MOTOVARIO®

HEART OF MOTION

H Helical geared motors and helical gear units

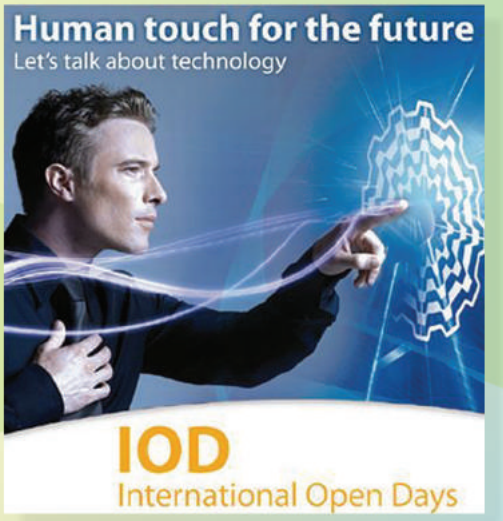
S Shaft mounted geared motor and gear units

B Helical bevel geared motors and gear units

PBH Parallel Helical and bevel helical gearboxes

MOTOVARIO®

HEART OF MOTION



MAC
MOTOVARIO ASSEMBLY CENTRE

아시아 유일의 SMARTBOX™ 조립센터

MOTOVARIO®
HEART OF MOTION

MOTOVARIO®

HEART OF MOTION

공식인증 에이전시

(Since 1983~)

Since 1983

고객과 함께 협력하고, 고객과 함께 성장하고, 고객과 함께 기쁨을 나누는 기업이 되겠습니다.

(주)국제산업기계는 1983년 창업 이래 동력전달장치산업분야에서 고객의 다양한 요구에 부응하고 양질의 제품들을 보다 안정적으로 공급하기 위해 해외 우수한 기업들과 대리점계약을 체결하여 공급해 왔으며 그 동안 축적된 기술과 노하우를 바탕으로 일부 수입 제품을 개발하여 자체 생산하고 있습니다.

당사 생산품인 CYCLO감속기 (브랜드명 : CR-Drive)는 현재 국내는 물론 해외에서도 호평 받고 있습니다. 또한, MOTOVARIO사로부터 기술이전을 통한 아시아 유일의 MAC조립센터로 인증되어 SMART BOX(Bevel, Helical, Shaft 감속기)제품의 부품을 수입하여 조립생산을 통해 적기 납품은 물론 고객의 원가경쟁력을 향상시키고 있습니다.

당사는 세계화, 지식화, 정보화 시대에 발맞춰 역동적인 사고로 독창적인 신제품개발과 시장변화에 유연하게 대응하는 관리체계와 고객 밀착업무 수행 등을 통하여 고객과 함께 성장하고 고객과 함께 기쁨을 나누는 기업이 되기 위해 오늘도 전 사원이 다 함께 노력하고 있습니다.

오늘의 국제산업기계를 만들어 주신 고객여러분께 이 자리를 통해 감사의 말씀을 전합니다.
앞으로도 변함없는 지도편달을 부탁드리며 늘 건승하시고 행복하시길 기원합니다.

(주)국제산업기계 임직원 일동 올림

01

당사 생산품목
Production Line

CR Drive
Cycloid reducer

싸이크로 감속기(제철설비, 자동차생산설비, 환경설비, 프레스설비. 화학교반설비, 물류자동화)
Cycloid Reducer (Steel Manufacturing, Automobile, environmental, Press facility, chemistry, distribution equipment

KUKJE TOYO
FA & ROBOT

대만 TOYO사와 기술제휴 생산판매
Technical cooperation with TOYO
Linear Actuator, X-Y Stage, Linear Motor, Gantry

02

MOTOVARIO
HEART OF MOTION
a TECO Group company

2-1 완제품 수입판매
Imported Product

Motovario S.P.A (Italy) 한국대리점
Motovario S.P.A (Italy) Korea Agency

웜감속기, 변속기, 모터, Helical 감속기, Bevel Helical 감속기, Shaft Mounted 감속기,
Worm Reducer, Variator, Motors, Helical Reducer, Bevel Helical Reducer, Shaft Mount geared Motor

2-2 기술제휴 조립센터
Assembly Center

Motovario S.P.A (Italy) 한국 어셈블리 센터
Motovario S.P.A (Italy) Korea Assembly Center

Helical 감속기, Bevel Helical 감속기, Shaft Mounted 감속기
Helical Reducer, Bevel Helical Reducer, Shaft Mount geared Motor

03

A Nidec Group Company
SHIMPO
All for dreams

완제품 수입판매
Imported Product

NIDEC-SHIMPO 한국대리점
NIDEC-SHIMPO Korea Agency

링콘변속기, 서보모터용 유성감속기
Ringcone Variable Reducer, Able Servo Reducer

AMETEK® Grup.
PRECISION MOTION CONTROL

AMETEK Group 한국대리점
AMETEK Group Korea Agency

Haydon kerk
Motion Solutions

Hybrid Linear Actuator
Stepper Motor product

PITTMAN®

Brush DC Motor, BLDC
Motor, Slotless BLDC motor

Windjammer®
Nautilair
ROTRON®

Ametek DFS Blowers

B SERIES

HELICAL BEVEL GEAR REDUCERS - CAST IRON

S SERIES

SHAFT MOUNTED GEAR REDUCERS - CAST IRON

H SERIES

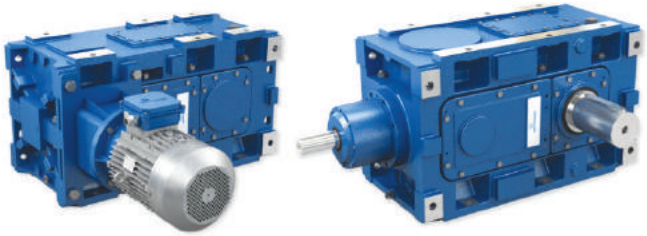
HELICAL GEAR REDUCERS - CAST IRON

NEW S SERIES

NEW **S SERIES**
TWO NEW SIZES INCLUDED,
140 AND **150**

NEW PBH SERIES

NEW **PBH SERIES**
PARALLEL HELICAL AND BEVEL
HELICAL GEAR REDUCERS FOR
HEAVY INDUSTRY



D SERIES

drivon

THE ULTIMATE MECHATRONICS FRONTIER

차례

KO

제품설명

Contents

UK

Informations

사용기호(Symbols)

KO

(P)	=	Power(kW)	=	동력
(M)	=	Torque(Nm)	=	토오크
(n)	=	Speed(RPM)	=	속도
(i)	=	Reduction ratio	=	감속비
(F)	=	Load (N)	=	하중(부하)
(m)	=	Weight (kg)	=	중량
(f.s)	=	Service factor	=	안전계수
(1)	=	Input shaft	=	입력축
(2)	=	Output shaft	=	출력축
(r)	=	Radial	=	레디알(반경)
(a)	=	Axial	=	축 상단
(S)	=	Static	=	정적
(d)	=	Dynamic	=	동적
(max)	=	Maximum	=	최대
(min)	=	Minimum	=	최소

Symbols

UK

(P)	=	Power(kW)
(M)	=	Torque(Nm)
(n)	=	Speed(RPM)
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(a)	=	Axial
(S)	=	Static
(d)	=	Dynamic
(max)	=	Maximum
(min)	=	Minimum

규격(Specification)

KO

요청 시, 감속기는 아래 규격에 따라 제조 가능합니다.

ATEX 94/9/CE
Categories : 2GD T=135 °C (T4)
3GD T=135 °C (T4)

Specification

UK

On request, reducers can be manufactured in compliance with standards:

ATEX 94/9/CE
Categories : 2GD T=135 °C (T4)
3GD T=135 °C (T4)

디자인 특성(Design Features)

KO

Motovario사의 제품은 다음과 같은 표면 처리 특성을 구현하여 공급된다.

다이캐스트 알루미늄 알로이 케이스
다이케스팅 재질은 아래와 같은 표면 세척 공정을 거친다.
– 기계적 세링시스템에 의한 연마(De–burring)공정
– 정교한 숏 피닝(shot–peening)
– 도장 공정
– 세척 및 표면처리(passivation)공정

회주철(Grey–Coloured Cast–iron)케이스
– 다이케스팅 제품은 항상 도장공정을 거친후 출고됨.

도장규격 :
오렌지 계통(Orange–peel)의 푸른 에폭사–폴리에스터 RAL 5010.

사용재료 :
열처리 파우더를 재질에 기초하여, 폴리에스터 레진, 에폭시 레진.

기계적 특성
– 검사는 다음 규격들과 부합하는 탈지된 Unichim 백색 황동합금판(막 두께 : 60 미크론)상에서 수행 : 접착(adherence – ISO2409), 에릭슨 가공(Erichsen drawing – ISO152), 역전 충격(inverted shock – DIN53158), 원추형 굴대(cone–shaped mandrel – DIN53151), 경화(hardness – ASTM D3363 / 74)

내열성 :
– 150℃에서 24시간 작업

부식강도 :
ASTM B 117/97 염무 기준을 적용하여 100시간 에서 500시간(해당 지지부에 대한 전처리 공정에 따라 차이가 있음).

동적효율성 nd :
운전효율은 감속기의 P1값에 의해 흡수되는 힘과 출력 P2값에 의해 결정된다.

H/HA 범위 헬리컬 기어 감속기의 동일한 효율 값 :
H . . 1단형 = 0.97
H . . 2단형 = 0.96
H . . 3단형 = 0.94

B/BA 범위 나선형 베벨 기어 감속기와 동일한 효율 값 :
B . . 3단형 = 0.9
BA . . 2단형 = 0.95
BA . . 3단형 = 0.9

S 범위 샤프트 장착 기어 감속기와 동일한 효율 값 :
S . . 2단형 = 0.96
S . . 3단형 = 0.94

Design features

UK

Motovario products are supplied with the following suface treatment features:
Die-cast aluminium alloy cases for gears
Die-cast materials undergo the following surface cleaning operations:
- Die-burring by means of a mechanically operated shearing system
- Accurate shot-peening. - Painting
- Washing and passivation

Grey-coloured cast-iron cases for gears
- Die-cast materials are always painted

Painting specifications:
Orange-peel blue epoxy-polyester RAL 5010. Polyester resin based heat-hardening powders, altered with epoxy resins.

Machanical properties
- Tests carried out onto degreased Unichim white lattens(film thickness:60microns)comply with the followingspecifications:adherence (ISO2409), Erichsen drawing(ISO152), inverted shock(DIN53158), cone-shaped mandrel(DIN53151), hardness(ASTM D3363/74).

Heat resistance
- 24 HOURSAT 150° C

Corrosion strength
- ASTM B 117/97 salt fog from 100 to 500 hours depending on the support's preliminary treatment.

Dynamic efficiency ηd:
The operating efficiency is the ratio between the output power P2 and the power absorbed by the gear reducer P1:
ηd = P2/P1

H/HA-range helical gear reducers have an average value equal to:
H..1 stages = 0,97
H..2 stages = 0,96
H..3 stages = 0,94

B/BA-range helical bevel gear reducers have an average value equal to:
B..3 stages = 0,9
BA..2 stages = 0,95
BA..3 stages = 0,9

S-range shaft-mounted gear reducers have an average value equal to:
S..2 stages = 0,96
S..3 stages = 0,94

제품 선정 방법(Product selection guide)

KO

올바른 감속기나 기어드 모터의 선택을 위해서 몇 가지 중요한 데이터가 필요하다.

A – 감속기의 입력회전속도(n1)과 출력회전 속도(n2)의
두 값을 통하여 감속기의 감속비(i)를 계산할 수 있습니다.

$$i = \frac{n1}{n2}$$

B – 어플리케이션의 토오크(Mr2)가 필요합니다.

데이터값을 확인 후 기어드 모터나 감속기를 선택할 수 있습니다.

– 기어드 모터 선택
가이드에 적합한 제품을 선택하는 단계에 대한 간략한 순서를 나타냅니다.

1. 어플리케이션의 실제 안전계수(s.f)를 결정합니다.
이 값은 구동 기계 부하의 종류에 따라 시간당 시동 횟수및 구동시간(5페이지의 "안전계수"를 참조하십시오)에 따라 좌우됩니다.
2. 필요한 토오크 값 Mr2, 속도 n2 및 동적 효율 값을 사용하여 입력 전원 Pr1을 계산합니다.

$$Pr1 = \frac{Mr2 \cdot n2}{9550 \cdot \eta d}$$

동적 효율값은 감속기의 유형과 감속단계의 수에 따라 달라집니다.
(효율값을 계산하기 위해 2페이지를 참조)
3. 기어드 모터 성능표를 참조하여 필요한 전력 PR1을 초과하는 경우 문의바랍니다.

$$Pn1 \geq Pr1$$

4. 적합한 구동용량을 결정하면 n2값에서 가장 가까운 회전속도를 내는 감속기와 적용하고자 하는 기계에 요구되는 그 이상의 안전율을 선정하시오.

감속기의 선정표는 50hz모터 기준에 따른 4p의 모터이며 다른 운전속도(2p, 6p, 8p)등을 원할 경우 다른 일반 데이터를 참고요망.(본사에 문의바람)

Product selection guide

UK

For correctly selecting a gear reducer or geared motor, several essential pieces of data are required:

A - The rotational input speed to the gear reducer (n1) and the rotational output speed (n2).
Through these two values it is possible to calculate the reduction ratio (i) of the gear reducer using the following formula:

$$i = \frac{n1}{n2}$$

B - The torque required by the application (Mr2).

The geared motor or gear reducer can be selected once this data is known.

Geared motor selection
This guide indicates a brief sequence of steps for selecting a suitable product:

1. Determine the application's actual service factor(s.f.). This parameter depends on the type of load of the powered machine, the number of starts per hour and the hours of operation
(refer to the "Service factor" paragraph on page 5).
2. Calculate the input power Pr1 using the required torque value Mr2, the speed n2 and dynamic efficiency value.

$$Pr1 = \frac{Mr2 \cdot n2}{9550 \cdot \eta d}$$

The dynamic efficiency value depends on the type of gear reducer and on the number of gear reduction stages.
(To calculate the efficiency value see page 2).
3 Consult the geared motor performance tables and identify a normalised power value Pn1 exceeding the required power Pr1, such that:

$$Pn1 \geq Pr1$$

4 Once the suitable normalised power has been identified, select the geared motor capable of generating the rotational speed closest to the desired n2 value and with service factor s.f. greater or equal to that required by the application.

In the geared motor selection tables the combinations include 4-pole and 6-pole motors powered at 50Hz; for different drive speeds refer to the nominal data provided for the gear reducers.

제품 선정 방법(Product selection guide)

KO

감속기의 선정

1. 안전계수(s.f)를 결정한다.
(5page의 안전계수표를 참조하시요)

2. 출력속도(n2)와 입력속도(n1)으로 감속기의 감속비율을 계산합니다.

$$i = \frac{n1}{n2}$$

3. 계산된 토오크값 Mc2는 감속기의 토오크값 Mr2값과 안전계수 s.f 값으로 계산하여야 한다.

$$Mc2 = Mr2 \cdot (f.s.)$$

4. 정격토오크M2와 가까운 감속비율이 결정되면 기어감속기의 성능표를 확인바람.

$$M2 \geq Mc2$$

선택한 감속기는 모터와 결합 될 경우, 구성 테이블(31페이지 참조)하여 적용을 확인합니다.

확인
감속기 및 기어드 모터가 결정되면 다음 사항을 확인하다.

A– **열용량**
기어감속기의 열용량과 같거나 표(8페이지 참조)에 따라 설치시 필요한 기계적 또는 전기적 용량이(보다)커야합니다.

B– **최대토오크**
일반적으로, 감속기에 적용할 수 있는 최대 토오크(최대 순간부하)는 정격 토오크 M2값의 200%를 초과하지 않아야 합니다.

C– **레이디 얼 하중**
입력 및 또는 출력 샤프트에 축하중 이 카탈로그상의 허용되는 값을 확인합니다. 이 값을 초과하는 경우, 기어 감속기의 용량을 올리거나 외부 부하 용량을 감속기에 맞게 수정합니다.
부하가 다른 위치에 적용되는 경우 확인 단계에서 이 값은 축의 중간 지점에 착용하는 하중을 카다로그에 표시된 것을 확인하는 것이 중요하다. 그러므로, 적절한 수식을 계산하는데 사용되어야합니다.
(원하는 위치에 허용 된 부하(12페이지의 "레이디 얼 하중"단락 참조).

Product selection guide

UK

Gear reducer selection
1. Determine the application's service factor (s.f.)
(consult to the "Service factor" paragraph on page5).

2. Calculate the reduction ratio i from the requested output speed n2 and from the input speed n1.

$$i = \frac{n1}{n2}$$

3. Calculate the torque Mc2 for selecting the gear reducer through the torque required by the application Mr2 and the service factor s.f.:

$$Mc2 = Mr2 \cdot (f.s.)$$

4. Consult the gear reducer performance tables and identify the gear reducer that - with a reduction ratio closest to the calculated ratio - has a nominal torque M2 such that

$$M2 \geq Mc2$$

If the selected gear reducer will be combined with an electric motor, verify the relevant applicability by consulting the configurations table (refer to the "Configurations" paragraph on page 31).

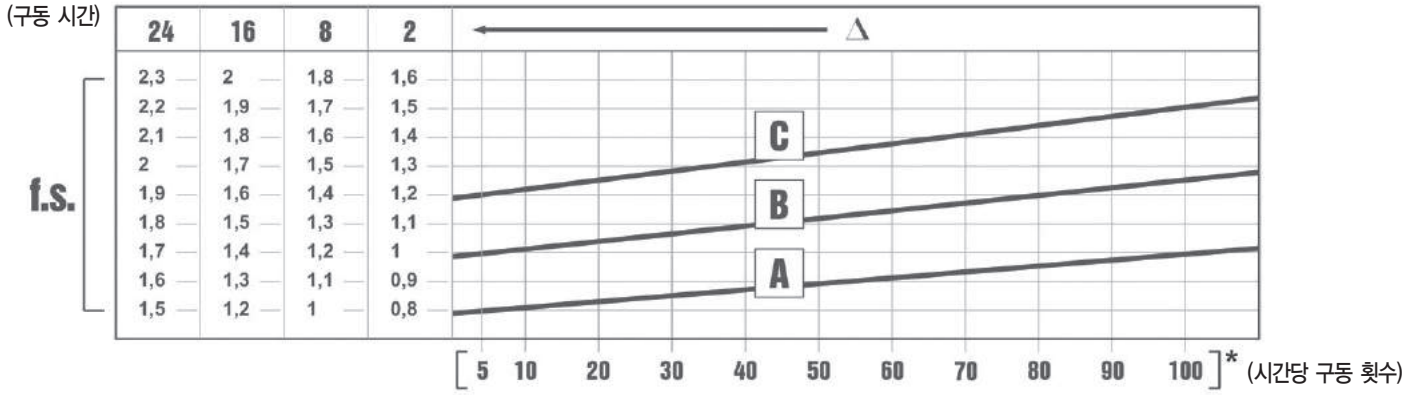
Checks
Once the gear reducer or geared motor has been selected, the following checks should be performed:

A - **Thermal power**
The gear reducer's thermal power must be equal to or greater than the installed mechanical power, or the power required by the application according to the indications contained in the section (refer to the "Thermal power" paragraph on page 14).

B - **Maximum torque**
Generally, the maximum torque (peak instantaneous load) that can be applied to the gear reducer must not exceed 200% of the nominal torque M2.

C - **Radial loads**
Verify that the radial loads acting on the input and/ or output shafts are within with the values indicated in the catalogue. If they exceed these values, increase the size of the gear reducer or modify the external load capacity.
During the checking phase, it is important to remember that the values indicated in the catalogue refer to loads acting on the mid-point of the shaft protrusion, therefore, if the load is applied to a different position, appropriate formulas must be used to calculate the admissible load in the desired position (refer to the "Radial loads" paragraph on page 12).

안전계수 / Service factor



안전계수(f.s. : Service Factor)

KO

안전계수(과부하율)는 기어 감속기의 가동 상황에 따라 달라진다.

가장 적합한 안전계수를 선택하기 위하여 고려해야 할 변수들은 다음과 같다 :
– 구동 기계의 부하 형태 : A – B – C
– 일일 가동시간 : 시간/일 (A)
– 구동 빈도 : 구동 횟수/시간 (*)

부하종류 : A – 균일하중 진동이 없는 기계 fa ≤ 0.3
B – 경하중 fa ≤ 3
C – 중하중 fa ≤ 10

fa = Je/Jm
– Je (kgm²) 구동축에서 감소된 외부 관성모멘트
– Jm (kgm²) 모터의 관성모멘트
※ fa 〉 10의 경우, 당사에 기술서비스 지원을 요청하도록 한다.

A – 경량자재용 스크류 피더(Screw Feeders), 팬(Fan), 조립라인, 경량 자재용 컨베이어, 소형 믹서기, 리프트, 세척기, 충진기, 제어기

B – 권선기, 목공기계 투입기, 화물용승강기, 밸런서, 나사 절삭기, 중형 믹서, 중량 자재용 컨베이어, 윈치, 슬라이딩 도어, 비료혼합기, 포장기, 콘크리트믹서, 크레인 구조물, 밀링 커터, 톰슨기, 기어펌프

C – 중량 자재용 믹서, 세링기, 프레스, 원심분리기, 회전 지지대, 중량 자재용 윈치 및 리프트, 가공선반, 분쇄기, 버킷엘리베이터, 드릴링 머신, 햄머분쇄기, 캠 프레스, 절곡기, 턴테이블, 텀블링 바렐, 진동장치, 파쇄기

Service Factor

UK

The service factor (f.s.)depends on the operating conditions the gear reducer is subjected to.

The parameters that need to be taken into consideration to select the most adequate service factor correctly comprise :
- type of load of the operated machine : A - B - C
- length of daily operation time : hours / day (Δ)
- start - up frequency : starts / hour (*)

LOAD : **A** - uniform fa ≤ 0.3
B - moderate shocks fa ≤ 3
C - heavy shocks fa ≤ 10

fa = Je / Jm
- Je (kgm²)moment of reduced external inertia at the drive - shaft
- Jm (kgm²)moment of inertia of motor If fa ≤ 10 call our Technical Service

A - Screw feeders for light materials, fans, assembly lines, conveyor belts for light materials, small mixers, lifts, cleaning machines, fillers, control machines.

B - Winding devices, woodworking machine feeders, goods lifts, balancers, threading machines, medium mixers, conveyor belts for heavy materials, winches, sliding doors, fertilizer scrapers, packing machines, concrete mixers, crane mechanisms, milling cutters, folding machines, gear pumps.

C - Mixers for heavy materials, shears, presses, centrifuges, rotating supports, winches and lifts for heavy materials, grinding lathes, stone mills, bucket elevators, drilling machines, hammer mills, cam presses, folding machines, turntables, tumbling barrels, vibrators, shredders.

주의사항 / Critical applications

H	030	040	050	060	080	100	125	140
V5 – V1: 1500 〈 n1 〈 3000	–	–	–	–	–	–	B	B
n1 〉 3000	B	B	B	B	B	B	A	A
V3 – V6	B	B	B	B	B	B	B	B

H	A30	A40	A50	A60
V5 – V1: 1500 〈 n1 〈 3000	–	–	–	–
n1 〉 3000	B	B	B	B
V3 – V6	B	B	B	B

B	A40	A50	A70
2000 〈 n1 〈 3000	–	–	–
V6	B	B	B
n1 〉 3000	B	B	B
...L: B6 – B7	B	B	B

B	060	080	100	125	140	150	160
2000 〈 n1 〈 3000	–	–	–	B	B	B	B
V6	B	B	B	B	B	B	B
n1 〉 3000	B	B	B	B	A	A	A
...L: B6 – B7	B	B	B	B	B	B	B

S	050	060	080	100	125	140	150
2000 〈 n1 〈 3000	–	–	–	–	–	–	–
V6	B	B	B	B	B	B	B
n1 〉 3000	B	B	B	B	B	B	B
...L: V5 – V6	B	B	B	B	B	B	B

A | 권장하지 않는 적용 용도
Application not recommended

B | 사용시 재점검 필요 – 본사와 상의후 결정
Check the application and/or call our technical service

주의사항(Critical Applications)

KO

카달로그에 명시된 성능은 취부위치가 B3 또는 이와 유사한 취부상태, 즉 1단기어가 완전히 오일에 잠기지 않은 경우에 해당한다. 다른 취부상태 및 특정한 입력 속도의 경우, 기어 감속기의 각 크기에 따른 상이한 한계상황을 강조한 도표를 참조하도록 한다.
또한 다음과 같은 상황에 적용되는 용도인지 여부를 확인한 후, 세밀한 평가를 위해서는 당사의 기술서비스 지원요청을 필요로 한다.

– 속도가 지속적으로 증가하는 경우
– 감속기 고장시, 인명 피해가 초래될 수 있는 경우
– 높은 관성이 발생되는 상황에서 사용되는 경우
– 리프팅 윈치로 사용되는 경우
– 감속기와 관련하여 높은 동적 변형이 발생되는 상황에서 사용되는 경우
– 주변온도가 –5℃ 이하 또는 40℃를 초과하는 상태에서 설치되는 경우
– 화학적 부식등 열악한 환경에서 사용되는 경우
– 카달로그에 명시되지 않은 취부조건에 사용되는 경우
– 방사선 환경에서 사용되는 경우
– 대기압 이외의 압력 환경에서 사용되는 경우

감속기의 일부분이 어딘가에 잠기는 상황에서는 사용하지 않도록 하여야 한다.
감속기가 견딜수 있는 최대 토크(*)는 성능 도표에 명시된 정격 토크(f.s=1)의 2배를 넘지 않도록 하여야 한다.

(*)순간 과부하는 최대부하(브레이크), 제동, 충격 또는 기타 원인, 특히 동태적 요인이 존재하는 상황에서 시동하는 경우를 예상할 수 있다.

Critical applications

UK

The performance given in the catalogue correspond to mounting position B3 or similar, ie. When the first stage is not entirely immersed in oil. For other mounting positions and / or particular input speeds, refer to the tables that highlight different critical situations for each size of gear reducer.
It is also necessary to take due consideration of and carefully assess the following applications by calling our Technical Service:

- To avoid the use as multiplier.
- Use in services that could be hazardous for people if the gear reducer fails.
- Applications with especially high inertia.
- Use as a lifting winch.
- Applications with high dynamic strain on the case of the gear reducer.
- In places with T° under -5° C or over 40° C.
- Use in chemically aggressive environments.
- Use in a salty environment.
- Mounting positions not envisaged in the catalogue.
- Use in radioactive environments.
- Use in environments pressures other than atmospheric pressure.

Avoid applications where even partial immersion of the reducer is required.
The maximum torque(*) that the reducer can support must not exceed two times the nominal torque (f.s.=1) stated in the performance tables.

(*) intended for momentary overloads due to starting at full load, braking, shocks or other causes, particularly those that are dynamic.

열용량(Thermal power Pth)

KO

아래의 표는 다음과 같은 기준 조건에서 kW로 표현한 정격 열 출력 값을 보여줍니다.
· 설치위치B3
· 입력속도 · 연속운전 〈=1,500RPM
· 주위온도 25℃
· 해수면 고도
· 감속기 주변 공기 속도 〉 = 1m/s
· 축 방향 하중의 부재

Pth를 초과하지 않는 용량을 적용
– 상기 기준에 기어 감속기의 올바른 윤활 및 효율적인 운영 조건을 보장합니다.

Note : BA 시리즈는 열 용량의 점검이 필요없습니다.

어플리케이션 확인 ;
아래의 두 가지 연속 동작 시간을 제외하고(2)시간 연속 각 응용 프로그램은 다음과 같은 공식에 따라 기어 감속기의 열 제한을 확인하는 것이 좋습니다.
주위 온도로 기어 감속기를 데리고 할 수 있는 일시 정지 :

Pm < Pth * Fc * Fv*Fa,

Pm = 1,400rpm에서 기어 감속기의 입력 전원(4극모터)

Pth = 기준 조건에서 열용량(위의 표 참조)
Fc = 주위 온도 및 작동 온도 보정
Fv = 환기 보정 계수
Fa = 고도 보정 계수

보정 계수는 기준조건에 비해 사용 조건을 참조하여
다음 ISO14179테이블에 의해 제공됩니다.

Thermal power Pth[kW]

UK

The table below lists the nominal thermal power values expressed in kW, in the following reference conditions:
· mounting position B3
· continuous operation at input speed <= 1,500 rpm
· ambient temperature 25°ΔC
· sea level altitude
· air speed near the gear reducer >=1m/s
· absence of external radial and/or axial loads

Applying a power level not exceeding Pth - at the above-mentioned reference conditions - guarantees the correct lubrication and efficient operation of the gear reducer.

NOTE: checking the thermal power of gear reducer versions with three reduction stages is unnecessary, as the thermal thresholds are not reached.

Application check
Except for continuous operating times below two (2) hours and successive pauses capable of bringing the gear reducer back to ambient temperature, for each application it is advisable to verify the gear reducer's thermal limit according to the following formula:

Pm < Pth * Fc * Fv*Fa,

where:
Pm = input power to the gear reducer at 1,400 rpm (4-pole motors)
Pth = thermal power at the reference conditions (see above table)
Fc = ambient and operating temperature correction factor
Fv = ventilation correction factor
Fa = altitude correction factor
The correction factors refer to different operating conditions compared to the reference conditions, and are provided by the following ISO14179 tables:

열용량 Pth[kW] / 1500rpm

Gear reducer	Pth[kW]	Gear reducer	Pth[kW]
HA31	/	H081	27.2
HA41	5.0	H101	51.5
HA51	7.0	H121	67.5
HA61	15.5	H032	5.0
HA32	5.0	H042	7.0
HA42	6.5	H052	9.0
HA52	11.0	H062	15.5
HA62	15.0	H082	24.0
H041	6.0	H102	30.0
H051	8.5	H122	36.0
H061	13.5	H142	49.0

Gear reducer	Pth[kW]
B063	10.5
B083	11.0
B103	12.5
B123	19.0
B143	22.5
B153	38.0
B163	55.0

Gear reducer	Pth[kW]
S052	7
S062	9.5
S080	15.5
S102	20.5
S122	34.5
S142	53
S152	65

열용량 Pth[kW]

Fe ↘		시간당 작업량(%) / Duty per hour of operation %				
		100	**80**	**70**	**40**	**20**
주의온도℃ Ambient temperature℃	10	1.15	1.21	1.32	1.55	2.07
	18	1.07	1.12	1.23	1.44	1.93
	25	1.00	1.05	1.15	1.35	1.80
	30	0.93	0.98	1.07	1.26	1.67
	40	0.83	0.87	0.95	1.12	1.49
	43	0.75	0.79	0.86	1.01	1.35
	50	0.67	0.70	0.77	0.90	1.21

환기보정계수 / Ventilation correction factor	**Fv**
정체공기(〈0.5m/s) / Stagnant air (〈0.5m/s)	0.75
약간의 환기와 실내 설치 / Indoor installation with slight ventilation	1
좋은 환기(〉1.4m/s)로 실내 설치 / Indoor installation with good ventilation (〉1.4m/s)	1.4
야외 설치(〉3.m/s) / Outdoor installation (〉3.7m/s)	1.9

고정 보정 계수와 / Altitude correction factor	**Fa**
0*	1
750	0.95
1500	0.90
2250	0.85
3000	0.81

* 해수면/Seal level

- 2,000RPM, 또는 주위 온도를 40℃이상 초과하는 입력 속도에서 동작의 경우 당사에 기술을 문의하는 것이 좋습니다.
- In case of operation at input speeds exceding 2,000 rpm, or ambient temperatures greater than 40℃, it is advisable to contact out technical department.

설치(Installation)

KO

감속기를 설치할 경우, 다음과 같은 권장 사항에 유의하도록 한다.

- 진동이 없는 곳에 설치 한다.
- 기계에 장착하기 전에 감속기의 출력축회전 방향이 올바른지 확인한다.
- 특히 장기간 보관된 경우(4~6개월), 오일씰 부위가 오일에 닿지않아 굳어있을 경우, 그러한 오일씰은 샤프트에 접착되는 현상이 발생될 수 있으며, 심지어 적절한 작동에 요구되는 탄성을 잃었을 수 있으므로 교체하도록 한다.
- 가능하면, 직사광선 및 악천후로부터 피하여 설치하는 것이 좋다.
- 팬을 통과한 공기 흐름이 양호하도록 하여 모터 냉각이 제대로 이루어지도록 한다.
- 주변 온도가 〈-5℃ 이하 또는 〉+40℃ 이상 인 경우, 기술서비스를 지원받도록 한다.
- 다양한 부품(풀리(pulley), 기어 휠, 커플링, 샤프트 등)은 장치의 베어링이나 외부 부품에 대한 파손 상황이 발생하지 않고 항상 정확하게 작동할 수 있도록 특수 나사형 구멍이나 기타 장치를 이용하여 솔리드축(solid shaft)이나 중공축(hollow shafts)상에 장착되어야 한다. 눌러붙음 현상이나 산화현상을 방지하기 위하여 접촉 표면에 윤활유를 칠 하도록 한다.
- 어떠한 경우라도 페인트칠은 기어박스의 오일씰과 고무 부품, 기어박스내 압력이 배출되는 에어벤트 플러그(breather flug)의 구멍을 침범해서는 안된다.
- 오일 플러그가 부착된 기어박스의 경우, 운송 기간 동안 사용된 밀폐 플러그는 반드시 에어벤트 플러그와 함께 교체하도록 한다.
- 제품에 유량계가 있다면(설치되어 있는 경우), 윤활유의 올바른 수준 여부를 점검하도록 한다.
- 작동시 바로 최대 부하로 작동하지 말고 서서히 부하를 올린다.
- 구동장치 주변으로 부품이나 다른물체가 있다면 충격을 받을 우려가 있으며 약간의 누유로 인하여 모터가 손상을 받을수 있으므로 특별한 보호조치가 필요하다.

Installation

UK

To install the gear reducer it is necessary to note the following recommendations

- The mounting on the machine must be table to avoid any vibration
- Check the correct direction of rotation of the gear reducer output shaft before fitting the unit to the machine.
- In the case of particularly lengthy periods of storage(4/6 months), if the oil seal is not immersed in the lubricant inside the unit, it is recommended to change it since the rubber could stick to the shaft or may even have lost the elasticity it needs to function properly.
- Whenever possible, protect the gear reducer against solar radiation and bad weather.
- Ensure the motor cools correctly by ensuring good passage of air from the fan side.
- In the case of ambient temperatures <-5° C> +40° C call the Technical Service.
- The various parts (pulleys, gear wheels, couplings, shafts, etc.) must be mounted on the solid of hollow shafts using special threaded holes of other systems that anyhow ensure correct operation without risking damage to the bearings of external parts of the units. Lubricate the surfaces in contact to avoid seizure or oxidation.
- Painting must definitely not go over rubber parts and the holes on the breather plugs, if any.
- For units equipped with oil plugs, replace the closed plug used for shipping with the special breather plug.
- Check the correct level of the lubricant through the indicator, if there is one.
- Starting must take place gradually, without immediately applying the maximum load.
- When there are parts, objects or materials under the motor drive that can be damaged by even limited spillage of oil, special protection should be fitted.

PAM 플랜지와 모터 장착 (Motor mounting with PAM flange)

KO

감속기 및 기타 관련 장치가 모터와 함께 제공되지 않은 경우, 모터의 올바른 조립을 위하여 아래 권장사항을 준수하도록 한다.

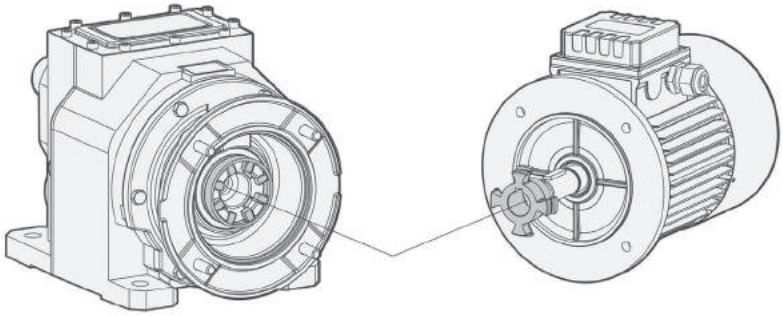
- 모터 축과 플랜지에 대한 공차가 관련 규격과 부합하는지 확인한다.
- 샤프트 및 플랜지 표면에 페인트 자국과 먼지 등 불순물을 깨끗이 제거해야 한다.
- 플렉시블 커플링을 사용하여 조립시(그림참조)과도한 힘에 의하여 모터 축과 베어링이 손상되지 않도록 하며, 그리고 필요한 경우, 조립장비를 이용하여 신중하게 모터 축에 맞추어 조립한다.(그림 참조)
- 이어서, 모터가 부시의 기어와 감속기의 샤프트(Input shaft)상에서 일치하도록 조립한다.
- 키 홈(Key – ways)은 공차 내에 위치하도록 한다.

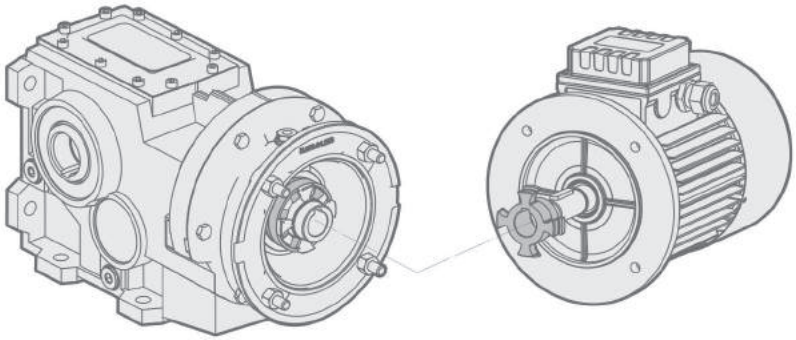
Motor mounting with PAM flange

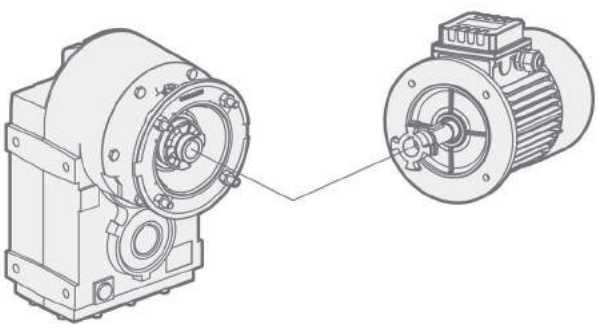
UK

When the unit is supplied without motor, it is necessary to follow these recommendation to ensure the correct assembly of the electric motor.
Check that the tolerances for the motor shaft and flange correspond to the standard.
Carefully clean the shaft, spigot and surfaces of the flange removing traces of paint and dirt, and confirm the key is fitted correctly.
Fit the bushing to the motor shaft(see picture)taking care to ensure the motor shaft and bearings are not damaged by avoiding excessive force and where necessary using assembly equipment.
Then proceed with the assembly of the motor aligning the teeth of the bushing onto the worm shaft. Key-ways with tightened tolerances.

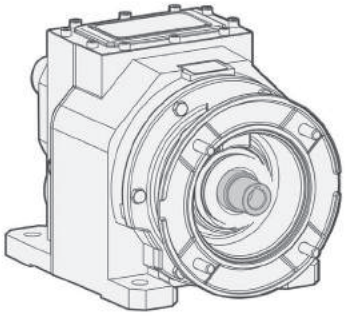
플렉시블 커플링 타입의 플랜지 / Flexible

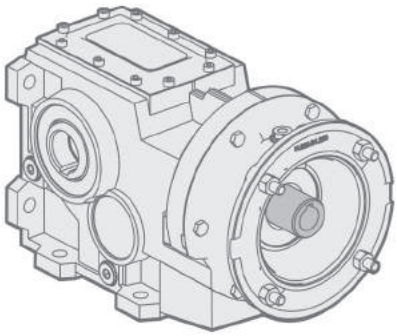


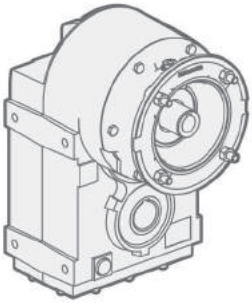




PAM 플랜지 / PAM Sleeve







레이디얼 하중(Overhung Load)

KO

허용 레이디얼 하중(N : radial load)의 값은 해당 감속기의 성능을 표시한 도표에 명시되어 있다. 축단 하중은 샤프트 중심선 상에 적용되는 하중, 적용각의 심각한 부적합 조건, 회전 방향과 관계 된다.

최대 허용 축 하중은, 레이디얼 하중과 결합하여 적용되는 경우, 주어진 레이디얼 하중 값의 1/5로 한다.
출력 축과 관련된 도표는 최대허용치를 명시한 것이다. 이러한 최대허용치는 해당 감속기의 케이스(하우징)강도를 절대 초과되는 상황이 발생하지 않도록 하여야 한다.
특별한 상황에서 레이디얼 하중은 카달로그의 허용치 보다 높아질 수 있다. 이러한 경우, 당사의 기술서비스 부서에 지원을 요청하여, 그러한 적용 용도와 관련한 세부적인 자료를 제공받도록 한다. 특히 부하의 방향, 축 회전 방향, 적용 형태 등.
양 끝단에 적용되는 레이디얼 하중을 가진 더블 연장 축의 경우, 최대 허용 레이디얼 하중은 세부적인 가동 상황에 따라 정의되어야 하며, 이러한 경우에는 당사의 기술서비스를 지원받도록 한다.

샤프트 상의 레이디얼 하중은 아래 공식으로 산출한다.

$$Fre = \frac{2000 \cdot M \cdot fz}{D} \leq Fr_1 \text{ o } Fr_2$$

Fre (N) 레이디얼 하중 결과치
M (Nm) 샤프트 상의 토크(Torque)
D (mm) 샤프트 상에 장착된 풀리, 기어등의 직경
Fr (N) 최대 허용 레이디얼 하중 값
Fr1 – Fr2 (관련 도표 참조 요)
Fz = 1,1 기어 피니언
1,4 체인 휠
1,7 V – 풀리
2,5 평 풀리

레이디얼 하중의 결과 값이 샤프트의 중심선 상에서 적용되지 않는 경우, 허용 레이디얼 하중 Fr1 – 2를 아래 공식에 따라 조정하도록 한다.

$$Frx = \frac{Fr_{1\text{-}2} \cdot a}{(b+x)}$$

a, b = 성능도표 12 – 13페이지에 명시된 값
x = 하중 적용점부터 샤프트의 축턱(shaft shoulder)까지의 거리

Overhung Load

UK

The value of the admissible radial load (N) is given in the tables relating to the performance of the gear trducer at issue. It is related to the load applied on the centre line of the shaft and in the most unfavourable conditions of angle of application and direction of rotation.

The maximum admissible axial loads are 1/5 of the value of the given radial load when they are applied in combination with the radial load.
The tables relating to the output shafts give the maximum admissible value. This value must never be exceeded since it relates to the strength fo the case. Particular conditions of radial load higher than the limits of the catalogue may occur. In this case, call oru Technical Sevice and provide details on the application: direction of the load, direction of rotation of the shaft, type of service.
In case of double extension shafts with radial load applied on both ends, the max. admissible radial loads must be defined according to the specific running conditions, in this case call our Technical Service.

The radial load on the shaft is calculated with the following formula:

$$Fre = \frac{2000 \cdot M \cdot fz}{D} \leq Fr_1 \text{ o } Fr_2$$

Fre(N) Resulting radial load
M(Nm) Torque on the shaft
D(mm) Diameter of the transmission member mounted on the shaft
Fr(N) Value of the maximum admitted radial load
Fr1 - Fr2 (see relative tables)
fz = 1, 1 gear pinion
1, 4 chain wheel
1, 7 v-pulley
2, 5 falt pullet

When the resulting radial load is not applied on the centre line of the shaft, it is necessary to adjust the admissible radial load Fr1-2 with the following formula:

$$Frx = \frac{Fr_{1\text{-}2} \cdot a}{(b+x)}$$

a , b = values given in the tables on page12 - 13
X = distance from the point of application of the load to the shaft shoulder

출력 레이디얼 하중 (Output radial loads)

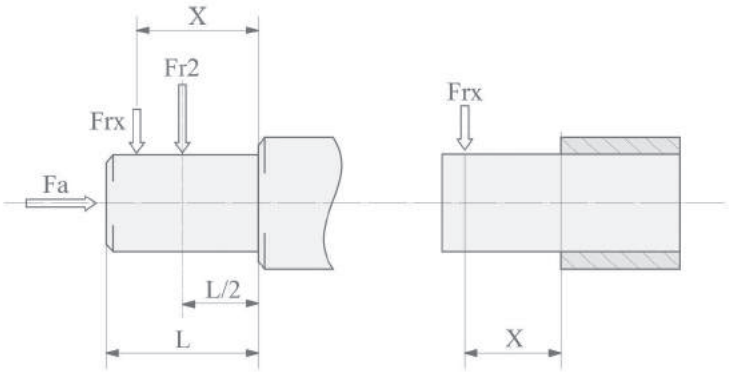
KO

출력 레이디얼 하중이 샤프트 중심선상에 있지 않을 경우, 출력 레이디얼 하중 Fr2는 아래 공식에 따라 조정하도록 한다.

