정지시에도 주 전원은 살아 있으므로 어떤 조치를 할 경우에는 반드시 주 전원을 차단한 후 조작하십시오.
- Please load and install within the rated specifications. Or motor or gear head may be damaged.
- TP(Thermally Protected) type of motor may be stop(power off) itself when temperature sensor in the motor is heated up to limited temperature and then restart again after the motor and sensor is cooled down. But during stops, do not operate the motor manually. If you intend to operate the motor, disconnect main power switch before touch.

## D-CUT MOTOR

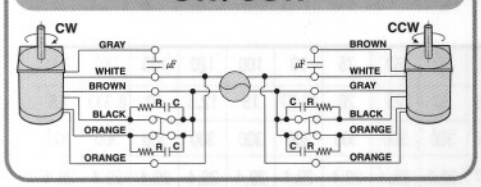



## 결선도 (WIRINGS)

회전방향은 모터축 끝에서 모터쪽으로 볼 때의 회전방향을 표시합니다. Directions of rotation are view at the end of motor shaft.

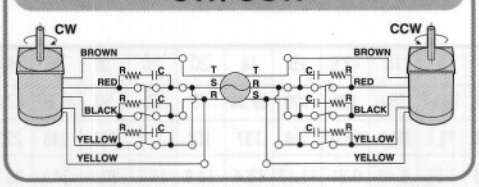
• 200/220V-1 ø

**CW/CCW**




• 380/440V-3 ø

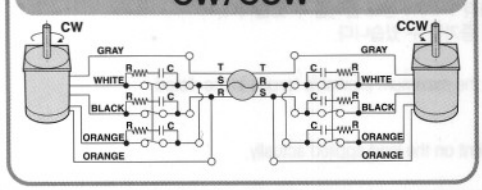
**CW/CCW**




R=10~200Ω
C=0.1~0.50μF

• 200/220V-3 ø

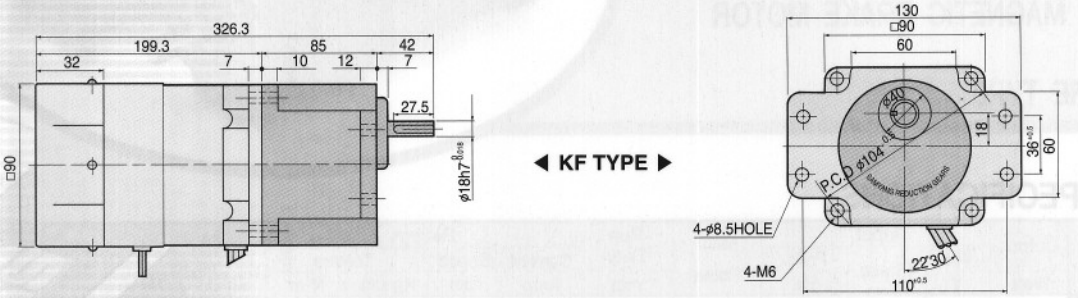
**CW/CCW**

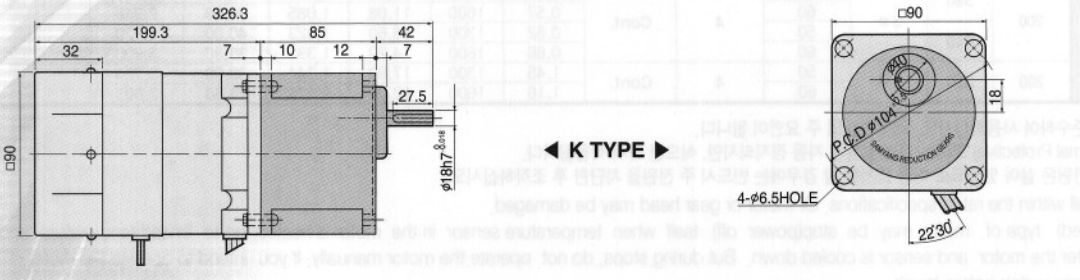



R=10~100Ω
C=0.1~0.50μF

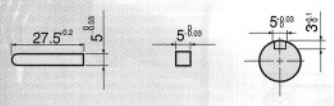
# DIMENSIONS

## GEARED MOTOR




## KEY SPEC




## WEIGHT

| PART | | WEIGHT(kg) |
|---|---|---|
| MOTOR | | 4.25 |
| GEAR HEAD | 1/3~1/10 | 1.70 |
| | 1/12.5~1/20 | 1.83 |
| | 1/25~1/60 | 1.93 |
| | 1/75~1/200 | 1.98 |

## GEAR HEAD 연결 사용시의 허용 부하 TORQUE(Kg-cm)
## ALLOWABLE LOAD TORQUE WHEN ASSEMBLED WITH GEAR HEAD

### 60Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P9K□KF P9K□K | 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 |
| | kg-cm | 25.7 | 30.9 | 42.9 | 51.4 | 64.3 | 77.1 | 85.7 | 95.0 | 114 | 137 | 152 | 170 | 205 | 245 | 273 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 |
| | N-m | 2.52 | 3.02 | 4.20 | 5.04 | 6.30 | 7.56 | 8.40 | 9.31 | 11.17 | 13.4 | 14.9 | 16.7 | 20.0 | 24.1 | 26.7 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 |

### 50Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P9K□KF P9K□K | rpm | 500 | 416.7 | 300 | 250 | 200 | 166.7 | 150 | 120 | 100 | 83.33 | 75 | 60 | 50 | 41.67 | 37.5 | 30 | 25 | 20 | 16.67 | 15 | 12.5 | 10 | 8.333 | 7.5 |
| | kg-cm | 30.9 | 37.0 | 51.4 | 61.7 | 77.1 | 92.6 | 103 | 114 | 137 | 164 | 182 | 205 | 245 | 295 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 |
| | N-m | 3.02 | 3.63 | 5.04 | 6.05 | 7.56 | 9.07 | 10.1 | 11.2 | 13.40 | 16.1 | 17.9 | 20.0 | 24.1 | 28.9 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 |

- 모델명 내의 □안에는 감속비(Gear Ratio)가 기입됩니다.
- 감속비 증폭 (BOOST-IN) 중간 연결 기어 헤드(x10)를 연결한 경우의 허용 토오크는 상기 표의 최대 허용 토오크를 초과하지 않습니다. (RATIO 200초과)
- 출력축의 회전 방향은 ■색이 모터 축과 동일하며, 그 외는 반대 방향입니다.
- 출력 회전수는 모터의 동기 회전수 (60Hz의 경우 1800 RPM)를 기준으로 감속된 값을 나타내었습니다. 실부하에 따라 1~20% 정도 줄어들 수 있습니다.
- Gear ratio to be typed(filled) in the □of model.
- When you assemble gear head with Boost-In Gear Head(X10), allowable load torque shall not be greater than the maximum allowable torque in the listed ( Gear ratio more than 200 : 1)
- Direction of output shaft is same to motor shaft direction for the colored. ■
- Output RPM is calculated under the theoretical 60 Hz electromotive RPM. It may be reduced 1 ~ 20% dependent on the load applied actually.

# 200W

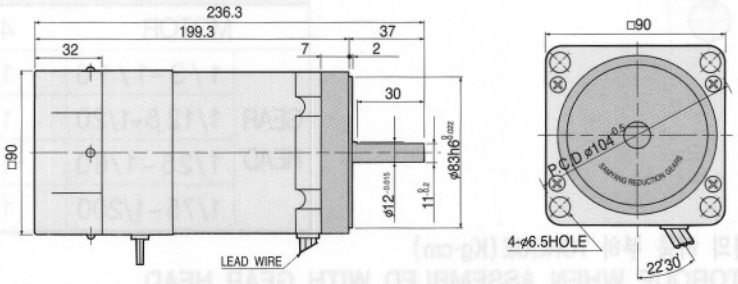
ELECTRO MAGNETIC BRAKE MOTOR
□90mm
LEAD WIRE TYPE

## MOTOR SPECIFICATIONS

| Model | Output | Input | | | Mag. Poles | Run Duty | Ratings | | | | Start Torque | | Condenser |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Volt | Phase | Freq. | | | Current | Speed | Torque | | | | |
| | Watt | V | | Hz | | min | Amp | rpm | Kg-cm | N-m | Kg-cm | N-m | (μF) |
| SM9N200GS | 200 | 380 | 3ø | 50 | 4 | Cont. | 0.65 | 1300 | 14.48 | 1.419 | 38.40 | 3.763 | |
| | | | | 60 | | | 0.57 | 1600 | 11.08 | 1.085 | 30.08 | 2.948 | |
| | | 440 | | 50 | | | 0.82 | 1300 | 18.60 | 1.823 | 40.00 | 3.920 | |
| | | | | 60 | | | 0.66 | 1600 | 14.20 | 1.391 | 39.80 | 3.900 | |
| SM9N200GT | 200 | 220 | 3ø | 50 | 4 | Cont. | 1.45 | 1300 | 17.80 | 1.744 | 38.00 | 3.724 | |
| | | | | 60 | | | 1.16 | 1600 | 12.00 | 1.176 | 28.60 | 2.803 | |

- 모델별로 정격 사양을 준수하여 사용하십시오. 모터 손상의 주 요인이 됩니다.
- 과열 보호형인 TP(Thermal Protective) 모터는 과열 발생시 자동 정지되지만, 식으면 다시 작동됩니다.
  그러나 정지시에도 주 전원은 살아 있으므로 어떤 조치를 할 경우에는 반드시 주 전원을 차단한 후 조작하십시오.
- Please load and install within the rated specifications. Or motor or gear head may be damaged.
- TP(Thermally Protected) type of motor may be stop(power off) itself when temperature sensor in the motor is heated up to limited temperature and then restart again after the motor and sensor is cooled down. But during stops, do not operate the motor manually. If you intend to operate the motor, disconnect main power switch before touch.

## D-CUT MOTOR

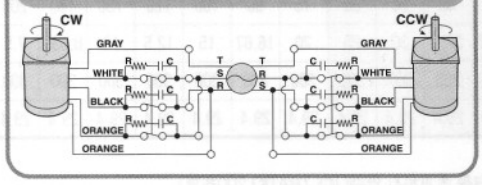



## 결선도 (WIRINGS)

회전방향은 모터축 끝에서 모터쪽으로 볼 때의 회전방향을 표시합니다.
Directions of rotation are view at the end of motor shaft.

• 200/220V-3ø

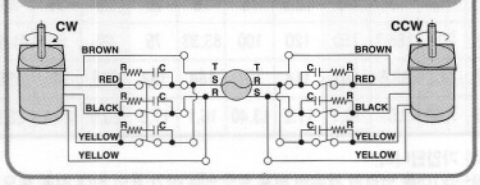
CW/CCW




R=10~100Ω
C=0.1~0.50μF

• 380/440V-3ø

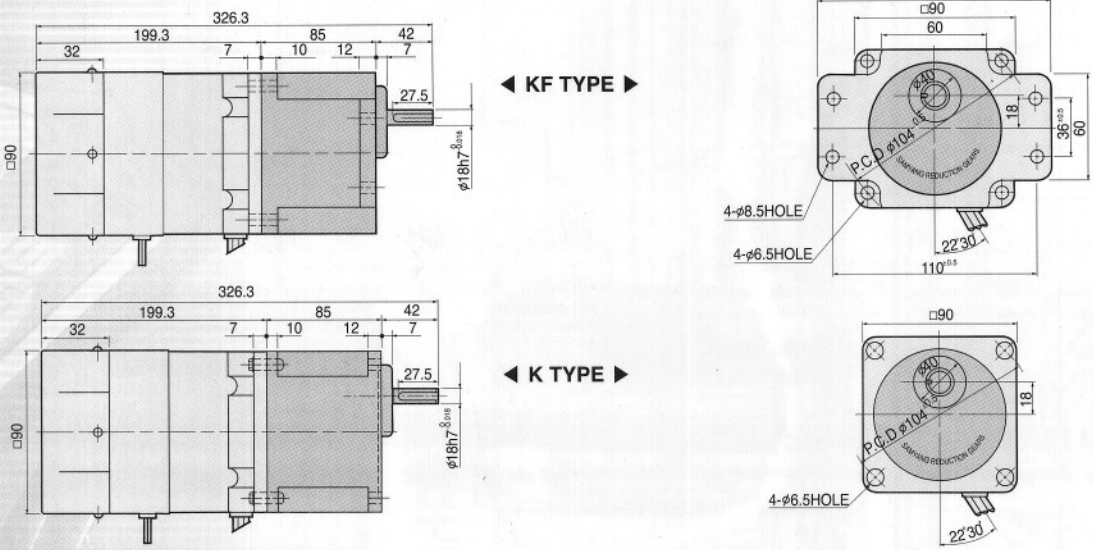
CW/CCW



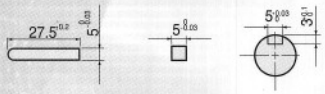

R=10~200Ω
C=0.1~0.50μF

# DIMENSIONS

## GEARED MOTOR




## KEY SPEC




## WEIGHT

| PART | | WEIGHT(kg) |
|---|---|---|
| MOTOR | | 4.30 |
| GEAR HEAD | 1/3~1/10 | 1.70 |
| | 1/12.5~1/20 | 1.83 |
| | 1/25~1/60 | 1.93 |
| | 1/75~1/200 | 1.98 |

## ALLOWABLE LOAD TORQUE WHEN ASSEMBLED WITH GEAR HEAD

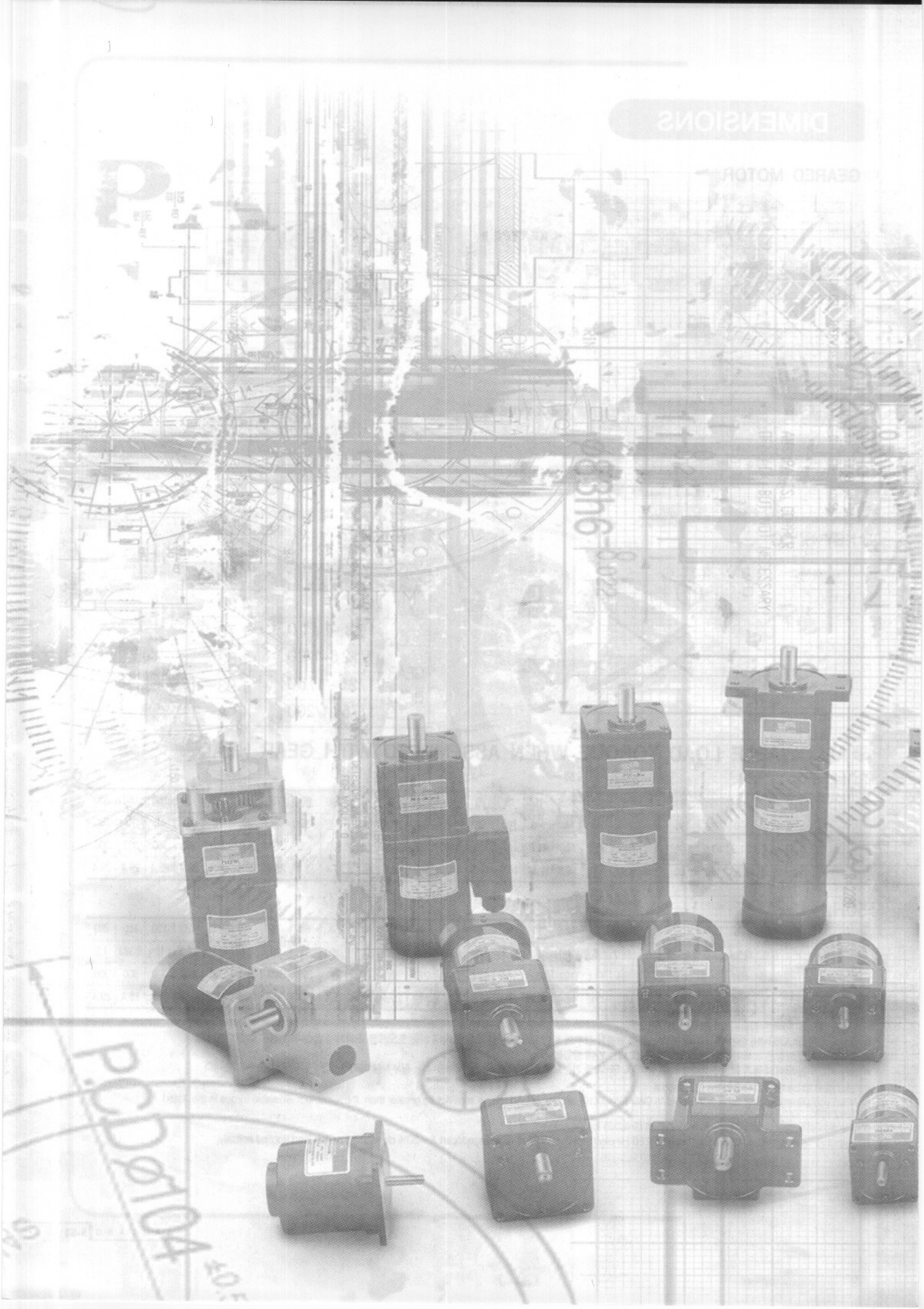
### 60Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P9K□KF P9K□K | 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 |
| | kg-cm | 28.6 | 34.3 | 47.6 | 57.1 | 71.4 | 85.7 | 95.2 | 106 | 127 | 152 | 169 | 189 | 227 | 273 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 |
| | N-m | 2.80 | 3.36 | 4.67 | 5.60 | 7.00 | 8.40 | 9.33 | 10.3 | 12.41 | 14.9 | 16.5 | 18.6 | 22.3 | 26.7 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 |

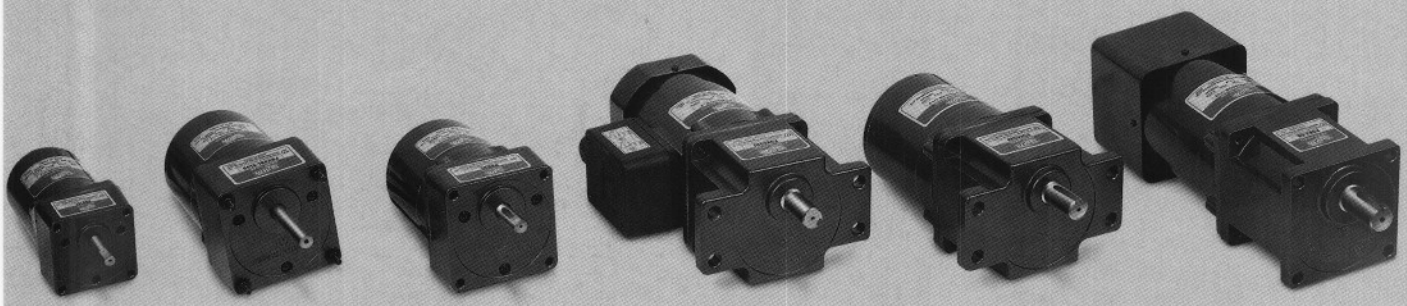
### 50Hz

| Model | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P9K□KF P9K□K | rpm | 500 | 416.7 | 300 | 250 | 200 | 166.7 | 150 | 120 | 100 | 83.33 | 75 | 60 | 50 | 41.67 | 37.5 | 30 | 25 | 20 | 16.67 | 15 | 12.5 | 10 | 8.333 | 7.5 |
| | kg-cm | 34.3 | 41.1 | 57.1 | 68.6 | 85.7 | 103 | 114 | 127 | 152 | 182 | 203 | 227 | 273 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 |
| | N-m | 3.36 | 4.03 | 5.60 | 6.72 | 8.40 | 10.1 | 11.2 | 12.4 | 14.89 | 17.9 | 19.9 | 22.3 | 26.7 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 | 29.4 |

- 모델명 내의 □안에는 감속비(Gear Ratio)가 기입됩니다.
- 감속비 증폭 (BOOST-IN) 중간 연결 기어 헤드(x10)를 연결한 경우의 허용 토오크는 상기 표의 최대 허용 토오크를 초과하지 않습니다.(RATIO 200초과)
- 출력축의 회전 방향은 ▩색이 모터 축과 동일하며, 그 외는 반대 방향입니다.
- 출력 회전수는 모터의 동기 회전수 (60Hz의 경우 1800 RPM)를 기준으로 감속된 값을 나타내었습니다. 실부하에 따라 1~20% 정도 줄어들 수 있습니다.
- Gear ratio to be typed(filled) in the □of model.
- When you assemble gear head with Boost-In Gear Head(X10), allowable load torque shall not be greater than the maximum allowable torque in the listed ( Gear ratio more than 200 : 1)
- Direction of output shaft is same to motor shaft direction for the colored. ▩
- Output RPM is calculated under the theoretical 60 Hz electromotive RPM. It may be reduced 1 ~ 20% dependent on the load applied actually.



# SPEED CONTROL MOTOR



## SPEED CONTROLLER (UNIT TYPE)

| MAKER | CONTROLLER TYPE | | OUTPUT | VOLTAGE | | T·G VOLTAGE |
|---|---|---|---|---|---|---|
| ST | U | A | 60 | B | – | V12 |

**V12** : T·G Voltage

**A** : 1Ø AC 110V 60Hz (4Pple)
**B** : 1Ø AC 220V 60Hz (4Pple)
**C** : 1Ø AC 100V 50/60Hz (4Pple)
**D** : 1Ø AC 200V 50/60Hz (4Pple)
**E** : 1Ø AC 115V 60Hz (4Pple)
**X** : 1Ø AC 220/240V 50Hz (4Pple)

**06** : 6W
**15** : 15W (70각, 70각)
**25** : 25W
**40** : 40W
**60** : 60W
**90** : 90W
**120** : 120W
**180** : 180W

**A** : Analogue Type
**D** : Digital Type

**U** : Unit Type

**SAMYANG**

## SPEED CONTROLLER (SOCKET TYPE)

| MAKER | | TYPE | | OUTPUT | VOLATGE |
|---|---|---|---|---|---|
| ST | – | S | – | 01 | B |

**A** : 1Ø AC 110V 60Hz (4Pple)
**B** : 1Ø AC 220V 60Hz (4Pple)
**C** : 1Ø AC 100V 50/60Hz (4Pple)
**D** : 1Ø AC 200V 50/60Hz (4Pple)
**E** : 1Ø AC 115V 60Hz (4Pple)
**X** : 1Ø AC 220/240V 50Hz (4Pple)

**01** : 6W, 15W
**02** : 15W, 40W, 60W, 90W
**03** : 120W, 180W

**S** : Socket Type

**SAMYANG**

# UNIT TYPE

사진의 Gearhead는 별매입니다.
You may order motor, gear head, control unit separately.

분리형Control Unit와 Control Motor의 Unit제품입니다.
Separate control unit of speed control motor.

## 일반사양 (GENERAL SPECIFICATIONS)

| 항목 | (ITEM) | 사 양 (SPECIFICATION) |
|---|---|---|
| 절연저항 | Insulation Resistance | 상온 상습에서 정격으로 운전후 MOTOR의 권선과 CASE 간에 DC 500V MEGA로 측정하여 100㏁ 이상.<br>More than 100 MΩ between case and wires measured by MEGA at DC 500 V after running 30 minutes under the rating load at room temperature and humidity |
| 절연내압 | Dielectric Strength | MOTOR를 상온 상습에서 정격으로 운전후 MOTOR의 권선과 CASE 간에 1500V AC, 60Hz 를 1분간 인가하여 견딜것<br>Endure 1 minute applied 1500 VAC, 60 Hz between case and wiring after running under the rating load at room temperature and room humidity. |
| 온도상승 | Temperature Rise | MOTOR를 정격운전후 온도계법으로 측정하여 표면 온도 상승량이 60℃이내<br>Surface temperature rises not greater 60 °C than environments running under the rating load. |
| 절연등급 | Insulation | E종 (120℃) E(120°C) |
| 과열보호 장치(T/P) | Temperature Protection | THERMAL PROTECTOR 내장형(Option) 자동복귀형 (개방 120℃±5℃, 복귀 80℃±15℃)<br>Optional for TP (Temperature Protection) inclosed.<br>TP : self recovering type ( open : 120 ± 5 °C, close : 80 ± 15 °C) |
| 사용온도 | Environmental Temperature | -10℃ ~ +50℃ |
| 사용습도 | Environmental Humidity | 90%R 이하 (단, 결로없는곳) maximum 90 %R ( no dews allowed ) |

## SPECIFICATION OF UNIT TYPE SPEED CONTROL MOTOR

CONTINUOUS RATING - INDUCTION MOTOR(6W~90W)

| Output | Type | Pole | Input | Frequency | Speed Control Range | Torque | | | | Starting Torque | | Capacitor |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | at1200rpm | | at90rpm | | | | |
| | | | (V) | (Hz) | (rpm) | (Kg-cm) | (N-m) | (Kg-cm) | (N-m) | (Kg-cm) | (N-m) | (μF) |
| 6W | SM6N06GA-V12 | 4 | 1 ø 110 | 60 | 60-1700 | 0.55 | 0.055 | 0.40 | 0.040 | 0.52 | 0.051 | 2.5 |
| | SM6N06GB-V12 | 4 | 1 ø 220 | 60 | 60-1700 | 0.55 | 0.055 | 0.40 | 0.040 | 0.52 | 0.051 | 0.8 |
| 15W | SM8N15GA-V12<br>SM8N15GA-V12(TP) | 4 | 1 ø 110 | 60 | 60-1700 | 1.50 | 0.150 | 0.65 | 0.065 | 1.10 | 0.108 | 5.0 |
| | SM8N15GB-V12<br>SM8N15GB-V12(TP) | 4 | 1 ø 220 | 60 | 60-1700 | 1.50 | 0.150 | 0.65 | 0.065 | 1.20 | 0.118 | 1.5 |
| 25W | SM8N25GA-V12<br>SM8N25GA-V12(TP) | 4 | 1 ø 110 | 60 | 60-1700 | 1.70 | 0.170 | 0.80 | 0.080 | 1.90 | 0.186 | 6.0 |
| | SM8N25GB-V12<br>SM8N25GB-V12(TP) | 4 | 1 ø 220 | 60 | 60-1700 | 1.70 | 0.170 | 0.80 | 0.080 | 1.90 | 0.186 | 2.0 |
| 40W | SM9N40GA-V12<br>SM9N40GA-V12(TP) | 4 | 1 ø 110 | 60 | 60-1700 | 2.70 | 0.270 | 1.00 | 0.100 | 2.60 | 0.255 | 10.0 |
| | SM9N40GB-V12<br>SM9N40GB-V12(TP) | 4 | 1 ø 220 | 60 | 60-1700 | 2.70 | 0.270 | 1.00 | 0.100 | 2.80 | 0.275 | 3.0 |
| 60W | SM9N60GA-V12<br>SM9N60GA-V12(TP) | 4 | 1 ø 110 | 60 | 60-1700 | 5.50 | 0.550 | 2.00 | 0.200 | 4.80 | 0.471 | 15.0 |
| | SM9N60GB-V12<br>SM9N60GB-V12(TP) | 4 | 1 ø 220 | 60 | 60-1700 | 5.50 | 0.550<br>0.550 | 2.00 | 0.200 | 4.50 | 0.441 | 4.0 |
| 90W | SM9N90GA-V12<br>SM9N90GA-V12(TP) | 4 | 1 ø 110 | 60 | 60-1700 | 6.30 | 0.630 | 3.00 | 0.300 | 5.10 | 0.500 | 23.0 |
| | SM9N90GB-V12<br>SM9N90GB-V12(TP) | 4 | 1 ø 220 | 60 | 60-1700 | 6.30 | 0.630 | 3.00 | 0.300 | 5.30 | 0.520 | 5.5 |

# 사용방법 (OPERATION GUIDE)

## 운전 (OPERATIONS)

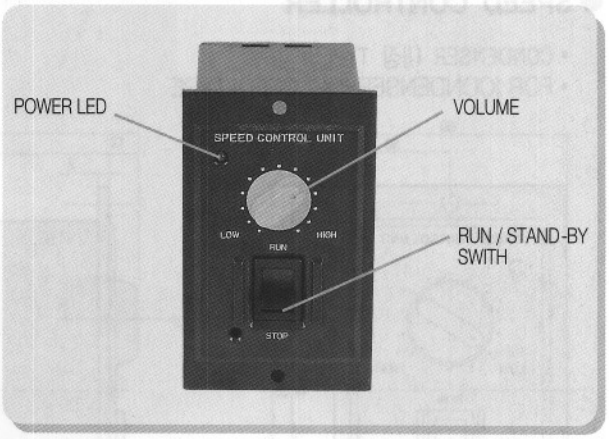
▶ 콘덴서 내장형의 경우
Control Unit와 Motor의 Lead선 Connector를 접속하여, AC전원에 Cord를 연결합니다.
Control Unit의「RUN / STAND-BY」SW를「RUN」쪽으로 하면, Motor는 출력축방향을 기준으로 시계방향(cw)으로 회전합니다.
(출하시 Control Unit는 시계 방향으로 회전하도록 Set되어 있고, 기어헤드출력축의 회전방향은 그 감속비에 따라 Motor와는 반대방향으로 회전을 할 수도 있습니다.)

▶ 콘덴서 외장형의 경우
Control Unit와 Motor의 Connector를 접속하고, Control Unit의 콘덴서용 WIRE에 콘덴서를 연결한 후에 Cord를 AC 전원에 연결합니다. Control Unit의「RUN / STAND - BY」SW를「RUN」쪽으로 하면, Motor는 출력축방향을 기준으로 시계방향(cw)으로 회전합니다.
(출하시 Control Unit는 시계 방향으로 회전하도록 Set되어 있고, 기어헤드출력축의 회전방향은 그 감속비에 따라 Motor와는 반대방향으로 회전을 할 수도 있습니다.)

▶ FOR [CONDENSER INCLOSED] TYPE
Connect the motor wires to the control unit wiring terminals and the power source wires to the specified terminals of the unit at rear side. Toggle the button to [RUN] direction to start motor run.
Clockwise direction of rotation was set when the control unit for default. Rotation of gear head is dependent to the gear ratio as specified on the detail data sheet.

▶ FOR [CONDENSER EXTERNAL] TYPE
Connect the motor wires to the control unit terminals with the specified condenser simultaneously. And connect power sources to the specified terminals at the rear side.
Toggle the [run/stand-by] button to [RUN] direction to start motor run.