Output radial loads

UK

When the radial load is not on the centre line of the shaft, it is necessary to adjust the admissible radial load Fr2 with the following formula:



$$Frx = \frac{Fr_2 \cdot a}{(b + x)}$$

H	041	051	061	081	101	121
a	89	98	115	151	210	232
b	79	73	85	111	155	177
Fr2 max (**)	1000	2500	3700	4000	5000	6000
Fa max (**)	5000	6500	7000	8500	11500	13500

H	A41	A51	A61	A32 A33	A42 A43	A52 A53	A62 A63
a	81	83	103	105	115	135	155
b	61	58	73	85	90	105	115
Fr2 max (**)	1100	3000	4500	2000	4300	6000	8000

H	032 033	042 043	052 053	062 063	082 083	102 103	122 123	142 143
a	120	138	169	195	238	281	331	367
b	96	108	134	155	188	221	261	282
Fr2 max (**)	5500	6600	8000	12000	18000	22000	30000	55000

B	A42	A52 A53	A72 A73
a	105	119	145
b	85	94	116
D - S - P (Fr2 max **)	–	–	10000
C (Fr2 max **)	4000	4000	5500

B	063	083	103	123	143	153	163
a	129	190	225	262	306	348	468
b	100	150	175	202	236	278	363
D - S - P (Fr2 max **)	12000	18000	22000	30000	40000	65000	80000
C (Fr2 max **)	8000	12000	15000	20000	40000	65000	65000

S	052 053	062 063	082 083	102 103	122 123	142 143	152 153
a	125	145	190	225	265	360.5	409.5
b	96	116	150	175	202	261	299
D - S - P (Fr2 max **)	6000	10000	18000	22000	30000	35000	40000
C (Fr2 max **)	6000	4000	7200	9000	11200	18500	19400

(**Fr_2) Max. admissible value of the reducer, verify max. admissible value on performances tables.
(**Fr_2) 감속기의 최대허용값과 테이블표의 최대 허용값을 확인바람.

입력 레이디얼 하중 (Input radial loads)

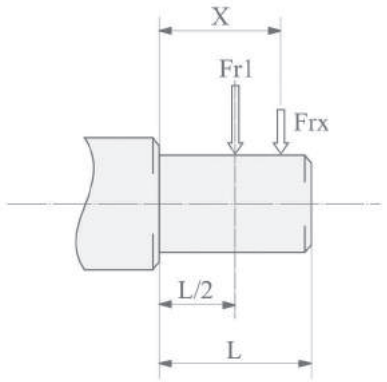
KO

입력 레이디얼 하중이 샤프트 중심선상에 있지 않을 경우, 입력 레이디얼 하중 Fr1은 아래 공식에 따라 조정하도록 한다.

Input radial loads

UK

When the radial load is not on the centre line of the shaft, it is necessary to adjust the admissible radial load Fr1 with the following formula:



$$Frx = \frac{Fr_1 \cdot a}{(b + x)}$$

IH	041	051	061	081	101	121
a	105	105	105	137	175	175
b	80	80	80	108	135	135
Fr1 max (**)	1320	1800	2200	2500	3000	3000

IHA	A32 A33 A41 A42 A43 A51 A53 A63	A52 A61 A62
a	84	89
b	64	69
Fr1 max (**)	480	800

IH	032 033	042 043	052 053	062 063	082 083	102 103	122 123	142 143
a	105	105	105	137	137	175	175	225
b	80	80	80	108	108	135	135	170
Fr1 max (**)	2200	2200	2500	3600	3600	7200	7200	15000

IBA	A42 A52 A53 A73	A72
a	84	89
b	64	69
Fr1 max (**)	500	830

IB	063	083	103	123	143	153	163
a	105	137	137	175	175	225	221
b	80	108	108	135	135	170	166
Fr1 max (**)	2200	2500	3200	4200	7000	10000	12000

IS	052 053	062 063	082 083	102 103	122 123	142 143	152 153
a	105	105	137	137	175	146	190
b	80	80	108	108	135	106	135
Fr1 max (**)	1500	2500	3600	3600	7200	4200	5200

(**Fr_1) Max. admissible value of the reducer, verify max. admissible value on performances tables.
(**Fr_1) 감속기의 최대허용값과 테이블표의 최대 허용값을 확인바람.

베어링 / Bearing

BA		BA40		BA50		BA70	
버전 Versions		기본 Standard	문의 On request	기본 Standard	문의 On request	기본 Standard	문의 On request
U	C	1	–	1	–	1	–
	D/S/P	–	–	–	–	1	–
	L/M	1	–	1	–	1	–

B		060		080		100/125		140/150/160	
버전 Versions		기본 Standard	문의 On request	기본 Standard	문의 On request	기본 Standard	문의 On request	기본 Standard	문의 On request
U	C	2	–	2 (Ø40)	1 (Ø45)	2	–	2	–
	D/S/P	2	–	2	–	2	–	2	–
	L/M	1	–	1	–	1	–	2	–
F/S	C	1	2	1	2	1	2	–	–
	D/S/P	2	–	2	–	2	–	–	–
	L/M	1	–	1	–	1	–	–	–

(*) – N.B. sizes A42 – A52 – A53 are not available in versions D–S–P.
(*) – N.B. : BA42 – BA52 – BA53의 D–S–P형태의 감속기는 불가능하다.

S	050		060		080		100		125		140		150	
버전 Versions	기본 Standard	문의 On request	기본 Standard	문의 On request	기본 Standard	문의 On request	기본 Standard	문의 On request	기본 Standard	문의 On request	기본 Standard	문의 On request	기본 Standard	문의 On request
C	1	–	1	2	1 (Ø40)	2 (Ø40) 1 (Ø45)	1	2	1	2	1	2	1	2
D	1	–	1	–	2	–	2	–	2	–	2	–	2	–
L	1	–	1	–	1	–	1	–	1	–	1	–	1	–

1 볼 베어링 Ball Bearing
2 롤러 베어링 Roller Bearing
— 불가능 Not available

관성모멘트 / Moments of inertia

HA-1	J *1E-4 [Kg*m2]
40	0.5
50	0.8
60	4.2

HA-2/3	J *1E-4 [Kg*m2]
30	0.5
40	0.5
50	2.6
60	3.2

H-1	J *1E-4 [Kg*m2]
040	0.8
050	1.9
060	4.6
080	11.0
100	34.5
125	76.4

H-2/3	J *1E-4 [Kg*m2]
030	0.7
040	0.7
050	0.9
060	2.0
080	6.8
100	10.6
125	28.2
140	44.2

BA-2/3	J *1E-4 [Kg*m2]
40	1.1
50	1.2
70	3.4

B	J *1E-4 [Kg*m2]
063	1.1
083	2.5
103	7.0
123	10.4
143	23.0
153	34.8
183	92.9

S-2/3	J *1E-4 [Kg*m2]
050	4
060	6
080	15
100	34
125	85
140	384
150	830

위의 값은 단지 예시적인 목적에 따라 제시한 것으로 입력 PAM에 맞춘 감속기에 적용한 경우이다.
이러한 값들은 최대 관성 모멘트 값을 참조하도록 한다.

윤활방법(Lubrication)

KO

주변 온도가 도표에(17페이지참조) 명시되어 있지 않은 경우, 관련 자료는 본사와 상의하도록 한다. 주변 온도가 –30℃ 이하 또는, 60℃ 를 초과하는 경우, 특수 재질의 오일 씰을 사용할 필요가 있다.
주변 온도가 0℃ 이하인 경우의 작동범위와 관련하여, 다음 사항들을 고려할 필요가 있다.

1. 모터는 반영된 주변 온도 하에서 작동하기에 적합하여야 한다.
2. 모터의 동력은 높은 시동토오크가 요구되는 경우에도 사용할 수 있어야 한다.
3. 주물 형태의 감속기인 경우, 주철은 –15℃ 이하에서 깨질 우려가 있으므로 충격 하중에 유의하도록 한다.
4. 가동 초기 단계 동안, 높은 수준의 오일 점성으로 인하여 윤활문제가 발생될 수 있으므로, 부하를 걸지 않고 몇 분 동안 공회전 하도록 한다.

오일은 약 10,000시간 정도 가동한 후 교체하도록 한다. 오일 교체 조건은 가동 형태와 감속기의 작동 환경에 따라 달라진다. 오일 플러그를 장착하지 않은 감속기인 경우, 윤활 상태는 반영구적이므로, 오일교체를 요하지 않는다.

Lubrication

UK

In cases of ambient temperatures not envisaged in the table, call our Technical Service. In the case of temperatures under -30° C or over 60° C it is necessary to use oil seals with special properties.
For operating ranges with temperatures under 0° C it is necessary to consider the following:

1. The motors need to be sutiable for operation at the envisaged ambient temperature.
2. The power of the electric motor needs to be adequate for exceeding the higher starting torques required.
3. In case of cast-iron gear reducers, pay attention to impact loads since cast iron may have problems of fragility at temperatures under -15° C.
4. During the early stages of service, problems of lubrication may arise due to the high level of viscosity taken on by the oil and so it is wise to have a few minutes of rotation under no load.

The oil needs to be changed after approximately 10,000 hours. This period depends on the type of service and the environment where the gear reducer works. For untit supplied without oil plugs, lubrication is permanent and so they need no servicing.

윤활유 / Lubrication

	미네랄 오일 / Mineral oil						
	*T°C ISO VG...	ENI	SHELL	KLUBER	MOBIL	CASTROL	BP
H A30 ÷ A60 H 030 ÷ 140	(-5) ÷ (+40) ISO VG220	BLASIA 220	OMALA OIL220	KLUBER GEM 1-220N	MOBILGEAR 600 XP 220	ALPHA MAX 220	ENERGOL GR-XP220
	(-15) ÷ (+25) ISO VG150	BLASIA 150	OMALA OIL150	KLUBER GEM 1-150N	MOBILGEAR 600 XP 150	ALPHA MAX 150	ENERGOL GR-XP150

- 규격(품)공급
- standard supply

- Motovario S.p.A에서 권장하는 윤활유 규격
- Specifications of lubricants recommended by Motovario S.p.A.

* 주변온도
* Working ambient temperature

HA/H – 윤활유HA/H / Lubrication

• HA 시리즈의 2/3단 감속기와 H 시리즈 1, 2, 3단 감속기는 항상 취부위치를 지정할 필요가 있다.

• HA 시리즈의 모든 감속기와 H 시리즈 1단 감속기의 041, 051, 061 및 2, 3단 감속기의 030, 040, 050 모델은 윤활유와 함께 제공되며 AIR BENT등이 없으며 윤활유에 대한 유지보수가 필요없다.(반영구적 사용)
• H 시리즈의 1단 감속기중 081, 101, 121과 2, 3단 감속기의 060, 080, 100, 125, 140의 모델은 윤활유와 함께 공급이 되며 카다로그에 표시처럼 AIR BENT플러그 등이 설치되어 있다.
• 사용하기 전에 제공된 AIR BENT 플러그를 교체후 사용해야 한다. 교체하지 않을 경우 고장의 원인이 된다.

• For the gear reducer HA series with 2, 3 stages and for the reducers H series with 1, 2, 3 stages it is always necessary to specify the envisaged position
• The gear reducer HA series with 1, 2, 3 stages all sizes, H series ...with 1 stage sizes 040, 050, 060 and H series ...with 2, 3 stages sizes 030, 040, 050 are supplied complete with lubricant, have no oill plugs and need no maintenance.
• The gear reducer H series ... with 1 stage sizes 80, 100, 125 and with 2, 3 stages sizes 060, 080, 100, 125, 140 are supplied complete with lubricant and are fitted with oil plugs to suti any mounting position included in the catalogue. It is recommended, after installation, to replace the closed plug used for transportation with the supplied breather plug.

특수오일 / Special lubricants				
		*T°C	합성오일 / Synthetic oil	미네랄 오일 / Mineral oil
저온오일 / Oil for low temperature	ENI	(-25) ÷ (+30) ISO VG150	BLASIA 150 S	
	KLUBER	(-35) ÷ (+20) ISO VG68	KLUBERSYNTH GH 6-80	
	MOBIL	(-40) ÷ (+10) ISO VG32	SCH 624	
	ENI	(-40) ÷ (+10) ISO VG46		ROTRA ATF
식품용 저온오일 / Oils for low temperature – Food sector	KLUBER	(-35) ÷ (+10) ISO VG32	KLUBEROIL 4 UH1-100N	
고온오일 / Oils for high temperature	KLUBER	(-10) ÷ (+50) ISO VG460	KLUBERSYNTH GH 6-460	
	KLUBER	(-10) ÷ (+70) ISO VG680	KLUBERSYNTH GH 6-680	
	SHELL	(-10) ÷ (+70) ISO VG680		OMALA OIL 680
식품용 고온오일 / Oils for high temperature – Food	KLUBER	(-10) ÷ (+50) ISO VG460	KLUBEROIL 4 UH1-460N	
식품용 오일 / Food sector	KLUBER	(-15) ÷ (+40) ISO VG320	KLUBEROIL 4 UH1-220N	

- 특수오일이 필요한 경우 당사의 문의 바람.
- If 'special' lubricant is required please contact for Technical Assistance

윤활유 / Lubrication

	미네랄 오일/ Mineral oil						
	*T°C ISO/SAE	ENI	SHELL	KLUBER	MOBIL	CASTROL	BP
B 060 ÷ 160	(-5) ÷ (+40) ISO VG220	BLASIA 220	OMALA OIL220	Kluber oil GEM 1-220N	MOBILGEAR 600 XP220	ALPHASP 220	ENERGOL GR-XP 220
	(-15) ÷ (+25) ISO VG150	BLASIA 150	OMALA OIL150	Kluber oil GEM 1-150N	MOBILGEAR 600 XP150	ALPHASP 150	ENERGOL GR-XP 150
B A40 ÷ A70	(-5) ÷ (+40) SAE 85W-140	ROTRA MP (85W-140)	SPIRAX ST (80W-140)	-	-	-	-

- 규격(품)공급
- standard supply

- Motovario S.p.A에서 권장하는 윤활유 규격
- Specifications of lubricants recommended by Motovario S.p.A.

* 주변온도
* Working ambient temperature

• B 시리즈의 감속기는 항상 취부위치를 지정해야 한다.
• BA 시리즈의 2, 3단 감속기와 B063은 윤활유가 충진이 되어 출고되며 플러그등이 없으며 윤활유에 대한 유지보수가 필요없다.(반영구적 사용)
• B 시리즈의 감속기중 083, 103, 123, 143, 153, 163의 모델은 취부위치에 따라 윤활유와 플러그등이 장착이 되어 출고 된다.
• 사용하기 전에 제공된 AIR BENT 플러그를 교체후 사용해야 한다. 교체하지 않은 경우 고장의 원인이 된다.

• For the reduction units B series it is always necessary to specify the mounting position.
• The reduction units BA// series with 2, 3 stages and B060, are supplied complete with lubricant, have no oil plugs and need no maintenance.
• The gear reducer B series sizes 080, 100, 125, 140, 150, 160 are supplied complete with lubricant and are fitted with oil plugs to suit any mounting position included in the catalogue.
• It is recommended, after installation, to replace the closed plug used for transportation with the supplied breather plug.

특수오일 / Special lubricants				
		*T°C	합성오일 / Synthetic oil	
			B	BA
저온오일 / Oil for low temperature	ENI	(-25) ÷ (+20)	BLASIA 150 S (ISO VG150)	BLASIA 220 S (ISO VG220)
	KLUBER	(-35) ÷ (+10)	KLUBERSYNTH GH 6-80 (ISO VG68)	KLUBERSYNTH GH 6-150 (ISO VG150)
	MOBIL	(-40) ÷ (+5)	SCH 624 (ISO VG32)	SCH 626 (ISO VG68)
	KLUBER	(-40) ÷ (+5)	KLUBERSYNTH GH 6-32 (ISO VG32)	
식품용 저온오일 / Oils for low temperature - Food sector	KLUBER	(-30) ÷ (+10)	KLUBERSYNTH UH1-6 100 (ISO VG100)	
고온오일 / Oils for high temperature	KLUBER	(-10) ÷ (+50)	KLUBERSYNTH GH 6-460 (ISO VG460)	-
	KLUBER	(-10) ÷ (+70)	KLUBERSYNTH GH 6-680 (ISO VG680)	
식품용 고온오일 / Oils for high temperature - Food	KLUBER	(-10) ÷ (+50)	KLUBERSYNTH UH1-6 460 (ISO VG460)	KLUBERSYNTH UH1-6 680 (ISO VG680)
식품용 오일 / Food sector	KLUBER	(-15) ÷ (+40)	KLUBERSYNTH UH1-6 220 (ISO VG220)	KLUBERSYNTH UH1-6 460 (ISO VG460)

- 특수오일이 필요한 경우 당사의 문의 바람.
- If 'special' lubricant is required please contact for Technical Assistance.

윤활유 / Lubrication

	미네랄 오일 / Mineral oil						
	*T°C ISO VG...	ENI	SHELL	KLUBER	MOBIL	CASTROL	BP
S 050 ÷ 150	(-5) ÷ (+40) ISO VG220	BLASIA 220	OMALA OIL220	KLUBER GEM 1-220N	MOBILGEAR 600 XP200	ALPHA SP 220	ENERGOL GR-XP220
	(-15) ÷ (+25) ISO	BLASIA 150	OMALA OIL150	KLUBER GEM 1-150N	MOBILGEAR 600 XP150	ALPHA SP 150	ENERGOL GR-XP150

- 규격(품)공급
- standard supply

- Motovario S.p.A에서 권장하는 윤활유 규격
- Specifications of lubricants recommended by Motovario S.p.A.

* 주변온도
* Working ambient temperature

• S 시리즈의 2, 3단 감속기는 항상 취부위치를 지정해야 한다.
• S 시리즈의 2, 3단 감속기중 050과 060의 모델은 윤활유가 충진이 되어 출고되어 플러그등이 없으며 오일에 대한 유지보수가 필요없다.(반영구적 사용)
• S 시리즈의 2, 3단 감속기중 080, 100, 125의 모델은 취부위치에 따라 오일과 플러그등이 장착되어 출고 된다.
• S 시리즈의 2, 3단 감속기중 140, 150의 모델은 오일이 없이 출고 되며 취부위치에 따라 오일량과 플러그의 위치를 확인해서 교체한다.
• 사용하기 전에 제공된 AIR BENT 플러그를 교체후 사용해야 한다. 교체하지 않을 경우 고장의 원인이 된다.

• For the gear reducers S series with 2, 3 stages it is always necessary to specify the envisaged position.
• The gear reducers S series ... with 2, 3 stages sizes 050, 060 are supplied complete with lubricant, have no oil plugs and need no maintenance.
• The gear reducers S series with 2, 3 stages sizes 080, 100, 125 are supplied complete with lubricant and are fitted with oil plugs to suit any mounting position included in the catalogue.
• It is recommended, after installation, to replace the closed plug used for transportation with the supplied breather plug.

특수오일 / Special lubricants			
		*T°C ISO VG...	합성오일 / Synthetic oil
저온오일 / Oil for low temperature	ENI	(−25) ÷ (+20)	BLASIA 150 S(ISO VG150)
	KLUBER	(−35) ÷ (+10)	Klubersynth GH 6−80(ISO VG68)
	MOBIL	(−40) ÷ (+5)	SCH 624(ISO VG32)
	KLUBER	(−40) ÷ (+5)	Klubersynth GH 6−32(ISO VG32)
식품용 저온오일 / Oils for low temperature − Food sector	KLUBER	(−30) ÷ (+10)	Klubersynth UH 1−6 100(ISO VG100)
고온오일 / Oils for high temperature	KLUBER	(−10) ÷ (+50)	Klubersynth GH 6−460(ISO VG460)
	KLUBER	(−10) ÷ (+70)	Klubersynth GH 6−680(ISO VG680)
식품용 고온오일 / Oils for high temperature − Food	KLUBER	(−10) ÷ (+50)	Klubersynth UH 1−6 460(ISO VG460)
식품용 오일 / Food sector	KLUBER	(−15) ÷ (+40)	Klubersynth UH 1−6 220(ISO VG220)

− 특수오일이 필요한 경우 당사의 문의 바람.
− If 'special' lubricant is required please contact for Technical Assistance.

윤활유 / Lubrication

H-CH	H A41	CHA41	A51	A61	A32	A42	A52	A62	A33	A43	A53	A63
B3-B5	0.23	0.13	0.25	0.62	0.68	0.7	1.23	1.9	1.1	1.16	1.9	2.4
B8												
B6-B7												
V5-V1							1.6	2.1			2.5	3.1
V6-V3												

H-CH	041	051	061	081	101	121	041M	051M	061M	081M	101M	121M
B3-B5	0.5	0.7	0.7	1.45	3.5	4.7	0.5	0.5	0.5	1.5	3.5	3.9
B8	0.5	0.5	0.5	1.5	3.5	3.9	0.5	0.7	0.7	1.45	3.5	4.7
B6-B7	0.5	0.7	0.7	1.5	3.5	4.1	0.5	0.7	0.7	1.5	3.5	4.1
V5-V1	0.5	0.7	0.9	1.5	3.5	4.7	0.5	0.7	0.9	1.5	3.5	4.7
V6-V3	0.5	0.7	0.7	1.5	3.5	4.1	0.5	0.7	0.7	1.5	3.5	4.1

H-CH	032/..3	042/..3	052/..3	062/..3	082/..3	102/..3	122/..3	142/..3
B3-B5	0.8	1.2	1.4	2.4	4.5	8.1	12.5	22.5
B8	0.85	1.2	1.4	3.1	5	8.9	12.5	20
B6-B7	1	1.2	1.8	3	4.6	8.4	12.1	22.5
V5-V1	1.3	1.75	2.15	3.9	7.6	12.7	20.5	30.5
V6-V3	1.2	1.7	2.1	4.4	7.5	14.2	21	38

B	A42	A52	A53	A72	A73
B3-B5	0.33	0.42	0.63	1	1.21
B6-B7					
V5-V6					

CB	A42	A52	A53	A72	A73
B3-B5	0.33	0.42	0.55	1	1.13
B6-B7					
V5-V6					

B - CB	063	083	103	123	143	153	163
B3	1.2	2.5	3.7	5.7	11.1	19	33
B8	1.5	2.8	4.2	7.9	13	17.5	42.8
B6	1.5	2.8	3.9	7.3	11.8	19	34
B7							30
V5	2.1	3.7	7	9.9	18.5	32.5	54.5
V6	1.3	2.6	4.5	6.7	10.8	16.5	37.3

S - CS	052 - 053	062 - 063	082 - 083	102 - 103	122 - 123	142	143	152	153
B3	2.05	2.4	6	9	14.7	22	20	29.7	27
B8	1.8	2.3	4	6	11.8	20	20	31	31
B6	2.4	2.9	5.7	8	16	22(25)	18(24.5)	29.3(42)	24(40)
B7	2.1	2.6	4.5	6.8	11.3	17.5	14	22.5	18
V5	2.8	3.5	6.8	10.3	19	24.5	23.5	34.4	33
V6	2.4	2.9	6.4	9.9	18	20.8	20	33.3	32

- 오일량 리터(ℓ) ~
- Quantity of oil in litres~

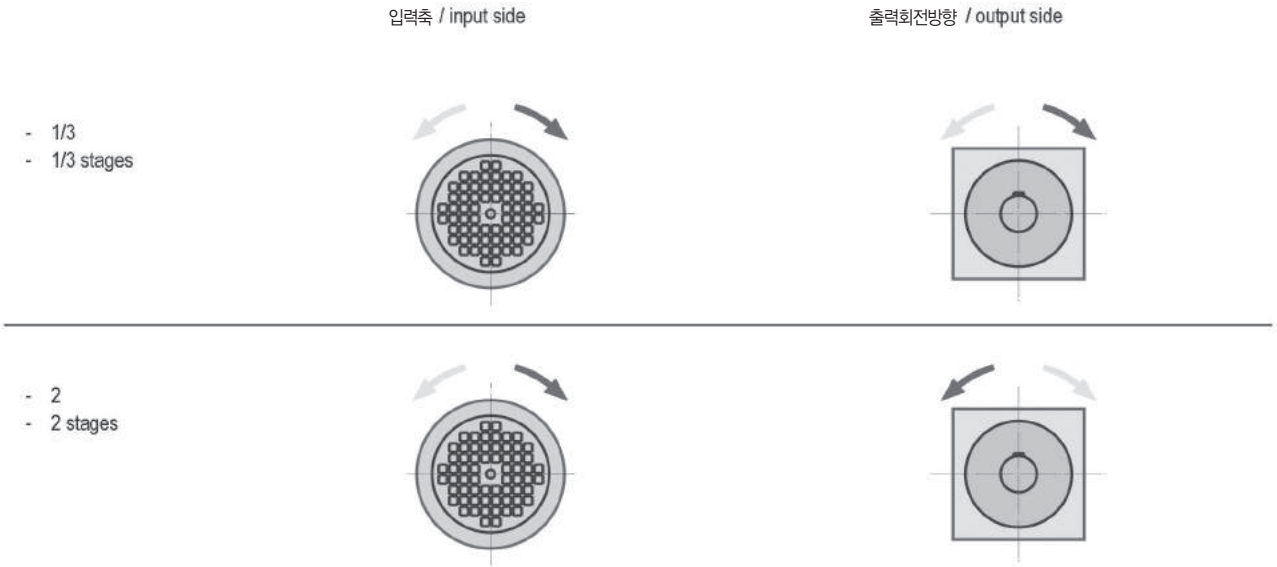
오일양 (Lubrication) KO

윤활유 양의 지표는 감속기가 공급되었을 때 오일창을 통해 오일이 충진 되었는지를 확인해야 한다.
오일양의 차이는 취부위치와 고객의 조립방식에 의해서 달라진다.
따라서 고객은 정확한 취부위치를 확인하고 정량의 오일량을 주입하는 것이 매우 중요하다.
플러그와 함께 제공된 감속기내의 무게는 윤활유를 포함하지 않는 무게이다.
※ S140, 150 사이즈의 감속기는 오일이 없이 출고된다.

Lubrication UK

Lubricant quantities are only indicative. For correct filling always refer to the sight glass or the dipstick, when this is supplied. Any oil level differences can be caused by constructive tolerances but also on the mounting position or the assembly scheme of the customer. Therefore it is very important for the customer to check oil level and if necessary to add the necessary quantity.
For all the gear reducers provided with plugs, the weights on the dimensional tables do not include the weight of the lubricant.
※ The gear reducers S series with 2, 3 stages sizes 140, 150are supplied without lubricant

역회전 방지 / Backstop device



역회전 방지 (Backstop device)

KO

주문시 감속기의 입력 샤프트에 역회전방지를 공급할 수 있다. 역회전방지는 출력 샤프트의 한쪽방향으로만 회전한다. 사이즈는 입력 플렌지나 모터 치수와 같은 사이즈로 가능함(I.EC.PAM Type으로만 가능함)
주문시 필요로 하는 방향을 명시하는 것이 중요하다.(H.B.S시리즈 가능함)

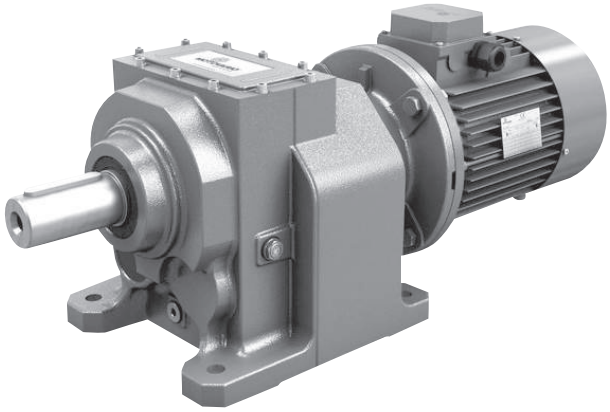
Backstop device

UK

The gear reducer can be supplied with backstop device on input shaft. Backstop device allows output shaft rotation in only one sense of direction; according to the size, it is available in the input flange or in the motor with the same dimensions. it is required to specify on the order the sense of direction, clockwise or counterclockwise, input side.

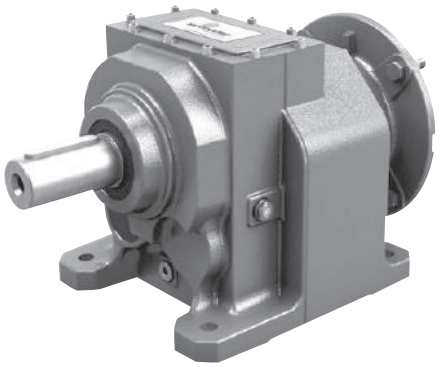
메모 / Notes

H SERIES

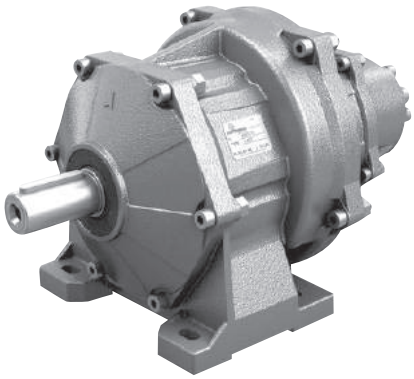


CH

헬리컬 기어드 모터와 헬리컬 기어 유니트
Helical geared motors and helical gear units



H



IH

MOTOVARIO
HEART OF MOTION
a TECO Group company

모델형식 / Designation

H	F	063	FA	118	160x14	250x40	B3
H		A32 - A33	FA	1,23	PAM		B3
PH	F	A41 - A42 - A43	FB	.....	ECE		B5
CH	U	A51 - A52 - A53	FC	.....			B8
IH	M	A61 - A62 - A63		.....			B6
		032 - 033		.....			B7
		041 - 042 - 043		353,98			V5
		051 - 052 - 053					V1
		061 - 062 - 063					V6
		081 - 082 - 083					V3
		101 - 102 - 103					
		121 - 122 - 123					
		142 - 143					

I.E.C. PAM플랜지
PAM Motoreducer
플렉시블 커플링 PAM 플랜지
H
PH

모터일체형
Compact Motoreducer
CH

입력샤프트(양축형)
Gear Reducer
IH

버전
Version

형번
Size

알루미늄 시리즈
Aluminium alloy series
A5..

주철 시리즈
Cast iron series
08..

감속비
Reduction ratio

출력플랜지
Output flange

입력치수
Input dimensions

P (PAM)
(160x14)
입력PAM플랜지 치수
Fitted for motor coupling

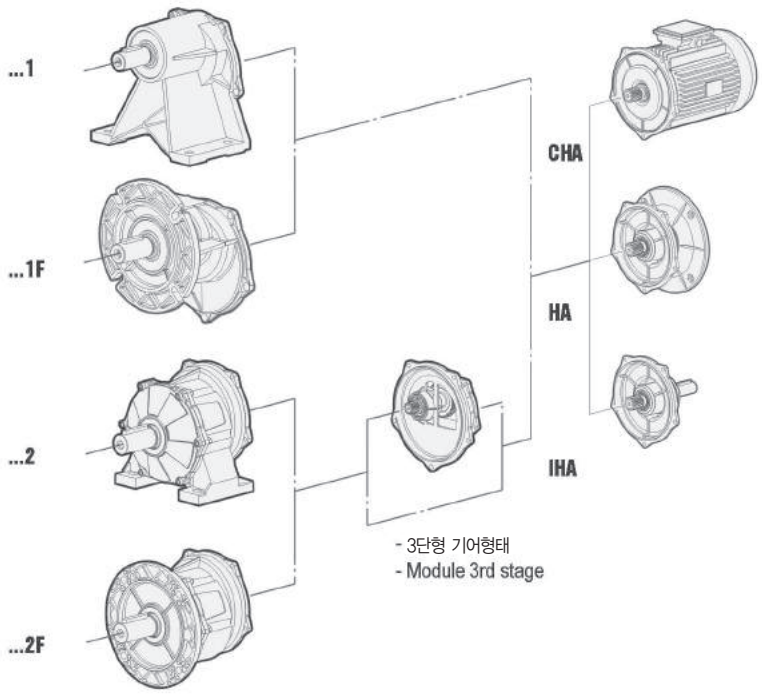
E (ECE)
(28)
입력축 치수
Input shaft diameter

출력치수
Output dimensions

취부형태
Mounting position

모듈방식 / Modularity

HA 알루미늄 시리즈 / Aluminium alloy series.

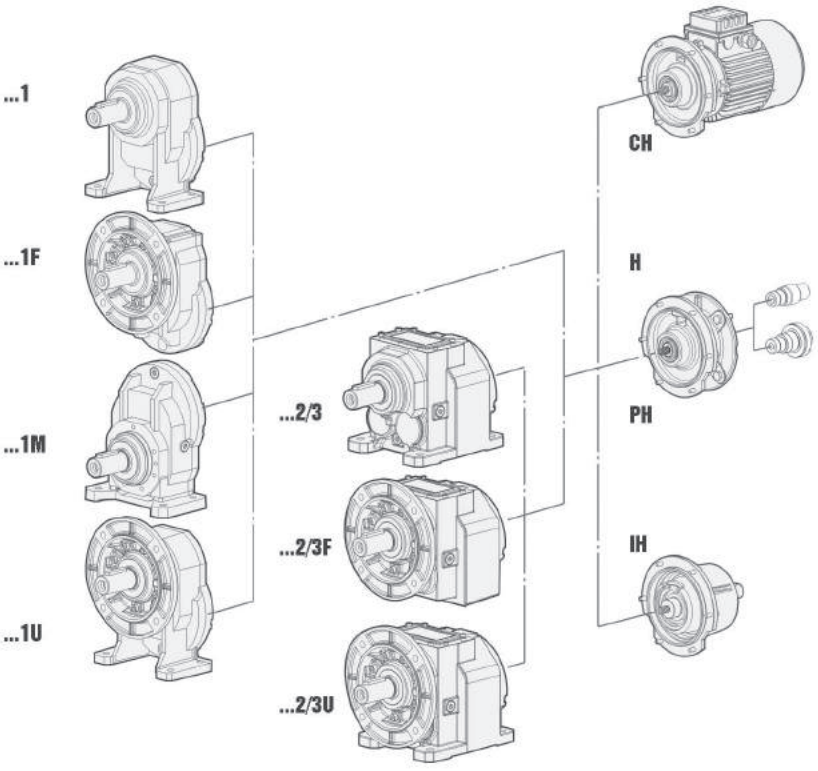


CHA - 기어드 모터
- Compact electric motor versions.

HA - I.E.C 플랜지 모터 취부형태
- Fitted for motor coupling version (PAM).

IHA - 입력 샤프트형
- Input shaft versions.

H 주철 시리즈 / Grey cast iron series.



CH - 기어드 모터
- Compact electric motor versions.

H - I.E.C 플랜지 PAM모터 취부형태
- Fitted for motor coupling version (PAM).

PH - 플렉시블 커플링형
- Fitted for motor mounting with flexible coupling.

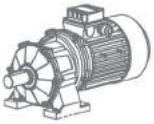
IH - 입력 샤프트형
- Input shaft versions.

버전 / Versions

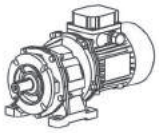
CH - H - IH
알루미늄 시리즈
Aluminium alloy series.


A41 - A51 - A61

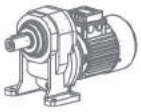

A41F - A51F - A61F


A32 - A33 - A42 - A43 - A52 - A53 - A62 - A63


A32F - A33F - A42F - A43F - A52F - A53F - A62F - A63F

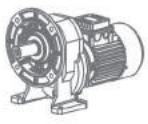

A32U - A33U - A42U - A43U - A52U - A53U - A62U - A63U

CH - H - PH - IH
주철 시리즈
Grey cast iron series.

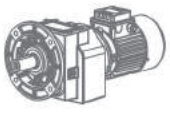

041 - 051 - 061 - 081 - 101 - 121

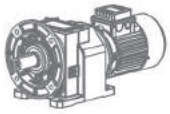

041F - 051F - 061F - 081F - 101F - 121F


041M - 051M - 061M - 081M - 101M - 121M


041U - 051U - 061U - 081U - 101U - 121U


032 - 033 - 042 - 043 - 052 - 053 - 062 - 063
082 - 083 - 102 - 103 - 122 - 123 - 142 - 143


032F - 033F - 042F - 043F - 052F - 053F - 062F - 063F
082F - 083F - 102F - 103F - 122F - 123F - 142F - 143F


032U - 033U - 042U - 043U - 052U - 053U - 062U - 063U
082U - 083U - 102U - 103U - 122U - 123U - 142U - 143U

- 풋 마운트형
- Casing with foot

F - 플랜지형
- Casing with flange

U - 풋-플랜지형
- Casing universal

M - 모노형
- Casing mono

감속비에 따른 모터 취부 분류 / Predisposition

CH..A30 - A40 - A50 - A60

	I	063	071	080	090	100	112
CH A32	5.38 – 30.55	B10	B10	B10			
CH A32	35.44 – 60.67	B10	B10				
CH A33	51.32 – 166.61	B10	B10				
CH A33	193.3 – 347.29	B10	B10	B10			
CH A41	1.45 – 5.45	B10	B10	B10			
CH A41	7.88 – 10.83	B10	B10				
CH A42	5.38 – 30.55	B10	B10	B10	B10		
CH A42	35.44 – 60.67	B10	B10				
CH A43	51.32 – 166.61	B10	B10	B10	B10		
CH A43	193.3 – 347.29	B10	B10				
CH A51	1.45 – 5.45	B10	B10	B10	B10		
CH A51	7.88 – 10.83	B10	B10				
CH A52	5.14 – 25.43			B10	B10	B10	B10
CH A52	29.89 – 61.87			B10	B10		
CH A53	49.8 – 163.05	B10	B10	B10	B10		
CH A53	200.27 – 353.98	B10	B10				
CH A61	1.33 – 4.38			B10	B10	B10	B10
CH A61	7.75 – 10.67			B10	B10		
CH A62	5.14 – 25.43			B10	B10	B10	B10
CH A62	29.89 – 61.87			B10	B10		
CH A63	49.8 – 163.87	B10	B10	B10	B10		
CH A63	200.27 – 353.98	B10	B10				

CH..A30 - A40 - A50 - A60

	I	063	071	080	090	100	112
H A32	5.38 – 30.55	B5	B5 – B14	B5 – B14			
H A32	35.44 – 60.67	B5	B5 – B14				
H A33	51.32 – 166.61	B5	B5 – B14				
H A33	193.3 – 347.29	B5	B5 – B14	B5 – B14			
H A41	1.45 – 5.45	B5	B5 – B14	B5 – B14			
H A41	7.88 – 10.83	B5	B5 – B14				
H A42	5.38 – 30.55	B5	B5 – B14	B5 – B14	B5 – B14		
H A42	35.44 – 60.67	B5	B5 – B14				
H A43	51.32 – 166.61	B5	B5 – B14	B5 – B14	B5 – B14		
H A43	193.3 – 347.29	B5	B5 – B14				
H A51	1.45 – 5.45	B5	B5 – B14	B5 – B14	B5 – B14		
H A51	7.88 – 10.83	B5	B5 – B14				
H A52	5.14 – 25.43			B5 – B14	B5 – B14	B5 – B14	B5 – B14
H A52	29.89 – 61.87			B5 – B14	B5 – B14		
H A53	49.8 – 163.05	B5	B5 – B14	B5 – B14	B5 – B14		
H A53	200.27 – 353.98	B5	B5 – B14				
H A61	1.33 – 4.38			B5 – B14	B5 – B14	B5 – B14	B5 – B14
H A61	7.75 – 10.67			B5 – B14	B5 – B14		
H A62	5.14 – 25.43			B5 – B14	B5 – B14	B5 – B14	B5 – B14
H A62	29.89 – 61.87			B5 – B14	B5 – B14		
H A63	49.8 – 163.87	B5	B5 – B14	B5 – B14	B5 – B14		
H A63	200.27 – 353.98	B5	B5 – B14				

- B=10 특수 모터(감속기 모터 일체형)
- Motor with special execution
- 테이블 표에 표시된것은 모두 가능함. 단, 안전계수를 필히 확인하시기 바람.
- Teses tables report all possible dimensions, Please verify service factor.

감속비에 따른 모터 취부 분류 / Predisposition

CH - H - PH ...032

i	071	080	090	100	112
4.70	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
6.23	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
7.76	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
8.67	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
10.17	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
11.76	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
13.72	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
14.66	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
16.77	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
18.20	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
19.90	B5-B11	B5-B11	B5-B11		
22.68	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
23.83	B5-B11	B5-B11	B5-B11		
26.39	B5-B11	B5-B11	B5-B11		
29.70	B5-B11	B5-B11	B5-B11		
32.89	B5-B11	B5-B11	B5-B11		
37.92	B5-B11	B5-B11	B5-B11		
41.40	B5-B11	B5-B11	B5-B11		
47.25	B5-B11	B5-B11	B5-B11		

CH - H - PH ...033

i	063	071	080	090
53.59	B5-B11	B5-B11	B5-B11	B5-B11
66.78	B5-B11	B5-B11	B5-B11	B5-B11
74.84	B5-B11	B5-B11	B5-B11	B5-B11
99.27	B5-B11	B5-B11	B5-B11	B5-B11
100.05	B5-B11	B5-B11		
123.71	B5-B11	B5-B11	B5-B11	B5-B11
143.33	B5-B11	B5-B11		
178.61	B5-B11	B5-B11		
197.17	B5-B11	B5-B11		
245.70	B5-B11	B5-B11		

CH - H - PH ...041

i	071	080	090
1.44	B5-B11	B5-B11	B5-B11
2.00	B5-B11	B5-B11	B5-B11
2.55	B5-B11	B5-B11	B5-B11
2.71	B5-B11	B5-B11	B5-B11
3.11	B5-B11	B5-B11	B5-B11
3.59	B5-B11	B5-B11	B5-B11
4.20	B5-B11	B5-B11	B5-B11
5.00	B5-B11	B5-B11	B5-B11
5.50	B5-B11	B5-B11	B5-B11
6.09	B5-B11	B5-B11	B5-B11
7.67	B5-B11	B5-B11	B5-B11
8.75	B5-B11	B5-B11	B5-B11

CH - H - PH ...042

i	071	080	090	100	112
5.46	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
7.19	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
8.91	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
10.31	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
11.80	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
13.57	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
15.96	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
19.00	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
21.00	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
23.15	B5-B11	B5-B11	B5-B11		
26.04	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
27.50	B5-B11	B5-B11	B5-B11		
30.45	B5-B11	B5-B11	B5-B11		
34.10	B5-B11	B5-B11	B5-B11		
37.76	B5-B11	B5-B11	B5-B11		
43.75	B5-B11	B5-B11	B5-B11		
47.53	B5-B11	B5-B11	B5-B11		
54.25	B5-B11	B5-B11	B5-B11		

CH - H - PH ...043

i	063	071	080	090
61.83	B5-B11	B5-B11	B5-B11	B5-B11
76.67	B5-B11	B5-B11	B5-B11	B5-B11
87.05	B5-B11	B5-B11	B5-B11	B5-B11
114.55	B5-B11	B5-B11	B5-B11	B5-B11
125.69	B5-B11	B5-B11		
142.04	B5-B11	B5-B11	B5-B11	B5-B11
165.38	B5-B11	B5-B11		
205.07	B5-B11	B5-B11		
227.50	B5-B11	B5-B11		
282.10	B5-B11	B5-B11		

- B = 11 특수 모터(감속기 모터 일체형)
- Motor with special execution
- 테이블 표에 표시된것은 모두 가능함. 단, 안전계수를 필히 확인하시기 바람.
- Teses tables report all possible dimensions, Please verify service factor.

감속비에 따른 모터 취부 분류 / Predisposition

CH - H - PH ...051

i	071	080	090	100	112
1.27		B5-B11	B5-B11	B5-B11	B5-B11
1.42		B5-B11	B5-B11	B5-B11	B5-B11
2.13		B5-B11	B5-B11	B5-B11	B5-B11
2.57	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
3.17	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
3.69	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
4.00	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
4.77	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
5.25	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
5.82	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
7.33	B5-B11	B5-B11	B5-B11		
8.38	B5-B11	B5-B11	B5-B11		

CH - H - PH ...052

i	071	080	090	100	112
5.73		B5-B11	B5-B11	B5-B11	B5-B11
6.89		B5-B11	B5-B11	B5-B11	B5-B11
8.53		B5-B11	B5-B11	B5-B11	B5-B11
9.56		B5-B11	B5-B11	B5-B11	B5-B11
11.51		B5-B11	B5-B11	B5-B11	B5-B11
14.24		B5-B11	B5-B11	B5-B11	B5-B11
16.59	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
18.00	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
19.97	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
21.67	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
24.71	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
26.18	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
28.44	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
31.52	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
33.00	B5-B11	B5-B11	B5-B11		
38.98	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
45.36	B5-B11	B5-B11	B5-B11		
49.13	B5-B11	B5-B11	B5-B11		
56.11	B5-B11	B5-B11	B5-B11		

CH - H - PH ...053

i	063	071	080	090
58.81	B5-B11	B5-B11	B5-B11	B5-B11
72.75	B5-B11	B5-B11	B5-B11	B5-B11
90.51	B5-B11	B5-B11	B5-B11	B5-B11
108.95	B5-B11	B5-B11	B5-B11	B5-B11
134.76	B5-B11	B5-B11	B5-B11	B5-B11
157.29	B5-B11	B5-B11		
194.56	B5-B11	B5-B11		
216.38	B5-B11	B5-B11		
267.65	B5-B11	B5-B11		

CH - H - PH ...061

i	080	090	100	112
1.34	B5-B11	B5-B11	B5-B11	B5-B11
2.13	B5-B11	B5-B11	B5-B11	B5-B11
2.57	B5-B11	B5-B11	B5-B11	B5-B11
3.17	B5-B11	B5-B11	B5-B11	B5-B11
3.69	B5-B11	B5-B11	B5-B11	B5-B11
4.00	B5-B11	B5-B11	B5-B11	B5-B11
4.77	B5-B11	B5-B11	B5-B11	B5-B11
5.25	B5-B11	B5-B11	B5-B11	B5-B11
5.82	B5-B11	B5-B11	B5-B11	B5-B11
7.33	B5-B11	B5-B11	B5-B11	B5-B11
8.38	B5-B11	B5-B11	B5-B11	B5-B11

CH - H - PH ...062

i	080	090	100	112	132
5.38	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
5.93	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
7.39	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
8.50	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
9.39	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
11.69	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
12.67	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
14.75	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
16.29	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
17.67	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
20.28	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
23.27	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
25.70	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
29.33	B5-B11	B5-B11	B5-B11	B5-B11	
32.00	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
36.99	B5-B11	B5-B11	B5-B11	B5-B11	
40.33	B5-B11	B5-B11	B5-B11	B5-B11	
46.06	B5-B11	B5-B11	B5-B11	B5-B11	

CH - H - PH ...063

i	071	080	090	100	112
49.45		B5-B11	B5-B11	B5-B11	B5-B11
54.61		B5-B11	B5-B11	B5-B11	B5-B11
68.00		B5-B11	B5-B11	B5-B11	B5-B11
85.82	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
94.76	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
118.00	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
135.40	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
149.51	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
170.67	B5-B11	B5-B11	B5-B11		
186.18	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
215.21	B5-B11	B5-B11	B5-B11		
234.67	B5-B11	B5-B11	B5-B11		
268.00	B5-B11	B5-B11	B5-B11		

- B = 11 특수 모터(감속기 모터 일체형)
- Motor with special execution
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- Teses tables report all possible dimensions, Please verify service factor.