**CONTROL UNIT 정면 (CONTROL UNIT (Front))**




## 회전방향의 변경 (SWITCHING DIRECTION OF ROTATION)

▶ 연속운전의 경우
GEAR HEAD 등의 전달기구에서 MOTOR의 회전방향을 반대로 할 경우 CONTROL UNIT 뒷면에 붙어있는 ③COM과 ⑤CW의 단자의 위치를 ③COM과 ④CCW의 위치로 연결되도록 단자의 위치를 교환하여 주십시오. 전원 CORD단자는 항상 ①AC, ②AC에 접속하여 주십시오. 이때 반드시 전원을 OFF로 한후에 교환및 결선하여 주십시오.

▶ 정역회전의 경우
양방향 회전세팅과 같이 전원용 SWITCH(SW1)와 정역회전 교환SWITCH(SW2)를 설치하여 회전방향을 교체하여 주십시오.
그러나 순시 정역회전은 불가합니다. 일단 전원SWITCH(SW1)을 끄고 MOTOR가 완전히 정지한후에 SWITCH(SW2)를 교체하여 주십시오.

▶ FOR CONTINUOUS RUN
Off the main power first. Switch the jumper of connected between COM-CW to COM-CCW, and then on-line the
main power to be ready for start.
When the jumper was connected between COM-CCW, switch the jumper to COM-CW to change direction of rotation vise versa.

▶ FOR REVERSIBLE RUN
Put additional switch for you to select CCW or CW connecting with COM terminal. Toggle the selecting switch from CCW to CW or vise versa to change direction of rotation. Do not start the motor before it stops fully.

## 정지 (HOLD/STOP)

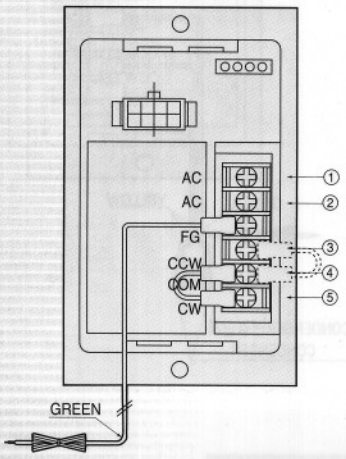
Control Unit의「RUN / STAND - BY」SW를「STAND - BY」쪽으로 하면, Motor는 정지합니다. 이 SW는 전원의 ON/OFF SW가 아니므로 Motor를 장시간 정지할 경우에는 별도로 전원 SW를 차단하여 주십시오.

Switch the toggle button to [STOP] or [STAND-BY] direction to stop the motor temporarily.
Please off the main switch when you need the motor stop for long period.

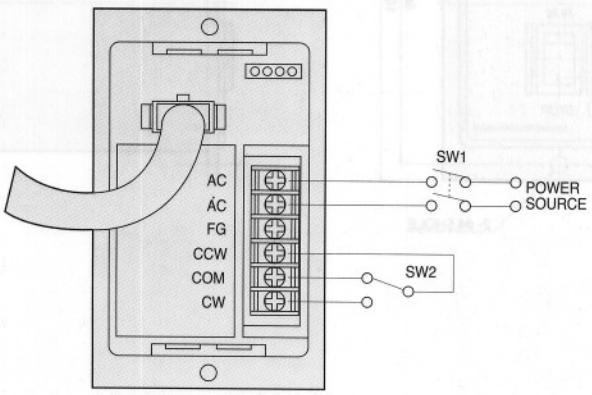
## 변속 (SPEED UP/DOWN)

Control Unit의「볼륨」의 손잡이를 시계방향으로 돌리면, Motor의 Speed가 빨라지고, 반대로 돌리면 느려집니다.
60~1700rpm의 범위에서 Motor의 Speed를 조정, 설정할 수 있습니다.
Motor speed up when you turn the volume knob to [HIGH] clockwise direction, and vise versa.
You may control motor speed between 60 ~ 1700 rpm

▼ 일정방향 회전세팅
▼ Uni-directional Run



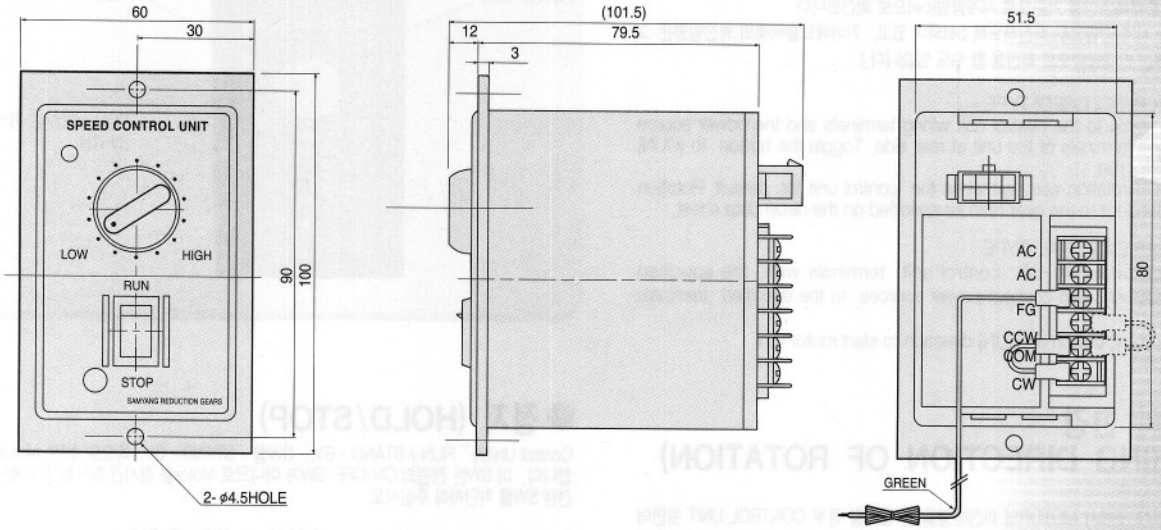

▼ 양방향 회전세팅
▼ Bi-directional Run



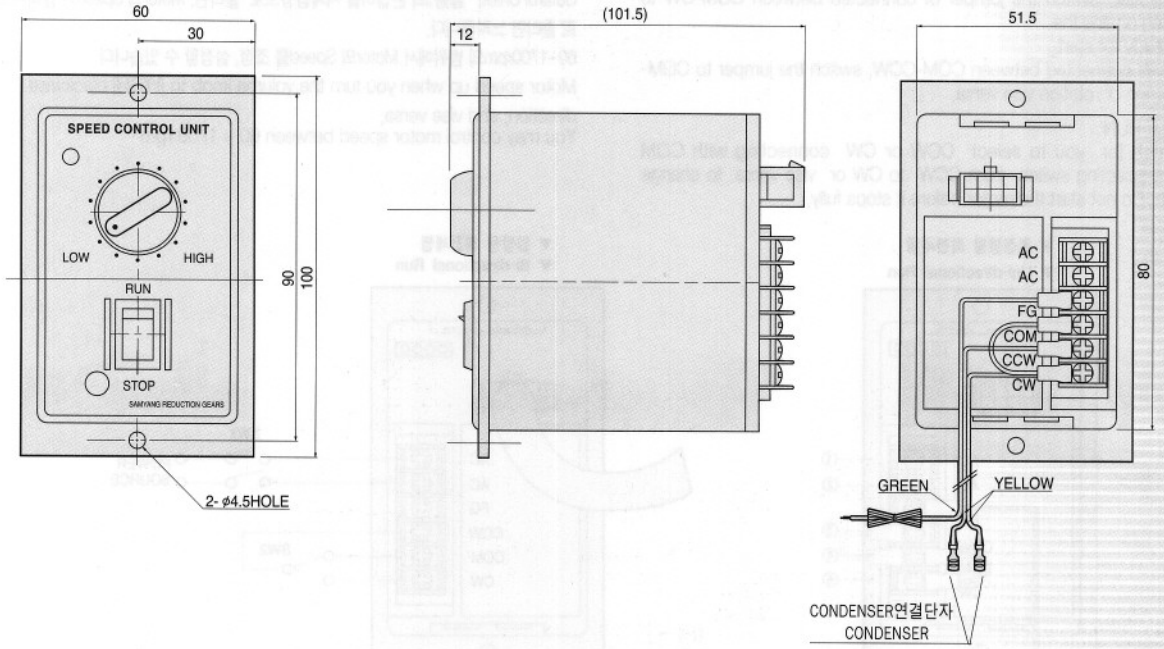
# DIMENSIONS

## SPEED CONTROLLER

• CONDENSER 내장 TYPE의 경우
• FOR [CONDENSER INCLOSED] TYPE

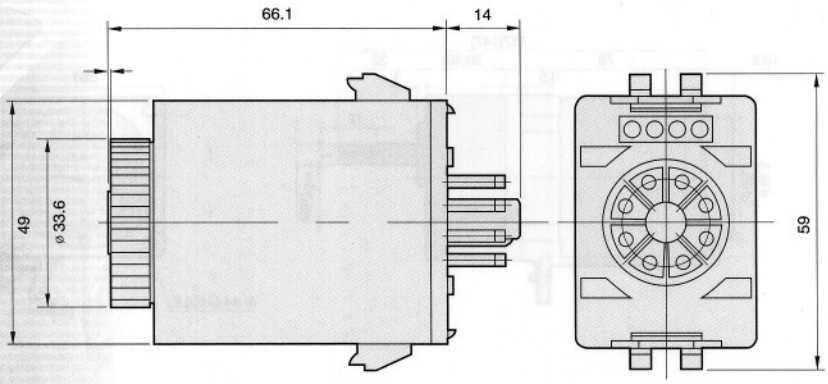


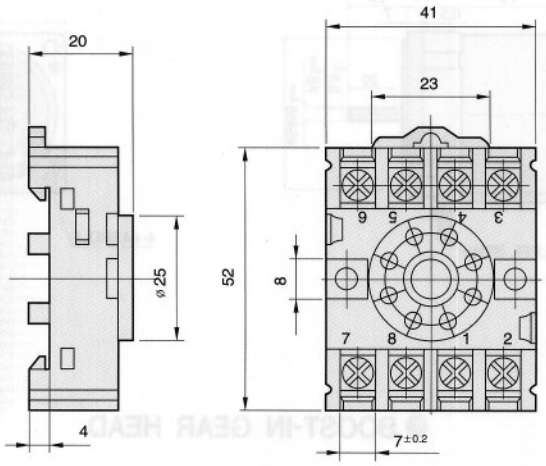

• CONDENSER외장 TYPE의 경우
• FOR [CONDENSER EXTERNAL] TYPE



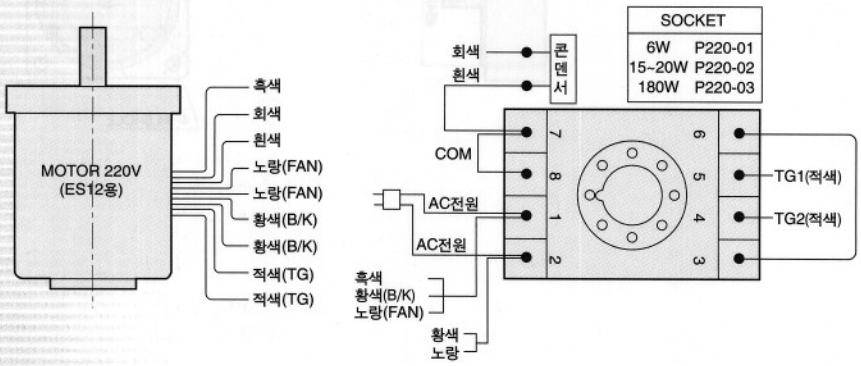
# SOCKET TYPE

## ● 본 체



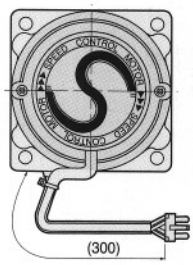

## ● 결선도

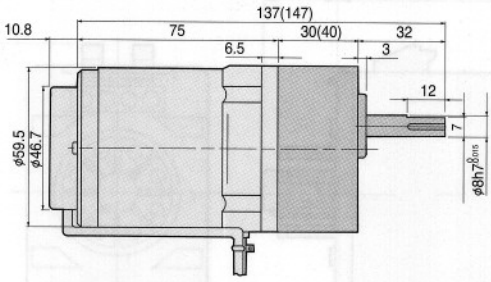


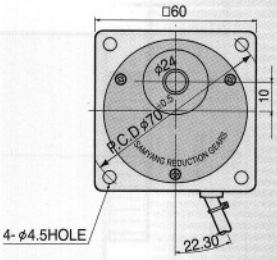
# DIMENSIONS

## MOTOR (□60mm)

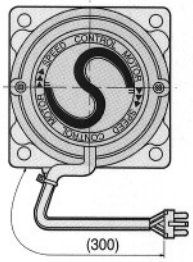
### GEARED MOTOR

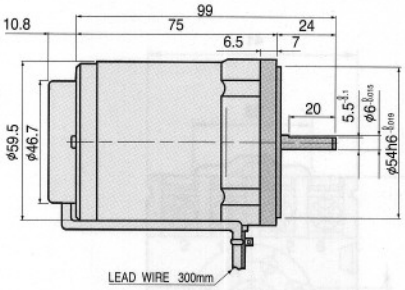


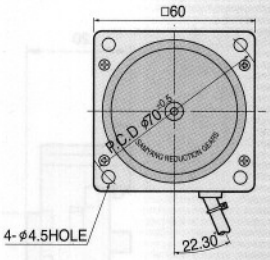




### D-CUT MOTOR



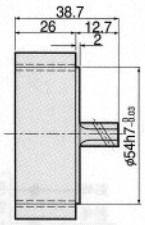



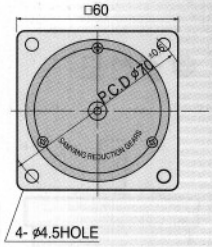




### 적용 MODEL

| |
|---|
| SM6N06GA-V12 |
| SM6N06GB-V12 |
| SM6N06GC-V12 |
| SM6N06GD-V12 |

### BOOST-IN GEAR HEAD

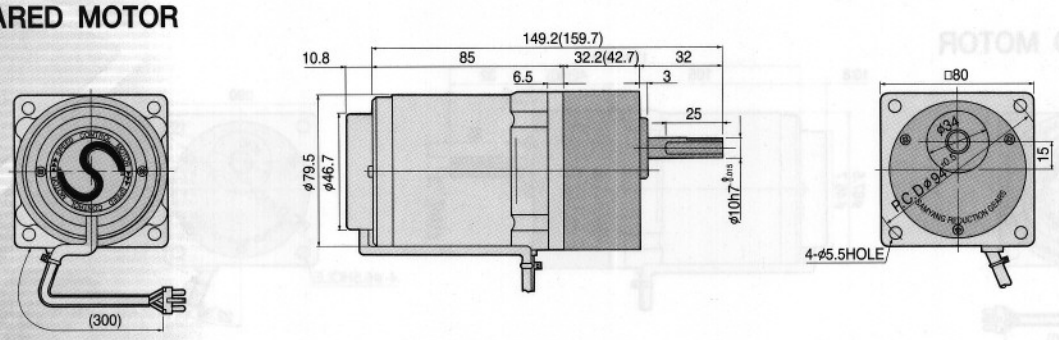


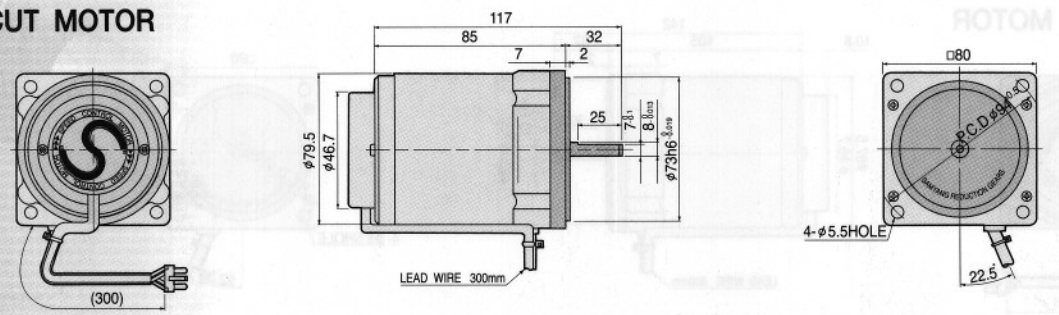
# DIMENSIONS

## MOTOR (□80mm)

### GEARED MOTOR




### D-CUT MOTOR

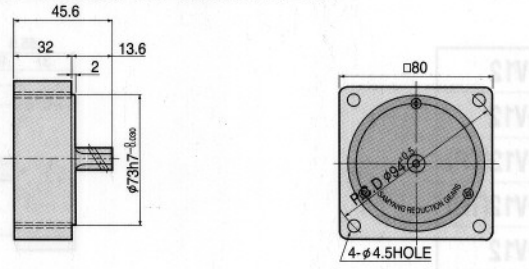



### 적용 MODEL

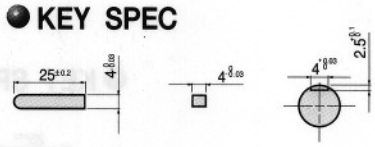
| | |
|---|---|
| SM8N15GA-V12 | SM8N25GA-V12 |
| SM8N15GB-V12 | SM8N25GB-V12 |
| SM8N15GA-V12(TP) | SM8N25GA-V12(TP) |
| SM8N15GB-V12(TP) | SM8N25GB-V12(TP) |
| SM8N15GC-V12 | SM8N25GC-V12 |
| SM8N15GD-V12 | SM8N25GD-V12 |

(TP Optional)

### BOOST-IN GEAR HEAD



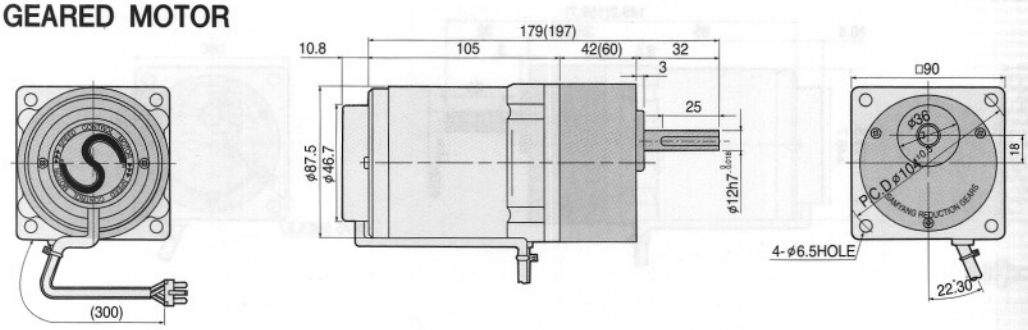

### KEY SPEC



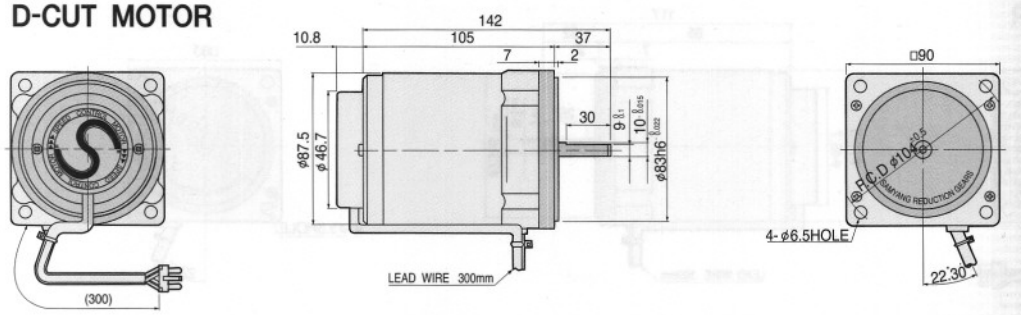
# DIMENSIONS

## MOTOR (□90mm 40Watt general type)

### GEARED MOTOR




### D-CUT MOTOR

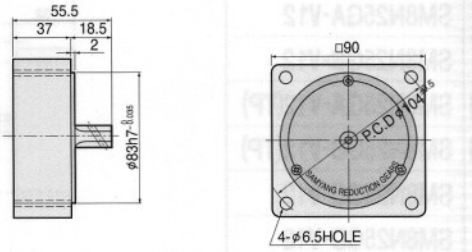



### 적용 MODEL

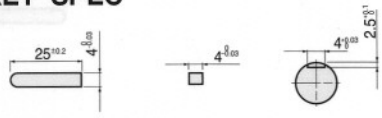
| |
|---|
| SM9N40GA-V12 |
| SM9N40GB-V12 |
| SM9N40GA-V12(TP) |
| SM9N40GB-V12(TP) |
| SM9N40GC-V12 |
| SM9N40GD-V12 |

(TP Optional)

### BOOST-IN GEAR HEAD



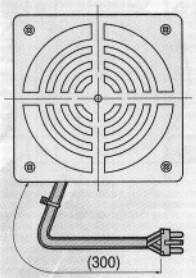

### KEY SPEC

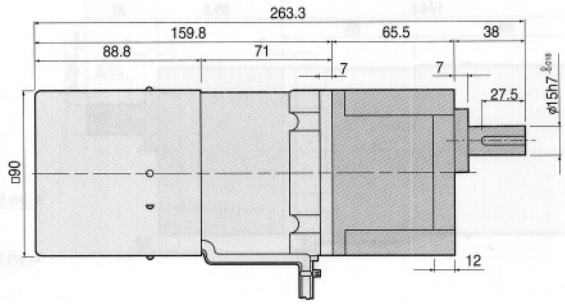


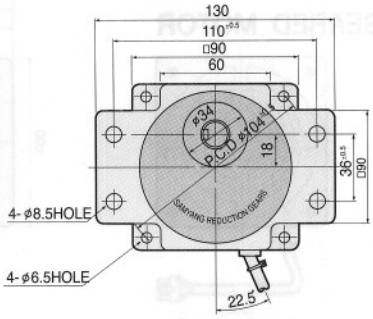
# DIMENSIONS

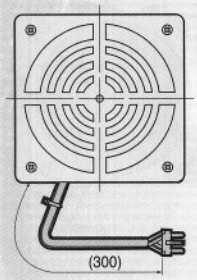
## MOTOR (□90mm 60Watt H, HF)

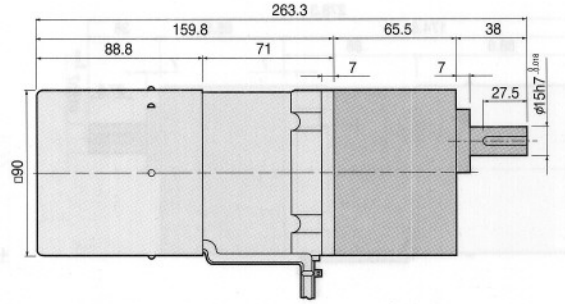
### GEARED MOTOR

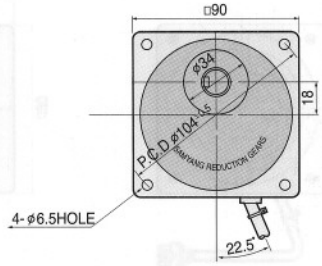


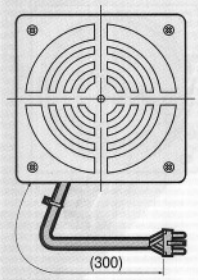



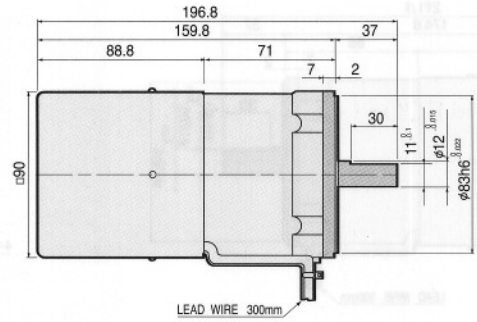



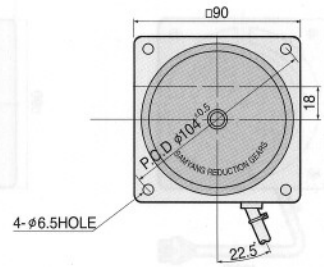




### D-CUT MOTOR



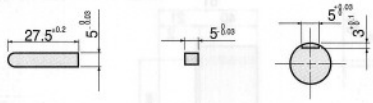




### 적용 MODEL

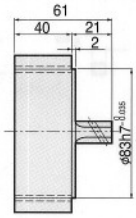
| |
|---|
| SM9N60GA-V12 |
| SM9N60GB-V12 |
| SM9N60GC-V12 |
| SM9N60GD-V12 |

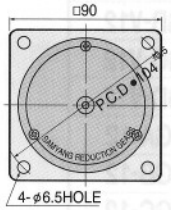
(TP Optional)

### KEY SPEC




### BOOST-IN GEAR HEAD

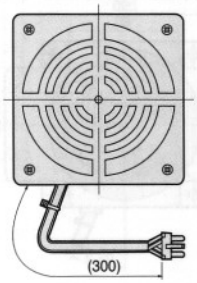


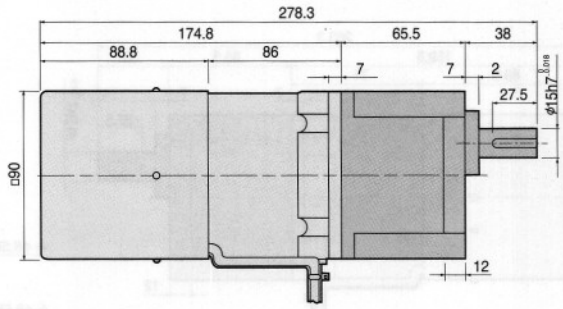



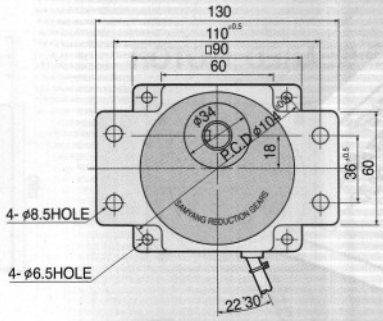
# DIMENSIONS

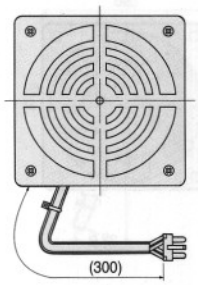
## MOTOR (□90mm 90 · 120Watt H, HF)

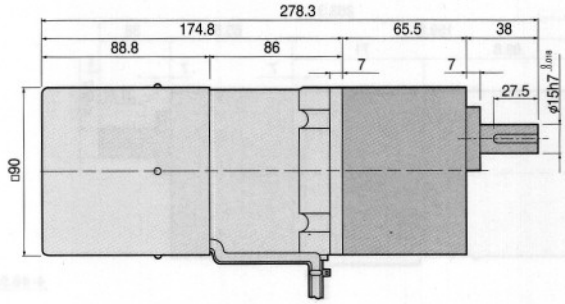
### GEARED MOTOR

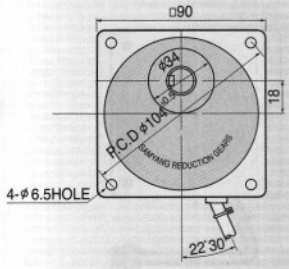


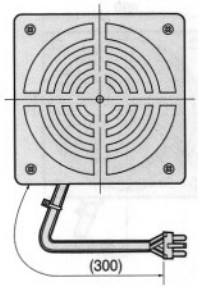



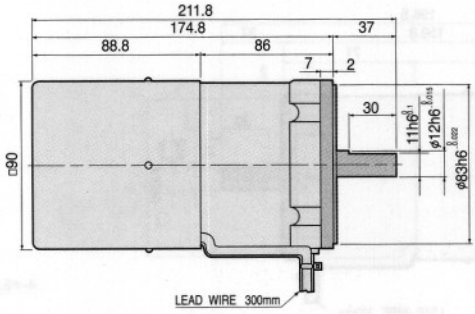



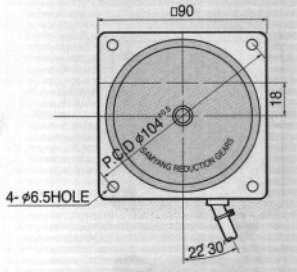




### D-CUT MOTOR



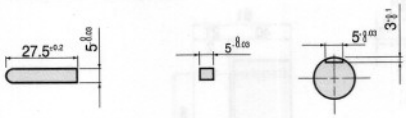




### 적용 MODEL

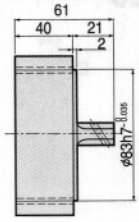
| |
|---|
| SM9N90GA-V12 |
| SM9N90GB-V12 |
| SM9N90GC-V12 |
| SM9N90GD-V12 |
| SM9N120GA-12 |
| SM9N120GB-12 |
| SM9N120GC-12 |
| SM9N120GD-12 |

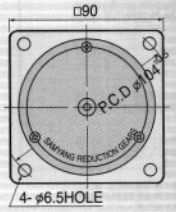
(TP Optional)

### KEY SPEC



### BOOST-IN GEAR HEAD

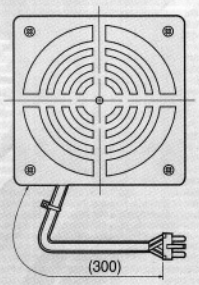


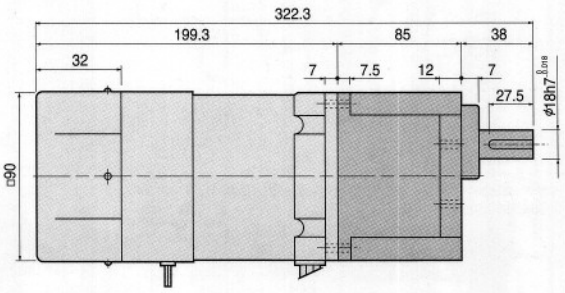



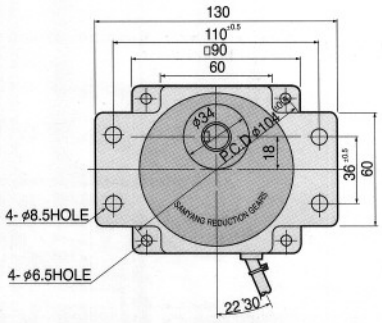
# DIMENSIONS

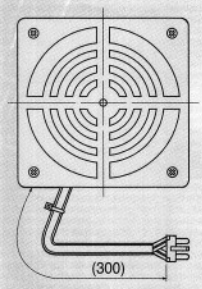
## MOTOR (□90mm 180Watt K, KF)