감속비에 따른 모터 취부 분류 / Predisposition

CH - H - PH ...081

i	080	090	100	112	132
1.30					B5-B11
1.43					B5-B11
1.93					B5-B11
2.54			B5-B11	B5-B11	B5-B11
3.25			B5-B11	B5-B11	B5-B11
3.72			B5-B11	B5-B11	B5-B11
4.00			B5-B11	B5-B11	B5-B11
4.67			B5-B11	B5-B11	B5-B11
5.54	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
6.08	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
7.50	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
8.44	B5-B11	B5-B11	B5-B1	B5-B11	B5-B11

CH - H - PH ...082

i	080	090	100	112	132	160
5.39					B5-B11	B5
5.95					B5-B11	B5
7.39					B5-B11	B5
8.02					B5-B11	B5
8.85					B5-B11	B5
11.01					B5-B11	B5
13.50			B5-B11	B5-B11	B5-B11	B5
14.90			B5-B11	B5-B11	B5-B11	B5
16.60			B5-B11	B5-B11	B5-B11	B5
18.53			B5-B11	B5-B11	B5-B11	B5
19.38			B5-B11	B5-B11	B5-B11	B5
21.39			B5-B11	B5-B11	B5-B11	B5
22.80			B5-B11	B5-B11	B5-B11	B5
26.60			B5-B11	B5-B11	B5-B11	B5
27.90	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
31.15	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
34.38	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
38.70	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
42.75	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
48.13	B5-B11	B5-B11	B5-B1	B5-B1	B5-B1	

CH - H - PH ...083

i	080	090	100	112	132
56.53	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
71.48	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
78.87	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
85.60	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
98.09	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
112.78	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
124.44	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
142.15	B5-B11	B5-B11	B5-B11	B5-B11	
154.76	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
162.35	B5-B11	B5-B11			
179.13	B5-B11	B5-B11			
195.07	B5-B11	B5-B11			
222.78	B5-B11	B5-B11			

CH - H - PH ...101

i	100	112	132	160	180
1.29			B5-B11	B5	B5
1.41			B5-B11	B5	B5
2.03			B5-B11	B5	B5
2.48			B5-B11	B5	B5
3.27	B5-B11	B5-B11	B5-B11	B5	B5
3.70	B5-B11	B5-B11	B5-B11	B5	B5
4.22			B5-B11	B5	B5
4.88	B5-B11	B5-B11	B5-B11	B5	B5
5.27	B5-B11	B5-B11	B5-B11	B5	B5
6.23	B5-B11	B5-B11	B5-B11	B5	
7.55	B5-B11	B5-B11	B5-B11	B5	
8.40	B5-B11	B5-B11	B5-B11	B5	

CH - H - PH ...102

i	100	112	132	160	180
5.26			B5-B11	B5	B5
6.36			B5-B11	B5	B5
7.05			B5-B11	B5	B5
8.27			B5-B11	B5	B5
9.99			B5-B11	B5	B5
11.09			B5-B11	B5	B5
13.32	B5-B11	B5-B11	B5-B11	B5	B5
16.09	B5-B11	B5-B11	B5-B11	B5	B5
17.85	B5-B11	B5-B11	B5-B11	B5	B5
19.80	B5-B11	B5-B11	B5-B11	B5	B5
21.44	B5-B11	B5-B11	B5-B11	B5	B5
24.00	B5-B11	B5-B11	B5-B11	B5	B5
25.89	B5-B11	B5-B11	B5-B11	B5	B5
28.73	B5-B11	B5-B11	B5-B11	B5	B5
30.70	B5-B11	B5-B11	B5-B11	B5	
34.20	B5-B11	B5-B11	B5-B11	B5	
38.45	B5-B11	B5-B11	B5-B11		
41.30	B5-B11	B5-B11	B5-B11	B5	
45.82	B5-B11	B5-B11	B5-B11	B5	
51.52	B5-B11	B5-B11	B5-B11		

CH - H - PH ...103

i	090	100	112	132	160
55.47				B5-B11	B5
69.69		B5-B11	B5-B11	B5-B11	B5
79.80		B5-B11	B5-B11	B5-B11	B5
84.16		B5-B11	B5-B11	B5-B11	B5
93.36		B5-B11	B5-B11	B5-B11	B5
100.07		B5-B11	B5-B11	B5-B11	B5
120.84		B5-B11	B5-B11	B5-B11	B5
134.06		B5-B11	B5-B11	B5-B11	B5
143.40	B5-B11	B5-B11	B5-B11	B5-B11	
160.82	B5-B11	B5-B11	B5-B11	B5-B11	
181.07	B5-B11	B5-B11	B5-B11	B5-B11	
194.21	B5-B11	B5-B11	B5-B11	B5-B11	
215.45	B5-B11	B5-B11	B5-B11	B5-B11	
242.59	B5-B11	B5-B11	B5-B11	B5-B11	

- B = 11 특수 모터(감속기 모터 일체형)
- Motor with special execution
- 테이블 표에 표시된것은 모두 가능함. 단, 안전계수를 필히 확인하시기 바람.
- Teses tables report all possible dimensions, Please verify service factor.

감속비에 따른 모터 취부 분류 / Predisposition

CH - H - PH ...121

i	132	160	180	200
1.23		B5	B5	B5
1.42		B5	B5	B5
1.81		B5	B5	B5
2.00	B5-B11	B5	B5	B5
2.48	B5-B11	B5	B5	B5
2.95	B5-B11	B5	B5	B5
3.14	B5-B11	B5	B5	B5
3.58	B5-B11	B5	B5	B5
4.12	B5-B11	B5	B5	B5
4.80	B5-B11	B5	B5	B5
5.21	B5-B11	B5	B5	
6.25	B5-B11	B5	B5	
7.70	B5-B11	B5	B5	

CH - H - PH ...122

i	132	160	180	200
5.27		B5	B5	B5
5.78		B5	B5	B5
7.05		B5	B5	B5
7.74		B5	B5	B5
8.48		B5	B5	B5
10.35		B5	B5	B5
12.66	B5-B11	B5	B5	B5
13.86	B5-B11	B5	B5	B5
16.92	B5-B11	B5	B5	B5
19.30	B5-B11	B5	B5	B5
20.57	B5-B11	B5	B5	B5
22.52	B5-B11	B5	B5	B5
24.50	B5-B11	B5	B5	
27.49	B5-B11	B5	B5	B5
29.90	B5-B11	B5	B5	
33.00	B5-B11	B5	B5	
36.13	B5-B11	B5	B5	
44.10	B5-B11	B5	B5	

CH - H - PH ...123

i	100	112	132	160	180	200
45.77			B5-B11	B5	B5	B5
55.87			B5-B11	B5	B5	B5
67.32	B5-B11	B5-B11	B5-B11	B5	B5	B5
73.71	B5-B11	B5-B11	B5-B11	B5	B5	B5
83.30	B5-B11	B5-B11	B5-B11	B5	B5	B5
89.97	B5-B11	B5-B11	B5-B11	B5	B5	B5
100.30	B5-B11	B5-B11	B5-B11	B5	B5	B5
108.34	B5-B11	B5-B11	B5-B11	B5	B5	B5
118.62	B5-B11	B5-B11	B5-B11	B5	B5	B5
128.20	B5-B11	B5-B11	B5-B11	B5	B5	
144.79	B5-B11	B5-B11	B5-B11	B5	B5	B5
155.20	B5-B11	B5-B11	B5-B11	B5	B5	
172.80	B5-B11	B5-B11	B5-B11	B5	B5	
189.19	B5-B11	B5-B11	B5-B11	B5	B5	
207.40	B5-B11	B5-B11	B5-B11	B5	B5	
230.92	B5-B11	B5-B11	B5-B11	B5	B5	
259.60	B5-B11	B5-B11	B5-B11			

CH - H - PH ...142

i	160	180	200	225
5.27	B5	B5	B5	B5
6.36	B5	B5	B5	B5
7.04	B5	B5	B5	B5
7.84	B5	B5	B5	B5
9.45	B5	B5	B5	B5
10.47	B5	B5	B5	B5
13.07	B5	B5	B5	B5
15.75	B5	B5	B5	B5
17.45	B5	B5	B5	B5
20.04	B5	B5	B5	B5
24.15	B5	B5	B5	B5
26.76	B5	B5	B5	B5
32.24	B5	B5	B5	B5
38.85	B5	B5	B5	B5
43.05	B5	B5	B5	B5

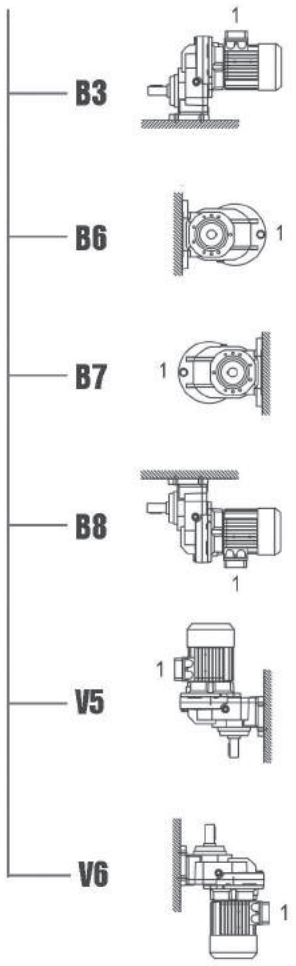
CH - H - PH ...143

i	132	160	180	200
48.35		B5	B5	B5
53.50	B5	B5	B5	B5
59.22	B5	B5	B5	B5
63.00	B5	B5	B5	B5
71.35	B5	B5	B5	B5
79.07	B5	B5	B5	B5
86.40	B5	B5	B5	B5
96.21	B5	B5	B5	B5
104.50	B5	B5	B5	
115.92	B5	B5	B5	B5
128.47	B5	B5	B5	B5
139.60	B5	B5	B5	
154.33	B5	B5	B5	
185.96	B5	B5	B5	
206.08	B5	B5	B5	

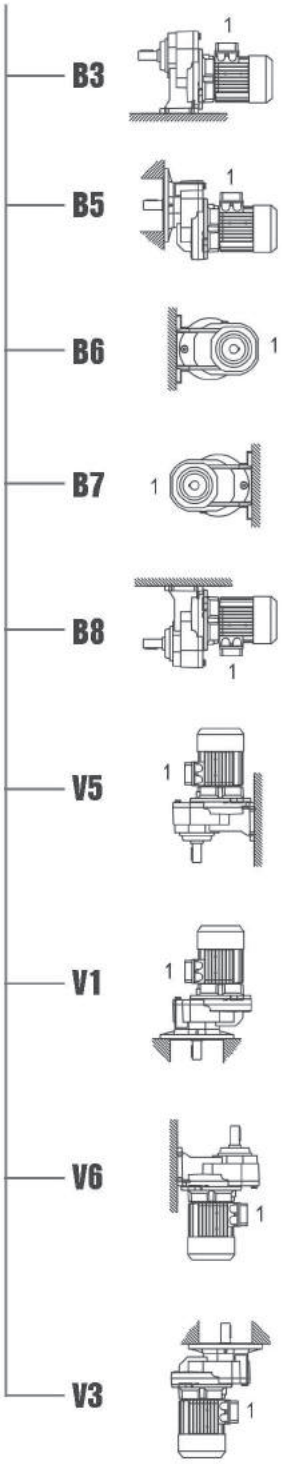
- B = 11 특수 모터(감속기 모터 일체형)
- Motor with special execution
- 테이블 표에 표시된것은 모두 가능함. 단, 안전계수를 필히 확인하시기 바람.
- Teses tables report all possible dimensions, Please verify service factor.

취부 방식 / Mounting positions

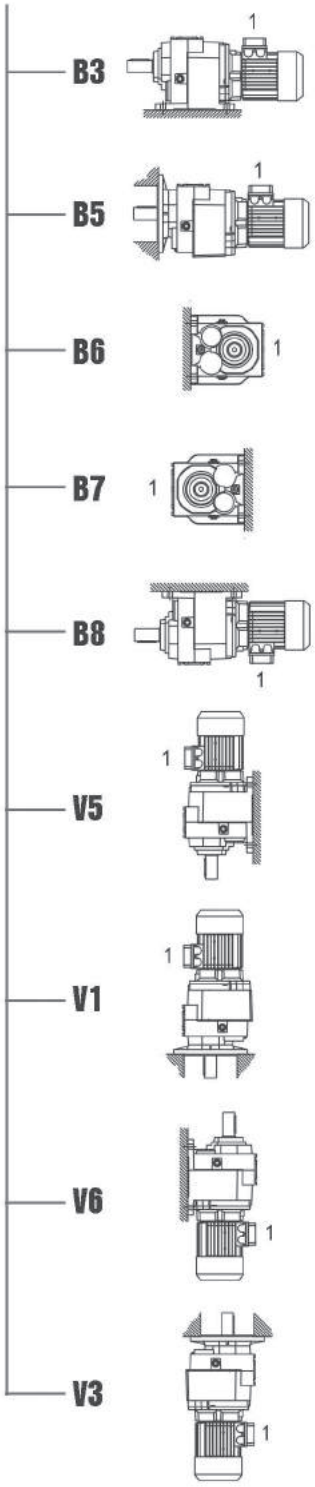
H..1M



H... - HA...1



H... - HA..2/3

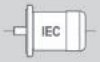


- 수직형의 경우 6페이지를 참조바람
- For vertical positions, check with pages 6.

- 특별한 응용에 적용할 경우에는 당사 기술부로 연락바람
- For positions not envisaged, it is necessary to call our Technical Service.

- 주문시 특별한 요청이 없으면 기본형태인 B3/B5로 납품됨
- Unless specified otherwise, the standard positions are B3/B5.

0,18 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 [N]
26,1	62	3,2	53,59	**H033**	63B4	5500
21,0	77	2,6	66,78	**H033**	63B4	5500
18,7	86	2,3	74,84	**H033**	63B4	5500
14,1	115	1,7	99,27	**H033**	63B4	5500
13,0	125	1,6	108,05	**H033**	63B4	5500
11,3	143	1,4	123,71	**H033**	63B4	5500
9,8	165	1,2	143,33	**H033**	63B4	5500
7,8	206	1,0	178,61	**H033**	63B4	5500
18,3	88	3,4	76,67	**H043**	63B4	6600
16,1	100	3,0	87,05	**H043**	63B4	6600
12,2	132	2,3	114,55	**H043**	63B4	6600
11,1	145	2,1	125,69	**H043**	63B4	6600
9,9	164	1,8	142,04	**H043**	63B4	6600
8,5	191	1,6	165,38	**H043**	63B4	6600
6,8	237	1,3	205,07	**H043**	63B4	6600
6,2	263	1,1	227,5	**H043**	63B4	6600
5,0	326	0,9	282,1	**H043**	63B4	6600
12,9	126	4,0	108,95	**H053**	63B4	8000
10,4	156	3,2	134,76	**H053**	63B4	8000
8,9	182	2,8	157,29	**H053**	63B4	8000
7,2	225	2,2	194,56	**H053**	63B4	8000
6,5	250	2,0	216,38	**H053**	63B4	8000
5,2	309	1,6	267,65	**H053**	63B4	8000
294,7	6	3,9	4,75	**HA31**	63B4	752
274,5	6	3,8	5,1	**HA31**	63B4	770
256,7	6	3,5	5,45	**HA31**	63B4	787
222,2	8	3,1	6,3	**HA31**	63B4	826
177,8	9	2,3	7,88	**HA31**	63B4	890
129,2	13	1,1	10,83	**HA31**	63B4	990
69,1	24	3,8	20,26	**HA32**	63B4	1706
57,0	29	2,9	24,55	**HA32**	63B4	1818
45,8	36	2,2	30,55	**HA32**	63B4	1956
39,5	42	2,2	35,44	**HA32**	63B4	2000
31,7	52	1,7	44,1	**HA32**	63B4	2000
28,7	57	1,4	48,75	**HA32**	63B4	2000
23,1	72	1,3	60,67	**HA32**	63B4	2000
27,3	59	1,7	51,32	**HA33**	63B4	2000
23,5	69	1,5	59,65	**HA33**	63B4	2000
19,4	83	1,2	72,27	**HA33**	63B4	2000
15,6	104	1,0	89,94	**HA33**	63B4	2000
177,8	9	2,7	7,88	**HA41**	63B4	900
129,2	13	1,6	10,83	**HA41**	63B4	1001
45,8	36	3,9	30,55	**HA42**	63B4	4118
39,5	42	3,6	35,44	**HA42**	63B4	4300
31,7	52	2,7	44,1	**HA42**	63B4	4300
28,7	57	2,0	48,75	**HA42**	63B4	4300
23,1	72	1,8	60,67	**HA42**	63B4	4300
27,3	59	2,5	51,32	**HA43**	63B4	4300
23,5	69	2,2	59,65	**HA43**	63B4	4300
19,4	83	1,8	72,27	**HA43**	63B4	4300
15,6	104	1,4	89,94	**HA43**	63B4	4300
12,7	128	1,2	110,51	**HA43**	63B4	4300
10,5	155	1,0	133,88	**HA43**	63B4	4300
129,2	13	1,9	10,83	**HA51**	63B4	2757
18,7	86	3,5	74,88	**HA53**	63B4	6000
15,9	102	3,0	88,02	**HA53**	63B4	6000
12,5	129	2,3	111,61	**HA53**	63B4	6000
10,1	160	1,9	138,71	**HA53**	63B4	6000

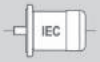
0,18 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 [N]
8,6	188	2,6	163,05	**HA63**	63B4	8000
7,0	231	2,1	200,27	**HA63**	63B4	8000
5,9	272	1,8	235,41	**HA63**	63B4	8000
4,9	329	1,5	284,81	**HA63**	63B4	8000
4,0	409	1,2	353,98	**HA63**	63B4	8000

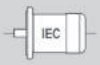
0,37 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 [N]
61,7	55	3,6	22,68	**H032**	71B4	5500
58,7	58	3,5	23,83	**H032**	71B4	5500
53,0	64	3,1	26,39	**H032**	71B4	5500
47,1	72	2,8	29,7	**H032**	71B4	5500
42,6	80	2,5	32,89	**H032**	71B4	5500
36,9	92	2,2	37,92	**H032**	71B4	5500
33,8	100	2,0	41,4	**H032**	71B4	5500
29,6	114	1,7	47,25	**H032**	71B4	5500
26,1	127	1,6	53,59	**H033**	71B4	5500
21,0	158	1,3	66,78	**H033**	71B4	5500
18,7	178	1,1	74,84	**H033**	71B4	5500
280,0	12	3,7	5	**H041**	71B4	1000
254,5	13	3,7	5,5	**H041**	71B4	1000
229,9	15	3,4	6,09	**H041**	71B4	1000
182,6	19	2,7	7,67	**H041**	71B4	1000
160,0	21	2,6	8,75	**H041**	71B4	1000
46,0	74	3,8	30,45	**H042**	71B4	6600
41,1	83	3,4	34,1	**H042**	71B4	6600
37,1	92	3,1	37,76	**H042**	71B4	6600
32,0	106	2,6	43,75	**H042**	71B4	6600
29,5	115	2,4	47,53	**H042**	71B4	6600
25,8	131	2,1	54,25	**H042**	71B4	6600
22,6	147	2,0	61,83	**H043**	71B4	6600
18,3	182	1,6	76,67	**H043**	71B4	6600
16,1	207	1,5	87,05	**H043**	71B4	6600
12,2	272	1,1	114,55	**H043**	71B4	6600
11,1	298	1,0	125,69	**H043**	71B4	6600
24,9	136	3,6	56,11	**H052**	71B4	8000
23,8	140	3,6	58,81	**H053**	71B4	8000
19,2	173	2,9	72,75	**H053**	71B4	8000
15,5	215	2,3	90,51	**H053**	71B4	8000
12,9	258	1,9	108,95	**H053**	71B4	8000
10,4	320	1,6	134,76	**H053**	71B4	8000
8,9	373	1,3	157,29	**H053**	71B4	8000
7,2	462	1,1	194,56	**H053**	71B4	8000
6,5	513	1,0	216,38	**H053**	71B4	8000
14,8	225	3,8	94,76	**H063**	71B4	12000
11,9	280	3,0	118	**H063**	71B4	12000
10,3	321	2,6	135,4	**H063**	71B4	12000
9,4	355	2,4	149,51	**H063**	71B4	12000
8,2	405	2,1	170,67	**H063**	71B4	12000
7,5	442	1,9	186,18	**H063**	71B4	12000
6,5	511	1,7	215,21	**H063**	71B4	12000
6,0	557	1,5	234,67	**H063**	71B4	12000
5,2	636	1,3	268	**H063**	71B4	12000
549,0	6	3,0	2,55	**HA31**	71B4	611

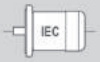
0,37 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 [N]
475,5	7	2,8	2,94	HA31	71B4	641
440,7	8	2,6	3,18	HA31	71B4	657
417,0	8	2,4	3,36	HA31	71B4	670
362,1	9	2,2	3,87	HA31	71B4	702
332,2	10	2,0	4,21	HA31	71B4	722
294,7	12	1,9	4,75	HA31	71B4	752
274,5	12	1,8	5,1	HA31	71B4	770
256,7	13	1,7	5,45	HA31	71B4	787
222,2	15	1,5	6,3	HA31	71B4	826
177,8	19	1,1	7,88	HA31	71B4	890
172,6	20	3,8	8,11	HA32	71B4	1257
128,0	26	3,4	10,94	HA32	71B4	1389
105,7	32	2,5	13,25	HA32	71B4	1481
84,9	40	2,0	16,49	HA32	71B4	1593
69,1	49	1,8	20,26	HA32	71B4	1706
57,0	59	1,4	24,55	HA32	71B4	1818
45,8	74	1,1	30,55	HA32	71B4	1956
39,5	86	1,0	35,44	HA32	71B4	2000
475,5	7	3,5	2,94	HA41	71B4	648
294,7	12	2,6	4,75	HA41	71B4	760
256,7	13	2,2	5,45	HA41	71B4	796
177,8	19	1,3	7,88	HA41	71B4	900
84,9	40	3,5	16,49	HA42	71B4	3353
69,1	49	3,1	20,26	HA42	71B4	3591
57,0	59	2,6	24,55	HA42	71B4	3828
45,8	74	1,9	30,55	HA42	71B4	4118
39,5	86	1,7	35,44	HA42	71B4	4300
31,7	107	1,3	44,1	HA42	71B4	4300
28,7	118	1,0	48,75	HA42	71B4	4300
27,3	122	1,2	51,32	HA43	71B4	4300
23,5	142	1,1	59,65	HA43	71B4	4300
256,7	13	3,7	5,45	HA51	71B4	2194
177,8	19	2,1	7,88	HA51	71B4	2479
129,2	27	0,9	10,83	HA51	71B4	2757
28,1	118	2,5	49,8	HA53	71B4	6000
23,2	143	2,1	60,25	HA53	71B4	6000
18,7	178	1,7	74,88	HA53	71B4	6000
15,9	209	1,4	88,02	HA53	71B4	6000
12,5	265	1,1	111,61	HA53	71B4	6000
10,1	329	0,9	138,71	HA53	71B4	6000
23,2	143	3,4	60,25	HA63	71B4	8000
18,7	178	2,7	74,88	HA63	71B4	8000
15,9	209	2,3	88,02	HA63	71B4	8000
12,5	265	1,8	111,61	HA63	71B4	8000
10,1	329	1,5	138,71	HA63	71B4	8000
8,6	387	1,2	163,05	HA63	71B4	8000
7,0	475	1,0	200,27	HA63	71B4	8000

0,55 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 [N]
138,0	37	3,8	10,14	H032	71C4/80A4	4789
119,0	42	3,4	11,76	H032	71C4/80A4	4987
102,0	49	3,4	13,72	H032	71C4/80A4	5197
95,5	53	3,2	14,66	H032	71C4/80A4	5288

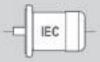
0,55 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 [N]
83,5	60	3,1	16,77	**H032**	71C4/80A4	5474
76,9	66	3,1	18,2	**H032**	71C4/80A4	5500
70,4	72	2,8	19,9	**H032**	71C4/80A4	5500
61,7	82	2,4	22,68	**H032**	71C4/80A4	5500
58,7	86	2,3	23,83	**H032**	71C4/80A4	5500
53,0	95	2,1	26,39	**H032**	71C4/80A4	5500
47,1	107	1,9	29,7	**H032**	71C4/80A4	5500
42,6	118	1,7	32,89	**H032**	71C4/80A4	5500
36,9	137	1,5	37,92	**H032**	71C4/80A4	5500
33,8	149	1,3	41,4	**H032**	71C4/80A4	5500
29,6	170	1,2	47,25	**H032**	71C4/80A4	5500
26,1	189	1,1	53,59	**H033**	71C4/80A4	5500
700,0	7	3,4	2	**H041**	71C4/80A4	761
550,0	9	3,2	2,55	**H041**	71C4/80A4	817
515,8	10	3,0	2,71	**H041**	71C4/80A4	833
450,8	11	3,5	3,11	**H041**	71C4/80A4	866
390,2	13	3,4	3,59	**H041**	71C4/80A4	903
333,3	15	2,9	4,2	**H041**	71C4/80A4	944
280,0	18	2,5	5	**H041**	71C4/80A4	990
254,5	20	2,5	5,5	**H041**	71C4/80A4	1000
229,9	22	2,3	6,09	**H041**	71C4/80A4	1000
182,6	28	1,8	7,67	**H041**	71C4/80A4	1000
160,0	32	1,7	8,75	**H041**	71C4/80A4	1000
73,7	68	3,7	19	**H042**	71C4/80A4	6600
66,7	76	3,3	21	**H042**	71C4/80A4	6600
60,5	83	3,1	23,15	**H042**	71C4/80A4	6600
53,8	94	2,8	26,04	**H042**	71C4/80A4	6600
50,9	99	2,8	27,5	**H042**	71C4/80A4	6600
46,0	110	2,6	30,45	**H042**	71C4/80A4	6600
41,1	123	2,3	34,1	**H042**	71C4/80A4	6600
37,1	136	2,1	37,76	**H042**	71C4/80A4	6600
32,0	158	1,8	43,75	**H042**	71C4/80A4	6600
29,5	171	1,6	47,53	**H042**	71C4/80A4	6600
25,8	195	1,4	54,25	**H042**	71C4/80A4	6600
22,6	218	1,4	61,83	**H043**	71C4/80A4	6600
18,3	270	1,1	76,67	**H043**	71C4/80A4	6600
16,1	307	1,0	87,05	**H043**	71C4/80A4	6600
190,9	27	3,7	7,33	**H051**	71C4/80A4	2500
167,2	30	3,3	8,38	**H051**	71C4/80A4	2500
35,9	140	3,5	38,98	**H052**	71C4/80A4	8000
30,9	163	3,0	45,36	**H052**	71C4/80A4	8000
28,5	177	2,8	49,13	**H052**	71C4/80A4	8000
24,9	202	2,4	56,11	**H052**	71C4/80A4	8000
8,9	555	0,9	157,29	**H053**	71C4	8000
23,8	207	2,4	58,81	**H053**	71C4/80A4	8000
19,2	257	1,9	72,75	**H053**	71C4/80A4	8000
15,5	319	1,6	90,51	**H053**	71C4/80A4	8000
12,9	384	1,3	108,95	**H053**	71C4/80A4	8000
10,4	475	1,1	134,76	**H053**	71C4/80A4	8000
16,3	303	2,8	85,82	**H063**	71C4/80A4	12000
14,8	334	2,5	94,76	**H063**	71C4/80A4	12000
11,9	416	2,0	118	**H063**	71C4/80A4	12000
10,3	478	1,8	135,4	**H063**	71C4/80A4	12000
9,4	527	1,6	149,51	**H063**	71C4/80A4	12000
8,2	602	1,4	170,67	**H063**	71C4/80A4	12000
7,5	657	1,3	186,18	**H063**	71C4/80A4	12000

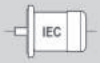
0,55 kW

n2 [1/min]	M2 [Nm]	f.s.	i		IEC	Fr2 [N]
6,5	759	1,1	215,21	H063	71C4/80A4	12000
6,0	828	1,0	234,67	H063	71C4/80A4	12000
9,8	501	3,6	142,15	H083	80A4	18000
9,0	546	3,3	154,76	H083	80A4	18000
8,6	573	3,1	162,35	H083	80A4	18000
7,8	632	2,8	179,13	H083	80A4	18000
7,2	688	2,6	195,07	H083	80A4	18000
6,3	786	2,3	222,78	H083	80A4	18000
274,5	19	1,2	5,1	HA31	71C4	770
256,7	20	1,2	5,45	HA31	71C4	787
222,2	23	1,0	6,3	HA31	71C4	826
549,0	9	2,0	2,55	HA31	71C4/80A4	611
214,8	23	3,4	6,52	HA32	71C4/80A4	1169
172,6	29	2,6	8,11	HA32	71C4/80A4	1257
128,0	39	2,3	10,94	HA32	71C4/80A4	1389
105,7	48	1,7	13,25	HA32	71C4/80A4	1481
84,9	59	1,3	16,49	HA32	71C4/80A4	1593
69,1	73	1,2	20,26	HA32	71C4/80A4	1706
57,0	88	1,0	24,55	HA32	71C4/80A4	1818
475,5	11	2,3	2,94	HA41	71C4/80A4	648
294,7	17	1,7	4,75	HA41	71C4/80A4	760
256,7	20	1,5	5,45	HA41	71C4/80A4	796
39,5	128	1,2	35,44	HA42	71C4	4300
128,0	39	3,8	10,94	HA42	71C4/80A4	2924
105,7	48	2,9	13,25	HA42	71C4/80A4	3117
84,9	59	2,4	16,49	HA42	71C4/80A4	3353
69,1	73	2,1	20,26	HA42	71C4/80A4	3591
57,0	88	1,8	24,55	HA42	71C4/80A4	3828
45,8	110	1,3	30,55	HA42	71C4/80A4	4118
177,8	29	1,4	7,88	HA51	71C4	2479
475,5	11	3,7	2,94	HA51	71C4/80A4	1786
294,7	17	2,9	4,75	HA51	71C4/80A4	2095
256,7	20	2,5	5,45	HA51	71C4/80A4	2194
68,4	74	3,9	20,46	HA52	80A4	4504
55,1	92	3,1	25,43	HA52	80A4	4842
46,8	108	2,8	29,89	HA52	80A4	5110
38,7	130	2,3	36,17	HA52	80A4	5445
31,1	162	1,7	44,95	HA52	80A4	5855
28,1	179	1,7	49,78	HA52	80A4	6000
22,6	223	1,3	61,87	HA52	80A4	6000
28,1	176	1,7	49,8	HA53	71C4/80A4	6000
23,2	212	1,4	60,25	HA53	71C4/80A4	6000
18,7	264	1,1	74,88	HA53	71C4/80A4	6000
15,9	310	1,0	88,02	HA53	71C4/80A4	6000
180,6	28	3,2	7,75	HA61	80A4	3691
131,3	39	1,8	10,67	HA61	80A4	4106
38,7	130	3,6	36,17	HA62	80A4	8000
31,1	162	2,7	44,95	HA62	80A4	8000
28,1	179	2,1	49,78	HA62	80A4	8000
22,6	223	2,0	61,87	HA62	80A4	8000
28,1	176	2,7	49,8	HA63	71C4/80A4	8000
23,2	212	2,3	60,25	HA63	71C4/80A4	8000
18,7	264	1,8	74,88	HA63	71C4/80A4	8000
15,9	310	1,5	88,02	HA63	71C4/80A4	8000
12,5	394	1,2	111,61	HA63	71C4/80A4	8000
10,1	489	1,0	138,71	HA63	71C4/80A4	8000

0,75 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 [N]
224,7	31	3,4	6,23	**H032**	80B4	4083
180,4	38	3,3	7,76	**H032**	80B4	4336
157,9	44	3,0	8,87	**H032**	80B4	4492
138,0	50	2,8	10,14	**H032**	80B4	4651
119,0	58	2,5	11,76	**H032**	80B4	4827
102,0	67	2,5	13,72	**H032**	80B4	5010
95,5	72	2,4	14,66	**H032**	80B4	5088
83,5	82	2,3	16,77	**H032**	80B4	5245
76,9	89	2,2	18,2	**H032**	80B4	5339
70,4	98	2,0	19,9	**H032**	80B4	5440
61,7	111	1,8	22,68	**H032**	80B4	5500
58,7	117	1,7	23,83	**H032**	80B4	5500
53,0	130	1,5	26,39	**H032**	80B4	5500
47,1	146	1,4	29,7	**H032**	80B4	5500
42,6	162	1,2	32,89	**H032**	80B4	5500
36,9	186	1,1	37,92	**H032**	80B4	5500
33,8	203	1,0	41,4	**H032**	80B4	5500
973,9	7	3,5	1,44	**H041**	80B4	679
700,0	10	2,5	2	**H041**	80B4	748
550,0	13	2,4	2,55	**H041**	80B4	802
515,8	13	2,2	2,71	**H041**	80B4	816
450,8	15	2,6	3,11	**H041**	80B4	847
390,2	18	2,5	3,59	**H041**	80B4	881
333,3	21	2,2	4,2	**H041**	80B4	918
280,0	25	1,8	5	**H041**	80B4	960
254,5	27	1,8	5,5	**H041**	80B4	983
229,9	30	1,7	6,09	**H041**	80B4	1000
182,6	38	1,3	7,67	**H041**	80B4	1000
160,0	43	1,3	8,75	**H041**	80B4	1000
103,2	67	3,8	13,57	**H042**	80B4	6521
87,7	78	3,2	15,96	**H042**	80B4	6600
73,7	93	2,7	19	**H042**	80B4	6600
66,7	103	2,4	21	**H042**	80B4	6600
60,5	114	2,3	23,15	**H042**	80B4	6600
53,8	128	2,0	26,04	**H042**	80B4	6600
50,9	135	2,1	27,5	**H042**	80B4	6600
46,0	150	1,9	30,45	**H042**	80B4	6600
41,1	167	1,7	34,1	**H042**	80B4	6600
37,1	185	1,5	37,76	**H042**	80B4	6600
32,0	215	1,3	43,75	**H042**	80B4	6600
29,5	233	1,2	47,53	**H042**	80B4	6600
25,8	266	1,1	54,25	**H042**	80B4	6600
22,6	297	1,0	61,83	**H043**	80B4	6600
266,7	26	3,8	5,25	**H051**	80B4	2500
240,6	29	3,5	5,82	**H051**	80B4	2500
190,9	36	2,7	7,33	**H051**	80B4	2500
167,2	42	2,4	8,38	**H051**	80B4	2500
56,7	121	3,9	24,71	**H052**	80B4	8000
53,5	129	3,8	26,18	**H052**	80B4	8000
49,2	140	3,5	28,44	**H052**	80B4	8000
44,4	155	3,2	31,52	**H052**	80B4	8000
42,4	162	3,0	33	**H052**	80B4	8000
35,9	191	2,6	38,98	**H052**	80B4	8000
30,9	223	2,2	45,36	**H052**	80B4	8000
28,5	241	2,0	49,13	**H052**	80B4	8000
24,9	276	1,8	56,11	**H052**	80B4	8000

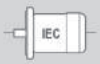
0,75 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 [N]
23,8	283	1,8	58,81	**H053**	80B4	8000
19,2	350	1,4	72,75	**H053**	80B4	8000
15,5	435	1,1	90,51	**H053**	80B4	8000
12,9	524	1,0	108,95	**H053**	80B4	8000
30,4	226	3,8	46,06	**H062**	80B4	12000
16,3	413	2,1	85,82	**H063**	80B4	12000
14,8	456	1,9	94,76	**H063**	80B4	12000
11,9	567	1,5	118	**H063**	80B4	12000
10,3	651	1,3	135,4	**H063**	80B4	12000
9,4	719	1,2	149,51	**H063**	80B4	12000
8,2	821	1,0	170,67	**H063**	80B4	12000
7,5	895	0,9	186,18	**H063**	80B4	12000
14,3	472	3,8	98,09	**H083**	80B4	18000
12,4	542	3,3	112,78	**H083**	80B4	18000
11,3	598	3,0	124,44	**H083**	80B4	18000
9,8	684	2,6	142,15	**H083**	80B4	18000
9,0	744	2,4	154,76	**H083**	80B4	18000
8,6	781	2,3	162,35	**H083**	80B4	18000
7,8	861	2,1	179,13	**H083**	80B4	18000
7,2	938	1,9	195,07	**H083**	80B4	18000
6,3	1071	1,7	222,78	**H083**	80B4	18000
549,0	13	1,5	2,55	**HA31**	80B4	611
475,5	15	1,4	2,94	**HA31**	80B4	641
440,7	16	1,3	3,18	**HA31**	80B4	657
417,0	17	1,2	3,36	**HA31**	80B4	670
362,1	19	1,1	3,87	**HA31**	80B4	702
332,2	21	1,0	4,21	**HA31**	80B4	722
294,7	24	0,9	4,75	**HA31**	80B4	752
260,3	26	3,0	5,38	**HA32**	80B4	1096
214,8	32	2,5	6,52	**HA32**	80B4	1169
172,6	40	1,9	8,11	**HA32**	80B4	1257
128,0	54	1,7	10,94	**HA32**	80B4	1389
105,7	65	1,2	13,25	**HA32**	80B4	1481
84,9	81	1,0	16,49	**HA32**	80B4	1593
69,1	100	0,9	20,26	**HA32**	80B4	1706
966,7	7	3,5	1,45	**HA41**	80B4	512
475,5	15	1,7	2,94	**HA41**	80B4	648
294,7	24	1,3	4,75	**HA41**	80B4	760
256,7	27	1,1	5,45	**HA41**	80B4	796
172,6	40	3,3	8,11	**HA42**	80B4	2647
128,0	54	2,8	10,94	**HA42**	80B4	2924
105,7	65	2,2	13,25	**HA42**	80B4	3117
84,9	81	1,7	16,49	**HA42**	80B4	3353
69,1	100	1,5	20,26	**HA42**	80B4	3591
57,0	121	1,3	24,55	**HA42**	80B4	3828
45,8	150	0,9	30,55	**HA42**	80B4	4118
475,5	15	2,7	2,94	**HA51**	80B4	1786
294,7	24	2,1	4,75	**HA51**	80B4	2095
256,7	27	1,8	5,45	**HA51**	80B4	2194
96,6	71	3,9	14,5	**HA52**	80B4	4015
82,8	83	3,6	16,91	**HA52**	80B4	4227
68,4	100	2,9	20,46	**HA52**	80B4	4504
55,1	125	2,2	25,43	**HA52**	80B4	4842
46,8	147	2,0	29,89	**HA52**	80B4	5110
38,7	178	1,7	36,17	**HA52**	80B4	5445
31,1	221	1,3	44,95	**HA52**	80B4	5855

0,75 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 [N]
28,1	244	1,2	49,78	**HA52**	80B4	6000
22,6	304	1,0	61,87	**HA52**	80B4	6000
28,1	239	1,3	49,8	**HA53**	80B4	6000
23,2	290	1,0	60,25	**HA53**	80B4	6000
180,6	38	2,3	7,75	**HA61**	80B4	3691
131,3	53	1,3	10,67	**HA61**	80B4	4106
55,1	125	3,4	25,43	**HA62**	80B4	7147
46,8	147	3,1	29,89	**HA62**	80B4	7543
38,7	178	2,6	36,17	**HA62**	80B4	8000
31,1	221	2,0	44,95	**HA62**	80B4	8000
28,1	244	1,5	49,78	**HA62**	80B4	8000
22,6	304	1,4	61,87	**HA62**	80B4	8000

1,10 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 [N]
6,3	1571	1,1	222,78	**H083**	80D4/90S4	18000
9,8	1012	3,5	143,42	**H103**	90S4	22000
8,7	1134	3,1	160,82	**H103**	90S4	22000
7,7	1277	2,7	181,07	**H103**	90S4	22000
7,2	1370	2,6	194,21	**H103**	90S4	22000
6,5	1520	2,3	215,45	**H103**	90S4	22000
5,8	1711	2,1	242,59	**H103**	90S4	22000
549,0	19	1,0	2,55	**HA31**	80D4	611
475,5	21	0,9	2,94	**HA31**	80D4	641
260,3	39	2,1	5,38	**HA32**	80D4	1096
214,8	47	1,7	6,52	**HA32**	80D4	1169
172,6	58	1,3	8,11	**HA32**	80D4	1257
128,0	79	1,1	10,94	**HA32**	80D4	1389
966,7	11	2,4	1,45	**HA41**	80D4	512
475,5	21	1,2	2,94	**HA41**	80D4	648
260,3	39	3,6	5,38	**HA42**	80D4/90S4	2308
214,8	47	3,0	6,52	**HA42**	80D4/90S4	2461
172,6	58	2,2	8,11	**HA42**	80D4/90S4	2647
128,0	79	1,9	10,94	**HA42**	80D4/90S4	2924
105,7	95	1,5	13,25	**HA42**	80D4/90S4	3117
84,9	119	1,2	16,49	**HA42**	80D4/90S4	3353
69,1	146	1,0	20,26	**HA42**	80D4/90S4	3591
966,7	11	3,8	1,45	**HA51**	80D4/90S4	1410
475,5	21	1,9	2,94	**HA51**	80D4/90S4	1786
294,7	35	1,4	4,75	**HA51**	80D4/90S4	2095
256,7	40	1,3	5,45	**HA51**	80D4/90S4	2194
120,0	84	3,3	11,67	**HA52**	80D4/90S4	3735
96,6	104	2,7	14,5	**HA52**	80D4/90S4	4015
82,8	122	2,5	16,91	**HA52**	80D4/90S4	4227
68,4	147	2,0	20,46	**HA52**	80D4/90S4	4504
55,1	183	1,5	25,43	**HA52**	80D4/90S4	4842
46,8	215	1,4	29,89	**HA52**	80D4/90S4	5110
38,7	261	1,2	36,17	**HA52**	80D4/90S4	5445
319,3	32	3,4	4,38	**HA61**	80D4/90S4	3053
180,6	56	1,6	7,75	**HA61**	80D4/90S4	3691
131,3	78	0,9	10,67	**HA61**	80D4/90S4	4106
68,4	147	3,1	20,46	**HA62**	80D4/90S4	6647
55,1	183	2,3	25,43	**HA62**	80D4/90S4	7147
46,8	215	2,1	29,89	**HA62**	80D4/90S4	7543
38,7	261	1,8	36,17	**HA62**	80D4/90S4	8000

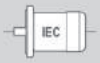
1,10 kW

n2 [1/min]	M2 [Nm]	f.s.	i		IEC	Fr2 [N]
31,1	324	1,4	44,95	HA62	80D4/90S4	8000
28,1	359	1,0	49,78	HA62	80D4/90S4	8000
22,6	446	1,0	61,87	HA62	80D4/90S4	8000
28,1	351	1,4	49,8	HA63	80D4/90S4	8000
23,2	425	1,1	60,25	HA63	80D4/90S4	8000
18,7	528	0,9	74,88	HA63	80D4/90S4	8000

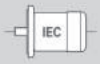
1,5 kW

n2 [1/min]	M2 [Nm]	f.s.	i		IEC	Fr2 [N]
298,1	46	2,1	4,7	H032	90LA4	3529
224,7	61	1,7	6,23	H032	90LA4	3764
180,4	76	1,6	7,76	H032	90LA4	3939
157,9	87	1,5	8,87	H032	90LA4	4039
138,0	100	1,4	10,14	H032	90LA4	4133
119,0	116	1,3	11,76	H032	90LA4	4226
102,0	135	1,3	13,72	H032	90LA4	4309
95,5	144	1,2	14,66	H032	90LA4	4339
83,5	165	1,2	16,77	H032	90LA4	4389
76,9	179	1,1	18,2	H032	90LA4	4410
70,4	195	1,0	19,9	H032	90LA4	4423
973,9	14	1,8	1,44	H041	90LA4	646
700,0	20	1,3	2	H041	90LA4	702
550,0	25	1,2	2,55	H041	90LA4	743
515,8	27	1,1	2,71	H041	90LA4	754
450,8	31	1,3	3,11	H041	90LA4	775
390,2	36	1,3	3,59	H041	90LA4	798
333,3	42	1,1	4,2	H041	90LA4	821
280,0	50	0,9	5	H041	90LA4	844
254,5	55	0,9	5,5	H041	90LA4	856
256,3	54	3,0	5,46	H042	90LA4	4794
194,8	71	2,3	7,19	H042	90LA4	5150
157,1	88	2,4	8,91	H042	90LA4	5431
135,7	101	2,4	10,31	H042	90LA4	5621
118,6	116	2,2	11,8	H042	90LA4	5794
103,2	133	1,9	13,57	H042	90LA4	5968
87,7	157	1,6	15,96	H042	90LA4	6163
73,7	187	1,3	19	H042	90LA4	6357
66,7	206	1,2	21	H042	90LA4	6459
60,5	227	1,1	23,15	H042	90LA4	6551
53,8	256	1,0	26,04	H042	90LA4	6600
50,9	270	1,0	27,5	H042	90LA4	6600
46,0	299	0,9	30,45	H042	90LA4	6600
1100,0	13	3,2	1,27	H051	90LA4	1611
658,8	21	2,8	2,13	H051	90LA4	1881
544,4	26	2,7	2,57	H051	90LA4	1990
442,1	31	2,5	3,17	H051	90LA4	2114
379,7	37	2,5	3,69	H051	90LA4	2207
350,0	40	2,3	4	H051	90LA4	2258
293,5	47	2,0	4,77	H051	90LA4	2370
266,7	52	1,9	5,25	H051	90LA4	2432
240,6	58	1,7	5,82	H051	90LA4	2500
190,9	73	1,4	7,33	H051	90LA4	2500
167,2	83	1,2	8,38	H051	90LA4	2500
146,4	94	3,9	9,56	H052	90LA4	7166

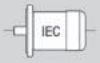
1,5 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 [N]
121,6	113	3,4	11,51	**H052**	90LA4	7530
98,3	140	3,1	14,24	**H052**	90LA4	7954
84,4	163	2,8	16,59	**H052**	90LA4	8000
77,8	177	2,6	18	**H052**	90LA4	8000
70,1	196	2,3	19,97	**H052**	90LA4	8000
64,6	213	2,2	21,67	**H052**	90LA4	8000
56,7	243	1,9	24,71	**H052**	90LA4	8000
53,5	257	1,9	26,18	**H052**	90LA4	8000
49,2	279	1,8	28,44	**H052**	90LA4	8000
44,4	310	1,6	31,52	**H052**	90LA4	8000
42,4	324	1,5	33	**H052**	90LA4	8000
35,9	383	1,3	38,98	**H052**	90LA4	8000
30,9	446	1,1	45,36	**H052**	90LA4	8000
28,5	483	1,0	49,13	**H052**	90LA4	8000
350,0	40	3,8	4	**H061**	90LA4	3603
293,5	47	3,4	4,77	**H061**	90LA4	3700
266,7	52	3,3	5,25	**H061**	90LA4	3700
240,6	58	2,9	5,82	**H061**	90LA4	3700
190,9	73	2,3	7,33	**H061**	90LA4	3700
167,2	83	2,0	8,38	**H061**	90LA4	3700
60,2	229	3,7	23,27	**H062**	90LA4	12000
54,5	252	3,4	25,7	**H062**	90LA4	12000
47,7	288	2,8	29,33	**H062**	90LA4	12000
43,8	314	2,7	32	**H062**	90LA4	12000
37,8	363	2,2	36,99	**H062**	90LA4	12000
34,7	396	2,1	40,33	**H062**	90LA4	12000
30,4	452	1,9	46,06	**H062**	90LA4	12000
28,3	476	1,8	49,45	**H063**	90LA4	12000
25,6	525	1,6	54,61	**H063**	90LA4	12000
20,6	654	1,3	68	**H063**	90LA4	12000
16,3	825	1,0	85,82	**H063**	90LA4	12000
14,8	911	0,9	94,76	**H063**	90LA4	12000
32,7	420	3,8	42,75	**H082**	90LA4	18000
29,1	473	3,4	48,13	**H082**	90LA4	18000
24,8	544	2,9	56,53	**H083**	90LA4	18000
19,6	688	2,6	71,48	**H083**	90LA4	18000
17,8	759	2,4	78,87	**H083**	90LA4	18000
16,4	823	2,2	85,56	**H083**	90LA4	18000
14,3	943	1,9	98,09	**H083**	90LA4	18000
12,4	1085	1,7	112,78	**H083**	90LA4	18000
11,3	1197	1,5	124,44	**H083**	90LA4	18000
9,8	1367	1,3	142,15	**H083**	90LA4	18000
9,0	1489	1,2	154,76	**H083**	90LA4	18000
8,6	1561	1,2	162,35	**H083**	90LA4	18000
7,8	1723	1,0	179,13	**H083**	90LA4	18000
7,2	1876	1,0	195,07	**H083**	90LA4	18000
9,8	1379	2,5	143,42	**H103**	90LA4	22000
8,7	1547	2,3	160,82	**H103**	90LA4	22000
7,7	1742	2,0	181,07	**H103**	90LA4	22000
7,2	1868	1,9	194,21	**H103**	90LA4	22000
6,5	2072	1,7	215,45	**H103**	90LA4	22000
5,8	2333	1,5	242,59	**H103**	90LA4	22000
260,3	53	2,6	5,38	**HA42**	90LA4	2308
214,8	64	2,2	6,52	**HA42**	90LA4	2461
172,6	80	1,6	8,11	**HA42**	90LA4	2647
128,0	107	1,4	10,94	**HA42**	90LA4	2924
105,7	130	1,1	13,25	**HA42**	90LA4	3117

1,5 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 [N]
966,7	14	2,8	1,45	HA51	90LA4	1410
475,5	29	1,4	2,94	HA51	90LA4	1786
294,7	47	1,1	4,75	HA51	90LA4	2095
256,7	54	0,9	5,45	HA51	90LA4	2194
225,0	61	3,9	6,22	HA52	90LA4	3029
181,0	76	3,2	7,73	HA52	90LA4	3256
145,2	95	3,2	9,64	HA52	90LA4	3505
120,0	115	2,4	11,67	HA52	90LA4	3735
96,6	142	2,0	14,5	HA52	90LA4	4015
82,8	166	1,8	16,91	HA52	90LA4	4227
68,4	201	1,4	20,46	HA52	90LA4	4504
55,1	250	1,1	25,43	HA52	90LA4	4842
46,8	294	1,0	29,89	HA52	90LA4	5110
560,0	25	3,6	2,5	HA61	90LA4	2531
319,3	44	2,5	4,38	HA61	90LA4	3053
180,6	77	1,2	7,75	HA61	90LA4	3691
120,0	115	3,8	11,67	HA62	90LA4	5512
96,6	142	2,9	14,5	HA62	90LA4	5926
82,8	166	3,0	16,91	HA62	90LA4	6238
68,4	201	2,3	20,46	HA62	90LA4	6647
55,1	250	1,7	25,43	HA62	90LA4	7147
46,8	294	1,5	29,89	HA62	90LA4	7543
38,7	355	1,3	36,17	HA62	90LA4	8000
31,1	442	1,0	44,95	HA62	90LA4	8000
28,1	479	1,0	49,8	HA63	90LA4	8000

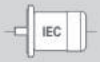
2,2 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 [N]
298,1	68	1,4	4,7	H032	100LA4	3305
224,7	90	1,2	6,23	H032	100LA4	3467
180,4	112	1,1	7,76	H032	100LA4	3569
157,9	128	1,0	8,87	H032	100LA4	3616
138,0	146	1,0	10,14	H032	100LA4	3649
256,3	79	2,0	5,46	H042	100LA4	4586
194,8	104	1,5	7,19	H042	100LA4	4877
157,1	128	1,6	8,91	H042	100LA4	5093
135,7	149	1,6	10,31	H042	100LA4	5229
118,6	170	1,5	11,8	H042	100LA4	5345
103,2	196	1,3	13,57	H042	100LA4	5452
87,7	230	1,1	15,96	H042	100LA4	5556
73,7	274	0,9	19	H042	100LA4	5634
1100,0	19	2,2	1,27	H051	100LA4	1585
986,4	21	2,9	1,42	H051	100LA4	1637
658,8	31	1,9	2,13	H051	100LA4	1838
544,4	37	1,9	2,57	H051	100LA4	1938
442,1	46	1,7	3,17	H051	100LA4	2050
379,7	54	1,7	3,69	H051	100LA4	2133
350,0	58	1,5	4	H051	100LA4	2178
293,5	69	1,4	4,77	H051	100LA4	2274
266,7	76	1,3	5,25	H051	100LA4	2327
240,6	85	1,2	5,82	H051	100LA4	2383
244,4	83	3,2	5,73	H052	100LA4	6030
203,1	99	2,9	6,89	H052	100LA4	6333
164,2	123	2,8	8,53	H052	100LA4	6684

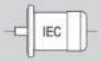
2,2 kW

n2 [1/min]	M2 [Nm]	f.s.	i		IEC	Fr2 [N]
146,4	138	2,7	9,56	**H052**	100LA4	6874
121,6	166	2,4	11,51	**H052**	100LA4	7178
98,3	205	2,1	14,24	**H052**	100LA4	7518
84,4	239	1,9	16,59	**H052**	100LA4	7752
77,8	259	1,8	18	**H052**	100LA4	7871
70,1	288	1,6	19,97	**H052**	100LA4	8000
64,6	312	1,5	21,67	**H052**	100LA4	8000
56,7	356	1,3	24,71	**H052**	100LA4	8000
53,5	377	1,3	26,18	**H052**	100LA4	8000
49,2	410	1,2	28,44	**H052**	100LA4	8000
44,4	454	1,1	31,52	**H052**	100LA4	8000
658,8	31	3,9	2,13	**H061**	100LA4	2931
544,4	37	3,2	2,57	**H061**	100LA4	3096
442,1	46	2,8	3,17	**H061**	100LA4	3282
379,7	54	2,8	3,69	**H061**	100LA4	3422
350,0	58	2,6	4	**H061**	100LA4	3498
293,5	69	2,3	4,77	**H061**	100LA4	3663
266,7	76	2,2	5,25	**H061**	100LA4	3700
240,6	85	2,0	5,82	**H061**	100LA4	3700
190,9	107	1,6	7,33	**H061**	100LA4	3700
167,2	122	1,4	8,38	**H061**	100LA4	3700
119,8	168	3,9	11,69	**H062**	100LA4	12000
110,5	182	3,8	12,67	**H062**	100LA4	12000
94,9	213	3,3	14,75	**H062**	100LA4	12000
86,0	235	3,4	16,29	**H062**	100LA4	12000
79,2	255	3,3	17,67	**H062**	100LA4	12000
69,0	292	2,9	20,28	**H062**	100LA4	12000
60,2	335	2,5	23,27	**H062**	100LA4	12000
54,5	370	2,3	25,7	**H062**	100LA4	12000
47,7	423	1,9	29,33	**H062**	100LA4	12000
43,8	461	1,8	32	**H062**	100LA4	12000
37,8	533	1,5	36,99	**H062**	100LA4	12000
34,7	581	1,5	40,33	**H062**	100LA4	12000
30,4	664	1,3	46,06	**H062**	100LA4	12000
28,3	698	1,2	49,45	**H063**	100LA4	12000
25,6	770	1,1	54,61	**H063**	100LA4	12000
230,1	89	3,8	6,08	**H081**	100LA4	4000
186,7	109	3,2	7,5	**H081**	100LA4	4000
165,8	123	2,8	8,44	**H081**	100LA4	4000
50,2	402	4,0	27,88	**H082**	100LA4	18000
44,9	449	3,6	31,15	**H082**	100LA4	18000
40,7	495	3,2	34,38	**H082**	100LA4	18000
36,2	558	2,9	38,7	**H082**	100LA4	18000
32,7	616	2,6	42,75	**H082**	100LA4	18000
29,1	693	2,3	48,13	**H082**	100LA4	18000
24,8	797	2,0	56,53	**H083**	100LA4	18000
19,6	1008	1,8	71,48	**H083**	100LA4	18000
17,8	1113	1,6	78,87	**H083**	100LA4	18000
16,4	1207	1,5	85,56	**H083**	100LA4	18000
14,3	1384	1,3	98,09	**H083**	100LA4	18000
12,4	1591	1,1	112,78	**H083**	100LA4	18000
11,3	1756	1,0	124,44	**H083**	100LA4	18000
20,1	983	3,6	69,69	**H103**	100LA4	22000
17,5	1126	3,1	79,82	**H103**	100LA4	22000
16,6	1187	2,9	84,16	**H103**	100LA4	22000
15,0	1317	2,7	93,36	**H103**	100LA4	22000
14,0	1412	2,5	100,07	**H103**	100LA4	22000
11,6	1705	2,1	120,84	**H103**	100LA4	22000

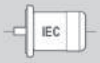
2,2 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 [N]
10,4	1891	1,9	134,06	**H103**	100LA4	22000
9,8	2023	1,7	143,42	**H103**	100LA4	22000
8,7	2269	1,5	160,82	**H103**	100LA4	22000
7,7	2554	1,4	181,07	**H103**	100LA4	22000
7,2	2740	1,3	194,21	**H103**	100LA4	22000
6,5	3039	1,2	215,45	**H103**	100LA4	22000
5,8	3422	1,1	242,59	**H103**	100LA4	22000
15,6	1269	3,9	89,97	**H123**	100LA4	30000
14,0	1415	3,5	100,29	**H123**	100LA4	30000
12,9	1528	3,3	108,34	**H123**	100LA4	30000
11,8	1673	3,0	118,62	**H123**	100LA4	30000
10,9	1808	2,8	128,18	**H123**	100LA4	30000
9,7	2042	2,4	144,79	**H123**	100LA4	30000
9,0	2190	2,3	155,22	**H123**	100LA4	30000
8,1	2438	2,1	172,8	**H123**	100LA4	30000
7,4	2669	1,9	189,19	**H123**	100LA4	30000
6,7	2926	1,7	207,43	**H123**	100LA4	30000
6,1	3258	1,5	230,92	**H123**	100LA4	30000
5,4	3663	1,4	259,64	**H123**	100LA4	30000
272,2	74	3,2	5,14	**HA52**	100LA4	2842
225,0	90	2,7	6,22	**HA52**	100LA4	3029
181,0	111	2,2	7,73	**HA52**	100LA4	3256
145,2	139	2,2	9,64	**HA52**	100LA4	3505
120,0	168	1,7	11,67	**HA52**	100LA4	3735
96,6	209	1,3	14,5	**HA52**	100LA4	4015
82,8	244	1,2	16,91	**HA52**	100LA4	4227
68,4	295	1,0	20,46	**HA52**	100LA4	4504
560,0	36	2,5	2,5	**HA61**	100LA4	2531
319,3	64	1,7	4,38	**HA61**	100LA4	3053
181,0	111	3,4	7,73	**HA62**	100LA4	4806
145,2	139	3,3	9,64	**HA62**	100LA4	5173
120,0	168	2,6	11,67	**HA62**	100LA4	5512
96,6	209	2,0	14,5	**HA62**	100LA4	5926
82,8	244	2,1	16,91	**HA62**	100LA4	6238
68,4	295	1,6	20,46	**HA62**	100LA4	6647
55,1	366	1,2	25,43	**HA62**	100LA4	7147

3,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 [N]
298,1	92	1,0	4,7	**H032**	100LB4	3050
256,3	107	1,5	5,46	**H042**	100LB4	4349
194,8	141	1,1	7,19	**H042**	100LB4	4564
157,1	175	1,2	8,91	**H042**	100LB4	4705
135,7	203	1,2	10,31	**H042**	100LB4	4781
118,6	232	1,1	11,8	**H042**	100LB4	4832
103,2	267	0,9	13,57	**H042**	100LB4	4863
1100,0	25	1,6	1,27	**H051**	100LB4	1556
986,4	28	2,1	1,42	**H051**	100LB4	1604
658,8	42	1,4	2,13	**H051**	100LB4	1789
544,4	51	1,4	2,57	**H051**	100LB4	1879
442,1	63	1,3	3,17	**H051**	100LB4	1977
379,7	73	1,2	3,69	**H051**	100LB4	2048
350,0	79	1,1	4	**H051**	100LB4	2086

3,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 [N]
293,5	95	1,0	4,77	H051	100LB4	2165
266,7	104	1,0	5,25	H051	100LB4	2206
244,4	113	2,3	5,73	H052	100LB4	5829
203,1	135	2,1	6,89	H052	100LB4	6091
164,2	168	2,0	8,53	H052	100LB4	6386
146,4	188	2,0	9,56	H052	100LB4	6539
121,6	226	1,7	11,51	H052	100LB4	6775
98,3	280	1,5	14,24	H052	100LB4	7019
84,4	326	1,4	16,59	H052	100LB4	7171
77,8	354	1,3	18	H052	100LB4	7241
70,1	392	1,2	19,97	H052	100LB4	7317
64,6	426	1,1	21,67	H052	100LB4	7365
56,7	485	1,0	24,71	H052	100LB4	7419
53,5	514	1,0	26,18	H052	100LB4	7431
1041,9	27	3,0	1,34	H061	100LB4	2519
658,8	42	2,8	2,13	H061	100LB4	2867
544,4	51	2,4	2,57	H061	100LB4	3019
442,1	63	2,1	3,17	H061	100LB4	3187
379,7	73	2,0	3,69	H061	100LB4	3311
350,0	79	1,9	4	H061	100LB4	3377
293,5	95	1,7	4,77	H061	100LB4	3519
266,7	104	1,6	5,25	H061	100LB4	3596
240,6	115	1,5	5,82	H061	100LB4	3676
190,9	146	1,2	7,33	H061	100LB4	3700
167,2	166	1,0	8,38	H061	100LB4	3700
189,4	145	3,8	7,39	H062	100LB4	11078
164,7	167	3,6	8,5	H062	100LB4	11515
149,2	184	3,3	9,39	H062	100LB4	11828
119,8	230	2,8	11,69	H062	100LB4	12000
110,5	249	2,8	12,67	H062	100LB4	12000
94,9	290	2,4	14,75	H062	100LB4	12000
86,0	320	2,5	16,29	H062	100LB4	12000
79,2	347	2,4	17,67	H062	100LB4	12000
69,0	398	2,1	20,28	H062	100LB4	12000
60,2	457	1,9	23,27	H062	100LB4	12000
54,5	505	1,7	25,7	H062	100LB4	12000
47,7	576	1,4	29,33	H062	100LB4	12000
43,8	629	1,4	32	H062	100LB4	12000
37,8	727	1,1	36,99	H062	100LB4	12000
34,7	792	1,1	40,33	H062	100LB4	12000
30,4	905	0,9	46,06	H062	100LB4	12000
300,0	93	3,5	4,67	H081	100LB4	4000
252,8	110	3,0	5,54	H081	100LB4	4000
230,1	121	2,8	6,08	H081	100LB4	4000
186,7	149	2,4	7,5	H081	100LB4	4000
165,8	168	2,1	8,44	H081	100LB4	4000
65,5	420	3,8	21,39	H082	100LB4	18000
61,4	448	3,6	22,8	H082	100LB4	18000
52,6	523	3,1	26,6	H082	100LB4	18000
50,2	548	2,9	27,88	H082	100LB4	18000
44,9	612	2,6	31,15	H082	100LB4	18000
40,7	675	2,4	34,38	H082	100LB4	18000
36,2	760	2,1	38,7	H082	100LB4	18000
32,7	840	1,9	42,75	H082	100LB4	18000
29,1	946	1,7	48,13	H082	100LB4	18000
24,8	1087	1,5	56,53	H083	100LB4	18000
19,6	1375	1,3	71,48	H083	100LB4	18000
17,8	1517	1,2	78,87	H083	100LB4	18000

3,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i		IEC	Fr2 [N]
16,4	1646	1,1	85,56	**H083**	100LB4	18000
14,3	1887	1,0	98,09	**H083**	100LB4	18000
166,7	167	3,9	8,4	**H101**	100LB4	5000
36,4	755	3,7	38,45	**H102**	100LB4	22000
30,6	900	3,7	45,82	**H102**	100LB4	22000
27,2	1012	3,3	51,52	**H102**	100LB4	22000
20,1	1341	2,6	69,69	**H103**	100LB4	22000
17,5	1535	2,3	79,82	**H103**	100LB4	22000
16,6	1619	2,2	84,16	**H103**	100LB4	22000
15,0	1796	1,9	93,36	**H103**	100LB4	22000
14,0	1925	1,8	100,07	**H103**	100LB4	22000
11,6	2325	1,5	120,84	**H103**	100LB4	22000
10,4	2579	1,4	134,06	**H103**	100LB4	22000
9,8	2759	1,3	143,42	**H103**	100LB4	22000
8,7	3094	1,1	160,82	**H103**	100LB4	22000
7,7	3483	1,0	181,07	**H103**	100LB4	22000
7,2	3736	0,9	194,21	**H103**	100LB4	22000
20,8	1295	3,9	67,32	**H123**	100LB4	30000
19,0	1418	3,5	73,71	**H123**	100LB4	30000
16,8	1603	3,1	83,34	**H123**	100LB4	30000
15,6	1731	2,9	89,97	**H123**	100LB4	30000
14,0	1929	2,6	100,29	**H123**	100LB4	30000
12,9	2084	2,4	108,34	**H123**	100LB4	30000
11,8	2282	2,2	118,62	**H123**	100LB4	30000
10,9	2466	2,0	128,18	**H123**	100LB4	30000
9,7	2785	1,8	144,79	**H123**	100LB4	30000
9,0	2986	1,7	155,22	**H123**	100LB4	30000
8,1	3324	1,5	172,8	**H123**	100LB4	30000
7,4	3639	1,4	189,19	**H123**	100LB4	30000
6,7	3990	1,3	207,43	**H123**	100LB4	30000
6,1	4442	1,1	230,92	**H123**	100LB4	30000
5,4	4994	1,0	259,64	**H123**	100LB4	30000
272,2	101	2,4	5,14	**HA52**	100LB4	2842
225,0	122	2,0	6,22	**HA52**	100LB4	3029
181,0	152	1,6	7,73	**HA52**	100LB4	3256
145,2	189	1,6	9,64	**HA52**	100LB4	3505
120,0	229	1,2	11,67	**HA52**	100LB4	3735
96,6	285	1,0	14,5	**HA52**	100LB4	4015
82,8	332	0,9	16,91	**HA52**	100LB4	4227
1050,0	26	3,4	1,33	**HA61**	100LB4	2053
560,0	50	1,8	2,5	**HA61**	100LB4	2531
319,3	87	1,3	4,38	**HA61**	100LB4	3053
272,2	101	3,8	5,14	**HA62**	100LB4	4195
225,0	122	3,1	6,22	**HA62**	100LB4	4470
181,0	152	2,5	7,73	**HA62**	100LB4	4806
145,2	189	2,4	9,64	**HA62**	100LB4	5173
120,0	229	1,9	11,67	**HA62**	100LB4	5512
96,6	285	1,5	14,5	**HA62**	100LB4	5926
82,8	332	1,5	16,91	**HA62**	100LB4	6238
68,4	402	1,1	20,46	**HA62**	100LB4	6647

4,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i		IEC	Fr2 [N]
544,4	68	1,0	2,57	H051	112MA4	1805
442,1	84	1,0	3,17	H051	112MA4	1886
379,7	98	0,9	3,69	H051	112MA4	1942
244,4	150	1,7	5,73	H052	112MA4	5579
203,1	181	1,6	6,89	H052	112MA4	5790
164,2	223	1,5	8,53	H052	112MA4	6013
146,4	250	1,5	9,56	H052	112MA4	6121
121,6	302	1,3	11,51	H052	112MA4	6272
98,3	373	1,2	14,24	H052	112MA4	6397
84,4	435	1,0	16,59	H052	112MA4	6445
77,8	471	1,0	18	H052	112MA4	6453
1041,9	36	2,2	1,34	H061	112MA4	2469
658,8	56	2,1	2,13	H061	112MA4	2788
544,4	68	1,8	2,57	H061	112MA4	2922
442,1	84	1,6	3,17	H061	112MA4	3068
379,7	98	1,5	3,69	H061	112MA4	3173
350,0	106	1,4	4	H061	112MA4	3227
293,5	126	1,3	4,77	H061	112MA4	3340
266,7	139	1,2	5,25	H061	112MA4	3399
240,6	154	1,1	5,82	H061	112MA4	3458
260,5	141	3,6	5,38	H062	112MA4	9914
235,9	155	3,5	5,93	H062	112MA4	10186
189,4	194	2,8	7,39	H062	112MA4	10796
164,7	223	2,7	8,5	H062	112MA4	11190
149,2	246	2,4	9,39	H062	112MA4	11470
119,8	306	2,1	11,69	H062	112MA4	12000
110,5	332	2,1	12,67	H062	112MA4	12000
94,9	386	1,8	14,75	H062	112MA4	12000
86,0	427	1,9	16,29	H062	112MA4	12000
79,2	463	1,8	17,67	H062	112MA4	12000
69,0	531	1,6	20,28	H062	112MA4	12000
60,2	610	1,4	23,27	H062	112MA4	12000
54,5	673	1,3	25,7	H062	112MA4	12000
47,7	768	1,0	29,33	H062	112MA4	12000
43,8	838	1,0	32	H062	112MA4	12000
430,8	86	3,6	3,25	H081	112MA4	3904
376,1	99	3,1	3,72	H081	112MA4	4000
350,0	106	3,0	4	H081	112MA4	4000
300,0	124	2,6	4,67	H081	112MA4	4000
252,8	147	2,3	5,54	H081	112MA4	4000
230,1	161	2,1	6,08	H081	112MA4	4000
186,7	199	1,8	7,5	H081	112MA4	4000
165,8	224	1,6	8,44	H081	112MA4	4000
103,7	354	4,0	13,5	H082	112MA4	16044
94,0	390	3,8	14,9	H082	112MA4	16460
84,3	435	3,4	16,62	H082	112MA4	16923
75,6	485	3,1	18,53	H082	112MA4	17386
72,2	508	3,2	19,38	H082	112MA4	17579
65,5	560	2,9	21,39	H082	112MA4	17995
61,4	597	2,7	22,8	H082	112MA4	18000
52,6	697	2,3	26,6	H082	112MA4	18000
50,2	730	2,2	27,88	H082	112MA4	18000
44,9	816	2,0	31,15	H082	112MA4	18000
40,7	900	1,8	34,38	H082	112MA4	18000
36,2	1014	1,6	38,7	H082	112MA4	18000
32,7	1120	1,4	42,75	H082	112MA4	18000
29,1	1261	1,3	48,13	H082	112MA4	18000
24,8	1450	1,1	56,53	H083	112MA4	18000
19,6	1833	1,0	71,48	H083	112MA4	18000

4,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i		IEC	Fr2 [N]
166,7	222	2,9	8,4	H101	112MA4	5000
45,6	805	4,0	30,72	H102	112MA4	22000
40,9	896	3,6	34,2	H102	112MA4	22000
36,4	1007	2,8	38,45	H102	112MA4	22000
33,9	1082	3,1	41,3	H102	112MA4	22000
30,6	1200	2,7	45,82	H102	112MA4	22000
27,2	1349	2,4	51,52	H102	112MA4	22000
20,1	1787	2,0	69,69	H103	112MA4	22000
17,5	2047	1,7	79,82	H103	112MA4	22000
16,6	2159	1,6	84,16	H103	112MA4	22000
15,0	2395	1,5	93,36	H103	112MA4	22000
14,0	2567	1,4	100,07	H103	112MA4	22000
11,6	3099	1,1	120,84	H103	112MA4	22000
10,4	3438	1,0	134,06	H103	112MA4	22000
9,8	3678	1,0	143,42	H103	112MA4	22000
20,8	1727	2,9	67,32	H123	112MA4	30000
19,0	1891	2,6	73,71	H123	112MA4	30000
16,8	2137	2,3	83,34	H123	112MA4	30000
15,6	2308	2,2	89,97	H123	112MA4	30000
14,0	2572	1,9	100,29	H123	112MA4	30000
12,9	2779	1,8	108,34	H123	112MA4	30000
11,8	3042	1,6	118,62	H123	112MA4	30000
10,9	3288	1,5	128,18	H123	112MA4	30000
9,7	3714	1,3	144,79	H123	112MA4	30000
9,0	3981	1,3	155,22	H123	112MA4	30000
8,1	4432	1,1	172,8	H123	112MA4	30000
7,4	4853	1,0	189,19	H123	112MA4	30000
6,7	5320	0,9	207,43	H123	112MA4	30000
272,2	135	1,8	5,14	HA52	112MA4	2842
225,0	163	1,5	6,22	HA52	112MA4	3029
181,0	203	1,2	7,73	HA52	112MA4	3256
145,2	253	1,2	9,64	HA52	112MA4	3505
120,0	306	0,9	11,67	HA52	112MA4	3735
1050,0	35	2,6	1,33	HA61	112MA4	2053
560,0	66	1,4	2,5	HA61	112MA4	2531
319,3	116	0,9	4,38	HA61	112MA4	3053
272,2	135	2,8	5,14	HA62	112MA4	4195
225,0	163	2,3	6,22	HA62	112MA4	4470
181,0	203	1,9	7,73	HA62	112MA4	4806
145,2	253	1,8	9,64	HA62	112MA4	5173
120,0	306	1,4	11,67	HA62	112MA4	5512
96,6	380	1,1	14,5	HA62	112MA4	5926
82,8	443	1,1	16,91	HA62	112MA4	6238

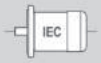
5,5 kW

n2 [1/min]	M2 [Nm]	f.s.	i		IEC	Fr2 [N]
260,5	194	2,6	5,38	H062	132S4	9607
235,9	214	2,6	5,93	H062	132S4	9846
189,4	266	2,1	7,39	H062	132S4	10373
164,7	306	2,0	8,5	H062	132S4	10704
149,2	338	1,8	9,39	H062	132S4	10933
119,8	421	1,5	11,69	H062	132S4	11419
110,5	456	1,5	12,67	H062	132S4	11586
94,9	531	1,3	14,75	H062	132S4	11883

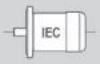
5,5 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 [N]
86,0	587	1,4	16,29	**H062**	132S4	12000
79,2	636	1,3	17,67	**H062**	132S4	12000
69,0	730	1,2	20,28	**H062**	132S4	12000
60,2	838	1,0	23,27	**H062**	132S4	12000
54,5	926	0,9	25,7	**H062**	132S4	12000
725,0	70	3,3	1,93	**H081**	132S4	3297
550,8	92	3,0	2,54	**H081**	132S4	3547
430,8	118	2,6	3,25	**H081**	132S4	3774
376,1	135	2,3	3,72	**H081**	132S4	3899
350,0	146	2,2	4	**H081**	132S4	3965
300,0	170	1,9	4,67	**H081**	132S4	4000
252,8	202	1,6	5,54	**H081**	132S4	4000
230,1	221	1,5	6,08	**H081**	132S4	4000
186,7	273	1,3	7,5	**H081**	132S4	4000
165,8	307	1,1	8,44	**H081**	132S4	4000
259,8	194	3,6	5,39	**H082**	132S4	12156
235,5	214	3,3	5,95	**H082**	132S4	12495
189,3	266	3,0	7,39	**H082**	132S4	13261
174,5	289	2,8	8,02	**H082**	132S4	13552
158,2	319	2,8	8,85	**H082**	132S4	13906
127,2	396	2,8	11,01	**H082**	132S4	14697
103,7	486	2,9	13,5	**H082**	132S4	15438
94,0	537	2,8	14,9	**H082**	132S4	15790
84,3	598	2,5	16,62	**H082**	132S4	16177
75,6	667	2,2	18,53	**H082**	132S4	16554
72,2	698	2,3	19,38	**H082**	132S4	16708
65,5	770	2,1	21,39	**H082**	132S4	17034
61,4	821	1,9	22,8	**H082**	132S4	17240
52,6	958	1,7	26,6	**H082**	132S4	17710
50,2	1004	1,6	27,88	**H082**	132S4	17844
44,9	1122	1,4	31,15	**H082**	132S4	18000
40,7	1238	1,3	34,38	**H082**	132S4	18000
36,2	1394	1,1	38,7	**H082**	132S4	18000
32,7	1540	1,0	42,75	**H082**	132S4	18000
29,1	1734	0,9	48,13	**H082**	132S4	18000
331,6	154	4,0	4,22	**H101**	132S4	5000
287,2	177	3,5	4,88	**H101**	132S4	5000
265,8	192	3,2	5,27	**H101**	132S4	5000
224,7	227	2,8	6,23	**H101**	132S4	5000
185,5	275	2,4	7,55	**H101**	132S4	5000
166,7	306	2,1	8,4	**H101**	132S4	5000
58,4	863	3,8	23,97	**H102**	132S4	22000
54,1	933	3,5	25,89	**H102**	132S4	22000
48,7	1035	3,2	28,73	**H102**	132S4	22000
45,6	1106	2,9	30,72	**H102**	132S4	22000
40,9	1232	2,6	34,2	**H102**	132S4	22000
36,4	1385	2,0	38,45	**H102**	132S4	22000
33,9	1488	2,2	41,3	**H102**	132S4	22000
30,6	1650	2,0	45,82	**H102**	132S4	22000
27,2	1855	1,8	51,52	**H102**	132S4	22000
25,2	1956	1,8	55,47	**H103**	132S4	22000
20,1	2458	1,4	69,69	**H103**	132S4	22000
17,5	2815	1,2	79,82	**H103**	132S4	22000
16,6	2968	1,2	84,16	**H103**	132S4	22000
15,0	3293	1,1	93,36	**H103**	132S4	22000
14,0	3529	1,0	100,07	**H103**	132S4	22000
224,0	227	4,0	6,25	**H121**	132S4	6000
181,8	280	3,6	7,7	**H121**	132S4	6000

5,5 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 [N]
38,7	1301	3,8	36,13	**H122**	132S4	30000
31,7	1588	3,1	44,1	**H122**	132S4	30000
30,6	1614	3,1	45,77	**H123**	132S4	30000
25,1	1970	2,5	55,87	**H123**	132S4	30000
20,8	2374	2,1	67,32	**H123**	132S4	30000
19,0	2600	1,9	73,71	**H123**	132S4	30000
16,8	2939	1,7	83,34	**H123**	132S4	30000
15,6	3173	1,6	89,97	**H123**	132S4	30000
14,0	3537	1,4	100,29	**H123**	132S4	30000
12,9	3821	1,3	108,34	**H123**	132S4	30000
11,8	4183	1,2	118,62	**H123**	132S4	30000
10,9	4520	1,1	128,18	**H123**	132S4	30000
9,7	5106	1,0	144,79	**H123**	132S4	30000
9,0	5474	0,9	155,22	**H123**	132S4	30000
23,6	2088	3,8	59,22	**H143**	132S4	55000
22,2	2222	3,6	62,99	**H143**	132S4	55000
19,6	2516	3,2	71,35	**H143**	132S4	55000
17,7	2789	2,9	79,07	**H143**	132S4	55000
16,2	3048	2,6	86,43	**H143**	132S4	55000
14,6	3393	2,4	96,21	**H143**	132S4	55000
13,4	3686	2,2	104,51	**H143**	132S4	55000
12,1	4088	2,0	115,92	**H143**	132S4	55000
10,9	4531	1,8	128,47	**H143**	132S4	55000
10,0	4922	1,6	139,55	**H143**	132S4	55000
9,1	5443	1,5	154,33	**H143**	132S4	55000
7,5	6558	1,2	185,96	**H143**	132S4	55000
6,8	7268	1,1	206,08	**H143**	132S4	55000

7,5 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 [N]
260,5	264	1,9	5,38	**H062**	132MA4	9197
235,9	291	1,9	5,93	**H062**	132MA4	9393
189,4	363	1,5	7,39	**H062**	132MA4	9809
164,7	417	1,4	8,5	**H062**	132MA4	10055
149,2	461	1,3	9,39	**H062**	132MA4	10217
119,8	574	1,1	11,69	**H062**	132MA4	10527
110,5	622	1,1	12,67	**H062**	132MA4	10620
94,9	724	1,0	14,75	**H062**	132MA4	10758
86,0	800	1,0	16,29	**H062**	132MA4	10816
79,2	868	1,0	17,67	**H062**	132MA4	10842
1079,2	64	3,1	1,3	**H081**	132MA4	2880
980,0	71	3,1	1,43	**H081**	132MA4	2955
725,0	96	2,4	1,93	**H081**	132MA4	3193
550,8	126	2,2	2,54	**H081**	132MA4	3411
430,8	161	1,9	3,25	**H081**	132MA4	3600
376,1	185	1,7	3,72	**H081**	132MA4	3700
350,0	199	1,6	4	**H081**	132MA4	3751
300,0	232	1,4	4,67	**H081**	132MA4	3855
252,8	275	1,2	5,54	**H081**	132MA4	3959
230,1	302	1,1	6,08	**H081**	132MA4	4000
186,7	372	0,9	7,5	**H081**	132MA4	4000
259,8	265	2,6	5,39	**H082**	132MA4	11833
235,5	292	2,4	5,95	**H082**	132MA4	12139
189,3	363	2,2	7,39	**H082**	132MA4	12819

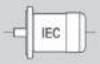
7,5 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 [N]
174,5	394	2,0	8,02	**H082**	132MA4	13072
158,2	435	2,1	8,85	**H082**	132MA4	13376
127,2	541	2,0	11,01	**H082**	132MA4	14038
103,7	663	2,1	13,5	**H082**	132MA4	14629
94,0	732	2,1	14,9	**H082**	132MA4	14898
84,3	816	1,8	16,62	**H082**	132MA4	15182
75,6	910	1,6	18,53	**H082**	132MA4	15444
72,2	952	1,7	19,38	**H082**	132MA4	15547
65,5	1051	1,5	21,39	**H082**	132MA4	15753
61,4	1120	1,4	22,8	**H082**	132MA4	15874
52,6	1306	1,2	26,6	**H082**	132MA4	16116
50,2	1369	1,2	27,88	**H082**	132MA4	16174
44,9	1530	1,0	31,15	**H082**	132MA4	16276
40,7	1688	0,9	34,38	**H082**	132MA4	16321
427,8	162	3,7	3,27	**H101**	132MA4	4840
378,4	184	3,3	3,7	**H101**	132MA4	5000
331,6	210	2,9	4,22	**H101**	132MA4	5000
287,2	242	2,6	4,88	**H101**	132MA4	5000
265,8	261	2,4	5,27	**H101**	132MA4	5000
224,7	309	2,1	6,23	**H101**	132MA4	5000
185,5	374	1,7	7,55	**H101**	132MA4	5000
166,7	417	1,6	8,4	**H101**	132MA4	5000
78,4	877	3,6	17,85	**H102**	132MA4	22000
70,5	975	3,3	19,85	**H102**	132MA4	22000
65,3	1053	3,0	21,44	**H102**	132MA4	22000
58,4	1177	2,8	23,97	**H102**	132MA4	22000
54,1	1272	2,6	25,89	**H102**	132MA4	22000
48,7	1411	2,3	28,73	**H102**	132MA4	22000
45,6	1509	2,1	30,72	**H102**	132MA4	22000
40,9	1680	1,9	34,2	**H102**	132MA4	22000
36,4	1889	1,5	38,45	**H102**	132MA4	22000
33,9	2028	1,6	41,3	**H102**	132MA4	22000
30,6	2250	1,5	45,82	**H102**	132MA4	22000
27,2	2530	1,3	51,52	**H102**	132MA4	22000
25,2	2668	1,3	55,47	**H103**	132MA4	22000
20,1	3351	1,0	69,69	**H103**	132MA4	22000
17,5	3838	0,9	79,82	**H103**	132MA4	22000
291,7	238	3,7	4,8	**H121**	132MA4	6000
268,5	259	3,4	5,21	**H121**	132MA4	6000
224,0	310	2,9	6,25	**H121**	132MA4	6000
181,8	382	2,6	7,7	**H121**	132MA4	6000
50,9	1350	3,7	27,49	**H122**	132MA4	30000
46,9	1467	3,4	29,86	**H122**	132MA4	30000
42,4	1621	3,1	33	**H122**	132MA4	30000
38,7	1775	2,8	36,13	**H122**	132MA4	30000
31,7	2166	2,3	44,1	**H122**	132MA4	30000
30,6	2201	2,3	45,77	**H123**	132MA4	30000
25,1	2687	1,9	55,87	**H123**	132MA4	30000
20,8	3238	1,5	67,32	**H123**	132MA4	30000
19,0	3545	1,4	73,71	**H123**	132MA4	30000
16,8	4008	1,2	83,34	**H123**	132MA4	30000
15,6	4327	1,2	89,97	**H123**	132MA4	30000
14,0	4823	1,0	100,29	**H123**	132MA4	30000
12,9	5210	1,0	108,34	**H123**	132MA4	30000
26,2	2574	3,1	53,53	**H143**	132MA4	55000
23,6	2848	2,8	59,22	**H143**	132MA4	55000

7,5 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 [N]
22,2	3029	2,6	62,99	**H143**	132MA4	55000
19,6	3431	2,3	71,35	**H143**	132MA4	55000
17,7	3803	2,1	79,07	**H143**	132MA4	55000
16,2	4157	1,9	86,43	**H143**	132MA4	55000
14,6	4627	1,7	96,21	**H143**	132MA4	55000
13,4	5026	1,6	104,51	**H143**	132MA4	55000
12,1	5575	1,4	115,92	**H143**	132MA4	55000
10,9	6178	1,3	128,47	**H143**	132MA4	55000
10,0	6711	1,2	139,55	**H143**	132MA4	55000
9,1	7422	1,1	154,33	**H143**	132MA4	55000

11,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 [N]
260,5	387	1,3	5,38	**H062**	132MC4	8479
235,9	428	1,3	5,93	**H062**	132MC4	8601
189,4	532	1,0	7,39	**H062**	132MC4	8822
164,7	612	1,0	8,5	**H062**	132MC4	8920
1079,2	94	2,1	1,3	**H081**	132MC4	2759
980,0	104	2,1	1,43	**H081**	132MC4	2822
725,0	141	1,6	1,93	**H081**	132MC4	3013
550,8	185	1,5	2,54	**H081**	132MC4	3173
430,8	237	1,3	3,25	**H081**	132MC4	3296
376,1	271	1,1	3,72	**H081**	132MC4	3351
350,0	291	1,1	4	**H081**	132MC4	3376
300,0	340	0,9	4,67	**H081**	132MC4	3418
259,8	388	1,8	5,39	**H082**	132MC4/160S4	11269
235,5	428	1,6	5,95	**H082**	132MC4/160S4	11515
189,3	533	1,5	7,39	**H082**	132MC4/160S4	12043
174,5	578	1,4	8,02	**H082**	132MC4/160S4	12231
158,2	638	1,4	8,85	**H082**	132MC4/160S4	12449
127,2	793	1,4	11,01	**H082**	132MC4/160S4	12884
103,7	972	1,4	13,5	**H082**	132MC4/160S4	13214
94,0	1073	1,4	14,9	**H082**	132MC4/160S4	13337
84,3	1197	1,3	16,62	**H082**	132MC4/160S4	13440
75,6	1334	1,1	18,53	**H082**	132MC4/160S4	13502
72,2	1396	1,1	19,38	**H082**	132MC4/160S4	13515
65,5	1541	1,0	21,39	**H082**	132MC4/160S4	13511
61,4	1642	1,0	22,8	**H082**	132MC4/160S4	13484
688,9	148	3,0	2,03	**H101**	132MC4/160S4	4112
564,2	181	3,0	2,48	**H101**	132MC4/160S4	4335
427,8	238	2,5	3,27	**H101**	132MC4/160S4	4647
378,4	269	2,2	3,7	**H101**	132MC4/160S4	4784
331,6	307	2,0	4,22	**H101**	132MC4/160S4	4931
287,2	355	1,7	4,88	**H101**	132MC4/160S4	5000
265,8	383	1,6	5,27	**H101**	132MC4/160S4	5000
224,7	454	1,4	6,23	**H101**	132MC4/160S4	5000
185,5	549	1,2	7,55	**H101**	132MC4/160S4	5000
166,7	611	1,1	8,4	**H101**	132MC4/160S4	5000
36,4	2770	1,0	38,45	**H102**	132MC4	22000
140,1	720	3,9	9,99	**H102**	132MC4/160S4	18682
126,3	799	3,8	11,09	**H102**	132MC4/160S4	19129

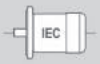
11,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i		IEC	Fr2 [N]
105,1	960	3,2	13,32	**H102**	132MC4/160S4	19905
87,0	1159	2,8	16,09	**H102**	132MC4/160S4	20662
78,4	1286	2,5	17,85	**H102**	132MC4/160S4	21054
70,5	1430	2,2	19,85	**H102**	132MC4/160S4	21432
65,3	1545	2,1	21,44	**H102**	132MC4/160S4	21690
58,4	1727	1,9	23,97	**H102**	132MC4/160S4	22000
54,1	1865	1,8	25,89	**H102**	132MC4/160S4	22000
48,7	2069	1,6	28,73	**H102**	132MC4/160S4	22000
45,6	2213	1,4	30,72	**H102**	132MC4/160S4	22000
40,9	2464	1,3	34,2	**H102**	132MC4/160S4	22000
33,9	2975	1,1	41,3	**H102**	132MC4/160S4	22000
30,6	3300	1,0	45,82	**H102**	132MC4/160S4	22000
473,8	215	3,7	2,95	**H121**	132MC4/160S4	6000
445,5	229	3,6	3,14	**H121**	132MC4/160S4	6000
391,2	260	3,3	3,58	**H121**	132MC4/160S4	6000
340,0	300	2,8	4,12	**H121**	132MC4/160S4	6000
291,7	349	2,5	4,8	**H121**	132MC4/160S4	6000
268,5	380	2,3	5,21	**H121**	132MC4/160S4	6000
224,0	455	2,0	6,25	**H121**	132MC4/160S4	6000
181,8	560	1,8	7,7	**H121**	132MC4/160S4	6000
82,7	1219	3,9	16,92	**H122**	132MC4/160S4	30000
72,5	1392	3,6	19,32	**H122**	132MC4/160S4	30000
68,1	1482	3,4	20,57	**H122**	132MC4/160S4	30000
62,2	1622	3,1	22,52	**H122**	132MC4/160S4	30000
57,2	1762	2,8	24,47	**H122**	132MC4/160S4	30000
50,9	1980	2,5	27,49	**H122**	132MC4/160S4	30000
46,9	2151	2,3	29,86	**H122**	132MC4/160S4	30000
42,4	2377	2,1	33	**H122**	132MC4/160S4	30000
38,7	2603	1,9	36,13	**H122**	132MC4/160S4	30000
31,7	3177	1,6	44,1	**H122**	132MC4/160S4	30000
30,6	3229	1,5	45,77	**H123**	132MC4/160S4	30000
25,1	3941	1,3	55,87	**H123**	132MC4/160S4	30000
20,8	4749	1,1	67,32	**H123**	132MC4/160S4	30000
19,0	5199	1,0	73,71	**H123**	132MC4/160S4	30000
43,4	2323	3,4	32,24	**H142**	160S4	53252
36,0	2799	2,9	38,85	**H142**	160S4	55000
32,5	3101	2,6	43,05	**H142**	160S4	55000
26,2	3775	2,1	53,53	**H143**	132MC4/160S4	55000
23,6	4177	1,9	59,22	**H143**	132MC4/160S4	55000
22,2	4443	1,8	62,99	**H143**	132MC4/160S4	55000
19,6	5033	1,6	71,35	**H143**	132MC4/160S4	55000
17,7	5577	1,4	79,07	**H143**	132MC4/160S4	55000
16,2	6096	1,3	86,43	**H143**	132MC4/160S4	55000
14,6	6786	1,2	96,21	**H143**	132MC4/160S4	55000
13,4	7371	1,1	104,51	**H143**	132MC4/160S4	55000
12,1	8176	1,0	115,92	**H143**	132MC4/160S4	55000
29,0	3410	2,3	48,35	**H143**	160S4	55000