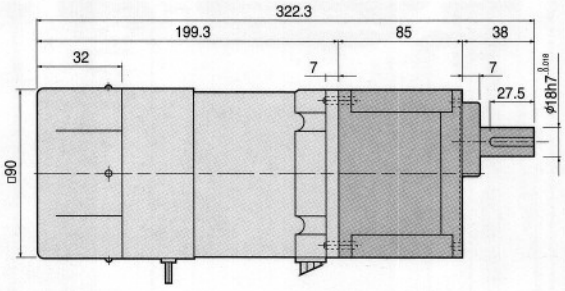
### GEARED MOTOR

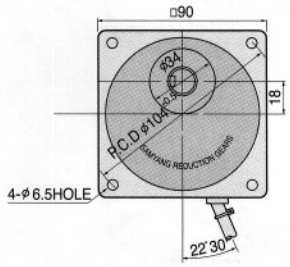


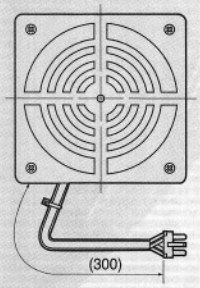



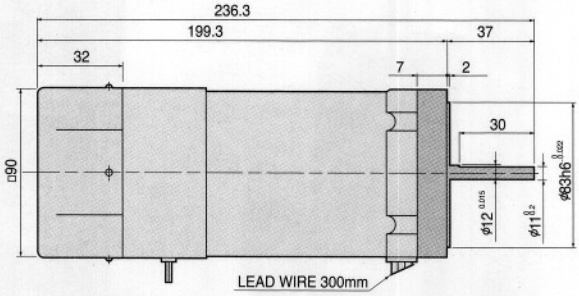



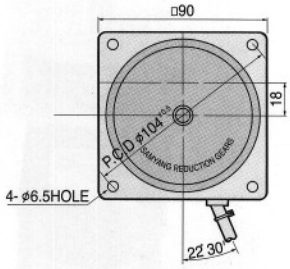




### D-CUT MOTOR



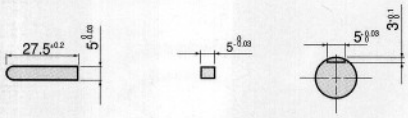




### 적용 MODEL

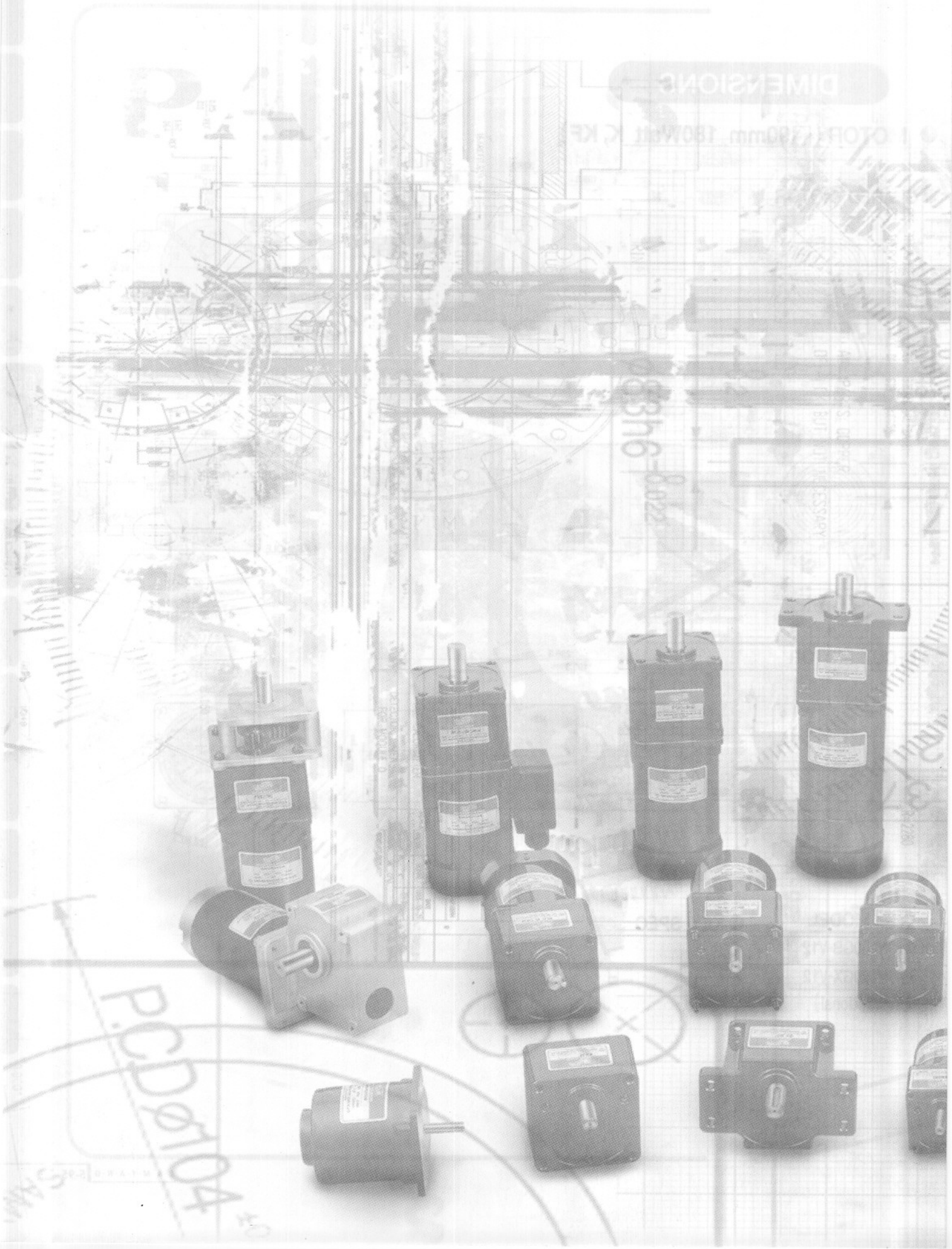
| |
|---|
| SM9N180GB-V12 |
| SM9N180GX-V12 |

(TP Optional)

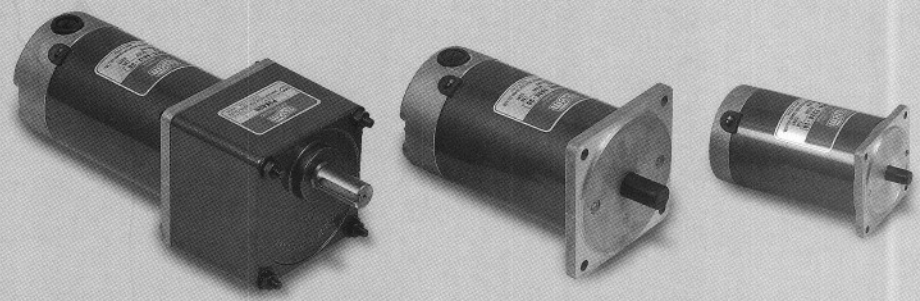
### KEY SPEC




GEARED MOTORS



# DC Geared Motor



## MOTOR CODE

| MAKER | SIZE | TYPE | POWER | VOLT | RPM | SHAFT |
|---|---|---|---|---|---|---|
| SM | 6 | D | 005 | 090 | 30 | G |

**SAMYANG MOTOR**

**6** : □ 60mm
**8** : □ 80mm
**9** : □ 90mm

**DC**

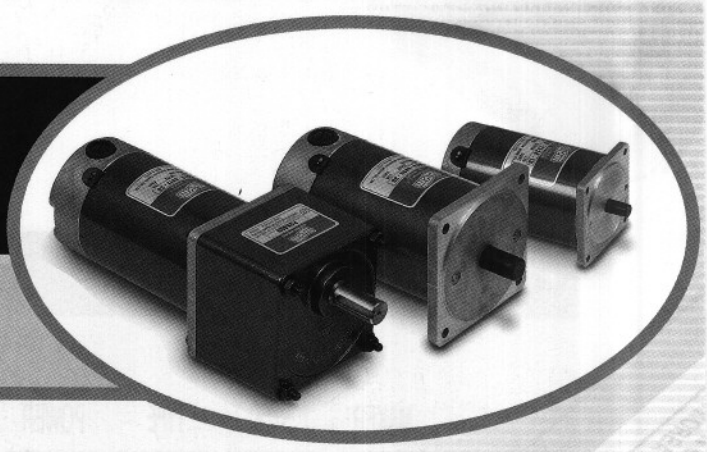
**005** : 5W
**015** : 15W
**025** : 25W
**040** : 40W
**060** : 60W
**090** : 90W
**120** : 120W
**150** : 150W
**180** : 180W
**200** : 200W

**012** : 12 Vdc
**024** : 24 Vdc
**090** : 90 Vdc
**110** : 110 Vdc
**220** : 220 Vdc

**18** : 1800 rpm
**30** : 3000 rpm
**40** : 4000 rpm

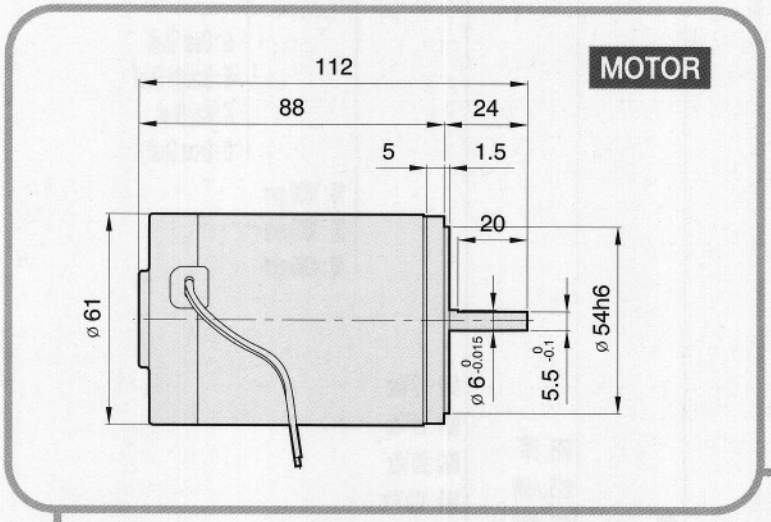
**G** : Gear Shaft
**S** : Straight Shaft
**K** : Key Shaft
**D** : D-cut Shaft

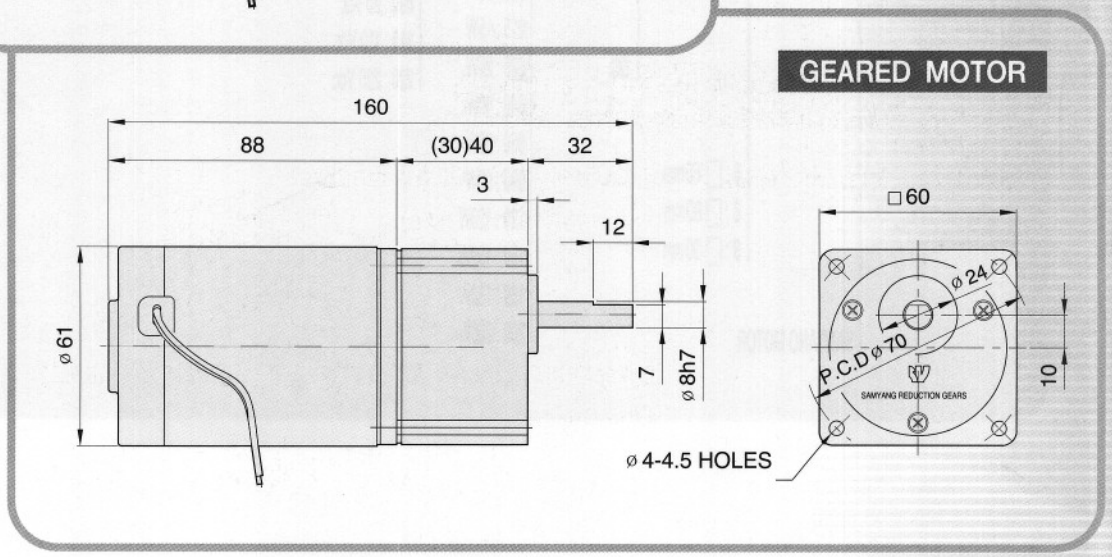
# 5W~15W



**DC GEARED MOTOR**
**□60mm MOTOR**
**LEAD WIRE TYPE**

## OUTLINE DRAWINGS



## 60mm SQUARE

| Power | Voltage | Speed | Current (amo) | Time Rate | CODE |
|---|---|---|---|---|---|
| 5 Watt | 24 Vdc | 1,800 rpm | | cont | SM6D00502418G |
| | | 3,000 rpm | | cont | SM6D00502430G |
| | 90 Vdc | 1,800 rpm | | cont | SM6D00509018G |
| | | 3,000 rpm | | cont | SM6D00509030G |
| 10 Watt | 24 Vdc | 1,800 rpm | | cont | SM6D00502418G |
| | | 3,000 rpm | | cont | SM6D00502430G |
| | 90 Vdc | 1,800 rpm | | cont | SM6D00509018G |
| | | 3,000 rpm | | cont | SM6D00509030G |
| 15 Watt | 24 Vdc | 1,800 rpm | | cont | SM6D00502418G |
| | | 3,000 rpm | 1.0 | cont | SM6D00502430G |
| | 90 Vdc | 1,800 rpm | | cont | SM6D00509018G |
| | | 3,000 rpm | | cont | SM6D00509030G |
| 25 Watt | 24 Vdc | 1,800 rpm | | cont | SM6D00502418G |
| | | 3,000 rpm | | cont | SM6D00502430G |
| | 90 Vdc | 1,800 rpm | | cont | SM6D00509018G |
| | | 3,000 rpm | | cont | SM6D00509030G |

REMARKS 1. 상기 모델은 예시이며, 주문자의 요구에 따라서 세부 사양이 달라질 수 있습니다.
Detail specifications may be dependent on order.