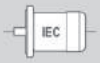
15,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i		IEC	Fr2 [N]
259,8	529	1,3	5,39	**H082**	160L4	10623
235,5	584	1,2	5,95	**H082**	160L4	10803
189,3	726	1,1	7,39	**H082**	160L4	11158
174,5	788	1,0	8,02	**H082**	160L4	11270

15,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 [N]
158,2	869	1,0	8,85	**H082**	160L4	11388
127,2	1081	1,0	11,01	**H082**	160L4	11566
103,7	1326	1,1	13,5	**H082**	160L4	11596
94,0	1463	1,0	14,9	**H082**	160L4	11552
84,3	1632	0,9	16,62	**H082**	160L4	11449
1083,0	128	3,1	1,29	**H101**	160L4	3540
992,7	140	3,2	1,41	**H101**	160L4	3623
688,9	202	2,2	2,03	**H101**	160L4	3975
564,2	246	2,2	2,48	**H101**	160L4	4167
427,8	325	1,8	3,27	**H101**	160L4	4426
378,4	367	1,6	3,7	**H101**	160L4	4535
331,6	419	1,5	4,22	**H101**	160L4	4646
287,2	484	1,3	4,88	**H101**	160L4	4759
265,8	523	1,2	5,27	**H101**	160L4	4814
224,7	618	1,0	6,23	**H101**	160L4	4921
266,0	517	3,5	5,26	**H102**	160L4	15368
220,3	624	3,2	6,36	**H102**	160L4	16074
198,6	693	3,3	7,05	**H102**	160L4	16458
169,2	813	3,1	8,27	**H102**	160L4	17037
140,1	981	2,9	9,99	**H102**	160L4	17689
126,3	1089	2,8	11,09	**H102**	160L4	18029
105,1	1309	2,4	13,32	**H102**	160L4	18582
87,0	1581	2,0	16,09	**H102**	160L4	19064
78,4	1754	1,8	17,85	**H102**	160L4	19282
70,5	1950	1,6	19,85	**H102**	160L4	19461
65,3	2106	1,5	21,44	**H102**	160L4	19561
58,4	2354	1,4	23,97	**H102**	160L4	19652
54,1	2544	1,3	25,89	**H102**	160L4	19673
48,7	2822	1,2	28,73	**H102**	160L4	19639
45,6	3018	1,1	30,72	**H102**	160L4	19576
40,9	3359	1,0	34,2	**H102**	160L4	19398
775,0	179	3,9	1,81	**H121**	160L4	5117
700,0	199	3,8	2	**H121**	160L4	5262
564,5	246	3,3	2,48	**H121**	160L4	5574
473,8	293	2,7	2,95	**H121**	160L4	5831
445,5	312	2,6	3,14	**H121**	160L4	5922
391,2	355	2,4	3,58	**H121**	160L4	6000
340,0	409	2,1	4,12	**H121**	160L4	6000
291,7	476	1,8	4,8	**H121**	160L4	6000
268,5	518	1,7	5,21	**H121**	160L4	6000
224,0	620	1,5	6,25	**H121**	160L4	6000
181,8	764	1,3	7,7	**H121**	160L4	6000
135,3	1016	3,9	10,35	**H122**	160L4	27805
110,6	1244	3,5	12,66	**H122**	160L4	29215
101,0	1362	3,4	13,86	**H122**	160L4	29843
82,7	1662	2,9	16,92	**H122**	160L4	30000
72,5	1898	2,6	19,32	**H122**	160L4	30000
68,1	2021	2,5	20,57	**H122**	160L4	30000
62,2	2212	2,3	22,52	**H122**	160L4	30000
57,2	2403	2,1	24,47	**H122**	160L4	30000
50,9	2700	1,9	27,49	**H122**	160L4	30000
46,9	2933	1,7	29,86	**H122**	160L4	30000
42,4	3242	1,5	33	**H122**	160L4	30000
38,7	3549	1,4	36,13	**H122**	160L4	30000
31,7	4332	1,2	44,1	**H122**	160L4	30000
30,6	4403	1,1	45,77	**H123**	160L4	30000

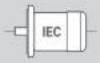
15,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 [N]
25,1	5374	0,9	55,87	**H123**	160L4	30000
58,0	2372	3,4	24,15	**H142**	160L4	47628
52,3	2629	3,0	26,76	**H142**	160L4	48747
43,4	3167	2,5	32,24	**H142**	160L4	50726
36,0	3816	2,1	38,85	**H142**	160L4	52604
32,5	4229	1,9	43,05	**H142**	160L4	53576
29,0	4650	1,7	48,35	**H143**	160L4	54900
26,2	5148	1,6	53,53	**H143**	160L4	55000
23,6	5696	1,4	59,22	**H143**	160L4	55000
22,2	6059	1,3	62,99	**H143**	160L4	55000
19,6	6863	1,2	71,35	**H143**	160L4	55000
17,7	7606	1,1	79,07	**H143**	160L4	55000
16,2	8313	1,0	86,43	**H143**	160L4	55000

18,5 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 [N]
1083,0	158	2,5	1,29	**H101**	180M4	3463
992,7	173	2,6	1,41	**H101**	180M4	3539
688,9	249	1,8	2,03	**H101**	180M4	3855
564,2	304	1,8	2,48	**H101**	180M4	4021
427,8	401	1,5	3,27	**H101**	180M4	4233
378,4	453	1,3	3,7	**H101**	180M4	4316
331,6	517	1,2	4,22	**H101**	180M4	4397
287,2	597	1,0	4,88	**H101**	180M4	4471
265,8	645	1,0	5,27	**H101**	180M4	4504
266,0	638	2,8	5,26	**H102**	180M4	14911
220,3	770	2,6	6,36	**H102**	180M4	15522
198,6	854	2,7	7,05	**H102**	180M4	15845
169,2	1002	2,5	8,27	**H102**	180M4	16318
140,1	1211	2,3	9,99	**H102**	180M4	16821
126,3	1343	2,2	11,09	**H102**	180M4	17065
105,1	1614	1,9	13,32	**H102**	180M4	17424
87,0	1949	1,6	16,09	**H102**	180M4	17666
78,4	2163	1,5	17,85	**H102**	180M4	17730
70,5	2405	1,3	19,85	**H102**	180M4	17737
65,3	2598	1,2	21,44	**H102**	180M4	17698
58,4	2904	1,1	23,97	**H102**	180M4	17569
54,1	3137	1,1	25,89	**H102**	180M4	17423
48,7	3480	0,9	28,73	**H102**	180M4	17143
775,0	221	3,2	1,81	**H121**	180M4	5022
700,0	245	3,1	2	**H121**	180M4	5156
564,5	304	2,6	2,48	**H121**	180M4	5443
473,8	362	2,2	2,95	**H121**	180M4	5675
445,5	385	2,1	3,14	**H121**	180M4	5756
391,2	438	1,9	3,58	**H121**	180M4	5925
340,0	504	1,7	4,12	**H121**	180M4	6000
291,7	588	1,5	4,8	**H121**	180M4	6000
268,5	638	1,4	5,21	**H121**	180M4	6000
224,0	765	1,2	6,25	**H121**	180M4	6000
181,8	943	1,1	7,7	**H121**	180M4	6000
180,8	938	3,9	7,74	**H122**	180M4	25221
165,2	1027	3,7	8,48	**H122**	180M4	25792

18,5 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 [N]
135,3	1253	3,2	10,35	H122	180M4	27041
110,6	1534	2,9	12,66	H122	180M4	28280
101,0	1680	2,7	13,86	H122	180M4	28820
82,7	2050	2,3	16,92	H122	180M4	29954
72,5	2341	2,1	19,32	H122	180M4	30000
68,1	2492	2,0	20,57	H122	180M4	30000
62,2	2729	1,8	22,52	H122	180M4	30000
57,2	2964	1,7	24,47	H122	180M4	30000
50,9	3330	1,5	27,49	H122	180M4	30000
46,9	3618	1,4	29,86	H122	180M4	30000
42,4	3998	1,3	33	H122	180M4	30000
38,7	4377	1,1	36,13	H122	180M4	30000
31,7	5343	0,9	44,1	H122	180M4	30000
30,6	5430	0,9	45,77	H123	180M4	30000
80,2	2115	3,7	17,45	H142	180M4	42838
69,9	2428	3,3	20,04	H142	180M4	44195
58,0	2926	2,7	24,15	H142	180M4	45972
52,3	3242	2,5	26,76	H142	180M4	46912
43,4	3906	2,0	32,24	H142	180M4	48515
36,0	4707	1,7	38,85	H142	180M4	49940
32,5	5216	1,5	43,05	H142	180M4	50624
29,0	5735	1,4	48,35	H143	180M4	51654
26,2	6350	1,3	53,53	H143	180M4	52166
23,6	7025	1,1	59,22	H143	180M4	52559
22,2	7472	1,1	62,99	H143	180M4	52735
19,6	8464	0,9	71,35	H143	180M4	52921

22,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 [N]
1083,0	188	2,1	1,29	H101	180L4	3387
992,7	205	2,2	1,41	H101	180L4	3456
688,9	296	1,5	2,03	H101	180L4	3735
564,2	361	1,5	2,48	H101	180L4	3874
427,8	476	1,3	3,27	H101	180L4	4039
378,4	539	1,1	3,7	H101	180L4	4098
331,6	615	1,0	4,22	H101	180L4	4148
266,0	758	2,4	5,26	H102	180L4	14453
220,3	916	2,2	6,36	H102	180L4	14970
198,6	1016	2,3	7,05	H102	180L4	15233
169,2	1192	2,1	8,27	H102	180L4	15599
140,1	1440	1,9	9,99	H102	180L4	15953
126,3	1597	1,9	11,09	H102	180L4	16102
105,1	1920	1,6	13,32	H102	180L4	16266
87,0	2318	1,4	16,09	H102	180L4	16267
78,4	2572	1,2	17,85	H102	180L4	16179
70,5	2860	1,1	19,85	H102	180L4	16012
65,3	3089	1,0	21,44	H102	180L4	15835
58,4	3453	1,0	23,97	H102	180L4	15486
1137,5	179	3,6	1,23	H121	180L4	4460
988,2	206	3,4	1,42	H121	180L4	4630
775,0	263	2,7	1,81	H121	180L4	4926
700,0	291	2,6	2	H121	180L4	5051
564,5	361	2,2	2,48	H121	180L4	5311

22,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i		IEC	Fr2 [N]
473,8	430	1,9	2,95	**H121**	180L4	5519
445,5	458	1,8	3,14	**H121**	180L4	5590
391,2	521	1,6	3,58	**H121**	180L4	5736
340,0	599	1,4	4,12	**H121**	180L4	5884
291,7	699	1,2	4,8	**H121**	180L4	6000
268,5	759	1,2	5,21	**H121**	180L4	6000
224,0	910	1,0	6,25	**H121**	180L4	6000
265,4	760	3,9	5,27	**H122**	180L4	22436
242,4	832	3,8	5,78	**H122**	180L4	22959
198,6	1016	3,5	7,05	**H122**	180L4	24111
180,8	1115	3,3	7,74	**H122**	180L4	24650
165,2	1221	3,1	8,48	**H122**	180L4	25166
135,3	1491	2,7	10,35	**H122**	180L4	26277
110,6	1824	2,4	12,66	**H122**	180L4	27345
101,0	1997	2,3	13,86	**H122**	180L4	27796
82,7	2438	2,0	16,92	**H122**	180L4	28704
72,5	2784	1,8	19,32	**H122**	180L4	29226
68,1	2964	1,7	20,57	**H122**	180L4	29445
62,2	3245	1,5	22,52	**H122**	180L4	29723
57,2	3525	1,4	24,47	**H122**	180L4	29933
50,9	3961	1,3	27,49	**H122**	180L4	30000
46,9	4302	1,2	29,86	**H122**	180L4	30000
42,4	4754	1,1	33	**H122**	180L4	30000
38,7	5205	1,0	36,13	**H122**	180L4	30000
107,1	1883	3,9	13,07	**H142**	180L4	39056
88,9	2269	3,4	15,75	**H142**	180L4	40737
80,2	2515	3,1	17,45	**H142**	180L4	41641
69,9	2888	2,8	20,04	**H142**	180L4	42821
58,0	3479	2,3	24,15	**H142**	180L4	44316
52,3	3856	2,1	26,76	**H142**	180L4	45077
43,4	4645	1,7	32,24	**H142**	180L4	46304
36,0	5597	1,4	38,85	**H142**	180L4	47276
32,5	6203	1,3	43,05	**H142**	180L4	47672
29,0	6820	1,2	48,35	**H143**	180L4	48408
26,2	7551	1,1	53,53	**H143**	180L4	48572
23,6	8354	1,0	59,22	**H143**	180L4	48583
22,2	8886	0,9	62,99	**H143**	180L4	48506

30,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i		IEC	Fr2 [N]
1137,5	244	2,7	1,23	**H121**	200L4	4311
988,2	281	2,5	1,42	**H121**	200L4	4458
775,0	359	2,0	1,81	**H121**	200L4	4708
700,0	397	1,9	2	**H121**	200L4	4809
564,5	492	1,6	2,48	**H121**	200L4	5012
473,8	586	1,4	2,95	**H121**	200L4	5161
445,5	624	1,3	3,14	**H121**	200L4	5210
391,2	710	1,2	3,58	**H121**	200L4	5303
340,0	817	1,0	4,12	**H121**	200L4	5387
291,7	953	0,9	4,8	**H121**	200L4	5454
265,4	1036	2,9	5,27	**H122**	200L4	21545
242,4	1135	2,8	5,78	**H122**	200L4	21984
198,6	1385	2,6	7,05	**H122**	200L4	22921
180,8	1521	2,4	7,74	**H122**	200L4	23343

30,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i		IEC	Fr2 [N]
165,2	1665	2,3	8,48	H122	200L4	23736
135,3	2033	2,0	10,35	H122	200L4	24532
110,6	2488	1,8	12,66	H122	200L4	25208
101,0	2724	1,7	13,86	H122	200L4	25457
82,7	3324	1,4	16,92	H122	200L4	25849
72,5	3796	1,3	19,32	H122	200L4	25966
68,1	4041	1,2	20,57	H122	200L4	25973
62,2	4425	1,1	22,52	H122	200L4	25922
50,9	5401	0,9	27,49	H122	200L4	25510
220,3	1249	3,9	6,36	H142	200L4	31490
198,8	1384	3,6	7,04	H142	200L4	32301
178,5	1541	3,4	7,84	H142	200L4	33147
148,1	1857	3,5	9,45	H142	200L4	34598
133,7	2057	3,5	10,47	H142	200L4	35382
107,1	2568	2,8	13,07	H142	200L4	37007
88,9	3094	2,5	15,75	H142	200L4	38268
80,2	3429	2,3	17,45	H142	200L4	38906
69,9	3938	2,0	20,04	H142	200L4	39680
58,0	4744	1,7	24,15	H142	200L4	40531
52,3	5258	1,5	26,76	H142	200L4	40882
43,4	6334	1,3	32,24	H142	200L4	41250
36,0	7632	1,0	38,85	H142	200L4	41187
32,5	8458	0,9	43,05	H142	200L4	40924

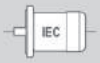
37,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i		IEC	Fr2 [N]
265,4	1278	3,6	5,27	H142	225S4	29300
220,3	1540	3,2	6,36	H142	225S4	30618
198,8	1707	2,9	7,04	H142	225S4	31335
178,5	1900	2,8	7,84	H142	225S4	32072
148,1	2290	2,8	9,45	H142	225S4	33302
133,7	2538	2,8	10,47	H142	225S4	33946
107,1	3167	2,3	13,07	H142	225S4	35214
88,9	3816	2,0	15,75	H142	225S4	36108
80,2	4229	1,9	17,45	H142	225S4	36512
69,9	4856	1,6	20,04	H142	225S4	36931
58,0	5851	1,4	24,15	H142	225S4	37219
52,3	6485	1,2	26,76	H142	225S4	37212
43,4	7812	1,0	32,24	H142	225S4	36829

45,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i		IEC	Fr2 [N]
265,4	1554	3,0	5,27	H142	225M4	28474
220,3	1873	2,6	6,36	H142	225M4	29622
198,8	2075	2,4	7,04	H142	225M4	30231
178,5	2311	2,3	7,84	H142	225M4	30843
148,1	2785	2,3	9,45	H142	225M4	31821
133,7	3086	2,3	10,47	H142	225M4	32305

45,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 [N]
107,1	3852	1,9	13,07	**H142**	225M4	33166
88,9	4641	1,7	15,75	**H142**	225M4	33640
80,2	5144	1,5	17,45	**H142**	225M4	33776
69,9	5906	1,4	20,04	**H142**	225M4	33790
58,0	7117	1,1	24,15	**H142**	225M4	33434
52,3	7887	1,0	26,76	**H142**	225M4	33017

IHA/IH – 모터 용량에 따른 분류(입력회전수=1400rpm)/Performance(n=1400rpm)

IHA32

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 [N]
80	5,38	2,27	260,3	330	1096
80	6,52	1,87	214,8	409	1169
75	8,11	1,41	172,6	373	1257
90	10,94	1,26	128	441	1389
80	13,25	0,92	105,7	363	1481
80	16,49	0,74	84,9	398	1593
90	20,26	0,68	69,1	453	1706
85	24,55	0,53	57	386	1818
80	30,55	0,4	45,8	374	1956
90	35,44	0,39	39,5	480	2000
90	44,10	0,31	31,7	398	2000
80	48,75	0,25	28,7	398	2000
95	60,67	0,24	23,1	472	2000

IHA33

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 [N]
100	51,32	0,3	27,3	472	2000
100	59,65	0,26	23,5	472	2000
100	72,27	0,22	19,4	472	2000
100	89,94	0,17	15,6	472	2000
100	110,51	0,14	12,7	472	2000
100	133,88	0,12	10,5	472	2000
100	166,61	0,09	8,4	472	2000
100	193,30	0,08	7,2	472	2000
100	240,55	0,06	5,8	472	2000
100	279,07	0,06	5	472	2000
100	347,29	0,04	4	472	2000

IHA41

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 [N]
25	1,45	2,61	966,7	330	512
25	2,94	1,28	475,5	330	648
30	4,75	0,95	294,7	330	760
30	5,45	0,83	256,7	330	796
25	7,88	0,48	177,8	330	900
20	10,83	0,28	129,2	330	1001

IHA42

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 [N]
140	5,38	3,97	260,3	330	2308
140	6,52	3,28	214,8	409	2461
130	8,11	2,45	172,6	369	2647
150	10,94	2,09	128	424	2924
140	13,25	1,61	105,7	381	3117

IHA42

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 [N]
140	16,49	1,3	84,9	398	3353
150	20,26	1,13	69,1	432	3591
155	24,55	0,96	57	422	3828
140	30,55	0,7	45,8	359	4118
150	35,44	0,65	39,5	457	4300
140	44,10	0,48	31,7	371	4300
115	48,75	0,36	28,7	416	4300
130	60,67	0,33	23,1	428	4300

IHA43

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 [N]
150	51,32	0,46	27,3	427	4300
150	59,65	0,39	23,5	426	4300
150	72,27	0,32	19,4	409	4300
150	89,94	0,26	15,6	398	4300
150	110,51	0,21	12,7	403	4300
150	133,88	0,17	10,5	409	4300
150	166,61	0,14	8,4	398	4300
150	193,30	0,12	7,2	427	4300
150	240,55	0,1	5,8	398	4300
150	279,07	0,08	5	427	4300
150	347,29	0,07	4	398	4300

IHA51

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 [N]
40	1,45	4,17	966,7	330	1410
40	2,94	2,05	475,5	330	1786
50	4,75	1,59	294,7	330	2095
50	5,45	1,39	256,7	330	2194
40	7,88	0,77	177,8	330	2479
25	10,83	0,35	129,2	330	2757

IHA52

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 [N]
240	5,14	7,13	272,2	550	2842
240	6,22	5,89	225	682	3029
240	7,73	4,74	181	664	3256
300	9,64	4,75	145,2	827	3505
280	11,67	3,66	120	636	3735
280	14,50	2,95	96,6	664	4015
300	16,91	2,71	82,8	758	4227
290	20,46	2,16	68,4	659	4504
280	25,43	1,68	55,1	641	4842
300	29,89	1,53	46,8	752	5110

IHA52

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 [N]
300	36,17	1,27	38,7	682	5445
280	44,95	0,95	31,1	620	5855
300	49,78	0,92	28,1	798	6000
290	61,87	0,72	22,6	642	6000

IHA53

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 [N]
300	49,80	0,94	28,1	330	6000
300	60,25	0,78	23,2	409	6000
300	74,88	0,62	18,7	398	6000
300	88,02	0,53	15,9	421	6000
300	111,61	0,42	12,5	390	6000
300	138,71	0,34	10,1	398	6000
300	163,05	0,29	8,6	421	6000
300	200,27	0,23	7	403	6000
300	235,41	0,2	5,9	421	6000
300	284,81	0,16	4,9	409	6000
300	353,98	0,13	4	398	6000

IHA61

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 [N]
90	1,33	10,2	1050	550	2053
90	2,50	5,44	560	550	2531
110	4,38	3,79	319,3	550	3053
90	7,75	1,76	180,6	550	3691
70	10,67	0,99	131,3	550	4106

IHA62

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 [N]
380	5,14	11,28	272,2	550	4195
380	6,22	9,33	225	682	4470
380	7,73	7,5	181	664	4806
460	9,64	7,28	145,2	801	5173
440	11,67	5,76	120	652	5512
420	14,50	4,42	96,6	634	5926
500	16,91	4,51	82,8	842	6238
460	20,46	3,43	68,4	627	6647
430	25,43	2,58	55,1	621	7147
450	29,89	2,3	46,8	734	7543
470	36,17	1,98	38,7	712	8000
440	44,95	1,49	31,1	621	8000
370	49,78	1,14	28,1	626	8000
440	61,87	1,09	22,6	789	8000

IHA63

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 [N]
480	49,80	1,5	28,1	330	8000
480	60,25	1,24	23,2	409	8000
480	74,88	1	18,7	398	8000
480	88,02	0,85	15,9	421	8000
480	111,61	0,67	12,5	390	8000
480	138,71	0,54	10,1	398	8000
480	163,05	0,46	8,6	421	8000
480	200,27	0,37	7	403	8000
480	235,41	0,32	5,9	421	8000
480	284,81	0,26	4,9	409	8000
480	353,98	0,21	4	398	8000

IH032

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 [N]
95	4,70	3,09	298,1	700	3021
105	6,23	2,57	224,7	817	3309
125	7,76	2,46	180,4	843	3432
130	8,87	2,24	157,9	894	3593
140	10,14	2,11	138	924	3713
145	11,76	1,88	119	975	3920
170	13,72	1,89	102	973	3943
170	14,66	1,77	95,5	1000	4069
190	16,77	1,73	83,5	1010	4126
200	18,20	1,68	76,9	1021	4189
200	19,90	1,53	70,4	1054	4376
200	22,68	1,35	61,7	1097	4661
200	23,83	1,28	58,7	1112	4772
200	26,39	1,16	53	1140	5007
200	29,70	1,03	47,1	1169	5288
200	32,89	0,93	42,6	1192	5500
200	37,92	0,81	36,9	1220	5500
200	41,40	0,74	33,8	1236	5500
200	47,25	0,65	29,6	1257	5500

IH033

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 [N]
200	53,59	0,58	26,1	1274	5500
200	66,78	0,47	21	1300	5500
200	74,84	0,42	18,7	1311	5500
200	99,27	0,31	14,1	1334	5500
200	108,05	0,29	13	1339	5500
200	123,71	0,25	11,3	1348	5500
200	143,33	0,22	9,8	1355	5500
200	178,61	0,17	7,8	1365	5500
200	197,17	0,16	7,1	1369	5500
200	245,70	0,13	5,7	1375	5500

IH041

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 [N]
25	1,44	2,63	973,9	996	596
25	2,00	1,89	700	1101	678
30	2,55	1,78	550	1116	721
30	2,71	1,67	515,8	1132	739
40	3,11	1,95	450,8	1093	733
45	3,59	1,9	390,2	1100	754
45	4,20	1,62	333,3	1139	806
45	5,00	1,36	280	1176	866
50	5,50	1,37	254,5	1174	877
50	6,09	1,24	229,9	1193	915
50	7,67	0,99	182,6	1230	1000
55	8,75	0,95	160	1235	1000

IH042

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 [N]
160	5,46	4,47	256,3	434	3912
160	7,19	3,4	194,8	673	4408
210	8,91	3,6	157,1	628	4416
240	10,31	3,55	135,7	638	4471
250	11,80	3,24	118,6	709	4681
250	13,57	2,81	103,2	803	5001
250	15,96	2,39	87,7	897	5389
250	19,00	2,01	73,7	982	5831
250	21,00	1,82	66,7	1024	6097
260	23,15	1,72	60,5	1047	6280
260	26,04	1,52	53,8	1089	6600
280	27,50	1,55	50,9	1083	6600
280	30,45	1,4	46	1116	6600
280	34,10	1,25	41,1	1150	6600
280	37,76	1,13	37,1	1177	6600
280	43,75	0,98	32	1211	6600
280	47,53	0,9	29,5	1228	6600
280	54,25	0,79	25,8	1253	6600

IH043

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 [N]
300	61,83	0,76	22,6	1264	6600
300	76,67	0,61	18,3	1296	6600
300	87,05	0,54	16,1	1311	6600
300	114,55	0,41	12,2	1340	6600
300	125,69	0,37	11,1	1347	6600
300	142,04	0,33	9,9	1357	6600
300	165,38	0,28	8,5	1367	6600
300	205,07	0,23	6,8	1379	6600
300	227,50	0,21	6,2	1384	6600
300	282,10	0,17	5	1392	6600

IH051

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 [N]
40	1,27	4,75	1100	825	1492
60	1,42	6,39	986,4	630	1466
60	2,13	4,27	658,8	883	1712
70	2,57	4,11	544,4	901	1797
80	3,17	3,82	442,1	937	1903
90	3,69	3,69	379,7	952	1975
90	4,00	3,4	350	987	2040
95	4,77	3,01	293,5	1033	2163
100	5,25	2,88	266,7	1049	2225
100	5,82	2,6	240,6	1083	2316
100	7,33	2,06	190,9	1147	2500
100	8,38	1,8	167,2	1178	2500

IH052

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 [N]
260	5,73	6,93	244,4	259	4844
290	6,89	6,42	203,1	343	5059
340	8,53	6,09	164,2	398	5234
370	9,56	5,91	146,4	428	5322
390	11,51	5,17	121,6	548	5680
430	14,24	4,61	98,3	641	6016
450	16,59	4,14	84,4	718	6343
460	18,00	3,9	77,8	757	6530
460	19,97	3,52	70,1	821	6866
470	21,67	3,31	64,6	854	7069
470	24,71	2,9	56,7	921	7521
490	26,18	2,86	53,5	929	7594
490	28,44	2,63	49,2	966	7894
490	31,52	2,37	44,4	1008	8000
490	33,00	2,27	42,4	1026	8000
490	38,98	1,92	35,9	1083	8000
490	45,36	1,65	30,9	1127	8000
490	49,13	1,52	28,5	1148	8000
490	56,11	1,33	24,9	1179	8000

IH053

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 [N]
500	58,81	1,33	23,8	1185	8000
500	72,75	1,07	19,2	1226	8000
500	90,51	0,86	15,5	1260	8000
500	108,95	0,72	12,9	1283	8000
500	134,76	0,58	10,4	1305	8000
500	157,29	0,5	8,9	1319	8000
500	194,56	0,4	7,2	1334	8000
500	216,38	0,36	6,5	1340	8000
500	267,65	0,29	5,2	1352	8000

IH061

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 [N]
80	1,34	9	1041,9	2094	2217
120	2,13	8,53	658,8	2140	2426
120	2,57	7,05	544,4	2285	2628
130	3,17	6,2	442,1	2368	2806
150	3,69	6,15	379,7	2374	2875
150	4,00	5,67	350	2421	2977
160	4,77	5,07	293,5	2479	3149
170	5,25	4,89	266,7	2496	3223
170	5,82	4,42	240,6	2543	3367
170	7,33	3,5	190,9	2632	3700
170	8,38	3,07	167,2	2675	3700

IH062

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 [N]
500	5,38	14,21	260,5	853	7822
550	5,93	14,15	235,9	860	7887
550	7,39	11,36	189,4	1250	8720
600	8,50	10,78	164,7	1332	8992
600	9,39	9,76	149,2	1475	9407
650	11,69	8,49	119,8	1652	10084
700	12,67	8,44	110,5	1660	10166
700	14,75	7,25	94,9	1827	10900
800	16,29	7,5	86	1791	10815
830	17,67	7,17	79,2	1837	11061
850	20,28	6,4	69	1946	11686
850	23,27	5,58	60,2	2061	12000
850	25,70	5,05	54,5	2134	12000
800	29,33	4,16	47,7	2259	12000
850	32,00	4,06	43,8	2274	12000
800	36,99	3,3	37,8	2379	12000
850	40,33	3,22	34,7	2391	12000
850	46,06	2,82	30,4	2447	12000

IH063

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 [N]
850	49,45	2,68	28,3	2474	12000
850	54,61	2,43	25,6	2509	12000
850	68,00	1,95	20,6	2574	12000
850	85,82	1,54	16,3	2630	12000
850	94,76	1,4	14,8	2650	12000
850	118,00	1,12	11,9	2688	12000
850	135,40	0,98	10,3	2707	12000
850	149,51	0,89	9,4	2720	12000
850	170,67	0,78	8,2	2735	12000
850	186,18	0,71	7,5	2744	12000
850	215,21	0,62	6,5	2757	12000
850	234,67	0,56	6	2764	12000
850	268,00	0,49	5,2	2774	12000

IH081

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 [N]
200	1,30	23,3	1079,2	922	2332
220	1,43	23,27	980	925	2352
230	1,93	18	725	1404	2651
280	2,54	16,65	550,8	1527	2788
310	3,25	14,42	430,8	1730	2999
310	3,72	12,59	376,1	1896	3193
320	4,00	12,09	350	1941	3260
320	4,67	10,36	300	2098	3497
330	5,54	9	252,8	2221	3735
340	6,08	8,45	230,1	2272	3854
350	7,50	7,05	186,7	2398	4000
350	8,44	6,26	165,8	2470	4000

IH082

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 [N]
700	5,39	19,84	259,8	816	9842
700	5,95	17,98	235,5	1021	10273
800	7,39	16,52	189,3	1182	10821
800	8,02	15,23	174,5	1325	11215
900	8,85	15,53	158,2	1292	11248
1100	11,01	15,26	127,2	1321	11480
1400	13,50	15,84	103,7	1258	11258
1500	14,90	15,38	94	1308	11384
1500	16,62	13,79	84,3	1484	12054
1500	18,53	12,36	75,6	1641	12745
1600	19,38	12,6	72,2	1615	12583
1600	21,39	11,42	65,5	1745	13240
1600	22,80	10,72	61,4	1824	13678
1600	26,60	9,19	52,6	1993	14774
1600	27,88	8,76	50,2	2040	15120
1600	31,15	7,84	44,9	2141	15956
1600	34,38	7,11	40,7	2222	16725
1600	38,70	6,31	36,2	2310	17684
1600	42,75	5,72	32,7	2376	18000
1600	48,13	5,08	29,1	2447	18000

IH083

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 [N]
1600	56,53	4,41	24,8	2530	18000
1800	71,48	3,93	19,6	2583	18000
1800	78,87	3,56	17,8	2623	18000
1800	85,56	3,28	16,4	2653	18000
1800	98,09	2,86	14,3	2698	18000
1800	112,78	2,49	12,4	2739	18000
1800	124,44	2,26	11,3	2764	18000
1800	142,15	1,97	9,8	2794	18000
1800	154,76	1,81	9	2812	18000
1800	162,35	1,73	8,6	2821	18000

IH083

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 [N]
1800	179,13	1,57	7,8	2838	18000
1800	195,07	1,44	7,2	2852	18000
1800	222,78	1,26	6,3	2872	18000

IH101

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 [N]
400	1,29	46,76	1083	1816	2847
450	1,41	48,22	992,7	1749	2832
450	2,03	33,46	688,9	2427	3342
550	2,48	33,5	564,2	2425	3393
600	3,27	27,71	427,8	2691	3724
600	3,70	24,51	378,4	2838	3941
610	4,22	21,83	331,6	2961	4160
620	4,88	19,22	287,2	3081	4412
620	5,27	17,79	265,8	3147	4566
640	6,23	15,52	224,7	3251	4866
650	7,55	13,02	185,5	3366	5000
650	8,40	11,69	166,7	3427	5000

IH102

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 [N]
1800	5,26	52,23	266	1731	10504
2000	6,36	48,05	220,3	1919	10859
2300	7,05	49,81	198,6	1840	10364
2500	8,27	46,14	169,2	2006	10640
2800	9,99	42,79	140,1	2157	10795
3000	11,09	41,33	126,3	2223	10783
3100	13,32	35,53	105,1	2486	11791
3200	16,09	30,37	87	2719	12924
3200	17,85	27,37	78,4	2854	13798
3200	19,85	24,62	70,5	2979	14721
3200	21,44	22,79	65,3	3061	15415
3300	23,97	21,02	58,4	3141	16067
3300	25,89	19,46	54,1	3212	16805
3300	28,73	17,54	48,7	3299	17827
3200	30,72	15,91	45,6	3372	18885
3200	34,20	14,29	40,9	3446	20003
2800	38,45	11,12	36,4	3589	22000
3300	41,30	12,2	33,9	3540	21688
3300	45,82	11	30,6	3594	22000
3300	51,52	9,78	27,2	3649	22000

IH103

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 [N]
3500	55,47	9,84	25,2	3656	22000
3500	69,69	7,83	20,1	3745	22000
3500	79,82	6,84	17,5	3789	22000
3500	84,16	6,49	16,6	3804	22000

IH103

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 [N]
3500	93,36	5,85	15	3833	22000
3500	100,07	5,45	14	3850	22000
3500	120,84	4,52	11,6	3892	22000
3500	134,06	4,07	10,4	3911	22000
3500	143,42	3,81	9,8	3923	22000
3500	160,82	3,39	8,7	3941	22000
3500	181,07	3,01	7,7	3958	22000
3500	194,21	2,81	7,2	3967	22000
3500	215,45	2,53	6,5	3979	22000
3600	242,59	2,31	5,8	3989	22000

IH121

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 [N]
650	1,23	79,82	1137,5	869	3385
700	1,42	74,68	988,2	1066	3502
700	1,81	58,56	775	1685	3928
750	2,00	56,67	700	1757	4002
800	2,48	48,75	564,5	2061	4309
800	2,95	40,92	473,8	2362	4674
820	3,14	39,43	445,5	2419	4762
850	3,58	35,89	391,2	2555	4984
850	4,12	31,2	340	2735	5312
870	4,80	27,39	291,7	2881	5643
880	5,21	25,51	268,5	2953	5831
900	6,25	21,76	224	3097	6000
1000	7,70	19,63	181,8	3179	6000

IH122

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 [N]
3000	5,27	86,85	265,4	778	15220
3200	5,78	84,61	242,4	862	15332
3600	7,05	77,99	198,6	1110	15786
3700	7,74	72,98	180,8	1297	16325
3800	8,48	68,46	165,2	1467	16860
4000	10,35	59,04	135,3	1819	18195
4400	12,66	53,06	110,6	2043	19049
4600	13,86	50,67	101	2132	19413
4800	16,92	43,32	82,7	2408	21096
5000	19,32	39,52	72,5	2550	22087
5000	20,57	37,12	68,1	2640	22886
5000	22,52	33,9	62,2	2760	24070
5000	24,47	31,21	57,2	2861	25182
5000	27,49	27,77	50,9	2989	26801
5000	29,86	25,57	46,9	3072	27989
5000	33,00	23,14	42,4	3163	29467
5000	36,13	21,13	38,7	3238	30000
5000	44,10	17,31	31,7	3381	30000

IH123

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 [N]
5000	45,77	17,04	30,6	3405	30000
5000	55,87	13,96	25,1	3518	30000
5000	67,32	11,58	20,8	3605	30000
5000	73,71	10,58	19	3641	30000
5000	83,34	9,36	16,8	3686	30000
5000	89,97	8,67	15,6	3711	30000
5000	100,29	7,78	14	3744	30000
5000	108,34	7,2	12,9	3765	30000
5000	118,62	6,57	11,8	3788	30000
5000	128,18	6,08	10,9	3806	30000
5000	144,79	5,39	9,7	3832	30000
5000	155,22	5,02	9	3845	30000
5000	172,80	4,51	8,1	3864	30000
5000	189,19	4,12	7,4	3878	30000
5000	207,43	3,76	6,7	3891	30000
5000	230,92	3,38	6,1	3905	30000

IH142

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 [N]
4600	5,27	133,18	265,4	4000	19362
4900	6,36	117,74	220,3	4000	20566
5000	7,04	108,41	198,8	4000	21482
5300	7,84	103,19	178,5	5000	21901
6500	9,45	105,04	148,1	5000	20706
7200	10,47	104,98	133,7	5000	19997
7300	13,07	85,28	107,1	5100	22850
7800	15,75	75,63	88,9	5100	24190
7900	17,45	69,11	80,2	5100	25530
8000	20,04	60,95	69,9	5100	27526
8000	24,15	50,59	58	5100	30791
8000	26,76	45,65	52,3	5100	32678
8000	32,24	37,89	43,4	5100	36267
8000	38,85	31,45	36	5100	40087
8000	43,05	28,37	32,5	5100	42295

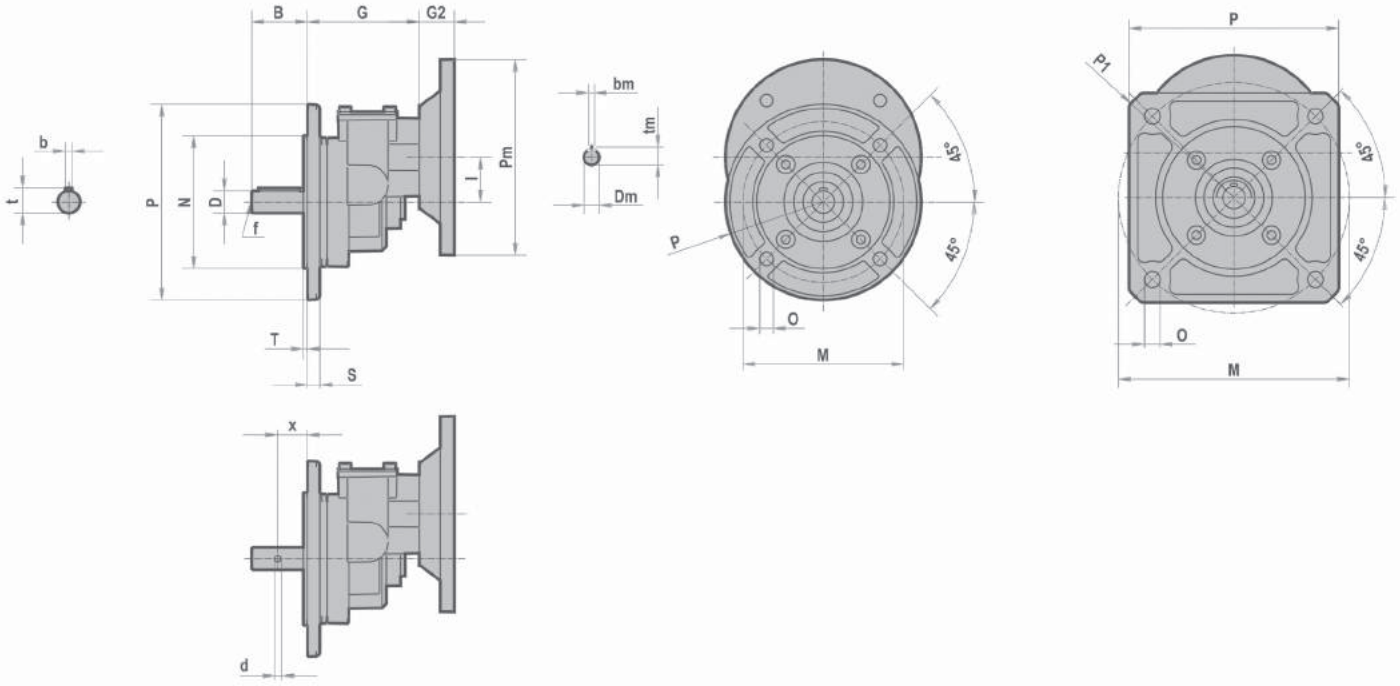
IH143

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 [N]
8000	48,35	25,81	29	8000	44878
8000	53,53	23,31	26,2	8001	47229
8000	59,22	21,07	23,6	8002	49641
8000	62,99	19,81	22,2	8003	51157
8000	71,35	17,49	19,6	8004	54309
8000	79,07	15,78	17,7	8005	55000
8000	86,43	14,43	16,2	8006	55000
8000	96,21	12,97	14,6	8007	55000
8000	104,51	11,94	13,4	8007	55000
8000	115,92	10,76	12,1	8009	55000
8000	128,47	9,71	10,9	8010	55000
8000	139,55	8,94	10	8007	55000
8000	154,33	8,08	9,1	8007	55000
8000	185,96	6,71	7,5	8009	55000

IH143

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 [N]
8000	206,08	6,05	6,8	8010	55000

HA31 – 치수/Dimensions



	D	B	b	t	x	d	f	G	l
A31	11 j6	23	4	12,5	-	-	-	80	32
	14 j6	30	5	16	-	-	M6		
	16 j6	40	5	18	-	-	M6		
	19 j6	40	6	21,5	-	-	M6		
	16 j6	50	-	-	29	7	-		
	19 0/-0,2	60	-	-	37	6,5	-		
	19,7 +/-0,05	100	-	-	50	6	M8		
	20 j6	75	-	-	45	6	-		

	P	P1	M	N	O	S	T
A31	116	Ø150	127	-	M8	-	-
	138	Ø160	127	-	M8	-	-
	Ø140	-	115	95 f7	9,5	9	3
	150	Ø200	165	-	11	-	-

B5

	G2
063	25
071	32
080	42

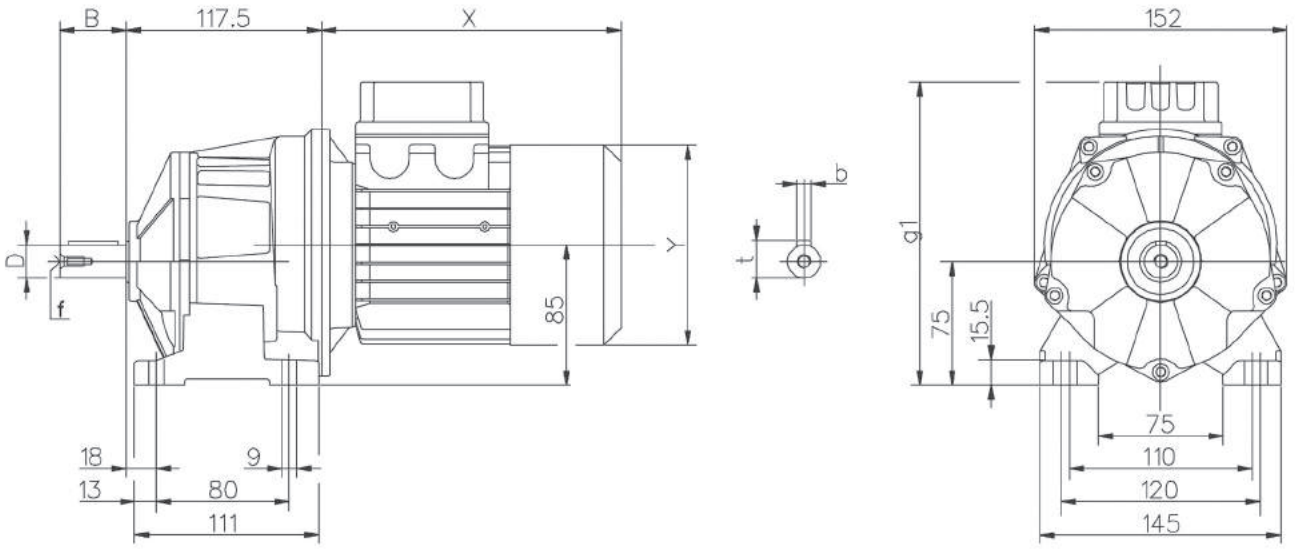
-
- For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 152.