## GEARED MOTOR (기어 헤드 조립시)

### 1. OUTPUT SPEED (rpm) : Nout

Nout = Nm / R (rpm)
Where = Nm : MOTOR SPEED (rpm)
R : GEAR RATIO (감속기)

### 2. OUTPUT TORQUE (kg-m) : Tout

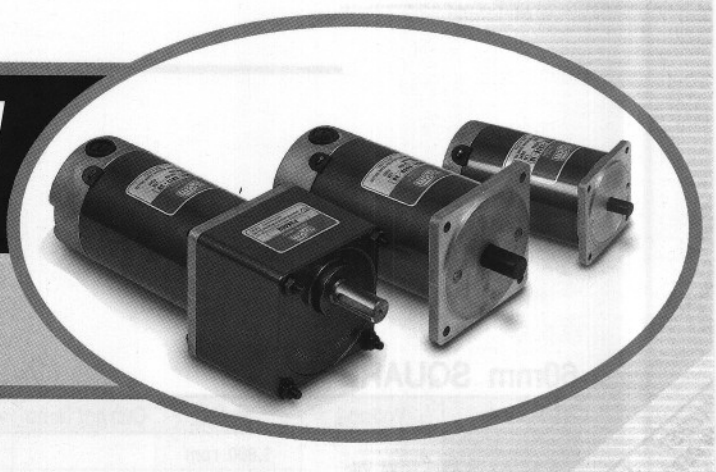
Tout = 0.974 × Watt × $\eta$ / Nout
Where = $\eta$: Efficicency (감속기 전동 효율)
$\eta$ = 0.90 (R= 1/3 ~1/18)
$\eta$ = 0.81 (R= 1/20 ~ 1/40)
$\eta$ = 0.73 (R= 1/41 ~1/200)

### 3. MAXIMUM ALLOWABLE TORQUE (허용 최대 부하 토오크)

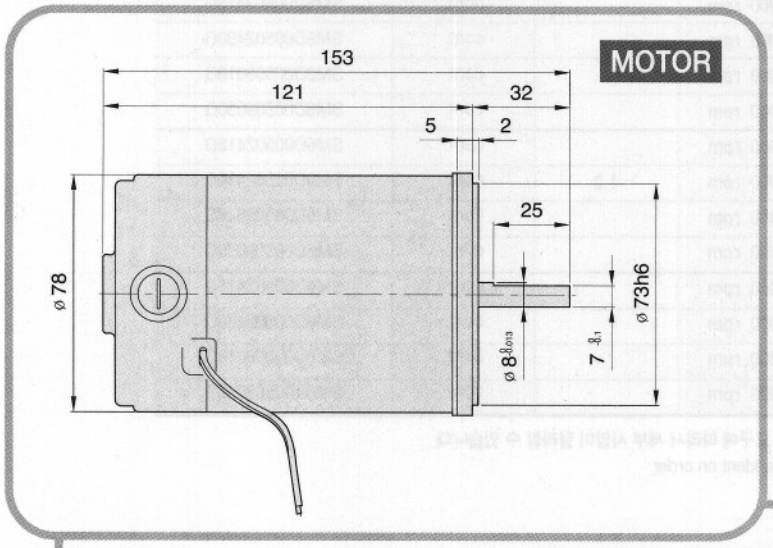
Tallow = 30 kg-cm

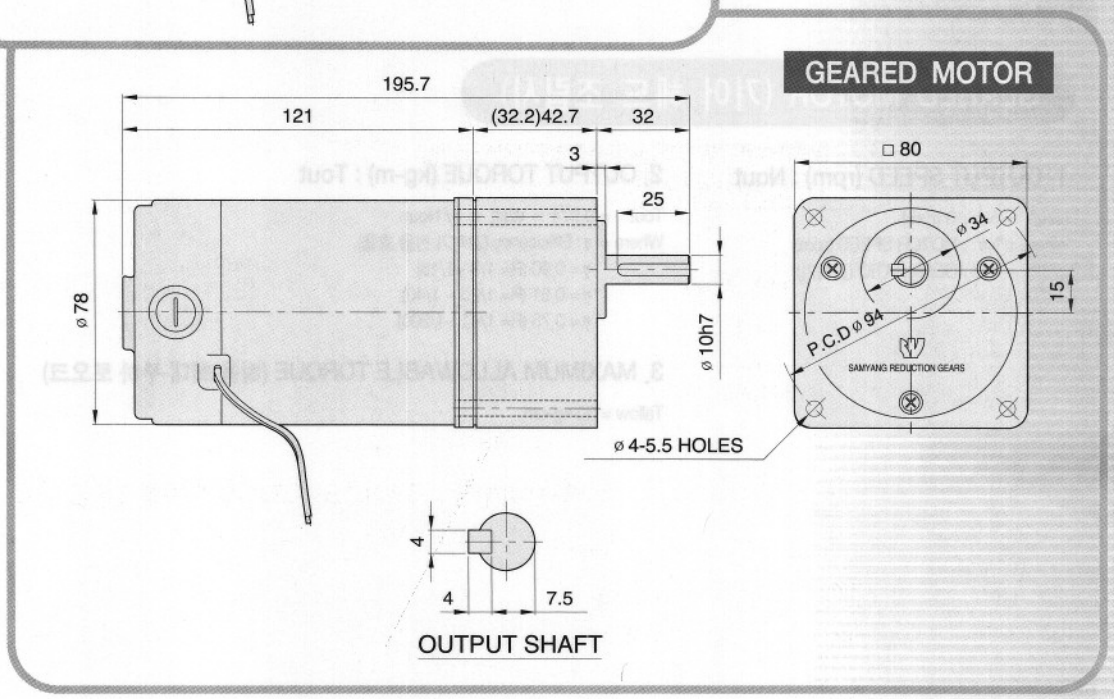
# 20W~30W

**DC GEARED MOTOR**
**□80mm MOTOR**
**LEAD WIRE TYPE**



## OUTLINE DRAWINGS



## 80mm SQUARE

| Power | Voltage | Speed | Current (amo) | Time Rate | CODE |
|---|---|---|---|---|---|
| 20 Watt | 24 Vdc | 1,800 rpm | | cont | SM8D02002418G |
| | | 3,000 rpm | | cont | SM8D02002430G |
| | 90 Vdc | 1,800 rpm | | cont | SM8D02009018G |
| | | 3,000 rpm | | cont | SM8D02009030G |
| 25 Watt | 24 Vdc | 1,800 rpm | | cont | SM8D02502418G |
| | | 3,000 rpm | 1.5 | cont | SM8D02502430G |
| | 90 Vdc | 1,800 rpm | | cont | SM8D02509018G |
| | | 3,000 rpm | 0.4 | cont | SM8D02509030G |
| 30 Watt | 24 Vdc | 1,800 rpm | | cont | SM6D03002418G |
| | | 3,000 rpm | | cont | SM6D03002430G |
| | 90 Vdc | 1,800 rpm | | cont | SM6D03009018G |
| | | 3,000 rpm | | cont | SM6D03009030G |
| 40 Watt | 24 Vdc | 1,800 rpm | | cont | SM6D04002418G |
| | | 3,000 rpm | 2.5 | cont | SM6D04002430G |
| | 90 Vdc | 1,800 rpm | | cont | SM6D04009018G |
| | | 3,000 rpm | 0.6 | cont | SM6D04009030G |

REMARKS 1. 상기 모델은 예시이며, 주문자의 요구에 따라서 세부 사양이 달라질 수 있습니다.
Detail specifications may be dependent on order.

## GEARED MOTOR (기어 헤드 조립시)

### 1. OUTPUT SPEED (rpm) : Nout

Nout = Nm / R (rpm)
Where = Nm : MOTOR SPEED (rpm)
R : GEAR RATIO (감속기)

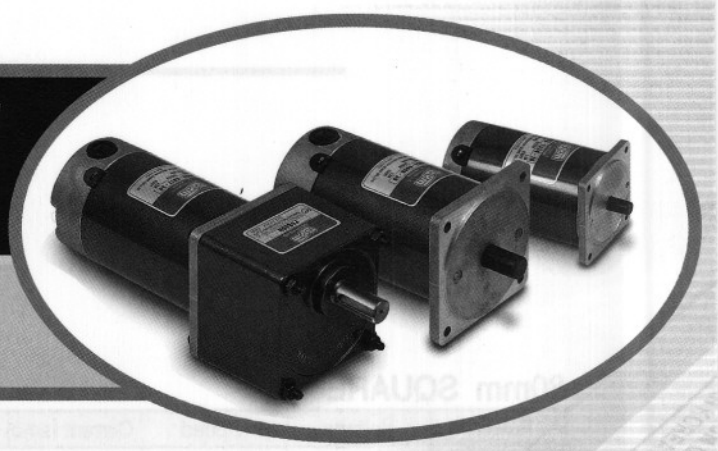
### 2. OUTPUT TORQUE (kg-m) : Tout

Tout = 0.974 × Watt × $\eta$ / Nout
Where = $\eta$: Efficicency (감속기 전동 효율)
$\eta$ = 0.90 (R= 1/3 ~1/18)
$\eta$ = 0.81 (R= 1/20 ~ 1/40)
$\eta$ = 0.73 (R= 1/41 ~1/200)

### 3. MAXIMUM ALLOWABLE TORQUE (허용 최대 부하 토오크)

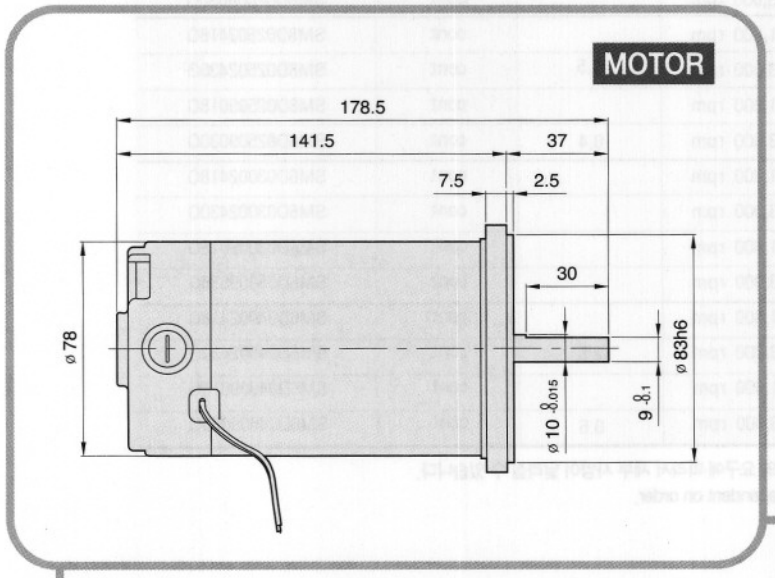
Tallow = 80 kg-cm

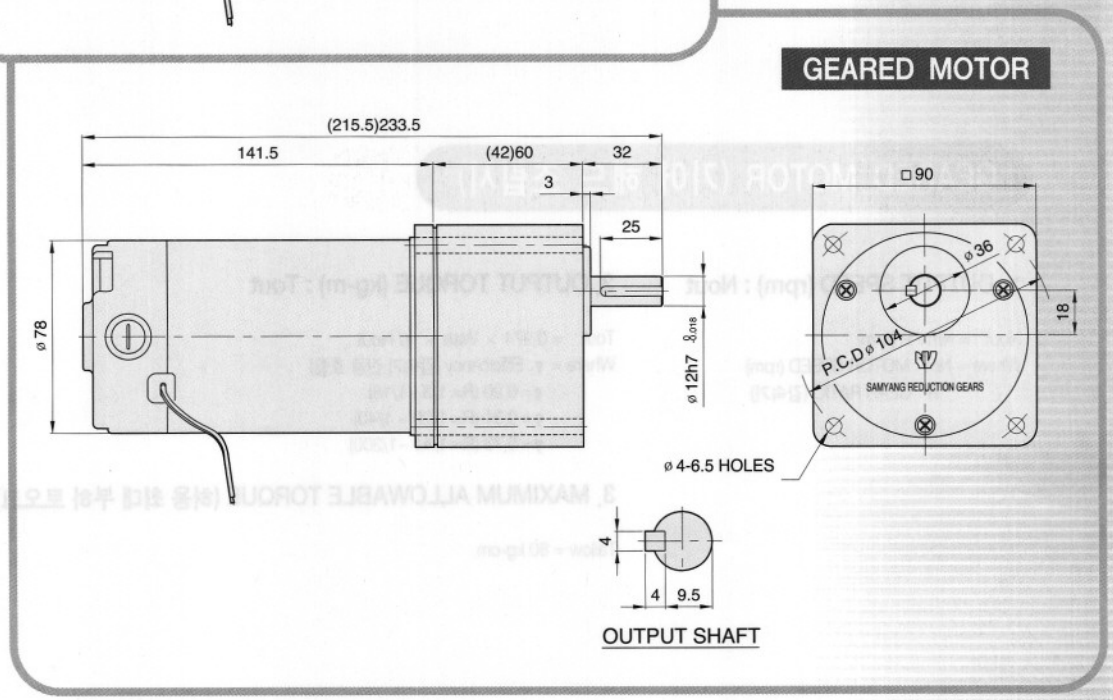
# 40W~50W



## DC GEARED MOTOR
## □90mm MOTOR
## LEAD WIRE TYPE

### OUTLINE DRAWINGS



## 90mm SQUARE-N

| Power | Voltage | Speed | Current (amo) | Time Rate | CODE |
|---|---|---|---|---|---|
| 40 Watt | 24 Vdc | 1,800 rpm | | cont | SM9D04002418G |
| | | 3,000 rpm | 2.5 | cont | SM9D04002430G |
| | 90 Vdc | 1,800 rpm | | cont | SM9D04009018G |
| | | 3,000 rpm | 0.6 | cont | SM9D04009030G |
| 50 Watt | 24 Vdc | 1,800 rpm | | cont | SM9D05002418G |
| | | 3,000 rpm | | cont | SM9D05002430G |
| | 90 Vdc | 1,800 rpm | | cont | SM9D05009018G |
| | | 3,000 rpm | | cont | SM9D05009030G |
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REMARKS 1. 상기 모델은 예시이며, 주문자의 요구에 따라서 세부 사양이 달라질 수 있습니다.
Detail specifications may be dependent on order.