~ kg	
063	1,9
071	2
080	2,2

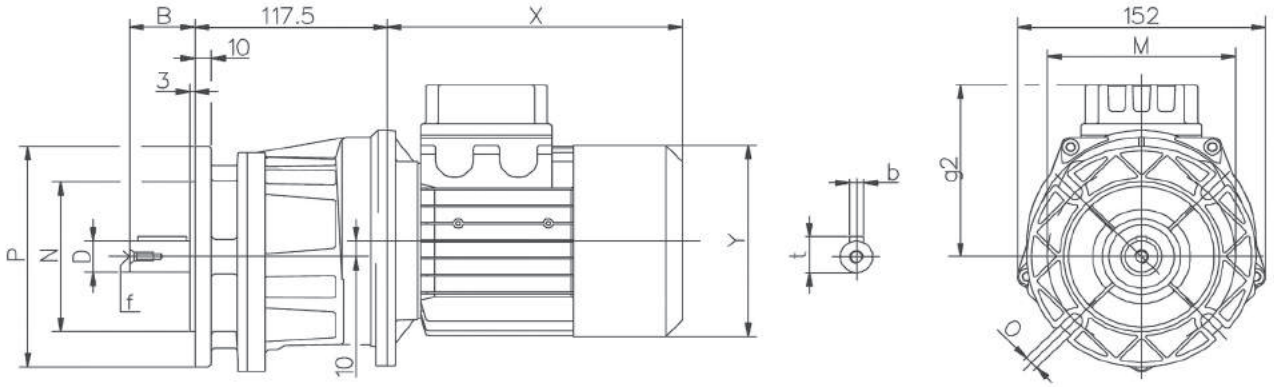
/ Kg w/o oil

A32 치수 / Dimensions

CH



CH..F



Output Shaft				
D j6	**B**	**b**	**t**	**f**
20	40	6×6×30	22.5	M6
(16)	(40)	(5×5×30)	(18)	(M6)
(14)	(30)	(5×5×30)	(16)	(M6)

Input Flanges			
P	**M**	**N f8**	**O**
140	115	95	9
(120)	(100)	(80)	(9)
–	–	–	–

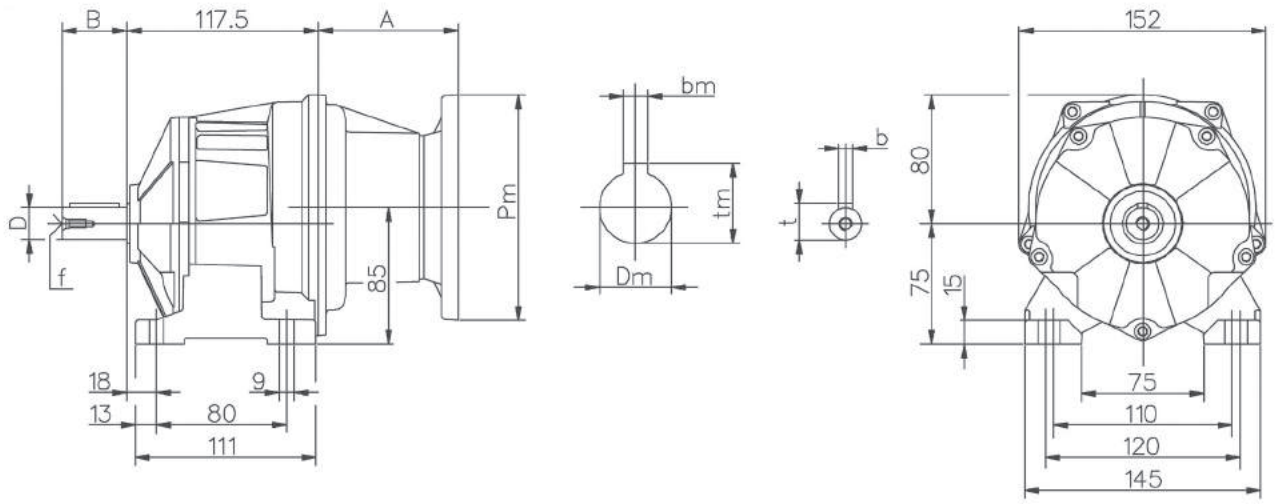
A32	표준모터 / Standard motor					브레이크 모터 / Brake motor				
	g1	**g2**	**X**	**Y**	**~ Kg**	**g1**	**g2**	**X**	**Y**	**~ Kg**
63	189	114	180	121	7,7	204	129	238	121	9
71	197	122	205	139	9,5	213	138	269	139	11,4
80	207	132	223	158	13,5	222	147	294	158	16,6

(..) 주문사양
(..) Only on request

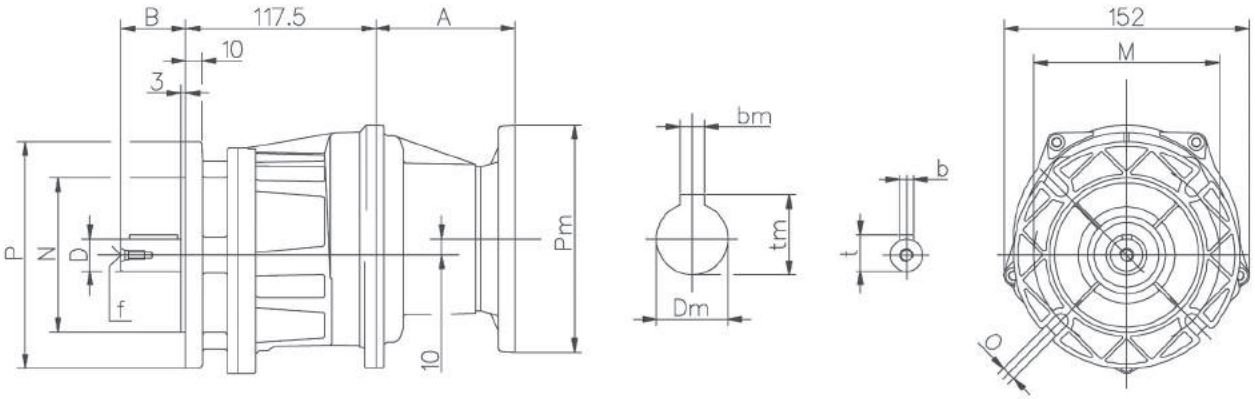
모터 포함 무게
- Weight with motor

Dimensions / 치수 A32

H



H..F



Output Shaft				
D j6	**B**	**b**	**t**	**f**
20	40	6×6×30	22.5	M6
(16)	(40)	(5×5×30)	(18)	(M6)
(14)	(30)	(5×5×30)	(16)	(M6)

Input Flanges			
P	**M**	**N f8**	**O**
140	115	95	9
(120)	(100)	(80)	(9)
–	–	–	–

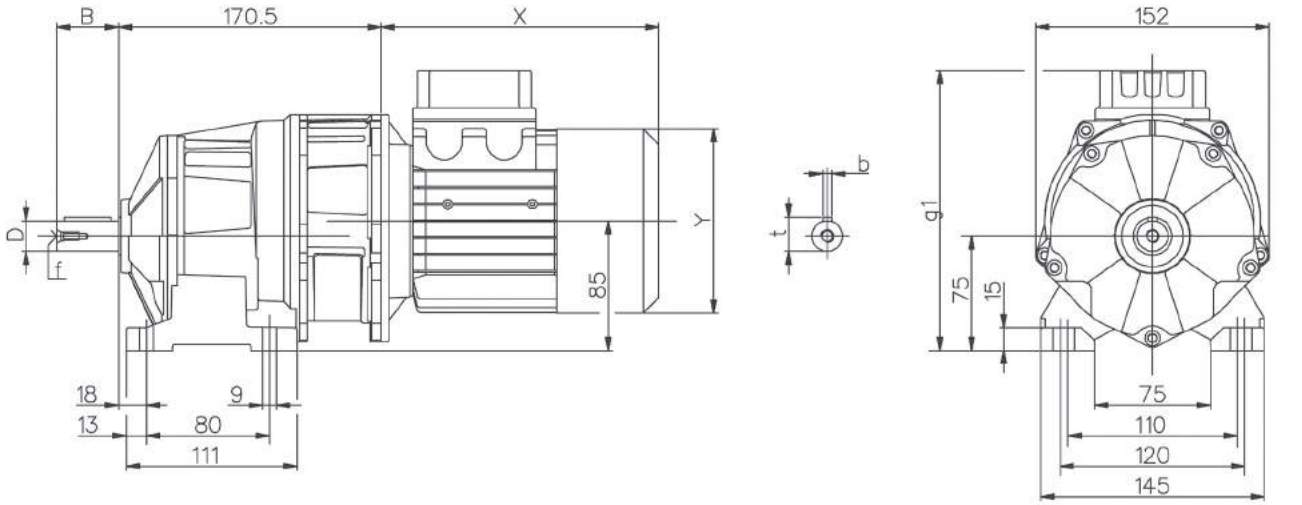
PAM	A	Kg
063	55	5
071	55	5,1
080	86	5,4

(..)주문사양 – 모터 제외 무게
(..)Only on request – Weight without motor

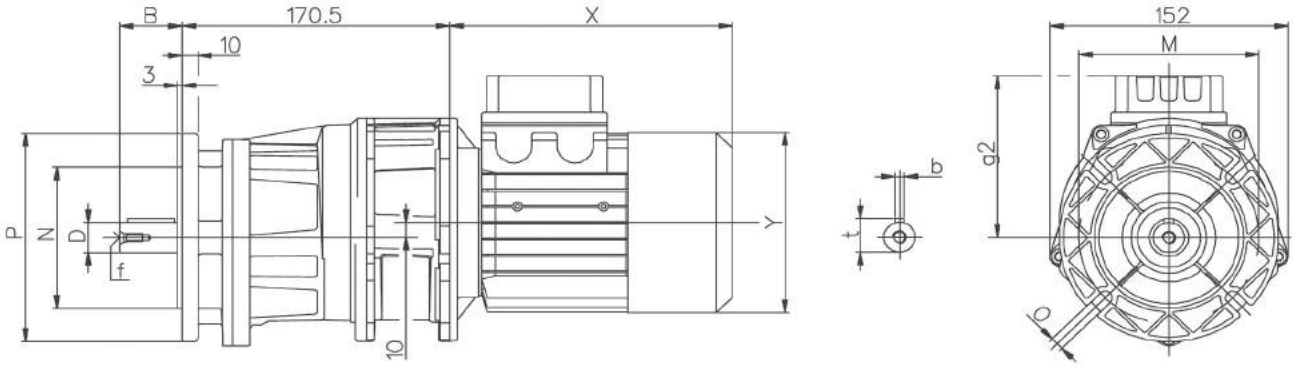
모터 연결부와 관련된 치수 (Pm, Dm, bm, tm)에 대해서는 285페이지를 참조 바람.
For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 285.

A33 치수 / Dimensions

CH



CH..F



Output Shaft				
D j6	**B**	**b(key)**	**t**	**f**
20	40	6×6×30	22.5	M6
(16)	(40)	(5×5×30)	(18)	(M6)
(14)	(30)	(5×5×30)	(16)	(M6)

Input Flanges			
P	**M**	**N f8**	**O**
140	115	95	9
(120)	(100)	(80)	(9)
–	–	–	–

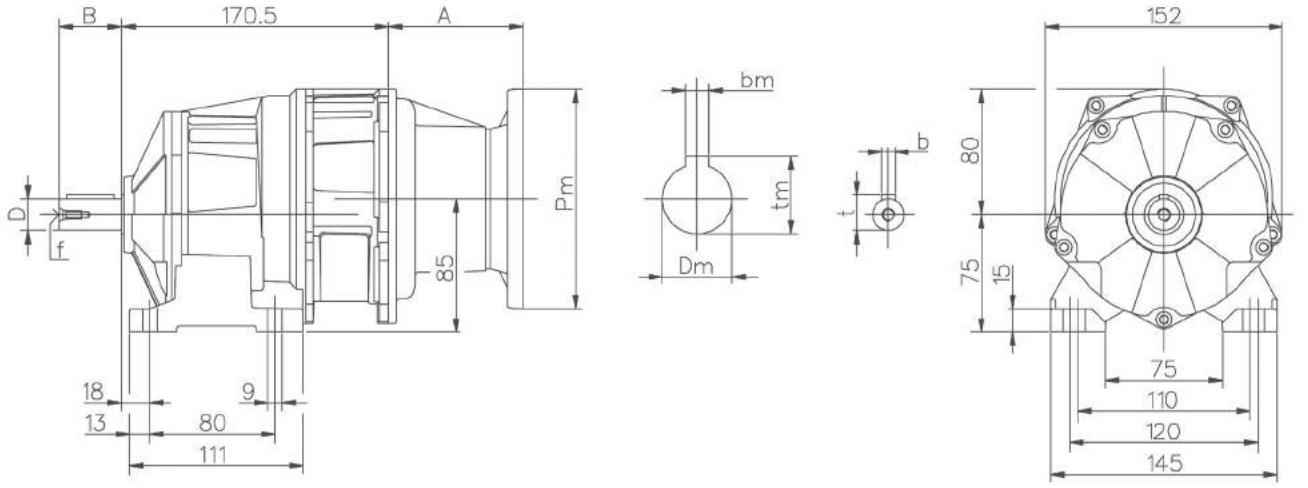
A33	표준모터 / Standard motor					브레이크 모터 / Brake motor				
	g1	**g2**	**X**	**Y**	**~ Kg**	**g1**	**g2**	**X**	**Y**	**~ Kg**
63	189	114	180	121	8,8	204	129	238	121	10,1
71	197	122	205	139	10,7	213	138	269	139	12,6
80	207	132	223	158	14,7	222	147	294	158	17,8

(..)주문사양
(..)Only on request

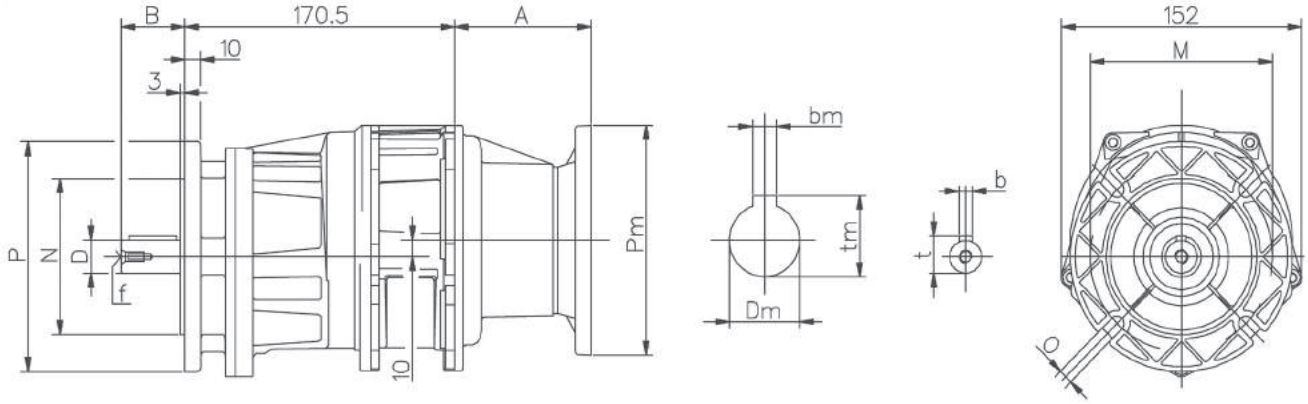
– 모터 포함 무게
– Weight with motor

Dimensions / 치수 A33

H



H..F



Output Shaft				
D j6	**B**	**b(key)**	**t**	**f**
20	40	6×6×30	22.5	M6
(16)	(40)	(5×5×30)	(18)	(M6)
(14)	(30)	(5×5×30)	(16)	(M6)

Input Flanges			
P	**M**	**N f8**	**O**
140	115	95	9
(120)	(100)	(80)	(9)
–	–	–	–

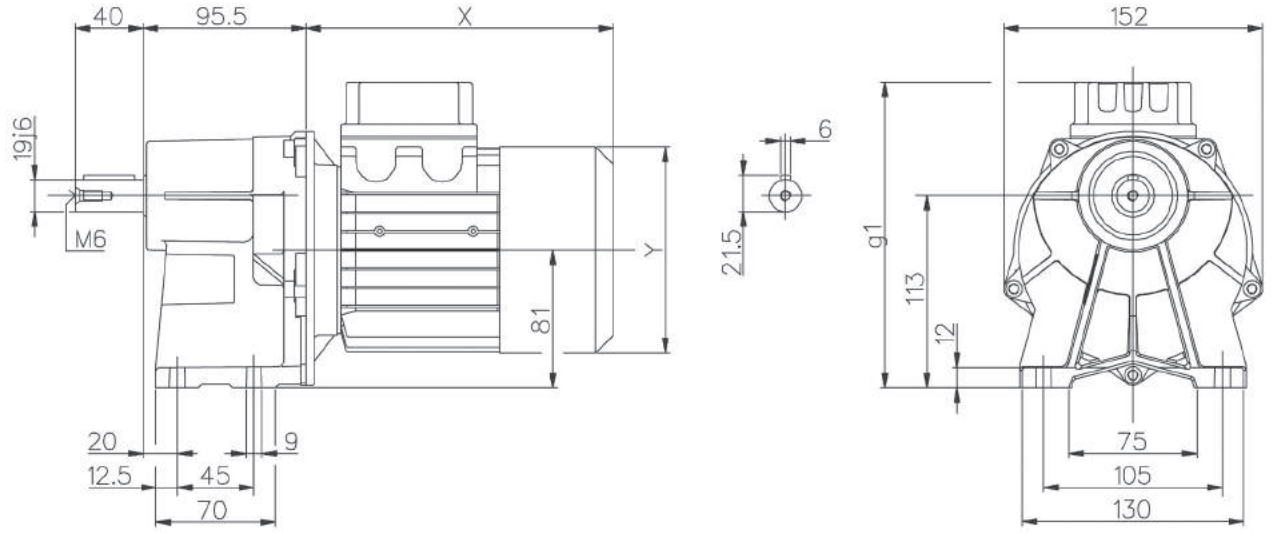
PAM	A	Kg
063	55	5,2
071	55	5,3
080	86	6,4

(..)주문사양 – 모터 제외 무게
(..)Only on request – Weight without motor

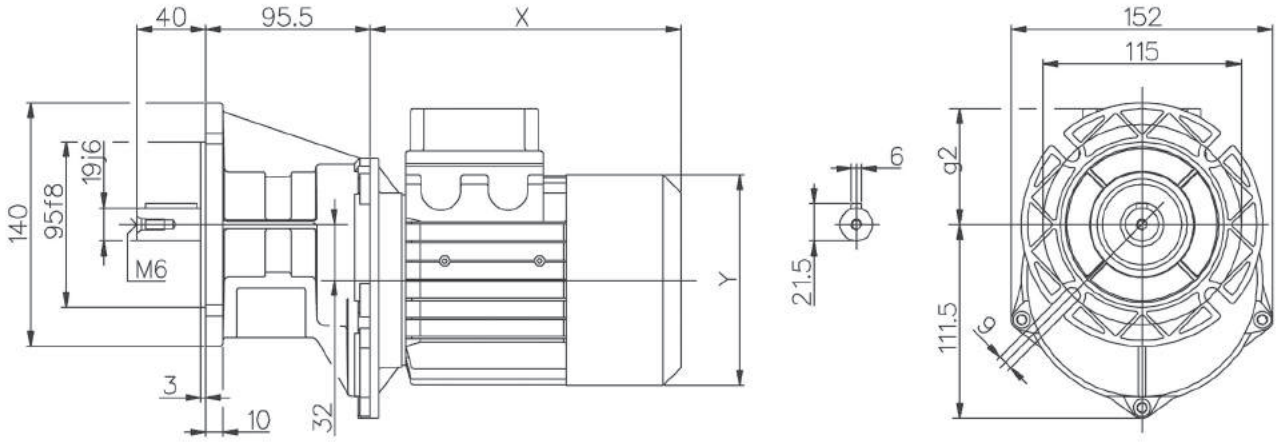
모터 연결부와 관련된 치수 (Pm, Dm, bm, tm)에 대해서는 285페이지를 참조 바람.
For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 285.

A41 치수 / Dimensions

CH



CH..F



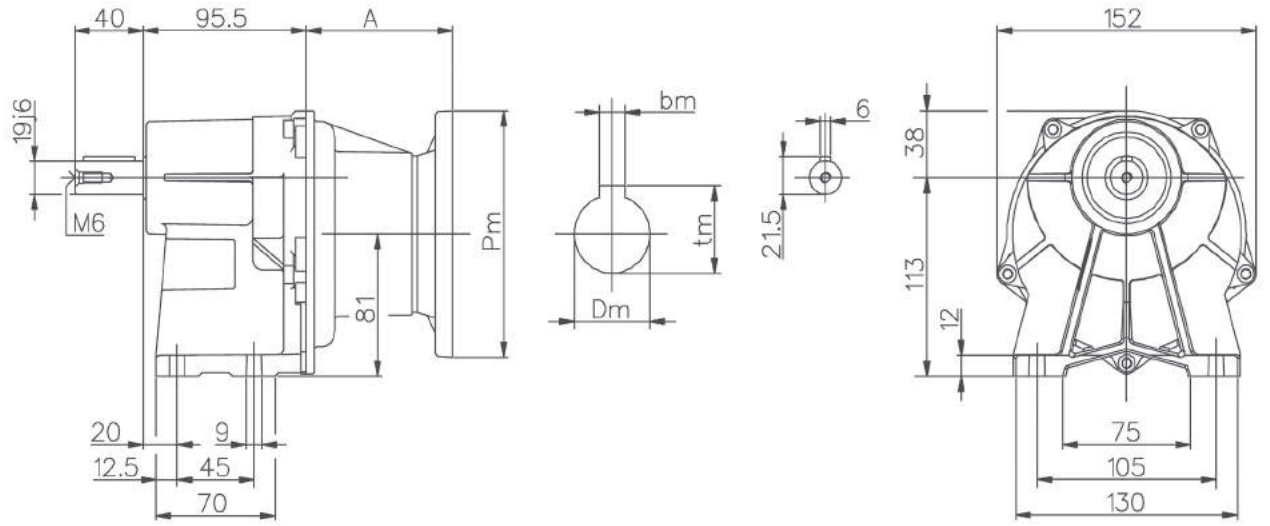
A41	표준모터 / Standard motor					브레이크 모터 / Brake motor				
	g1	g2	X	Y	~ Kg	g1	g2	X	Y	~ Kg
63	185	72	180	121	6	200	87	238	121	7,3
71	193	80	205	139	7,9	209	96	269	139	9,8
80	203	90	223	158	11,9	218	105	294	158	15

(..)주문사양
(..)Only on request

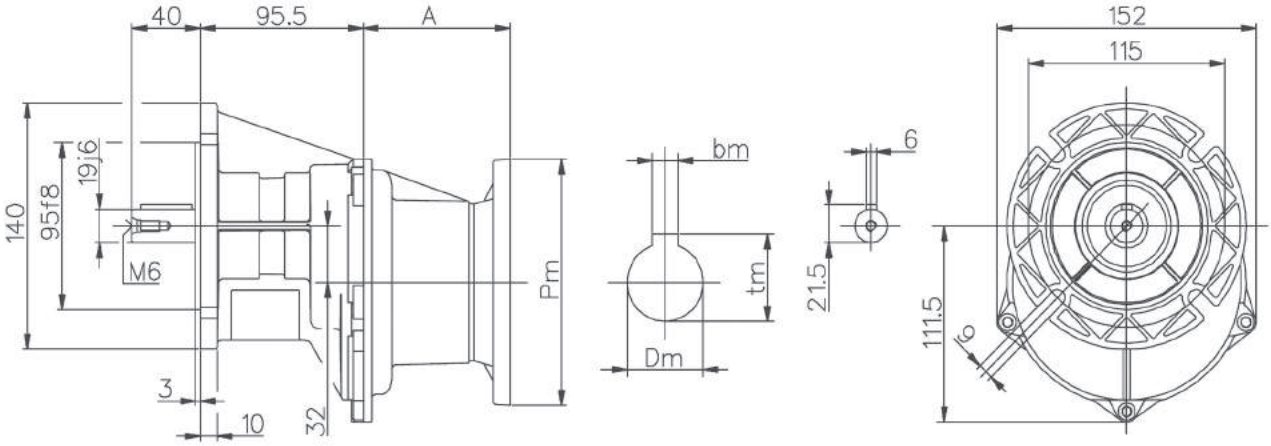
– 모터 포함 무게
– Weight with motor

Dimensions / 치수 A41

H



H..F



PAM	A	Kg
063	55	3,2
071	55	3,3
080	86	3,6

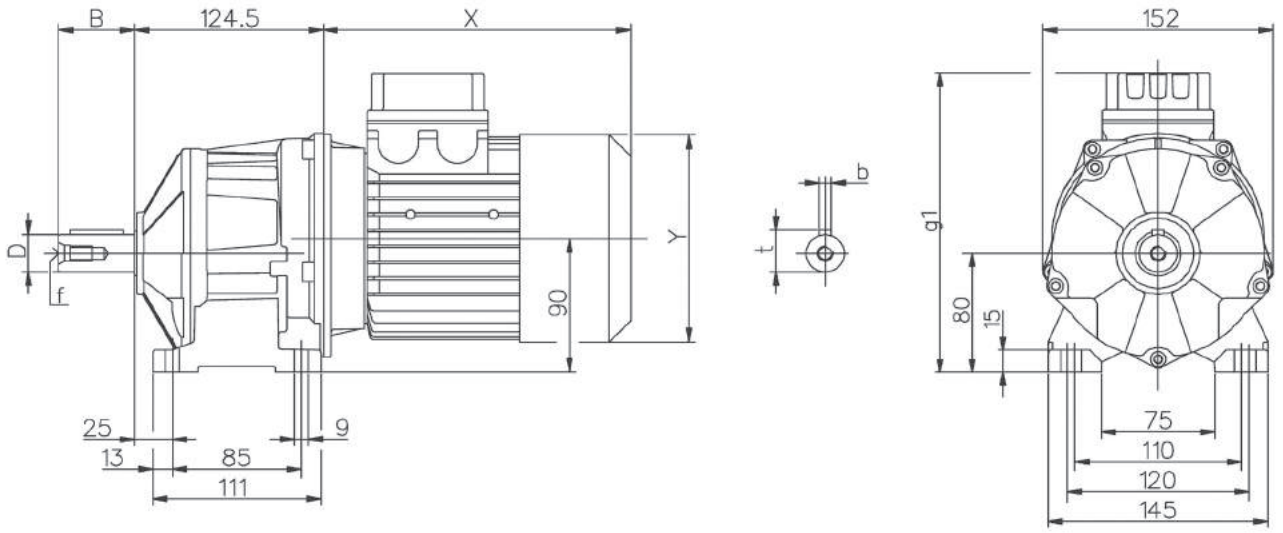
Key
6×6×30

- 모터 제외 무게
- Weight without motor

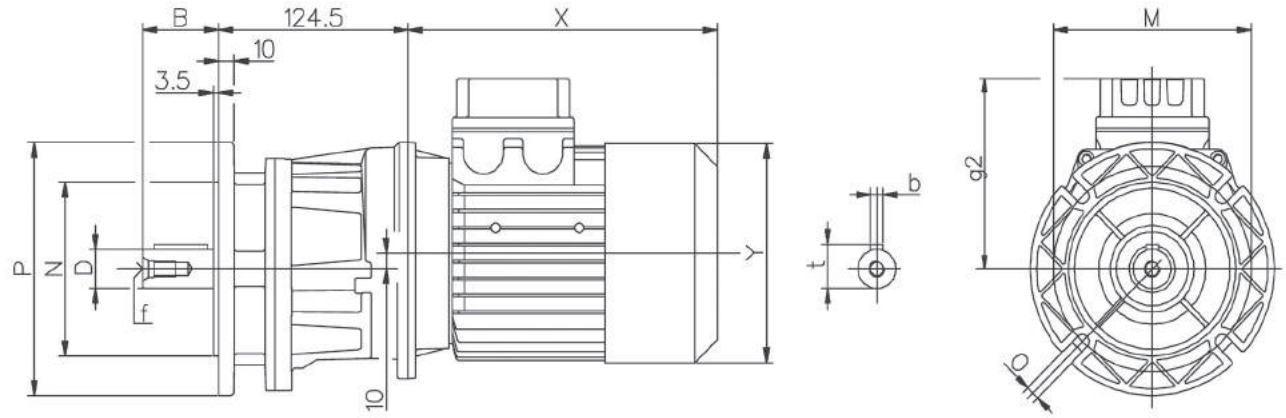
모터 연결부와 관련된 치수 (Pm, Dm, bm, tm)에 대해서는 285페이지를 참조 바람.
For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 285.

A42 치수 / Dimensions

CH



CH..F



Output Shaft				
D j6	**B**	**b**	**t**	**f**
25	50	8×8×35	28	M10
(19)	(40)	(6×6×30)	(21,5)	(M6)

Input Flanges			
P	**M**	**N f8**	**O**
160	130	110	9
(140)	(115)	(95)	(9)

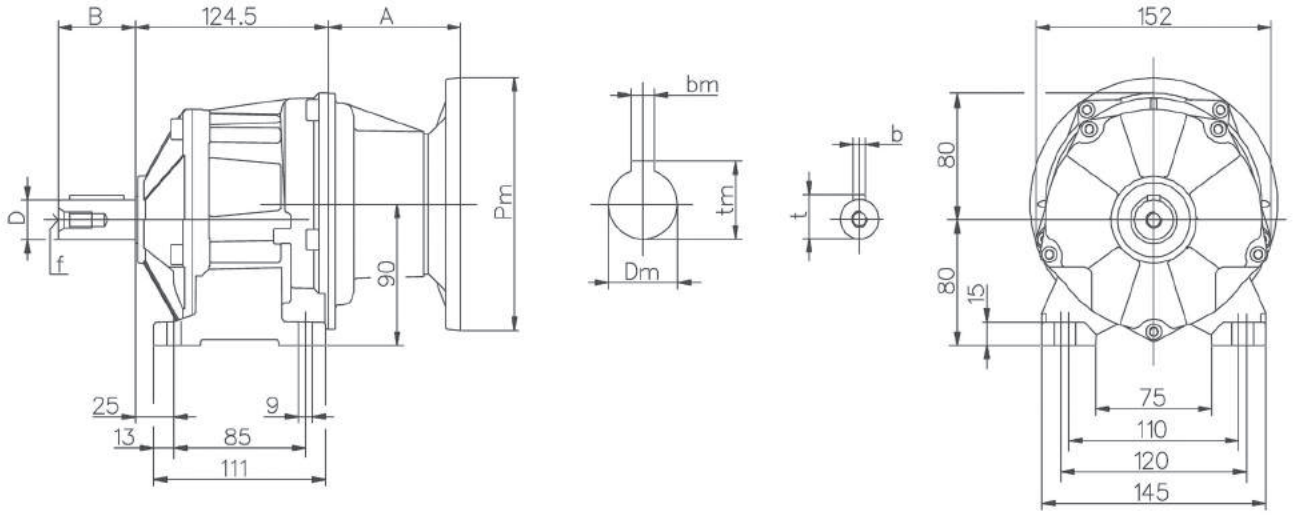
A42	표준모터 / Standard motor					브레이크 모터 / Brake motor				
	g1	**g2**	**X**	**Y**	**~ Kg**	**g1**	**g2**	**X**	**Y**	**~ Kg**
63	194	114	180	121	8,5	209	129	238	121	9,8
71	202	122	205	139	10,4	218	138	269	139	12,3
80	212	132	223	158	14,4	227	147	294	158	17,5
90S	220	140	237	173	16,3	220	140	313	173	21,2
90L	220	140	262	173	18,8	220	140	338	173	23,7

(..) 주문사양
(..) Only on request

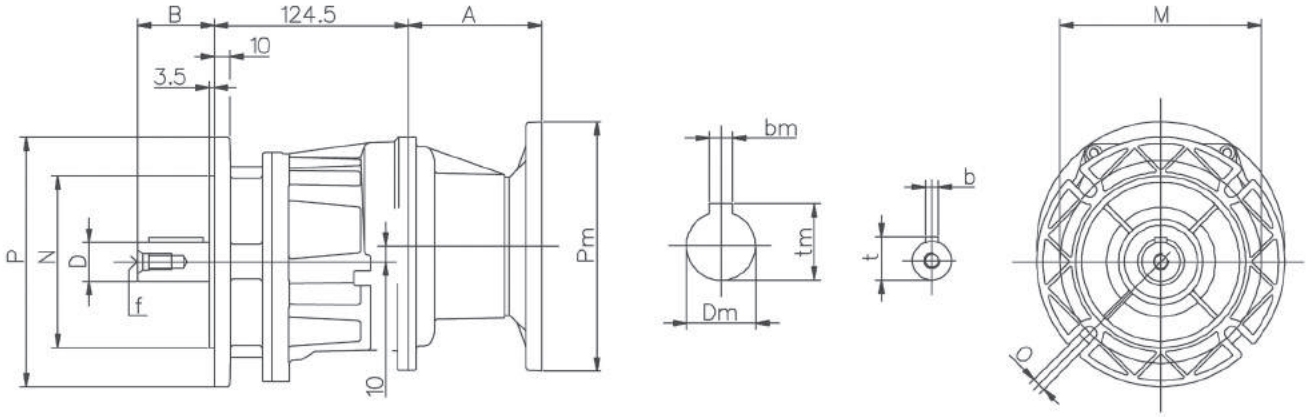
- 모터 포함 무게
- Weight with motor

Dimensions / 치수 A42

H



H..F



Output Shaft				
D j6	**B**	**b**	**t**	**f**
25	50	8×8×35	28	M10
(19)	(40)	(6×6×30)	(21,5)	(M6)

Input Flanges			
P	**M**	**N f8**	**O**
160	130	110	9
(140)	(115)	(95)	(9)

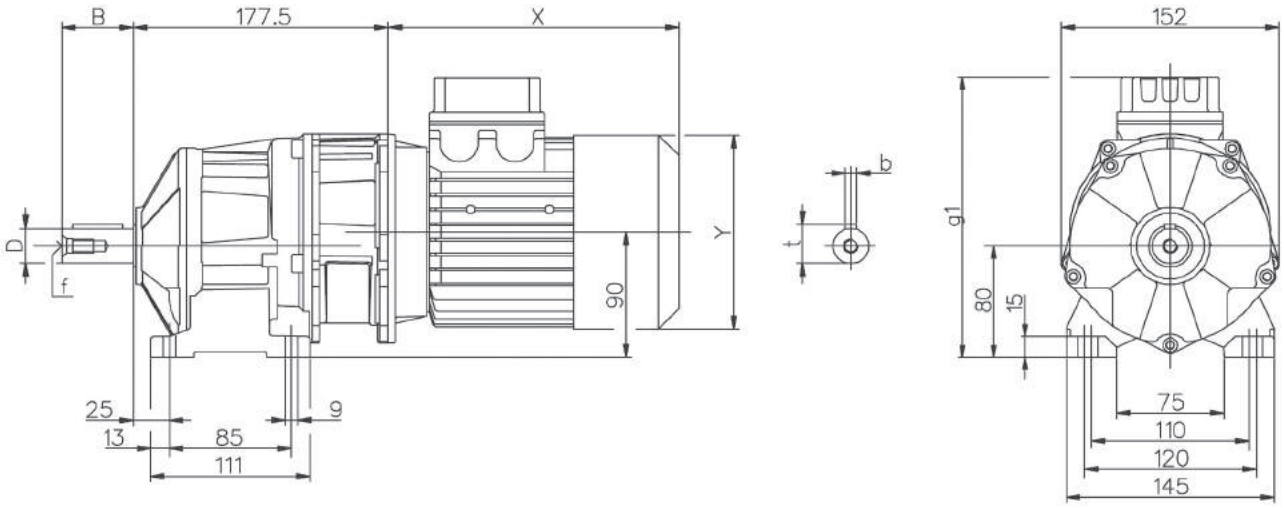
PAM	A	Kg
063	55	5,9
071	55	6
080 – 090	86	6,2

(..)주문사양 – 모터 제외 무게
(..)Only on request – Weight without motor

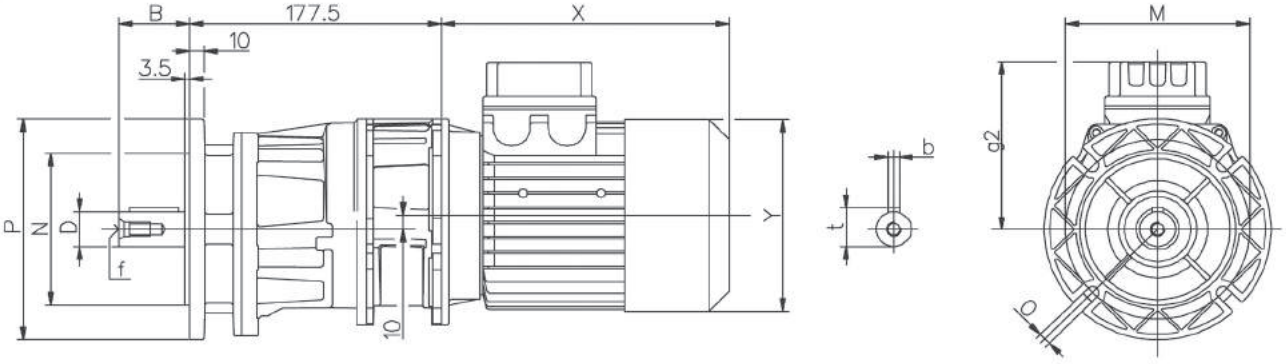
모터 연결부와 관련된 치수 (Pm. Dm. bm. tm)에 대해서는 285페이지를 참조 바람.
For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 285.

A43 치수 / Dimensions

CH



CH..F



Output Shaft				
D j6	**B**	**b**	**t**	**f**
25	50	8×8×35	28	M10
(19)	(40)	(6×6×30)	(21,5)	(M6)

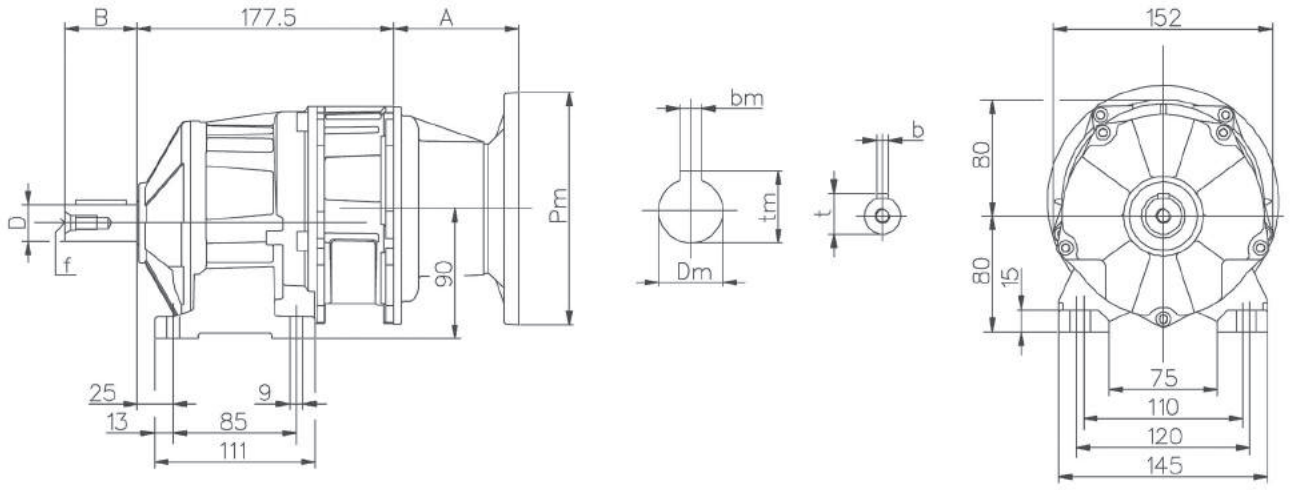
Input Flanges			
P	**M**	**N f8**	**O**
160	130	110	9
(140)	(115)	(95)	(9)

A43	표준모터 / Standard motor					브레이크 모터 / Brake motor				
	g1	**g2**	**X**	**Y**	**~ Kg**	**g1**	**g2**	**X**	**Y**	**~ Kg**
63	194	114	180	121	9,6	209	129	238	121	10,9
71	202	122	205	139	11,5	218	138	269	139	13,4
80	212	132	223	158	15,5	227	147	294	158	18,6
90S	220	140	237	173	17,4	220	140	313	173	22,3
90L	220	140	262	173	19,9	220	140	338	173	24,6

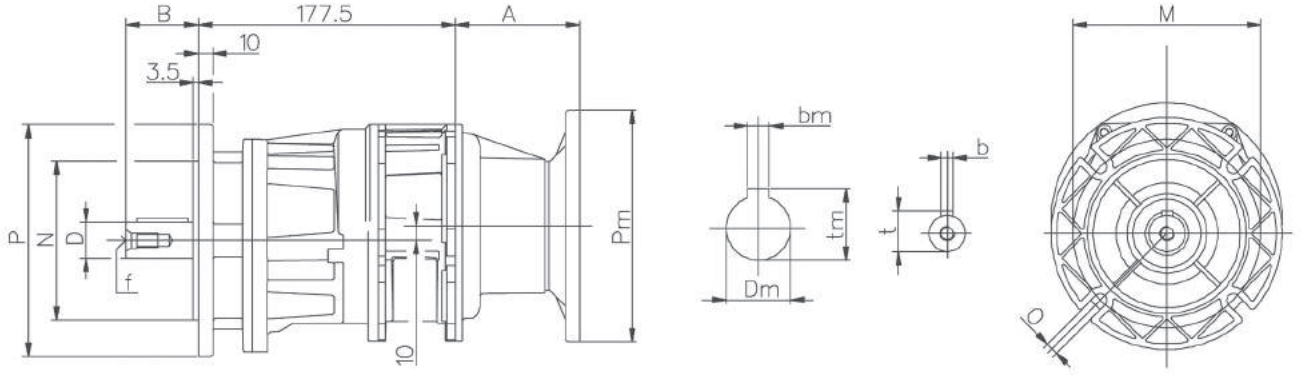
(..) 주문사양 - 모터 포함 무게
(..) Only on request - Weight with motor

Dimensions / 치수 A43

H



H..F



Output Shaft				
D j6	**B**	**b**	**t**	**f**
25	50	8×8×35	28	M10
(19)	(40)	(6×6×30)	(21,5)	(M6)

Input Flanges			
P	**M**	**N f8**	**O**
160	130	110	9
(140)	(115)	(95)	(9)

PAM	A	Kg
063	55	7
071	55	6,1
080 – 090	86	7,3

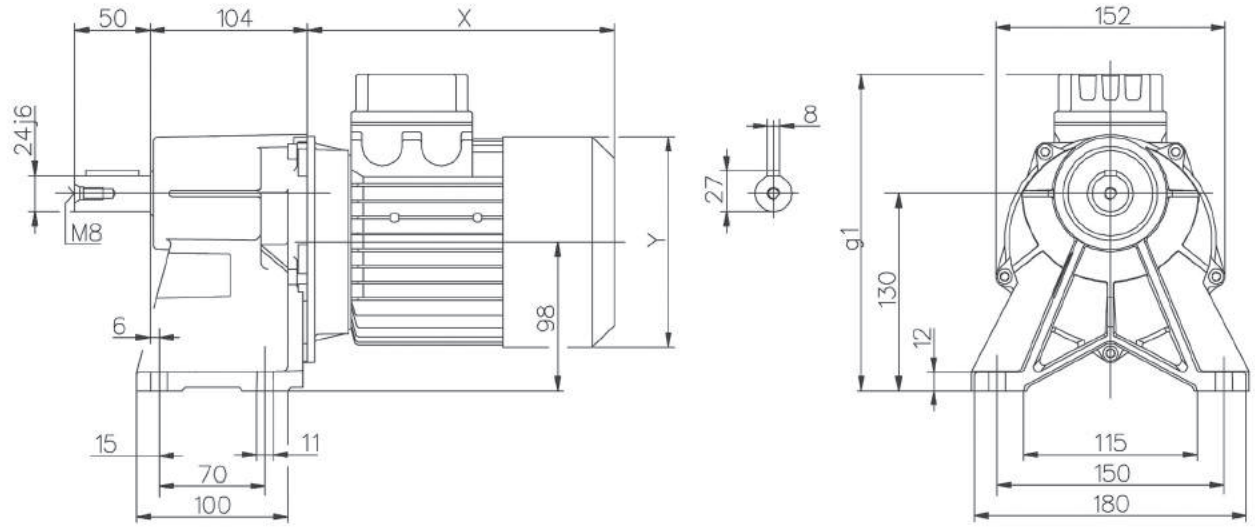
(..)주문사양 – 모터 제외 무게
(..)Only on request – Weight without motor

모터 연결부와 관련된 치수 (Pm, Dm, bm, tm)에 대해서는 285페이지를 참조 바람.

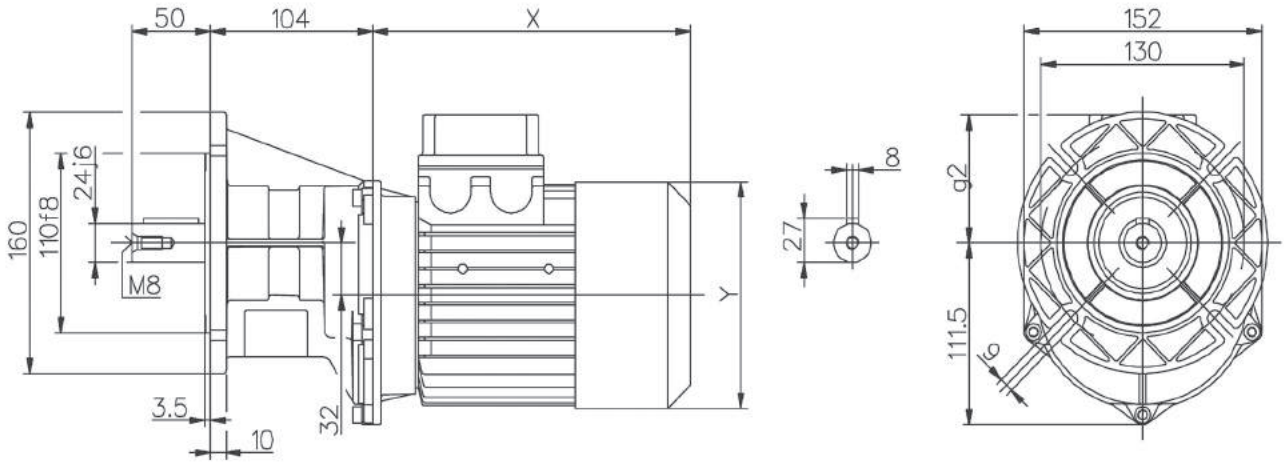
For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 285.

A51 치수 / Dimensions

CH



CH..F



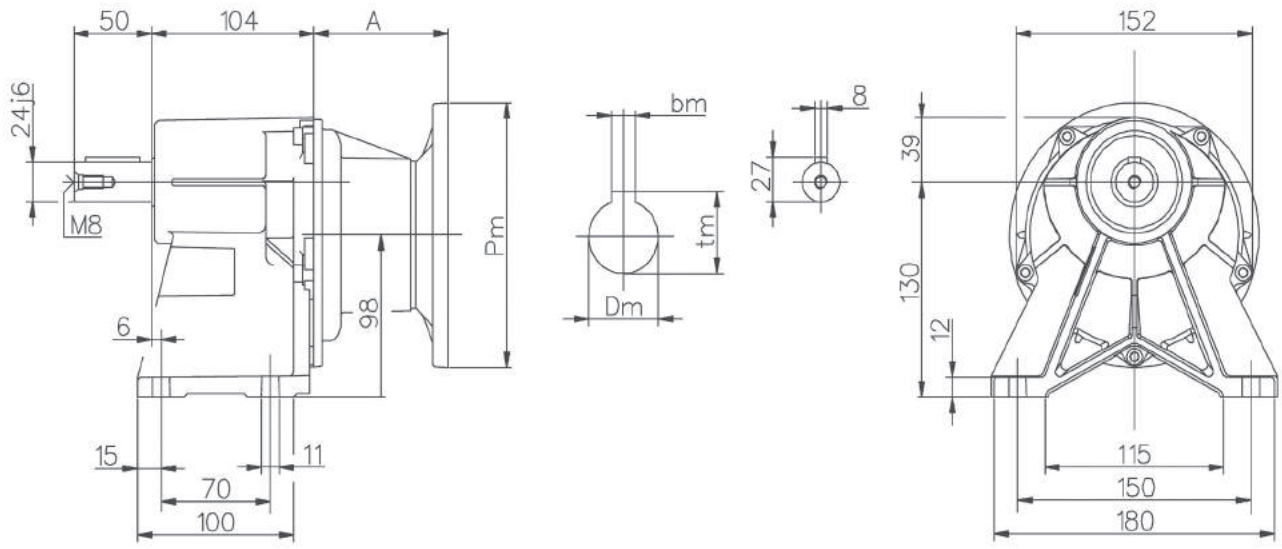
A51	표준모터 / Standard motor					브레이크 모터 / Brake motor				
	g1	g2	X	Y	~ Kg	g1	g2	X	Y	~ Kg
63	202	72	180	121	6,4	217	87	238	121	7,7
71	210	80	205	139	8,3	226	96	269	139	10,2
80	220	90	223	158	12,3	235	105	294	158	15,4
90S	228	98	237	173	14,2	228	98	313	173	19,1
90L	228	98	262	173	16,7	228	98	338	173	21,6

(..) 주문사양
(..) Only on request

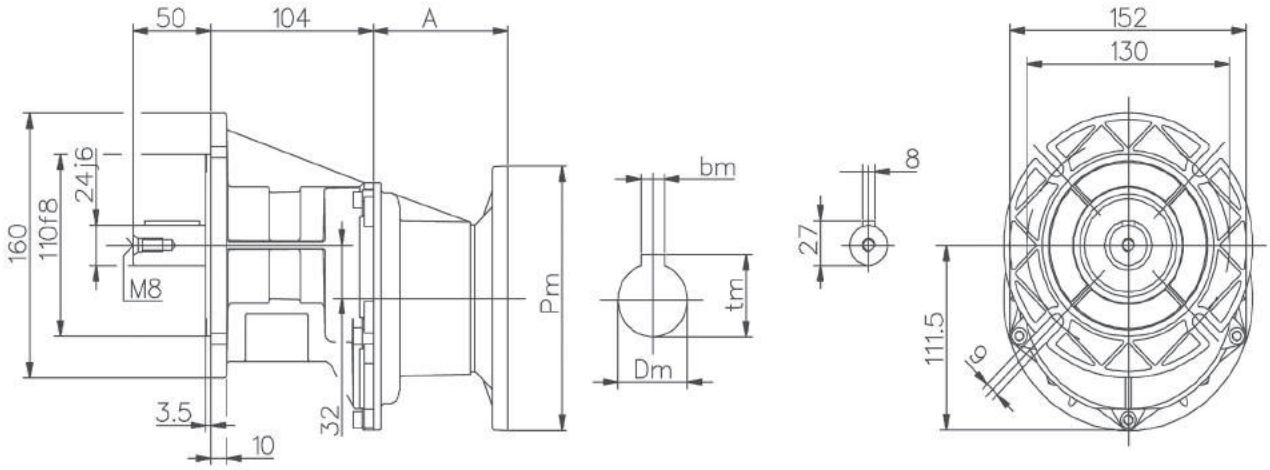
- 모터 포함 무게
- Weight with motor

Dimensions / 치수 A51

H



H..F



PAM	A	Kg
063	55	4,4
071	55	4,5
080 – 090	86	4,7

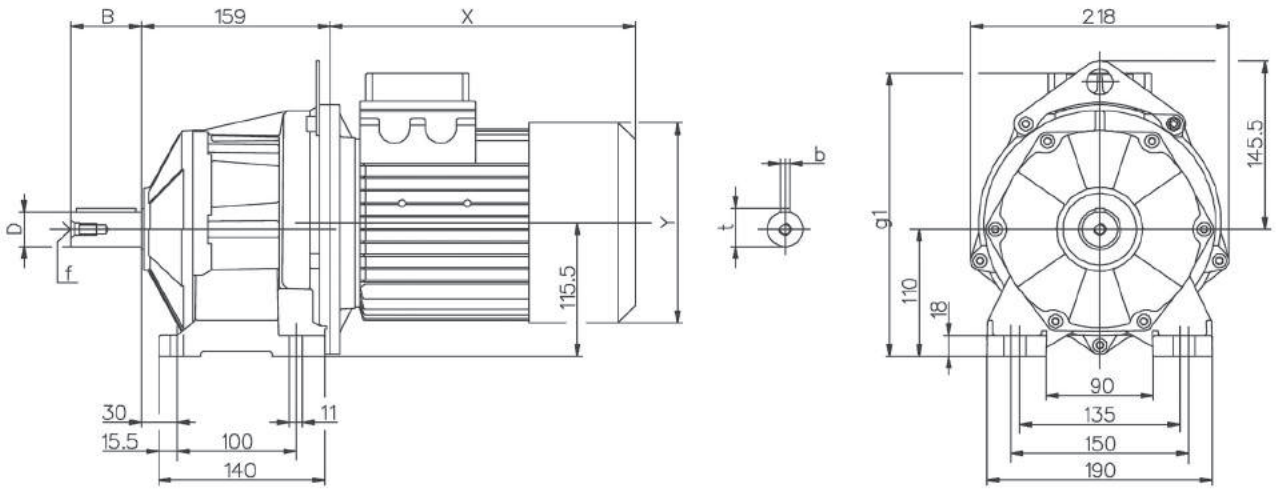
Key
8×7×35

- 모터 제외 무게
- Weight without motor

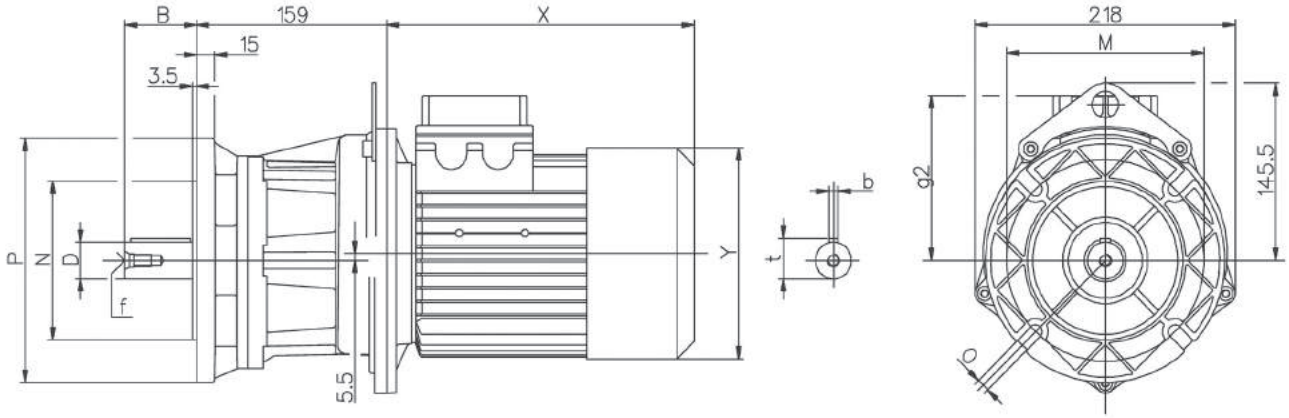
모터 연결부와 관련된 치수 (Pm. Dm. bm. tm)에 대해서는 285페이지를 참조 바람.
For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 285.

A52 치수 / Dimensions

CH



CH..F



Output Shaft				
D j6	**B**	**b**	**t**	**f**
30	60	8×7×50	33	M10
(35)	(70)	(10×8×50)	(38)	(M12)
(24)	(50)	(8×7×35)	(27)	(M8)

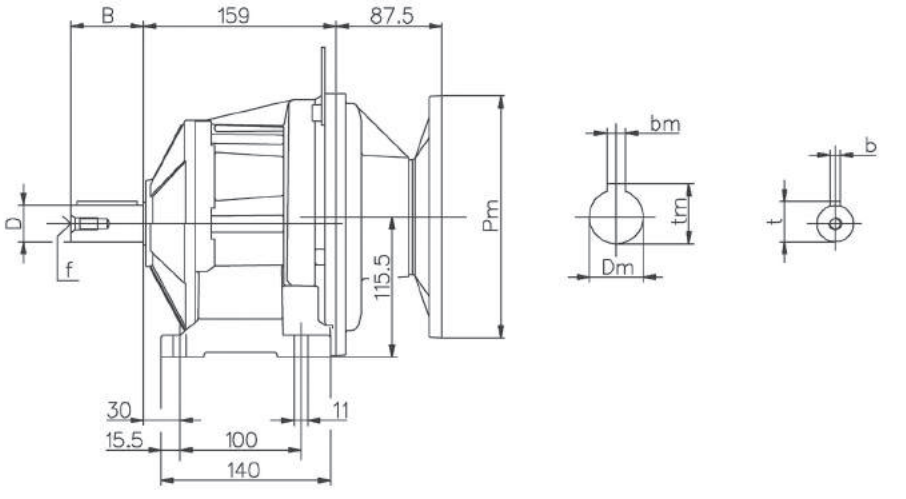
Input Flanges			
P	**M**	**N f8**	**O**
200	165	130	11
(160)	(130)	(110)	(11)
–	–	–	–

A52	표준모터 / Standard motor					브레이크 모터 / Brake motor				
	g1	**g2**	**X**	**Y**	**~ Kg**	**g1**	**g2**	**X**	**Y**	**~ Kg**
80	237	127	218	158	18,4	253	143	290	158	21,5
90S	245	135	232	173	20,3	245	135	309	173	25,5
90L	245	135	257	173	22,8	245	135	334	173	27,7
100	254	144	290	191	27,4	254	144	372	191	32,3
112	269	159	302	211	37,7	269	159	400	211	46

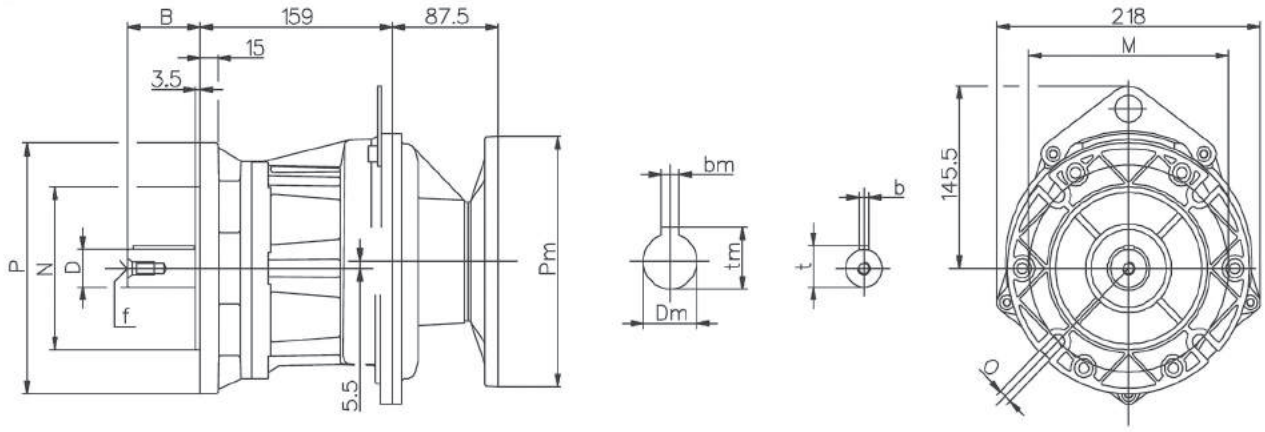
(..) 주문사양 - 모터 포함 무게
(..) Only on request - Weight with motor

Dimensions / 치수 A52

H



H..F



Output Shaft				
D j6	**B**	**b**	**t**	**f**
30	60	8×7×50	33	M10
(35)	(70)	(10×8×50)	(38)	(M12)
(24)	(50)	(8×7×35)	(27)	(M8)

Input Flanges			
P	**M**	**N f8**	**O**
200	165	130	11
(160)	(130)	(110)	(11)
–	–	–	–

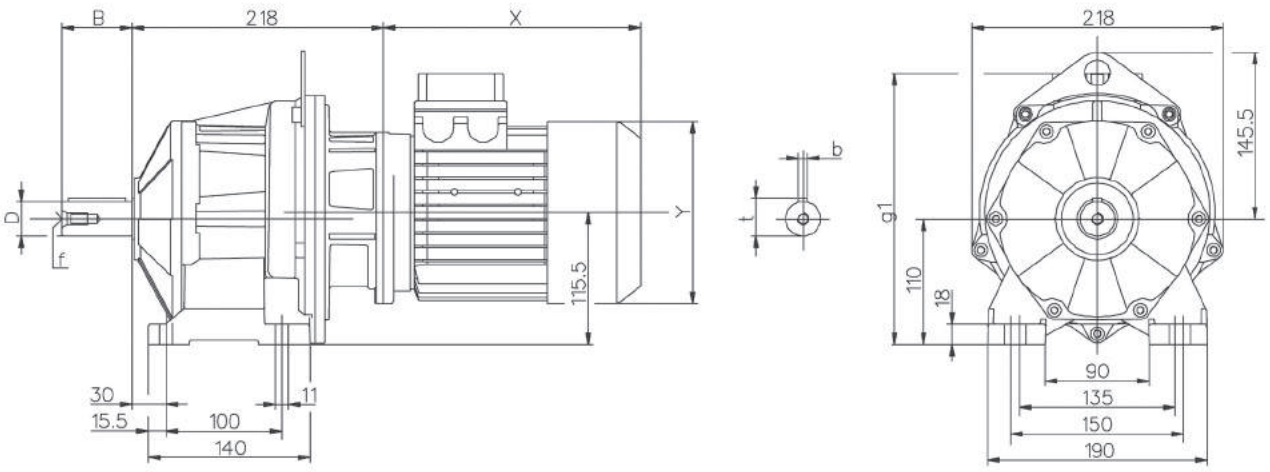
PAM	~ kg
080 – 090	10,7
100 – 112	14,2

(..)주문사양 – 모터 제외 무게
(..)Only on request – Weight without motor

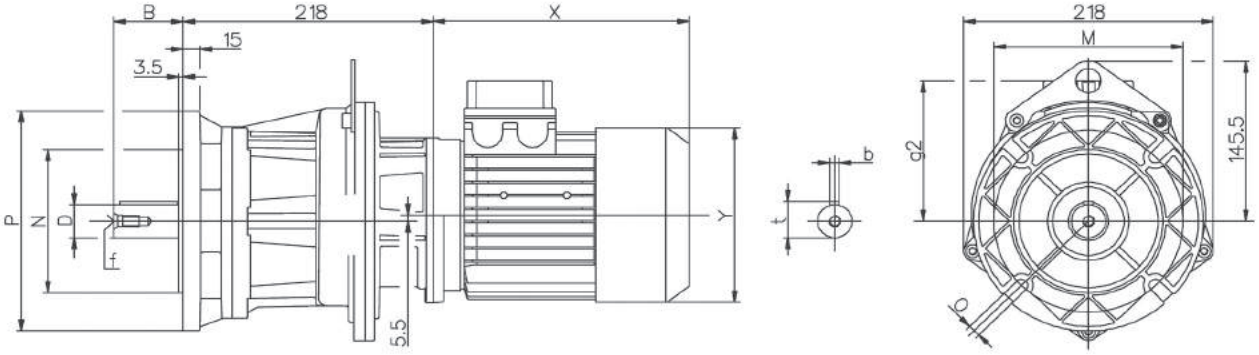
모터 연결부와 관련된 치수 (Pm, Dm, bm, tm)에 대해서는 285페이지를 참조 바람.
For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 285.

A53 치수 / Dimensions

CH



CH..F



Output Shaft				
D j6	**B**	**b**	**t**	**f**
30	60	8×7×50	33	M10
(35)	(70)	(10×8×50)	(38)	(M12)
(24)	(50)	(8×7×35)	(27)	(M8)

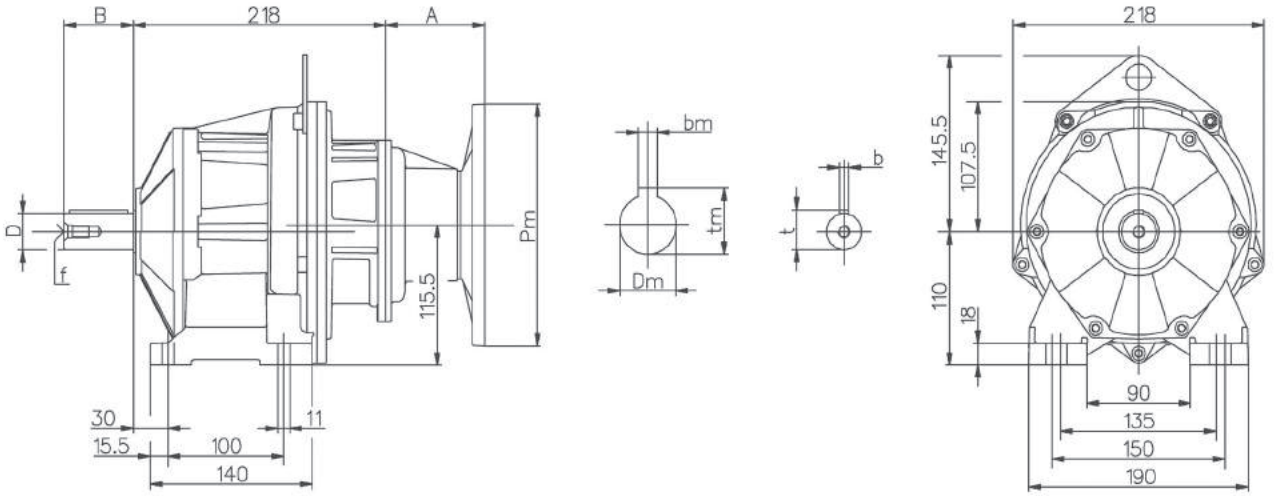
Input Flanges			
P	**M**	**N f8**	**O**
200	165	130	11
(160)	(130)	(110)	(11)
–	–	–	–

A53	표준모터 / Standard motor					브레이크 모터 / Brake motor				
	g1	**g2**	**X**	**Y**	**~ Kg**	**g1**	**g2**	**X**	**Y**	**~ Kg**
63	219	109	180	121	13,8	235	125	238	121	15,1
71	228	118	205	139	15,7	244	134	269	139	17,6
80	237	127	218	158	19,7	253	143	290	158	22,8
90S	245	135	237	173	21,6	245	135	313	173	26,5
90L	245	135	262	173	24,1	245	135	338	173	29

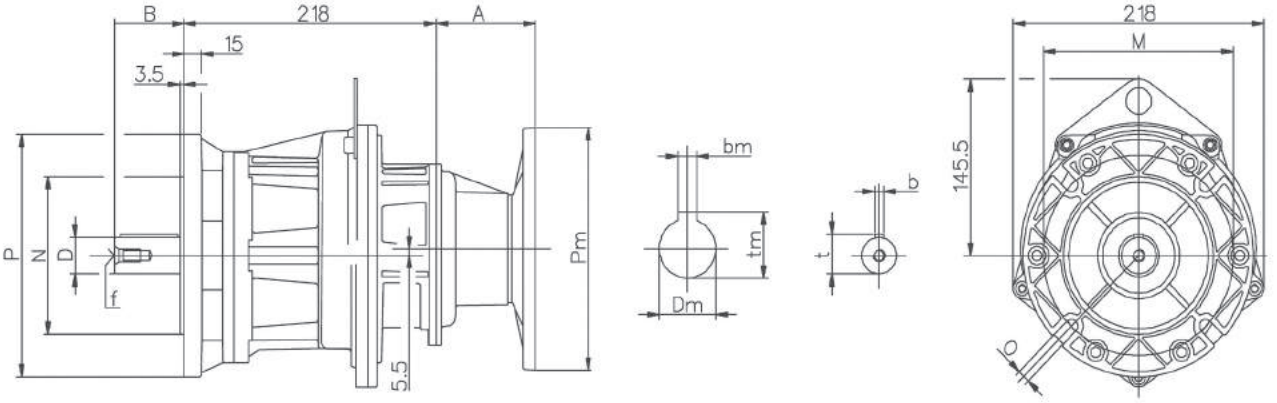
(..) 주문사양 - 모터 포함 무게
(..) Only on request - Weight with motor

Dimensions / 치수 A53

H



H..F



Output Shaft				
D j6	**B**	**b**	**t**	**f**
30	60	8×7×50	33	M10
(35)	(70)	(10×8×50)	(38)	(M12)
(24)	(50)	(8×7×35)	(27)	(M8)

Input Flanges			
P	**M**	**N f8**	**O**
200	165	130	11
(160)	(130)	(110)	(11)
–	–	–	–

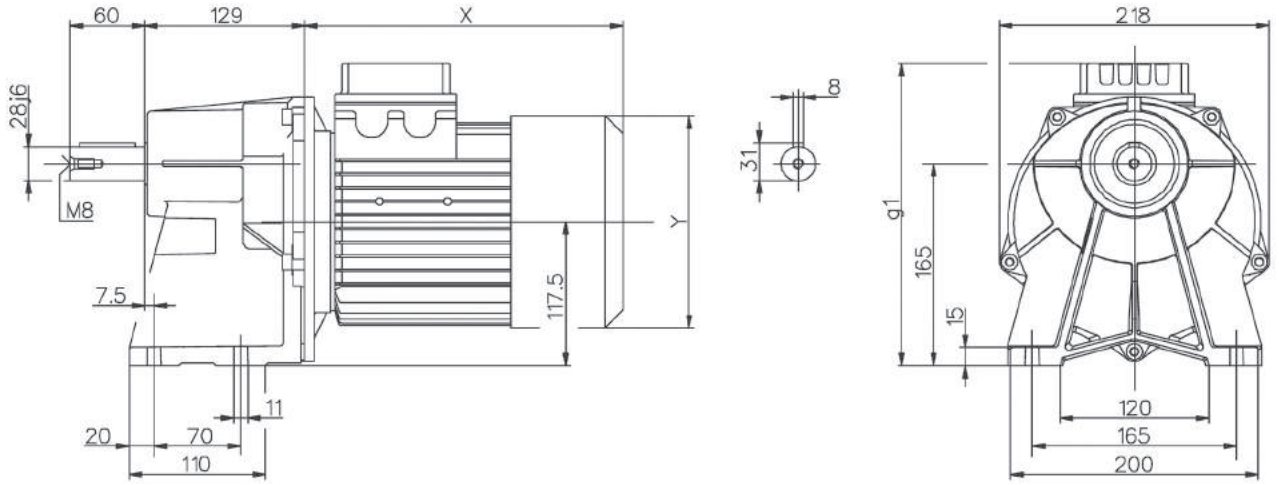
PAM	A	Kg
063	55	11,7
071	55	11,8
080 – 090	86	12

(..)주문사양 – 모터 제외 무게
(..)Only on request – Weight without motor

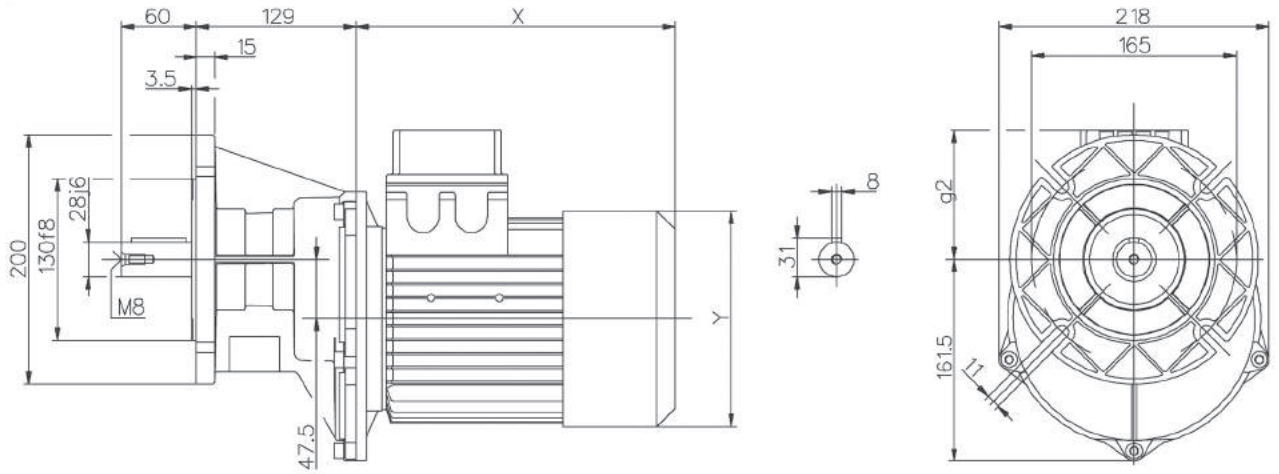
모터 연결부와 관련된 치수 (Pm, Dm, bm, tm)에 대해서는 285페이지를 참조 바람.
For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 285.

A61 치수 / Dimensions

CH



CH..F



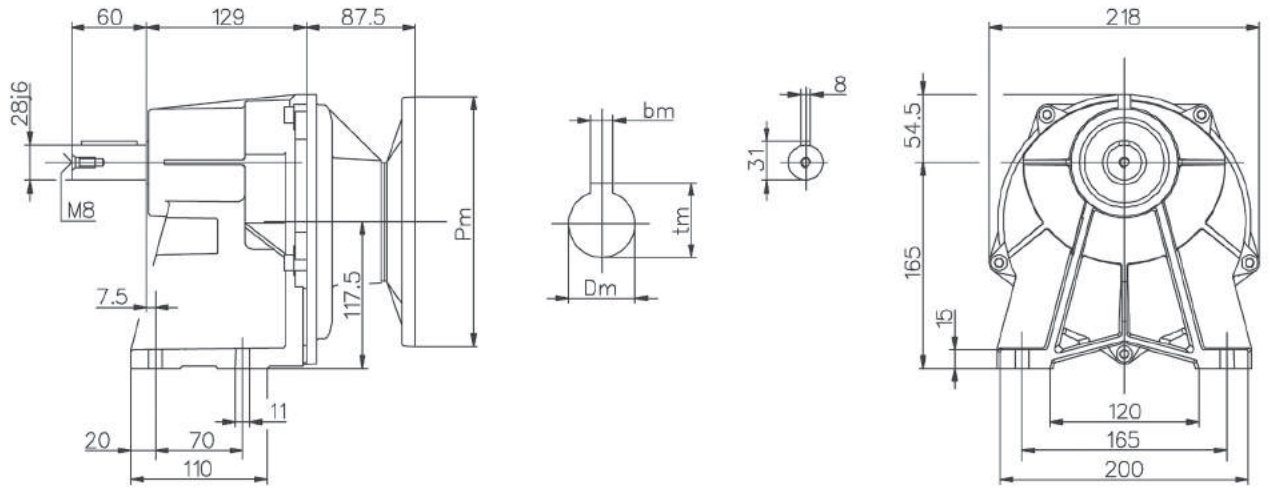
A61	표준모터 / Standard motor					브레이크 모터 / Brake motor				
	g1	g2	X	Y	~ Kg	g1	g2	X	Y	~ Kg
80	239	74	218	158	14,9	255	90	290	158	18
90S	247	82	232	173	16,8	247	82	309	173	21,7
90L	247	82	257	173	19,3	247	82	334	173	24,2
100	256	91	290	191	23,9	256	91	372	191	28,8
112	271	106	302	211	34,2	271	106	400	211	42,5

(..) 주문사양
(..) Only on request

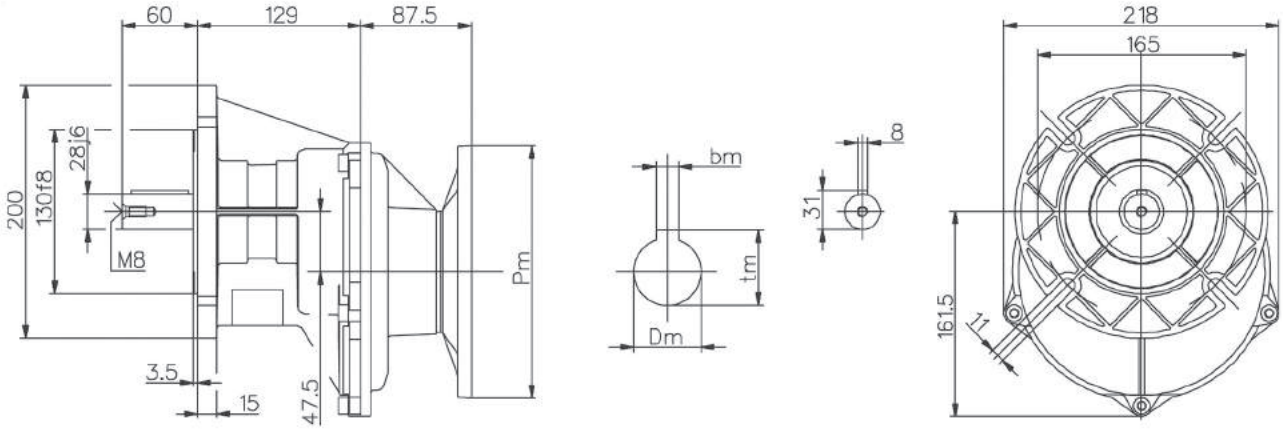
- 모터 포함 무게
- Weight with motor

Dimensions / 치수 A61

H



H..F



PAM	~ kg
080 – 090	7,2
100 – 112	7,6

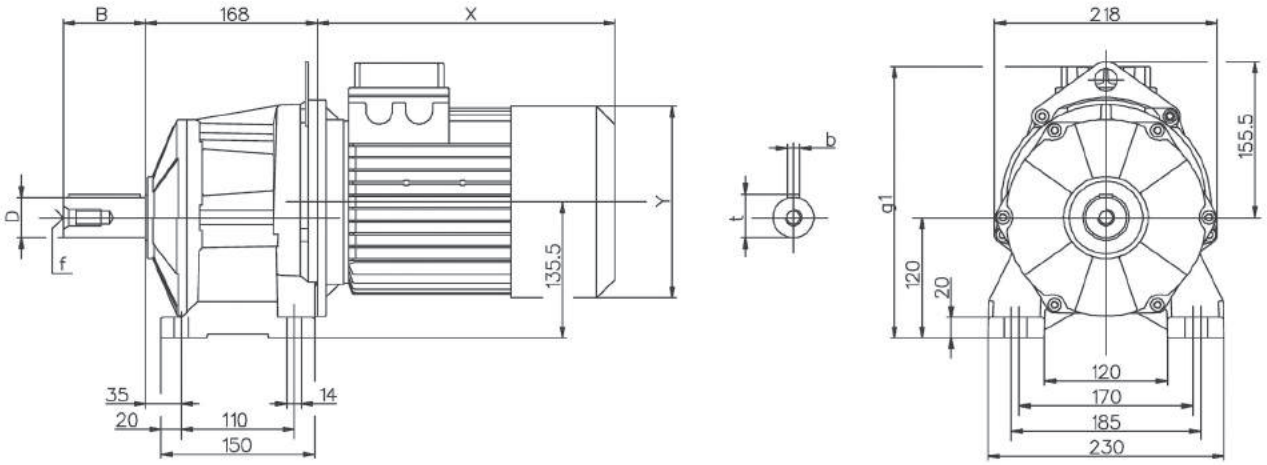
Key
8×7×45

- 모터 제외 무게
- Weight without motor

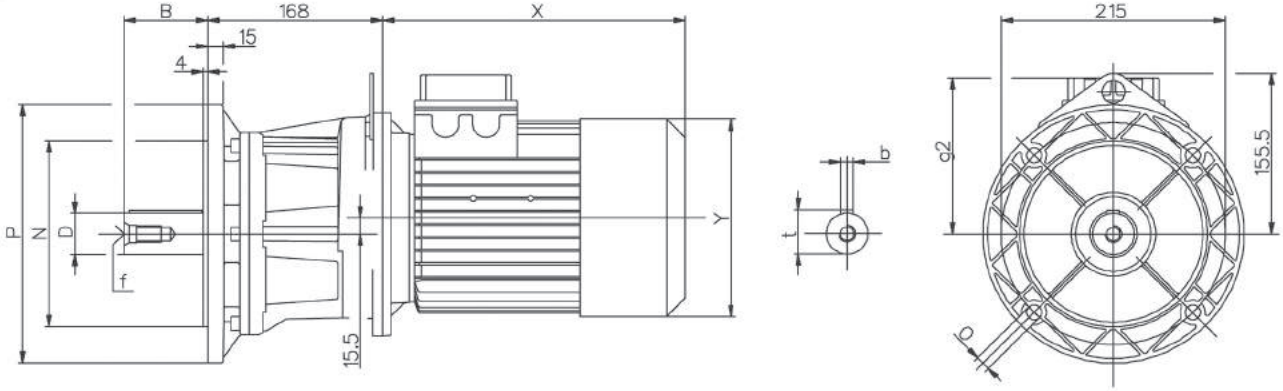
모터 연결부와 관련된 치수 (Pm, Dm, bm, tm)에 대해서는 285페이지를 참조 바람.
For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 285.

A62 치수 / Dimensions

CH



CH..F



Output Shaft				
D j6	**B**	**b**	**t**	**f**
40	80	12×8×70	43	M16
(28)	(60)	(8×7×45)	(31)	(M10)

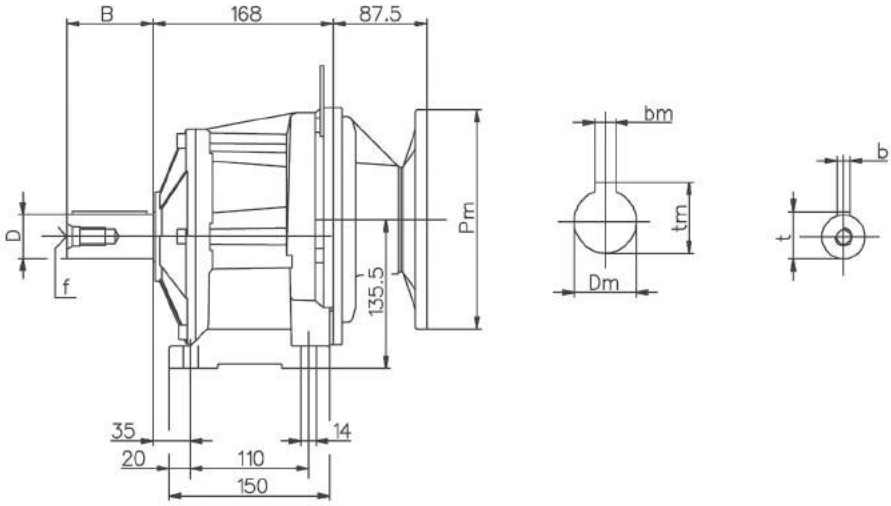
Input Flanges			
P	**M**	**N f8**	**O**
250	215	180	14
(200)	(165)	(130)	(14)

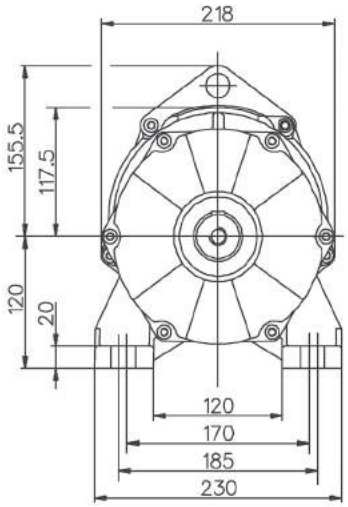
A62	표준모터 / Standard motor					브레이크 모터 / Brake motor				
	g1	**g2**	**X**	**Y**	**~ Kg**	**g1**	**g2**	**X**	**Y**	**~ Kg**
80	257	137	218	158	20,9	273	153	290	158	24
90S	265	145	232	173	22,8	265	145	309	173	27,7
90L	265	145	257	173	25,3	265	145	334	173	30,2
100	274	154	290	191	29,9	274	154	372	191	34,8
112	289	169	302	211	40,2	289	169	400	211	48,5

(..) 주문사양 - 모터 포함 무게
(..) Only on request - Weight with motor

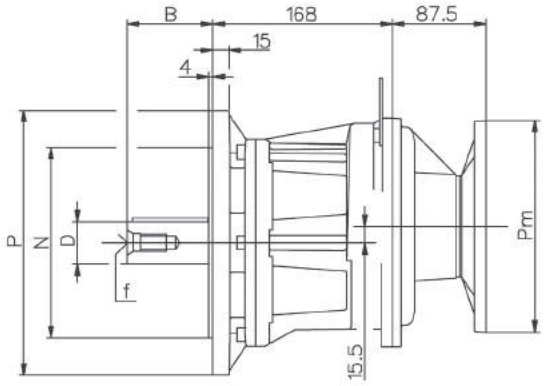
Dimensions / 치수 A62

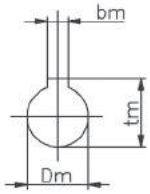
H

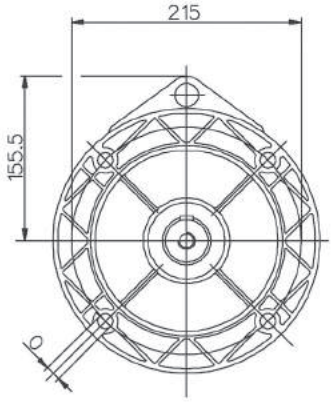




H..F







Output Shaft				
D j6	**B**	**b**	**t**	**f**
40	80	12×8×70	43	M16
(28)	(60)	(8×7×45)	(31)	(M10)

Input Flanges			
P	**M**	**N f8**	**O**
250	215	180	14
(200)	(165)	(130)	(14)

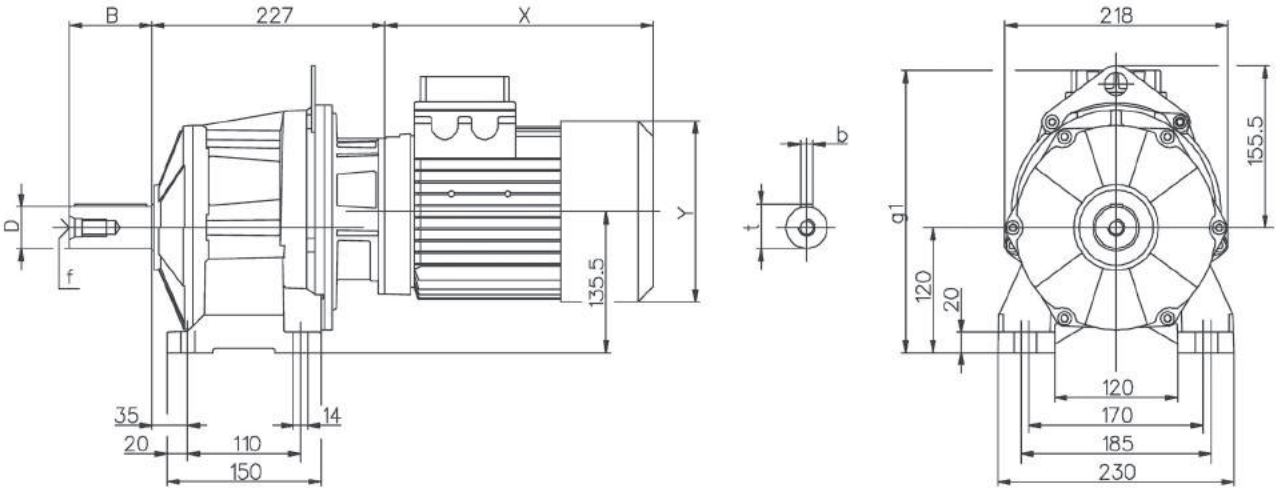
PAM	~ kg
080 – 090	13
100 – 112	16,5

(..)주문사양 – 모터 제외 무게
(..)Only on request – Weight without motor

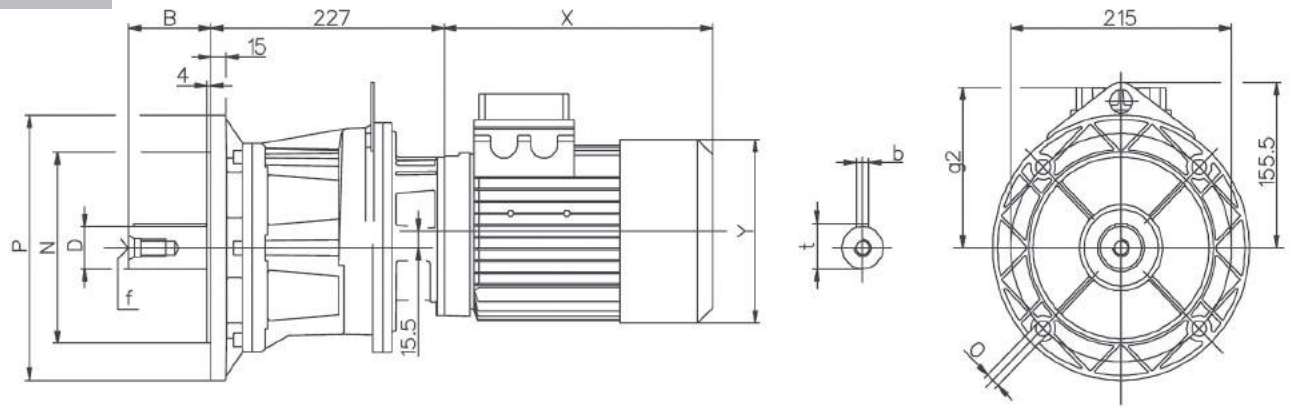
모터 연결부와 관련된 치수 (Pm, Dm, bm, tm)에 대해서는 285페이지를 참조 바람.
For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 285.

A63 치수 / Dimensions

CH



CH..F



Output Shaft				
D j6	**B**	**b**	**t**	**f**
40	80	12×8×70	43	M16
(28)	(60)	(8×7×45)	(31)	(M10)

Input Flanges			
P	**M**	**N f8**	**O**
250	215	180	14
(200)	(165)	(130)	(14)

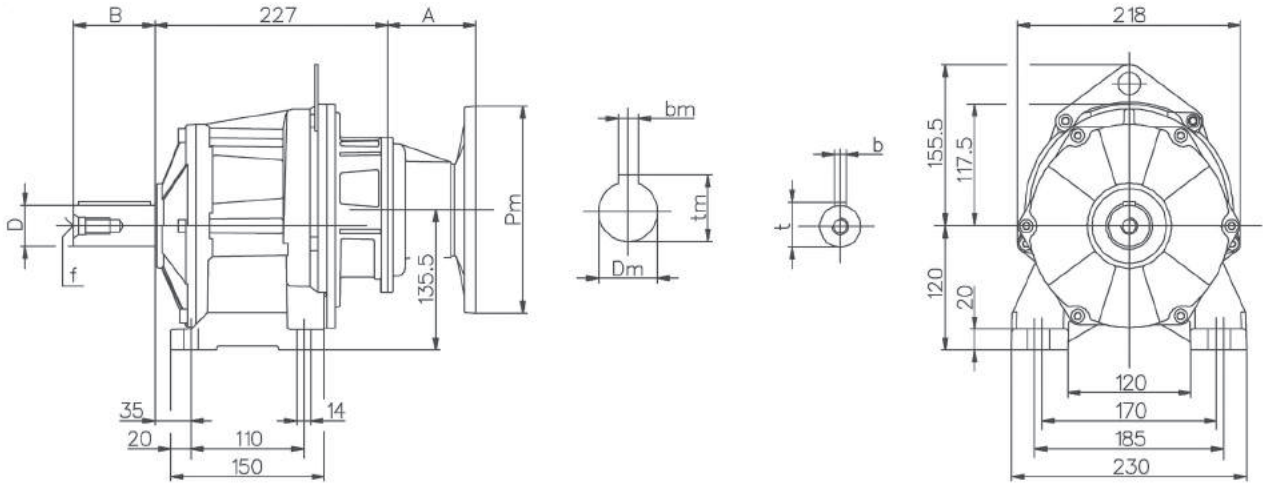
A63	표준모터 / Standard motor					브레이크 모터 / Brake motor				
	g1	**g2**	**X**	**Y**	**~ Kg**	**g1**	**g2**	**X**	**Y**	**~ Kg**
63	239	119	180	121	16,7	255	135	238	121	18
71	248	128	205	139	18,6	264	144	269	139	20,5
80	257	137	218	158	22,6	273	153	290	158	25,7
90S	265	145	232	173	24,5	265	145	309	173	29,4
90L	265	145	257	173	27	265	145	334	173	31,9

(..) 주문사양
(..) Only on request

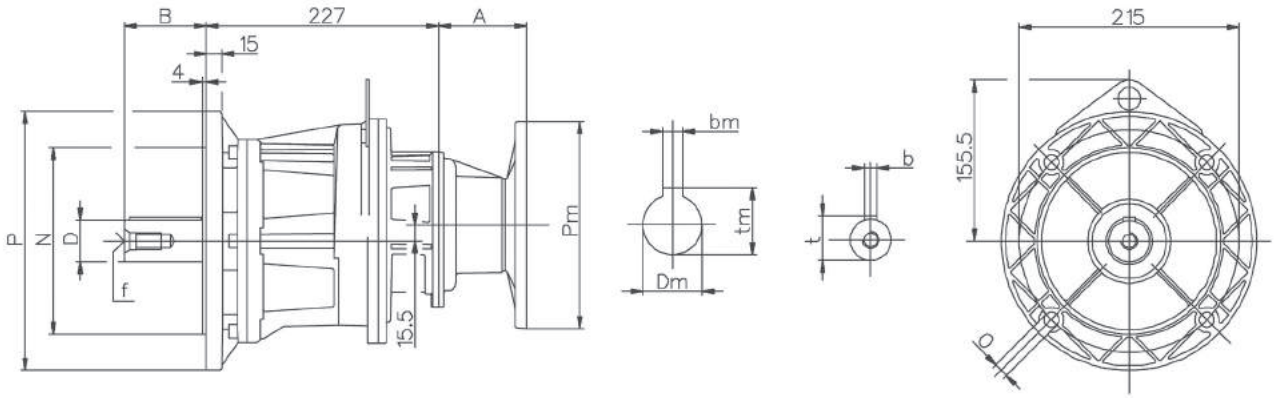
- 모터 포함 무게
- Weight with motor

Dimensions / 치수 A63

H



H..F



Output Shaft				
D j6	**B**	**b**	**t**	**f**
40	80	12×8×70	43	M16
(28)	(60)	(8×7×45)	(31)	(M10)

Input Flanges			
P	**M**	**N f8**	**O**
250	215	180	14
(200)	(165)	(130)	(14)

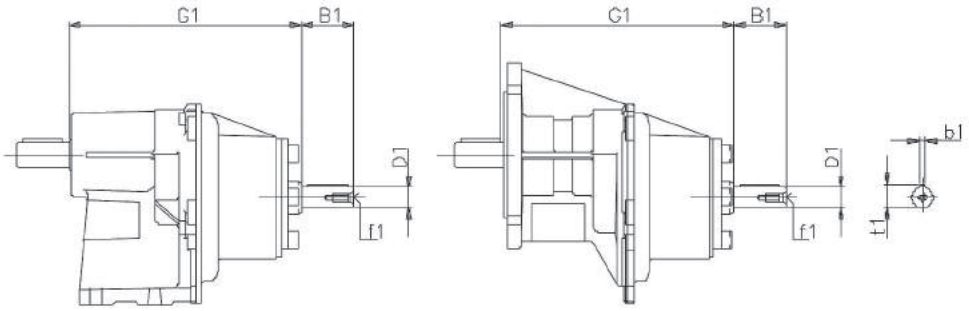
PAM	A	Kg
063	55	14,6
071	55	14,7
080 – 090	86	15,3

(..)주문사양 – 모터 제외 무게
(..)Only on request – Weight without motor

모터 연결부와 관련된 치수 (Pm, Dm, bm, tm)에 대해서는 285페이지를 참조 바람.
For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 285.