## GEARED MOTOR (기어 헤드 조립시) : 90N

### 1. OUTPUT SPEED (rpm) : Nout

Nout = Nm / R (rpm)
Where = Nm : MOTOR SPEED (rpm)
R : GEAR RATIO (감속기)

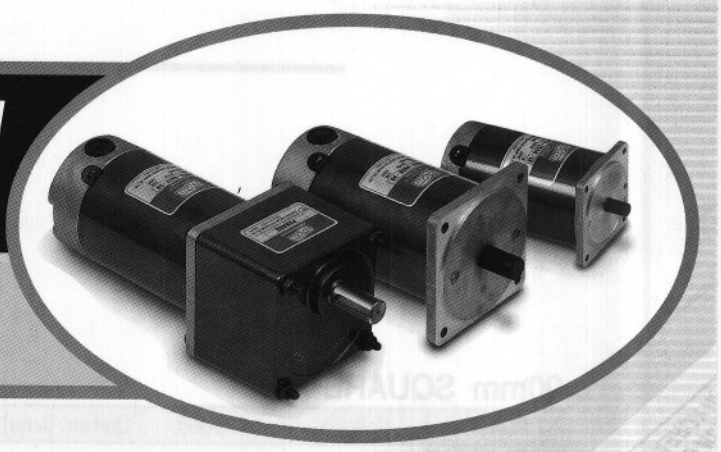
### 2. OUTPUT TORQUE (kg-m) : Tout

Tout = 0.974 × Watt × $\eta$ / Nout
Where = $\eta$ : Efficicency (감기 전동 효율)
$\eta$ = 0.90 (R= 1/3 ~1/18)
$\eta$ = 0.81 (R= 1/20 ~ 1/40)
$\eta$ = 0.73 (R= 1/41 ~1/200)

### 3. MAXIMUM ALLOWABLE TORQUE (허용 최대 부하 토오크)

Tallow = 100 kg-cm

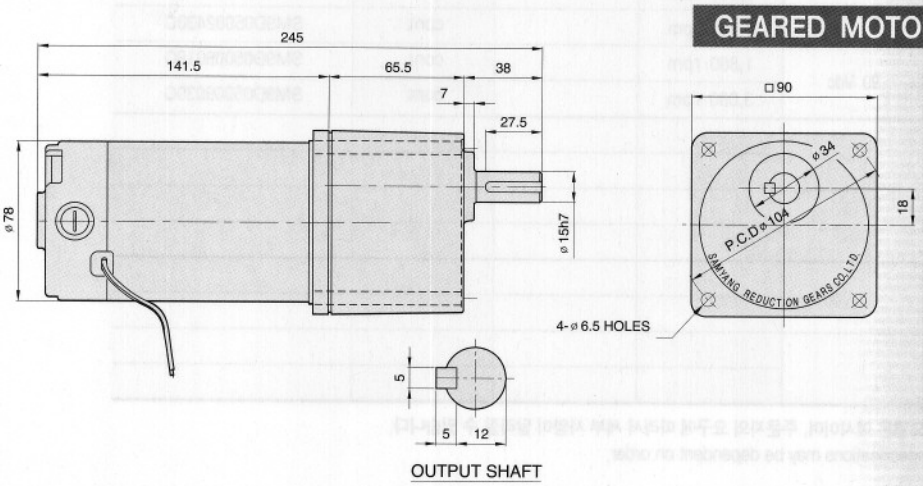
# 60W~120W

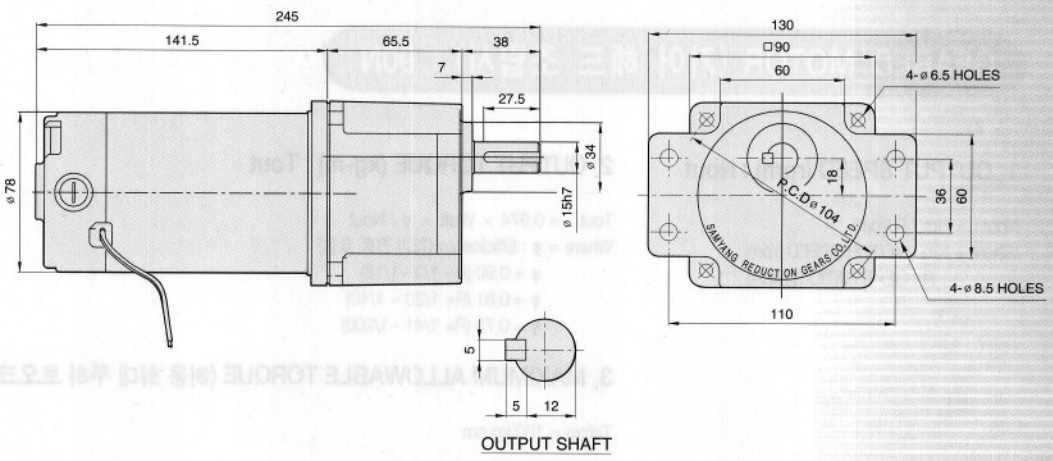


## DC GEARED MOTOR
## □90mm MOTOR H/HF
## LEAD WIRE TYPE

### OUTLINE DRAWINGS

GEARED MOTOR



## 90mm SQUARE-H, HF

| Power | Voltage | Speed | Current (amo) | Time Rate | CODE |
|---|---|---|---|---|---|
| 60 Watt | 24 Vdc | 1,800 rpm | | cont | SM9D06002418G |
| | | 3,000 rpm | 3.7 | cont | SM9D06002430G |
| | 90 Vdc | 1,800 rpm | | cont | SM9D06009018G |
| | | 3,000 rpm | 1.0 | cont | SM9D06009030G |
| 90 Watt | 24 Vdc | 1,800 rpm | | cont | SM9D09002418G |
| | | 3,000 rpm | | cont | SM9D09002430G |
| | 90 Vdc | 1,800 rpm | | cont | SM9D09009018G |
| | | 3,000 rpm | 1.4 | cont | SM9D09009030G |
| 120 Watt | 24 Vdc | 1,800 rpm | | cont | SM9D12002418G |
| | | 3,000 rpm | | cont | SM9D12002430G |
| | 90 Vdc | 1,800 rpm | | cont | SM9D12009018G |
| | | 3,000 rpm | | cont | SM9D12009030G |
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REMARKS 1. 상기 모델은 예시이며, 주문자의 요구에 따라서 세부 사양이 달라질 수 있습니다.
Detail specifications may be dependent on order.

## GEARED MOTOR (기어 헤드 조립시) : 90H, 90HF

### 1. OUTPUT SPEED (rpm) : Nout

Nout = Nm / R (rpm)
Where = Nm : MOTOR SPEED (rpm)
R : GEAR RATIO (감속기)

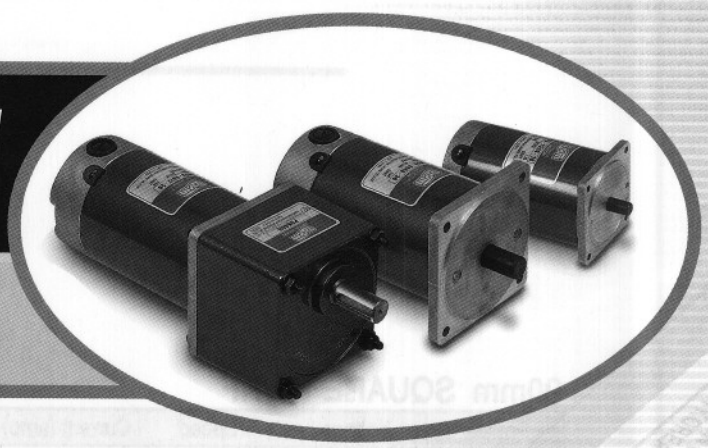
### 2. OUTPUT TORQUE (kg-m) : Tout

Tout = 0.974 × Watt × $\eta$ / Nout
Where = $\eta$ : Efficicency (감속기 전동 효율)
$\eta$ = 0.90 (R= 1/3 ~1/18)
$\eta$ = 0.81 (R= 1/20 ~ 1/40)
$\eta$ = 0.73 (R= 1/41 ~1/200)

### 3. MAXIMUM ALLOWABLE TORQUE (허용 최대 부하 토오크)

Tallow = 200 kg-cm

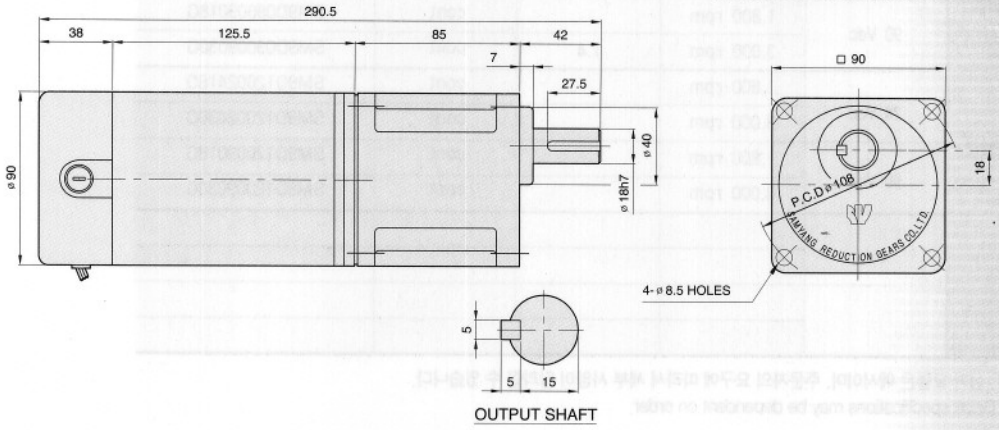
# 150W~200W

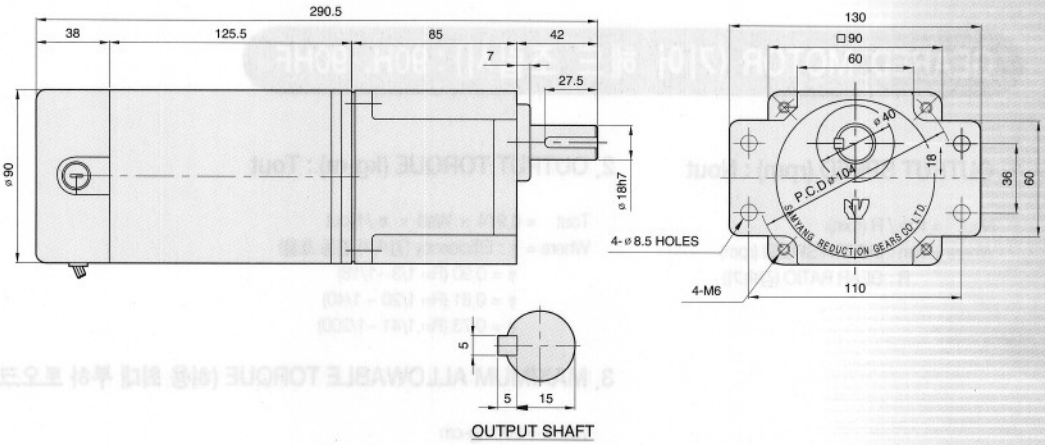


## DC GEARED MOTOR
## □90mm MOTOR K/KF
## LEAD WIRE TYPE

### OUTLINE DRAWINGS

GEARED MOTOR



## 90mm SQUARE-K, KF

| Power | Voltage | Speed | Current (amo) | Time Rate | CODE |
|---|---|---|---|---|---|
| 150 Watt | 24 Vdc | 1,800 rpm | | cont | SM9D15002418G |
| | | 3,000 rpm | | cont | SM9D15002430G |
| | 90 Vdc | 1,800 rpm | | cont | SM9D15009018G |
| | | 3,000 rpm | | cont | SM9D15009030G |
| 180 Watt | 24 Vdc | 1,800 rpm | | cont | SM9D18002418G |
| | | 3,000 rpm | | cont | SM9D18002430G |
| | 90 Vdc | 1,800 rpm | | cont | SM9D18009018G |
| | | 3,000 rpm | | cont | SM9D18009030G |
| 200 Watt | 24 Vdc | 1,800 rpm | | cont | SM9D20002418G |
| | | 3,000 rpm | | cont | SM9D20002430G |
| | 90 Vdc | 1,800 rpm | | cont | SM9D20009018G |
| | | 3,000 rpm | | cont | SM9D20009030G |
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REMARKS 1. 상기 모델은 예시이며, 주문자의 요구에 따라서 세부 사양이 달라질 수 있습니다.
Detail specifications may be dependent on order.

## GEARED MOTOR (기어 헤드 조립시) : 90H, 90HF

### 1. OUTPUT SPEED (rpm) : Nout

Nout = Nm / R (rpm)
Where = Nm : MOTOR SPEED (rpm)
R : GEAR RATIO (감속기)

### 2. OUTPUT TORQUE (kg-m) : Tout

Tout = 0.974 × Watt × $\eta$ / Nout
Where = $\eta$: Efficicency (감속기 전동 효율)
$\eta$ = 0.90 (R= 1/3 ~1/18)
$\eta$ = 0.81 (R= 1/20 ~ 1/40)
$\eta$ = 0.73 (R= 1/41 ~1/200)

### 3. MAXIMUM ALLOWABLE TORQUE (허용 최대 부하 토오크)

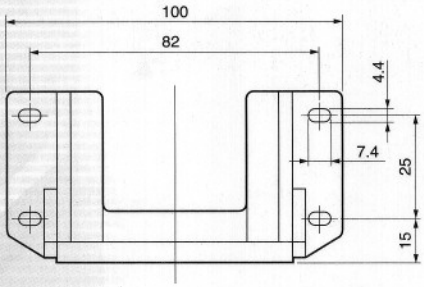
Tallow = 300 kg-cm

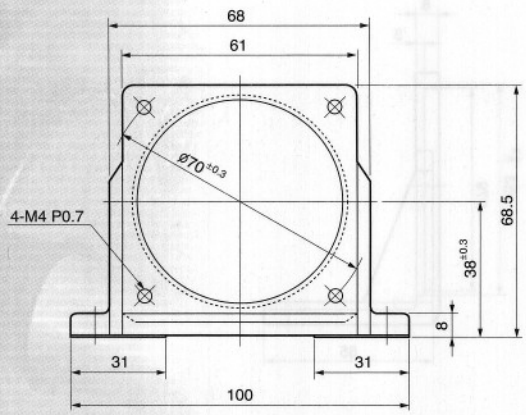
# GEAR HEAD 및 MOTOR부착 Bracket

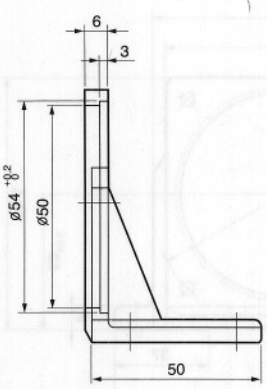
## BRACKET CODE

| MAKER | | TYPE |
|---|---|---|
| SB-BCKT | — | 00601 |
| SAMYANG BRACKET | | 00601 : 60각<br>00801 : 80각<br>00901 : 90각 일반 Type<br>00902 : 90각 King Type |

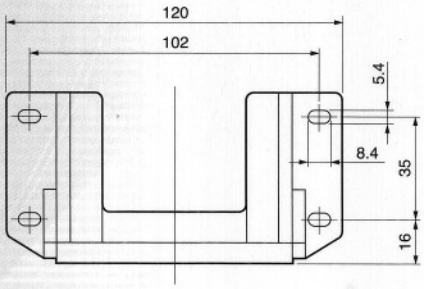
## 60mm용

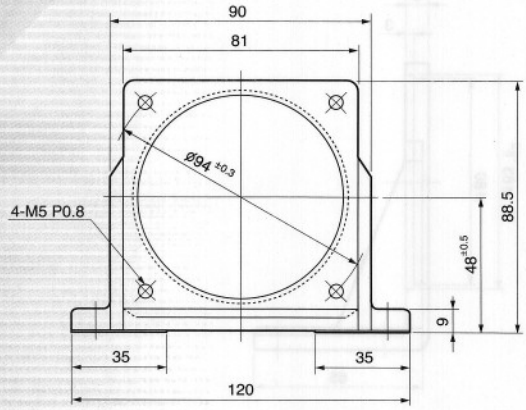


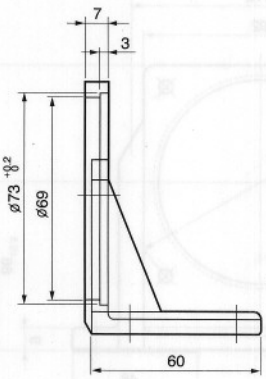




## 80mm용

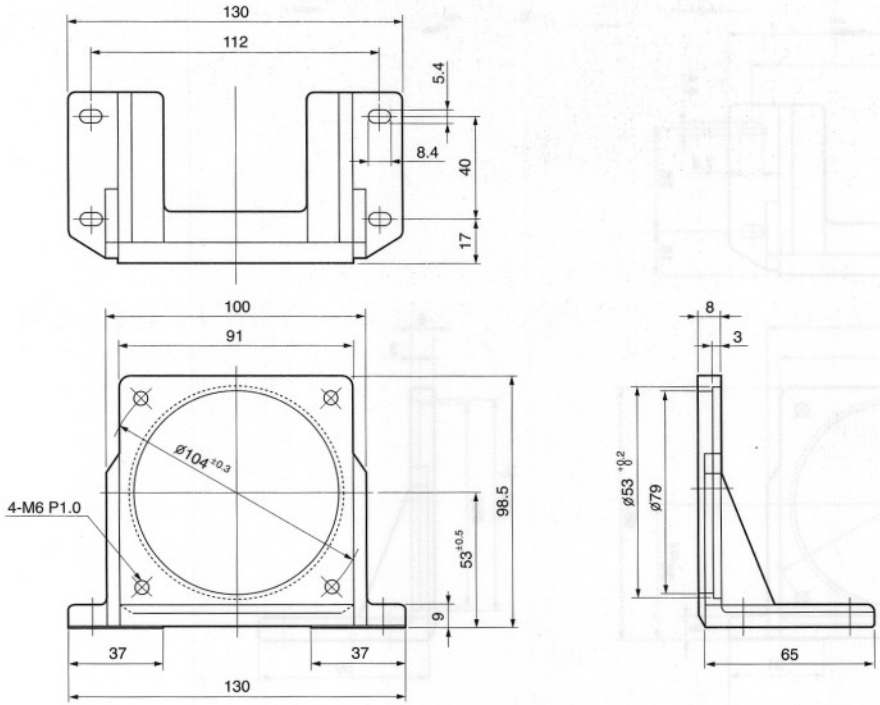


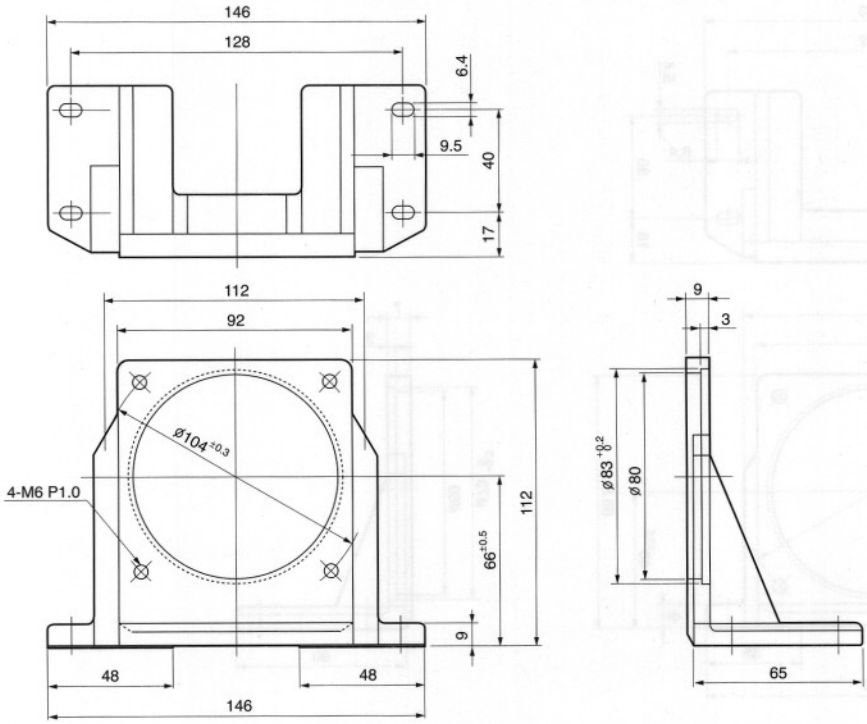




GEARED MOTORS

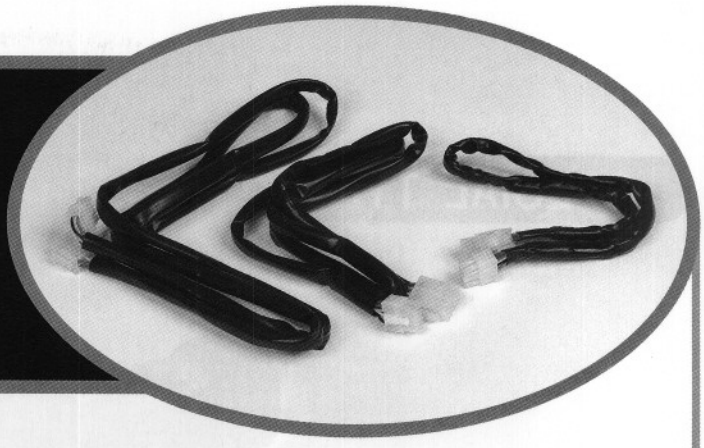
## 90mm용 "N", "H" TYPE




## 90mm용 "K" TYPE

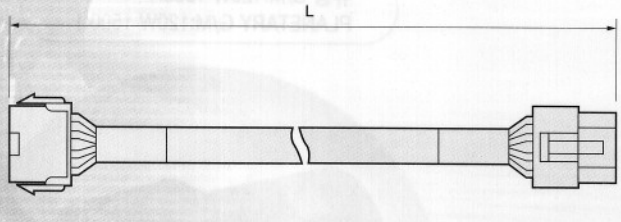


# 연장선



▶ SPEED COMTROL MOTOR UNIT CONTROLLER간에 사용되는 연장선 입니다.
▶ UNIT CONTROLLER는 0.5m연장선은 기본이며 연장사용시 3m이하로 사용하며 아래와 같이 별매품 입니다.

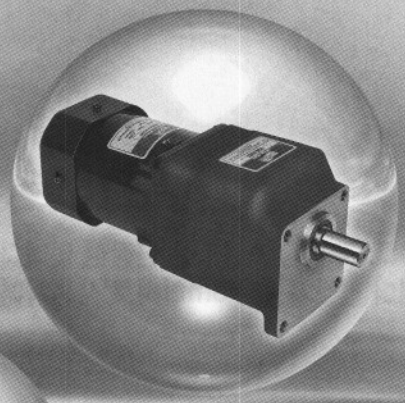
## DIMENSION




### MODEL

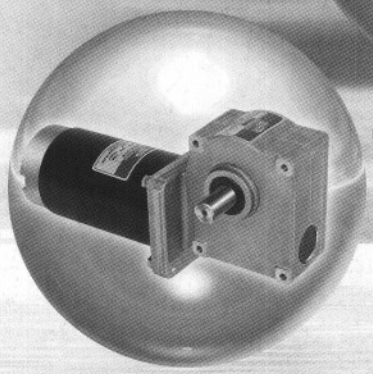
| MODEL | L (연장선 길이) |
|---|---|
| 10SE-0005 | 0.5m |
| 10SE-0010 | 1.0m |
| 10SE-0015 | 1.5m |
| 10SE-0020 | 2m |
| 10SE-0030 | 3m |

## SPECIAL TYPE

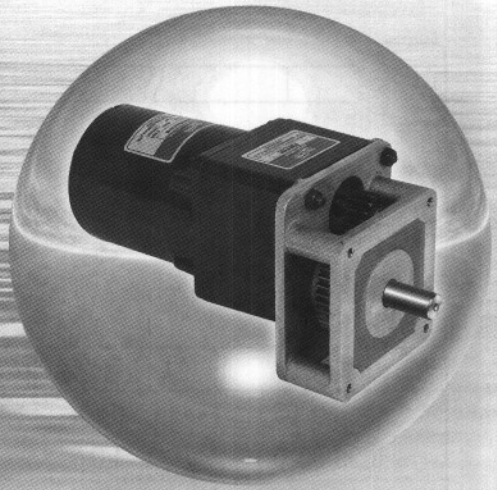


유성 G/M:60W 1500:1
PLANETARY G/M:60W 1500:1

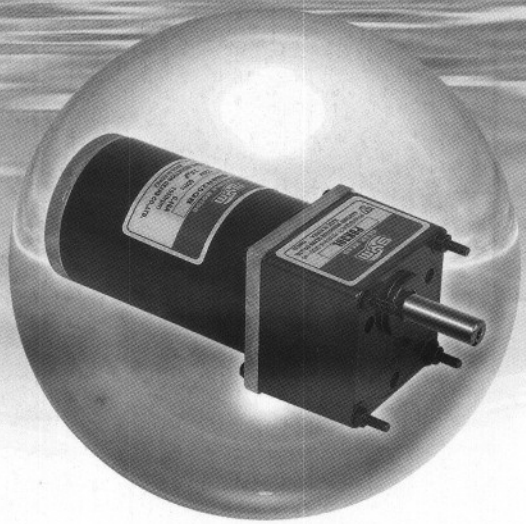
유성 G/M:120W 1500:1
PLANETARY G/M:120W 1500:1



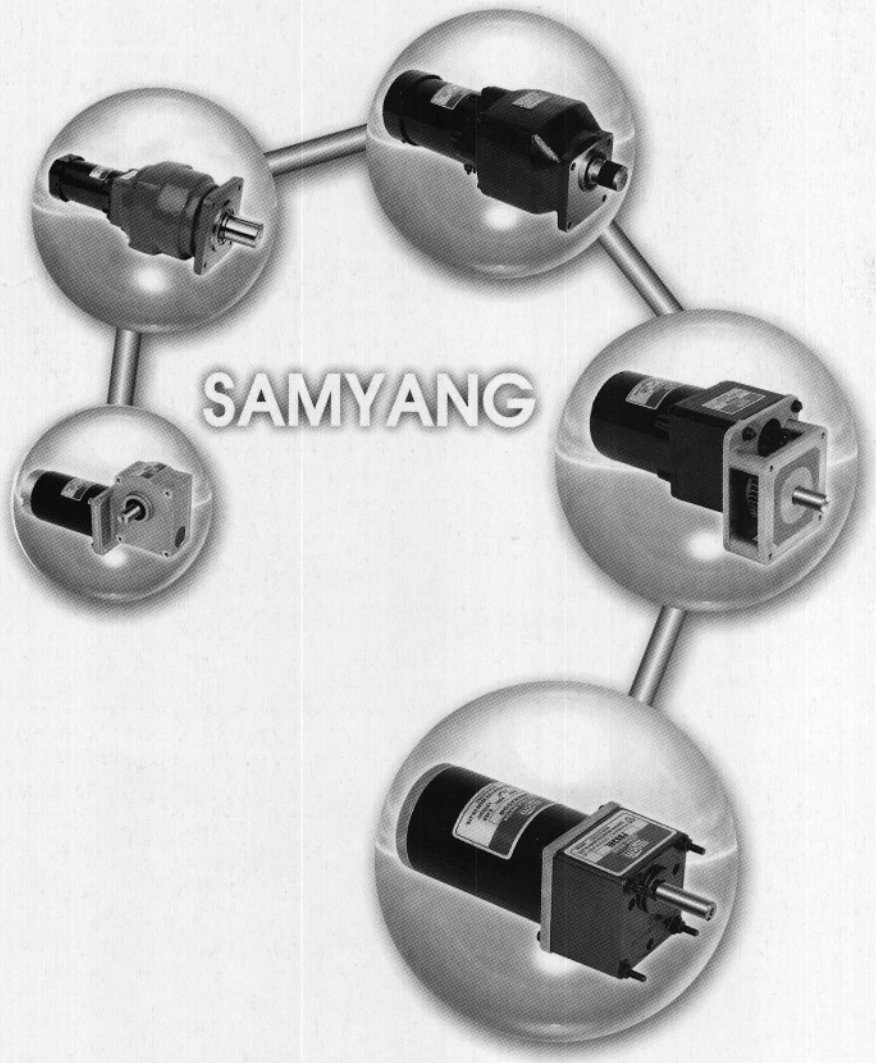
WORM GEARED MOTOR

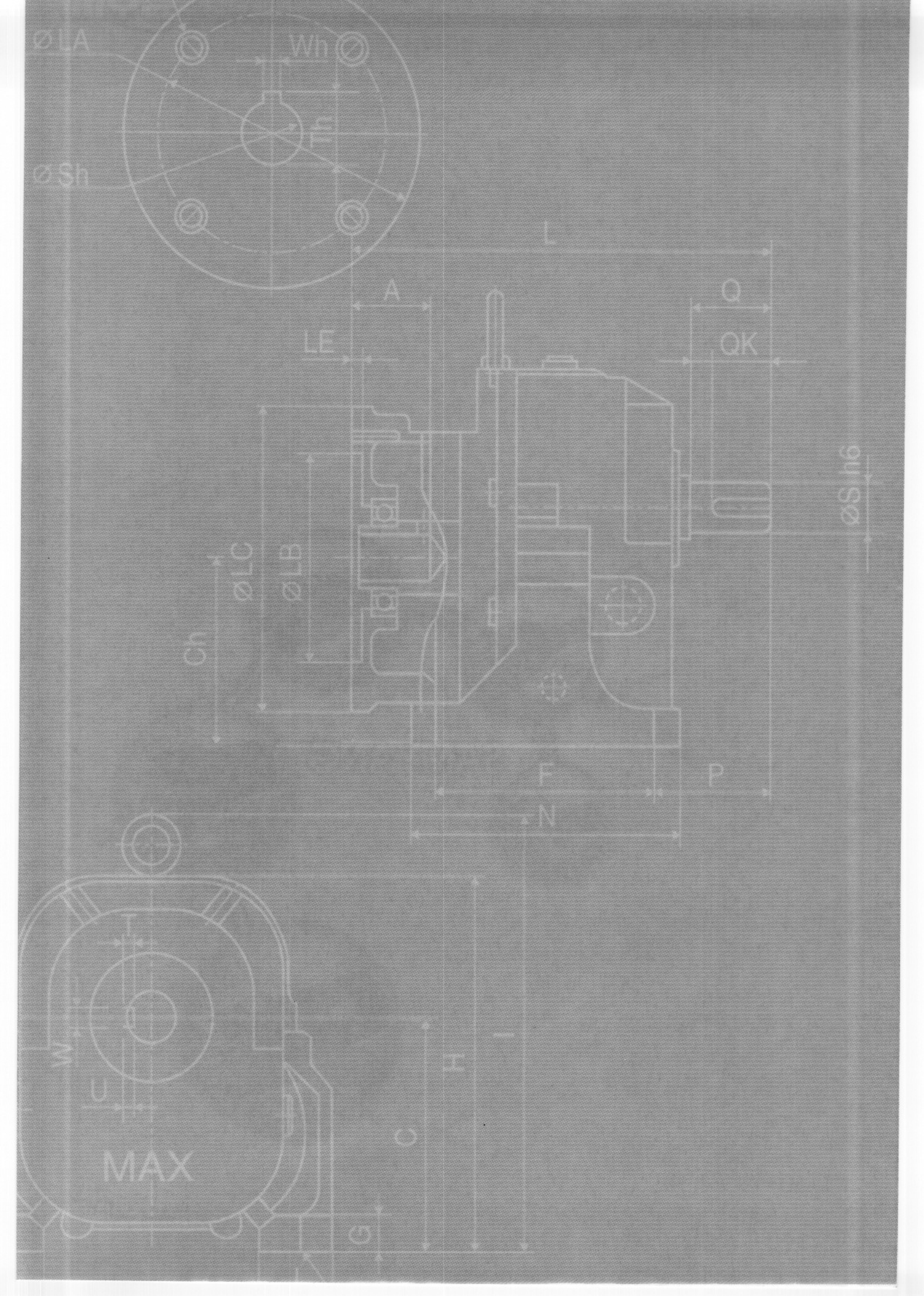


특수형케이스부착형
Special case extension type



DC G/M


SAMYANG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