IHA... 치수 / Dimensions

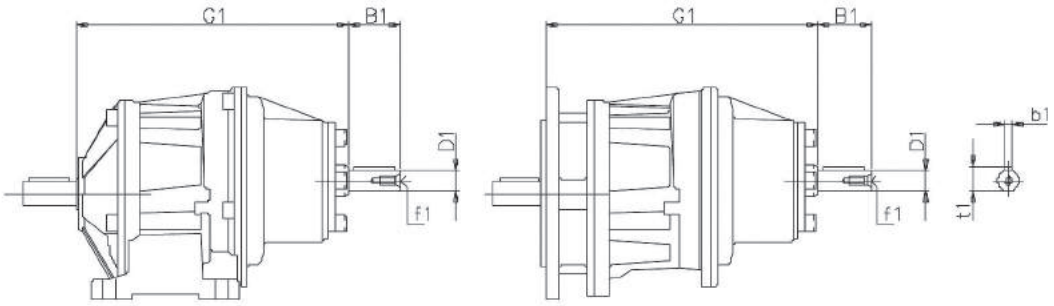
A41 - A51 - A61



IH... IH...F

	G1	D1	B1	b1	f1	t1
A41	176	16 j6	40	5×5×30	M6	18
A51	184,5	16 j6	40	5×5×30	M6	18
A61	209	19 j6	40	6×6×30	M6	21,5

A32 - A42 - A52 - A62



IH... IH...F

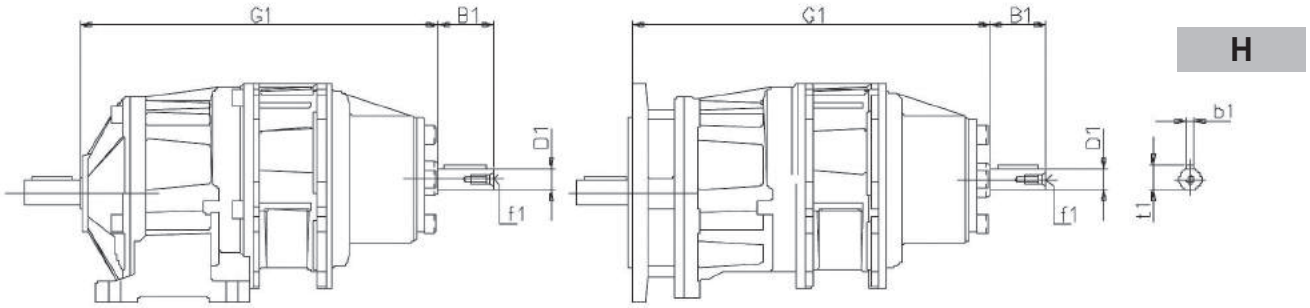
	G1	D1	B1	b1	f1	t1
A32	198	16 j6	40	5×5×30	M6	18
A42	205	16 j6	40	5×5×30	M6	18
A52	239	19 j6	40	6×6×30	M6	21,5
A62	248	19 j6	40	6×6×30	M6	21,5

상기에 나타나 있지 않는 부분의 치수는 CHA / HA의 모델에서 참고 바람
For the missing dimensions, please consider the drawing of relevant CH/H size.

Dimensions / 치수 | IHA...

A33 - A43 - A53 - A63

H

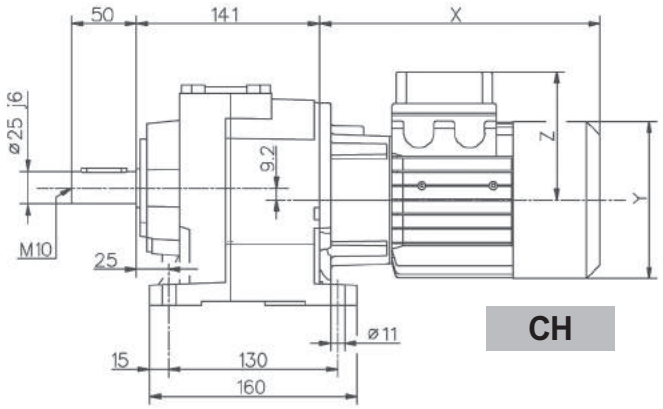


IH... IH...F

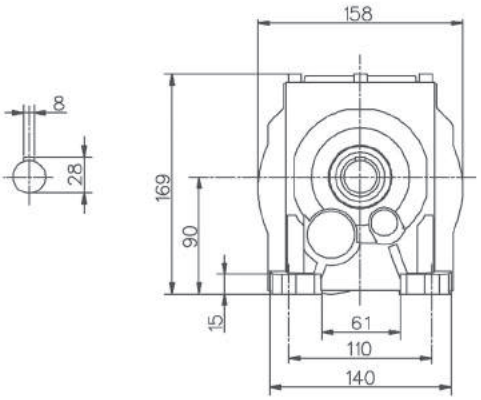
	G1	D1	B1	b1	f1	t1
A33	251	16 j6	40	5×5×30	M6	18
A43	258	16 j6	40	5×5×30	M6	18
A53	299	16 j6	40	5×5×30	M6	18
A63	308	16 j6	40	5×5×30	M6	18

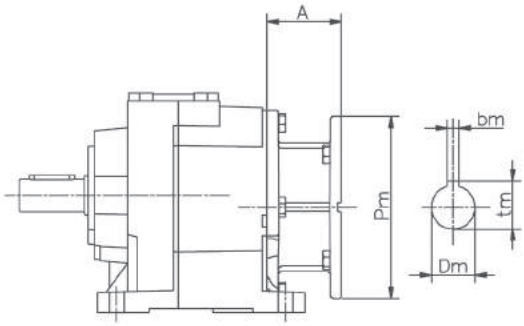
상기에 나타나 있지 않는 부분의 치수는 CHA / HA의 모델에서 참고 바람
For the missing dimensions, please consider the drawing of relevant CH/H size.

032/..3 치수 / Dimensions

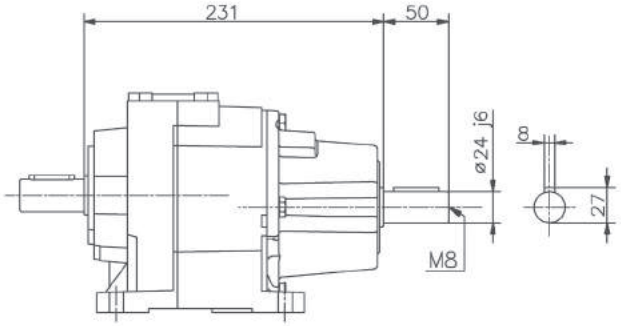


CH

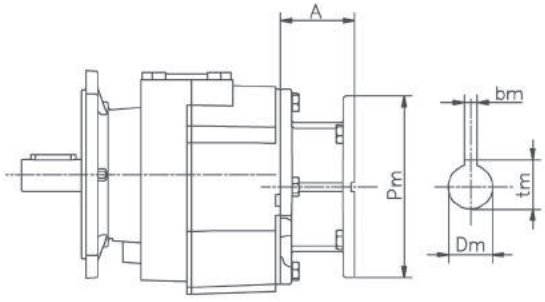




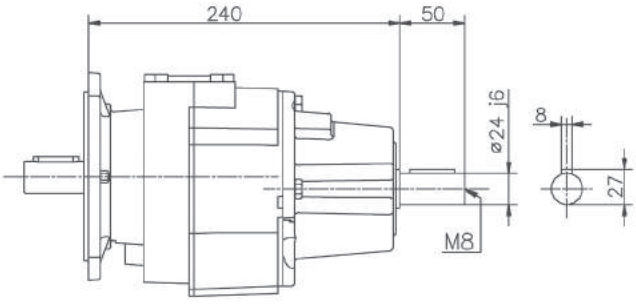
H



IH



H...F FA-FB-FC-FD

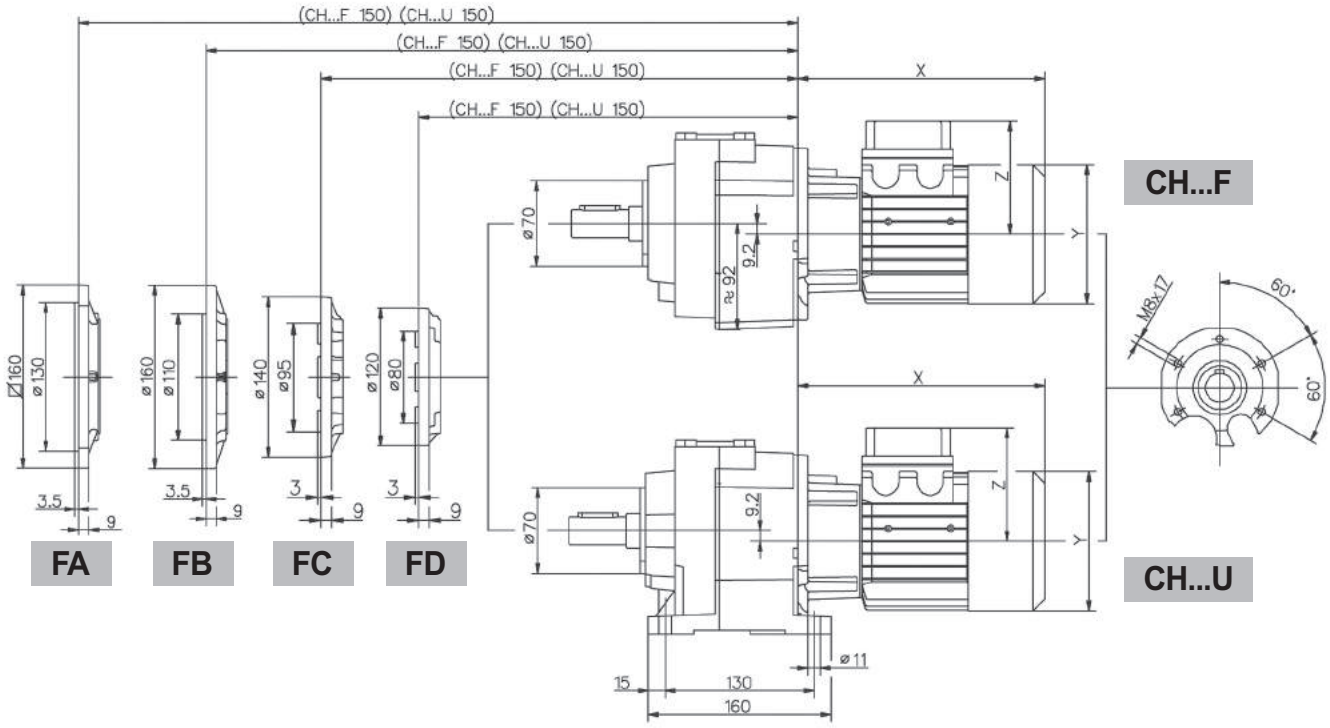


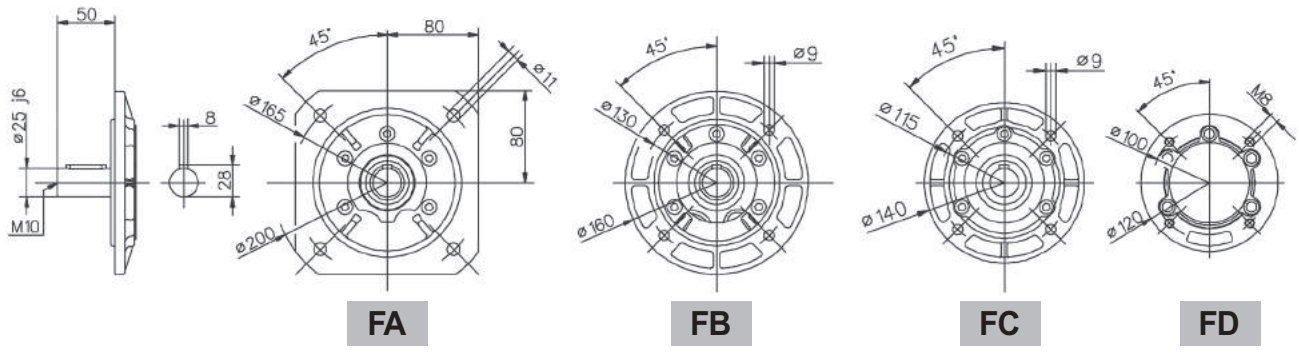
IH...F FA-FB-FC-FD

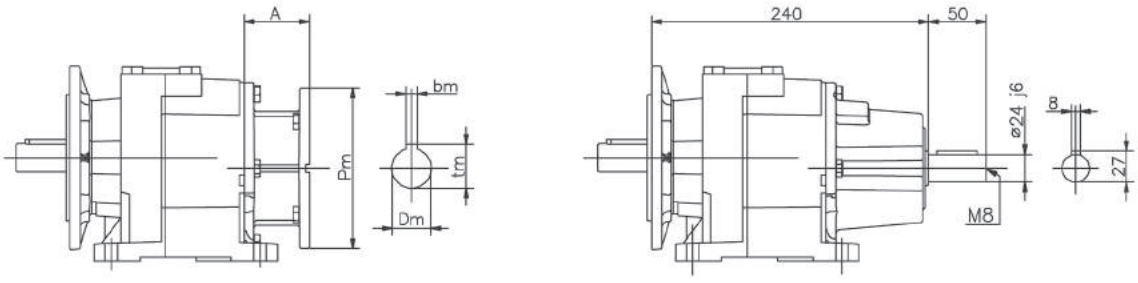
030	IH	PAM		표준모터 / Standard motor				브레이크 모터 / Brake motor			
	~ Kg	A	~ Kg	X	Y	Z	~ Kg	X	Y	Z	~ Kg
63	12,2	57	9,1	215	121	104	12,6	273	121	119	14,1
71		69	9,5	241	139	112	13,5	305	139	128	15,7
80		90	10,1	268	158	122	18,2	341	158	137	21,7
90s		90	10,1	296	173	130	22,1	373	173	130	27,6
90l		90	10,1	321	173	130	24,1	398	173	130	29,6
100		105	14,4	333	191	139	29,6	415	191	139	35,1
112		105	14,4	351	211	154	41,1	448	211	154	50,8

모터 연결부와 관련된 치수 (Pm, Dm, bm, tm)에 대해서는 285페이지를 참조 바람.
For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 285.

Dimensions / 치수 032/..3



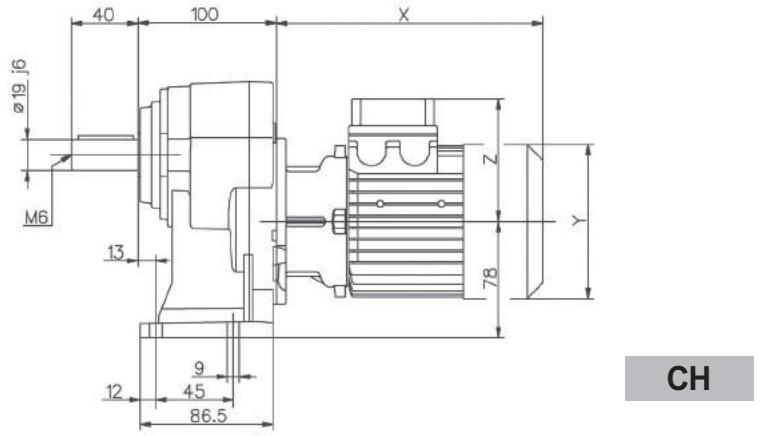


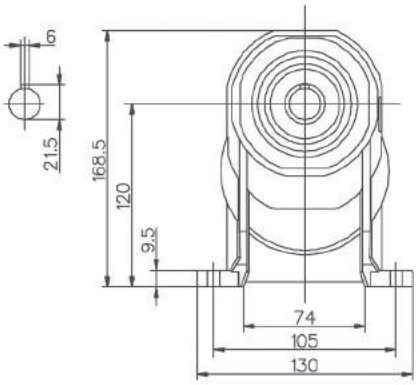


H...U FA-FB-FC-FD

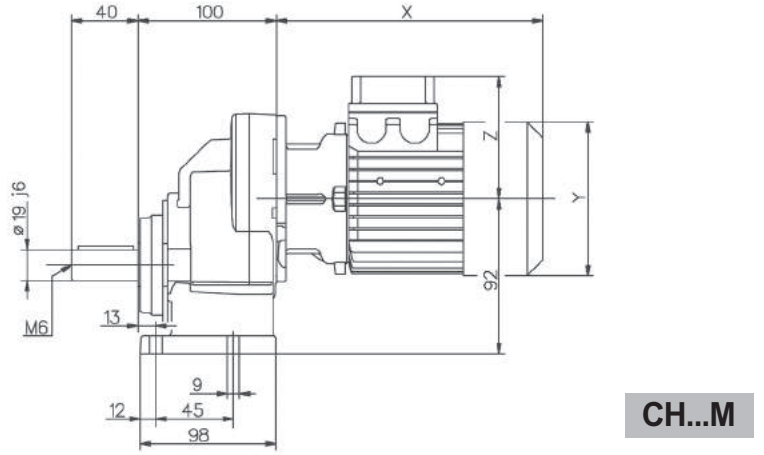
IH...U FA-FB-FC-FD

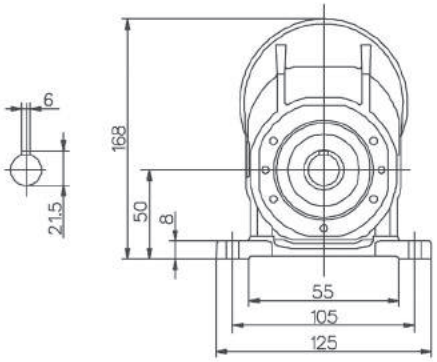
041 치수 / Dimensions





CH



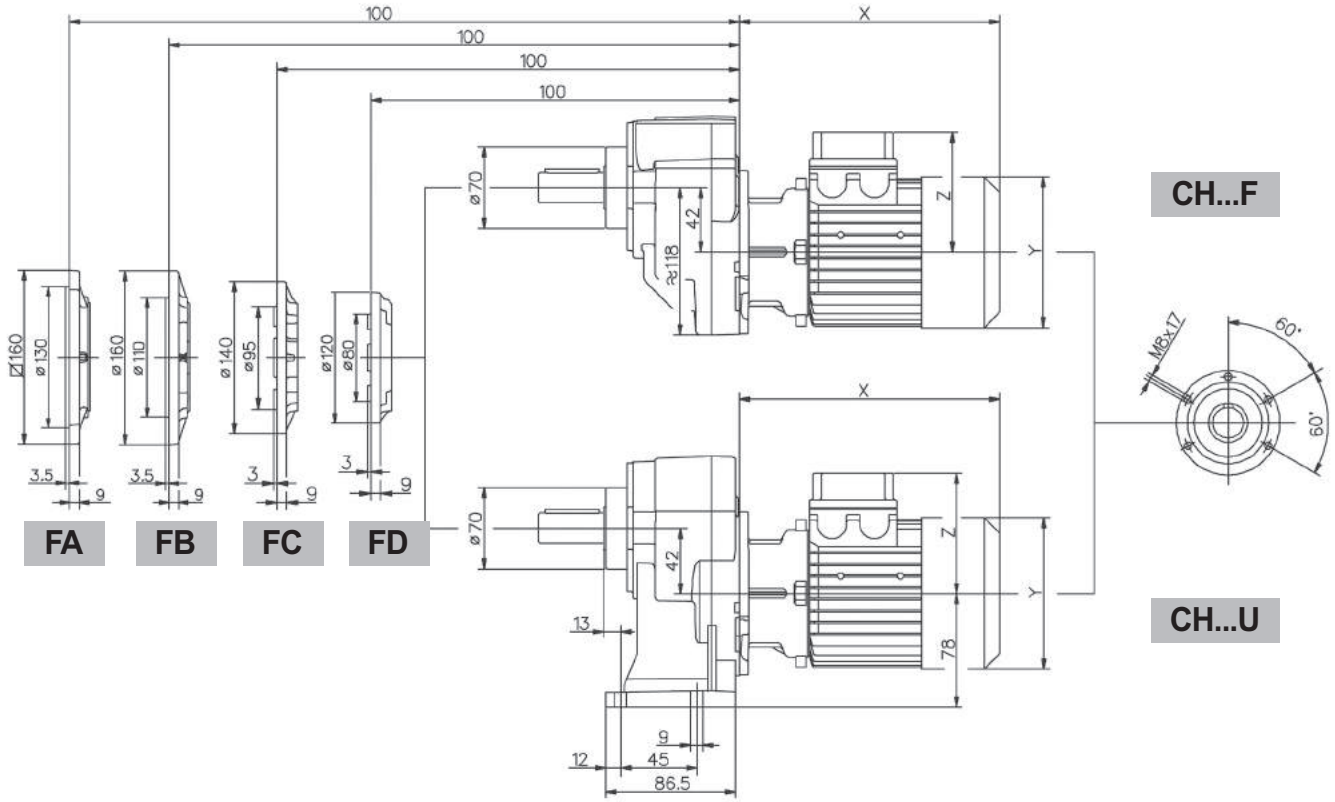


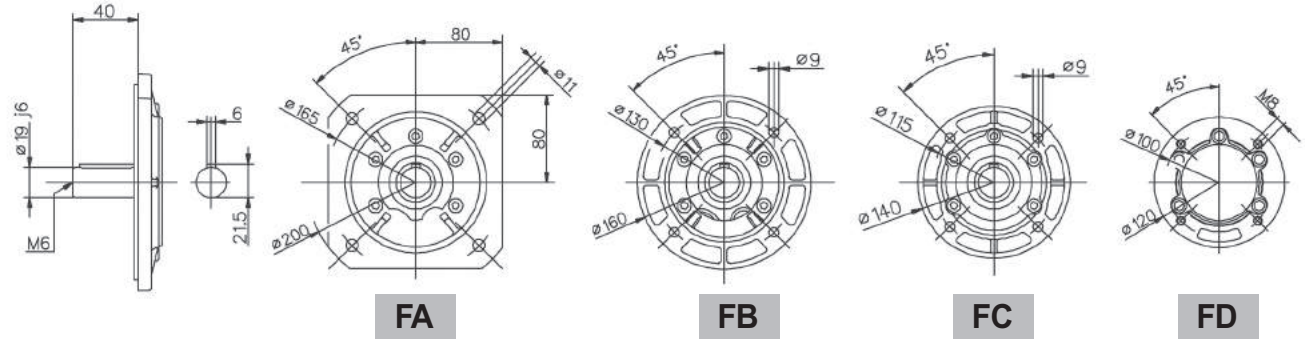
CH...M

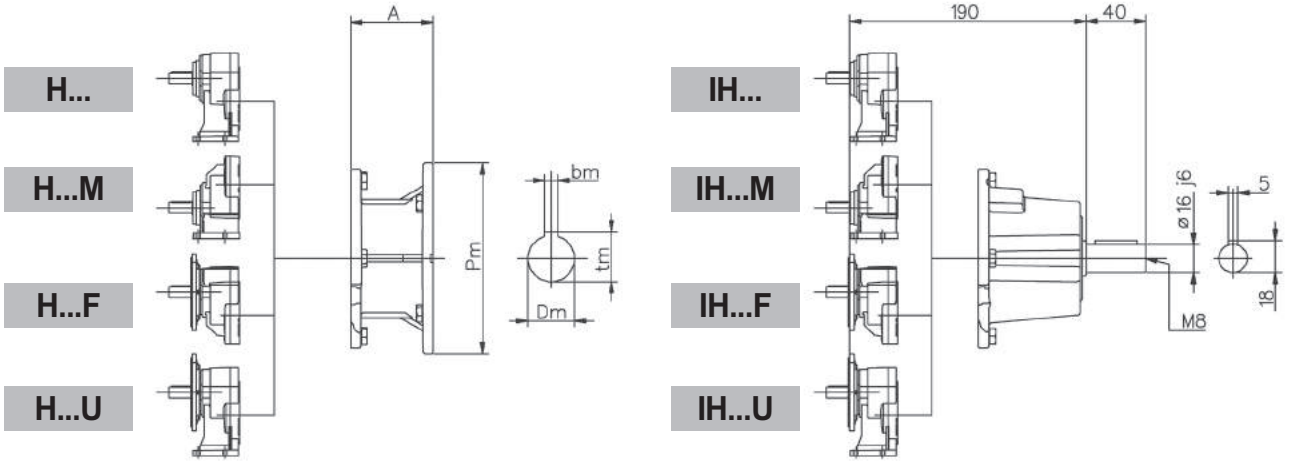
041	IH	PAM		표준모터 / Standard motor				브레이크 모터 / Brake motor			
	~ Kg	A	~ Kg	X	Y	Z	~ Kg	X	Y	Z	~ Kg
71	7,9	69	5,2	241	139	112	9,2	305	139	128	11,4
80		90	5,8	268	158	122	13,9	341	158	137	17,4
90s		90	5,8	296	173	130	17,8	373	173	130	23,3
90l		90	5,8	321	173	130	19,8	398	173	130	25,3

모터 연결부와 관련된 치수 (Pm, Dm, bm, tm)에 대해서는 285페이지를 참조 바람.
For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 285.

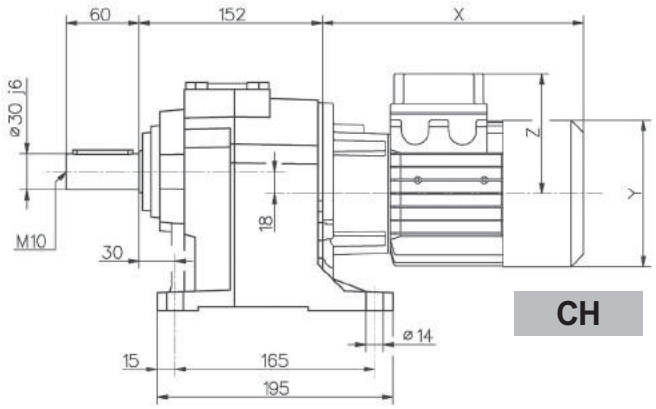
Dimensions / 치수 041



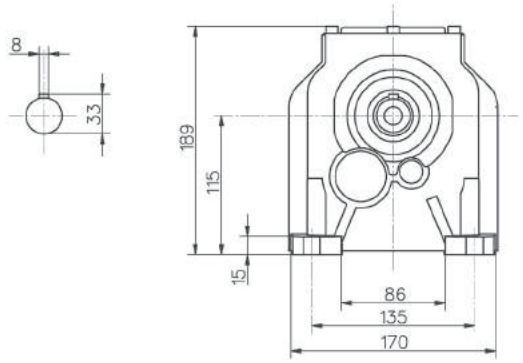


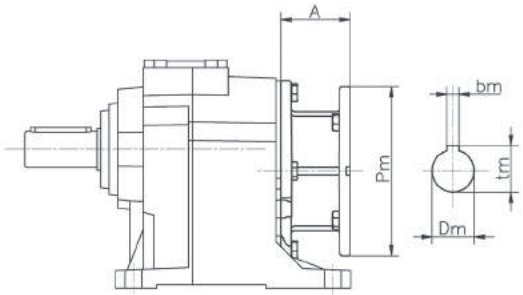


042/..3 치수 / Dimensions

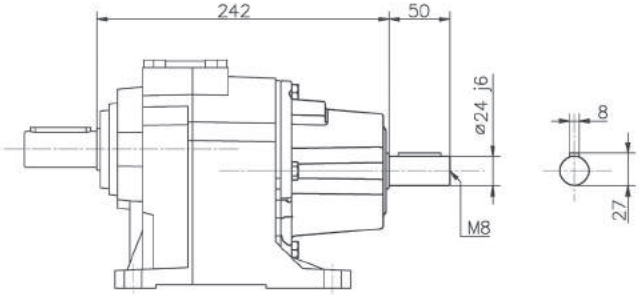


CH

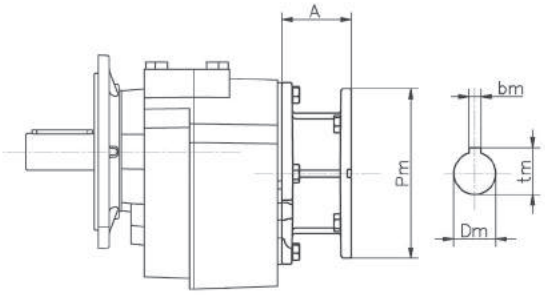




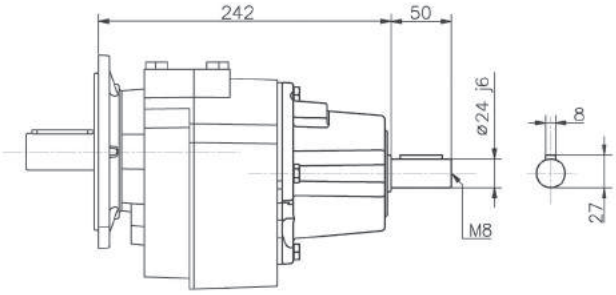
H



IH



H...F FA-FB-FC-FD



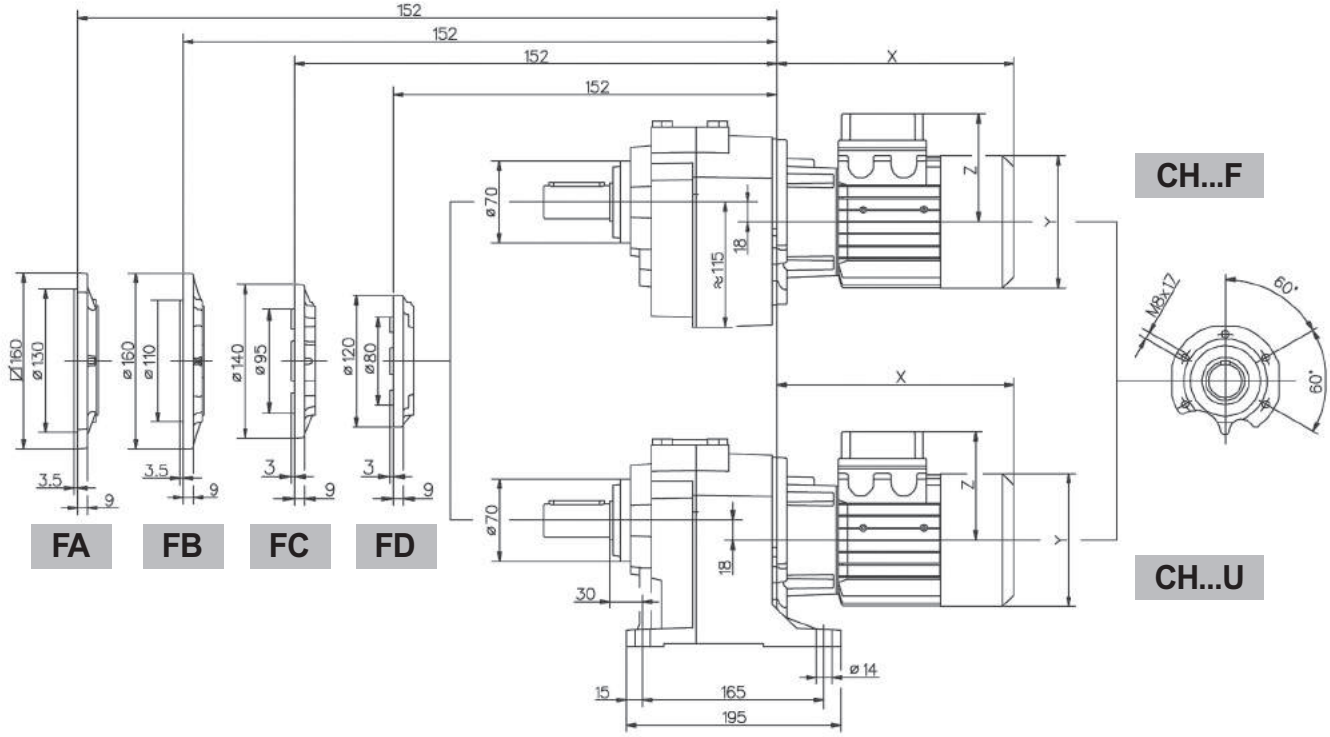
IH...F FA-FB-FC-FD

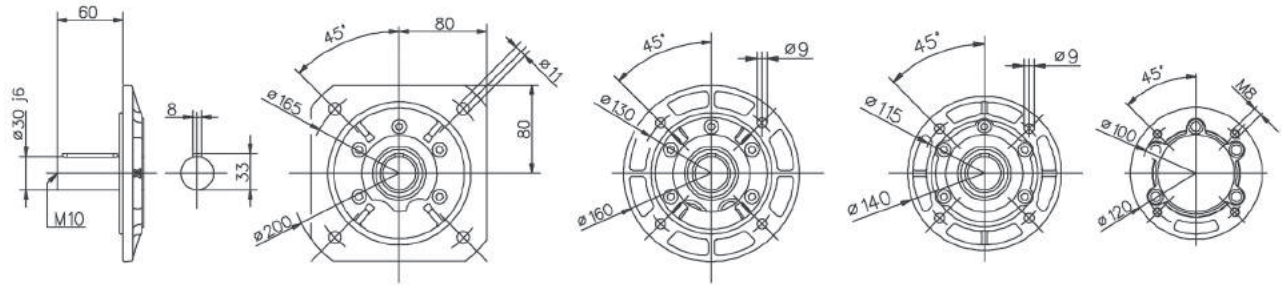
040	IH	PAM		표준모터 / Standard motor				브레이크 모터 / Brake motor			
	~ Kg	A	~ Kg	X	Y	Z	~ Kg	X	Y	Z	~ Kg
63	15,1	57	12	215	121	104	15,5	273	121	119	17
71		69	12,4	241	139	112	16,4	305	139	128	18,6
80		90	13	268	158	122	21,1	341	158	137	24,6
90s		90	13	296	173	130	25	373	173	130	30,5
90l		90	13	321	173	130	27	398	173	130	32,5
100		105	17,3	333	191	139	32,5	415	191	139	38
112		105	17,3	351	211	154	44	448	211	154	53,7

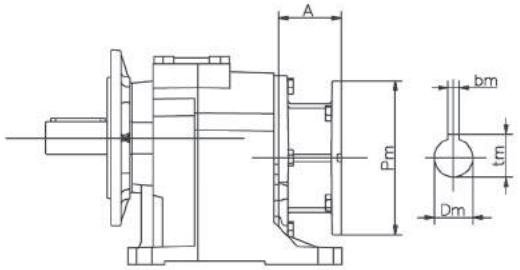
모터 연결부와 관련된 치수 (Pm, Dm, bm, tm)에 대해서는 285페이지를 참조 바람.

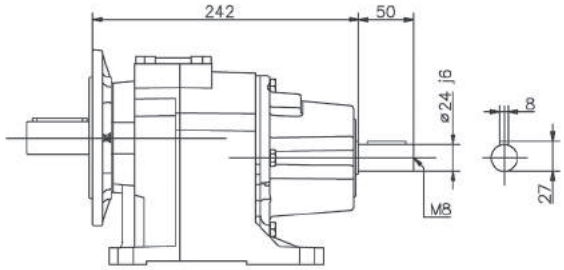
For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 285.

Dimensions / 치수 042/..3

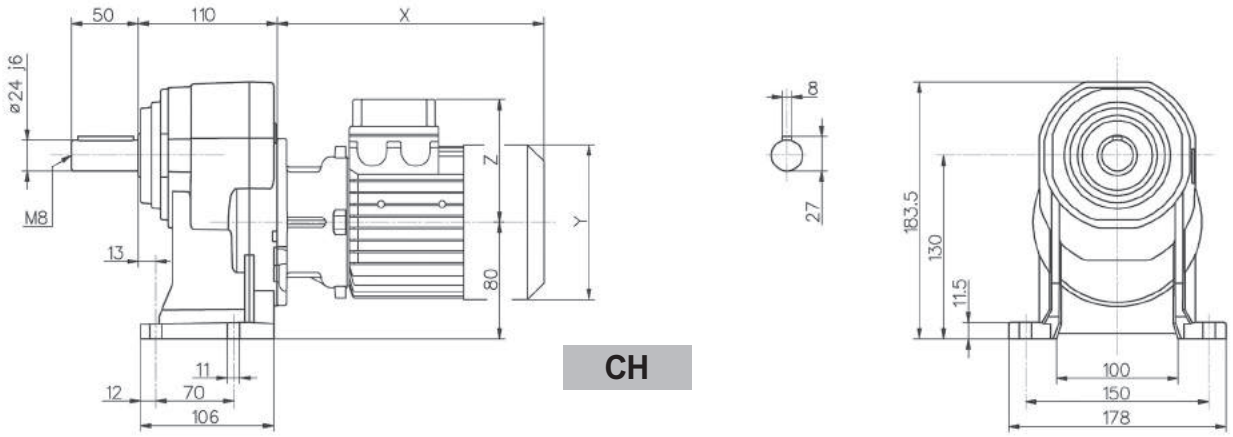




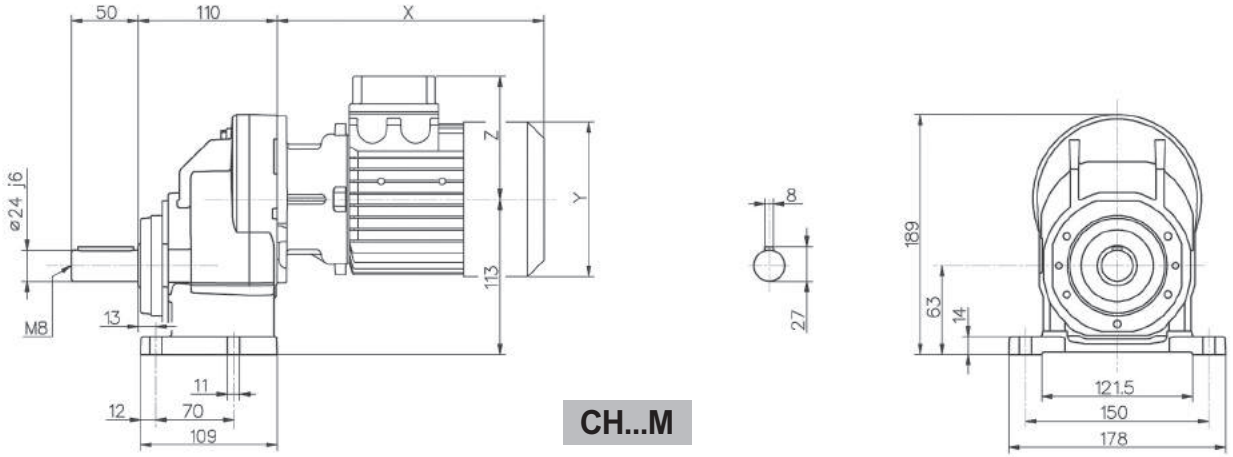




051 치수 / Dimensions



CH

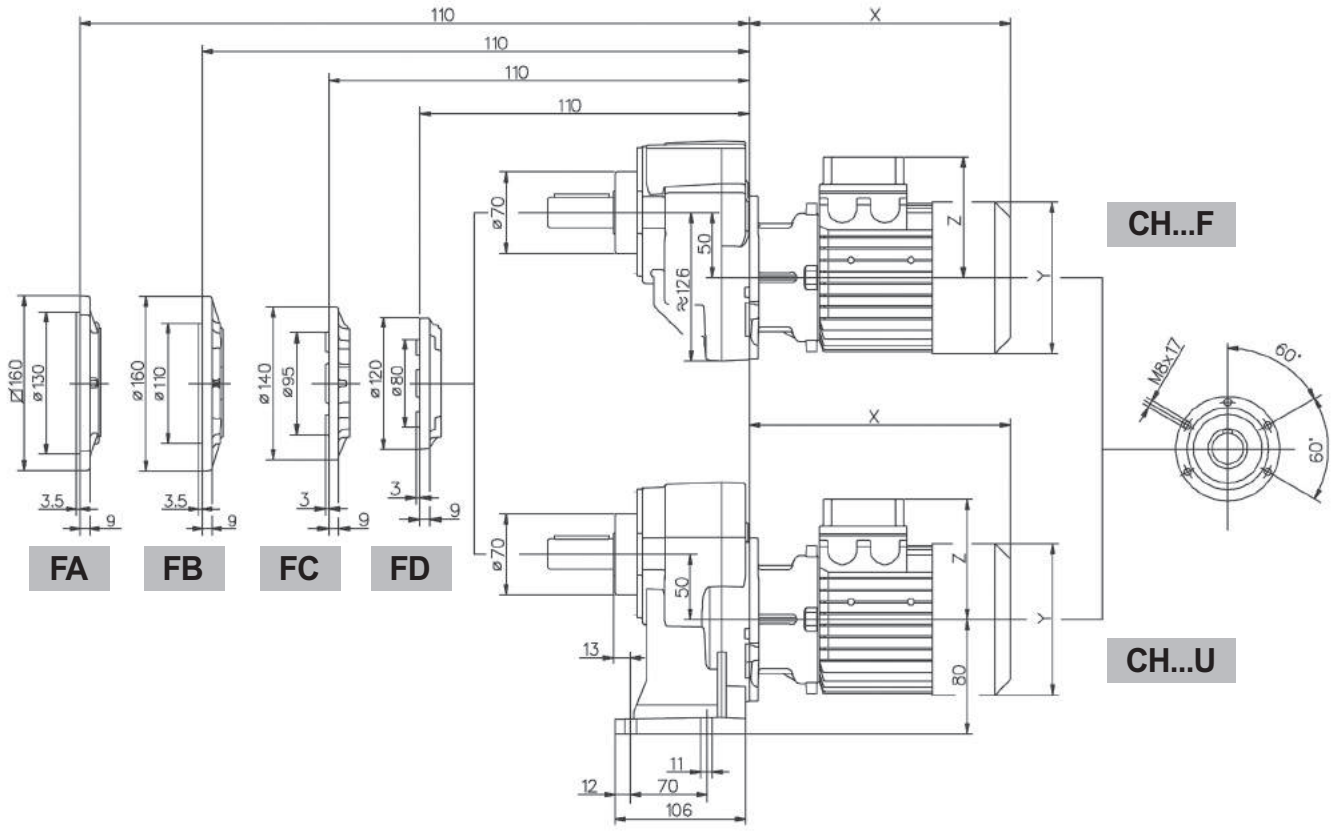


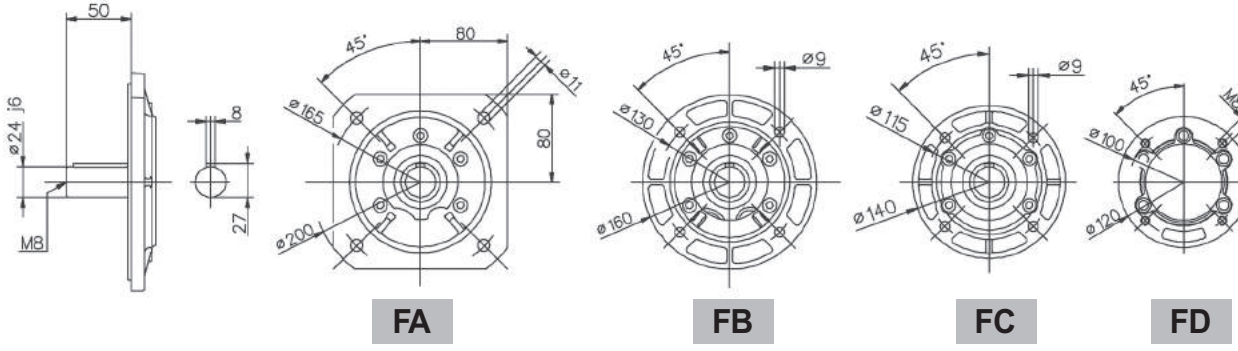
CH...M

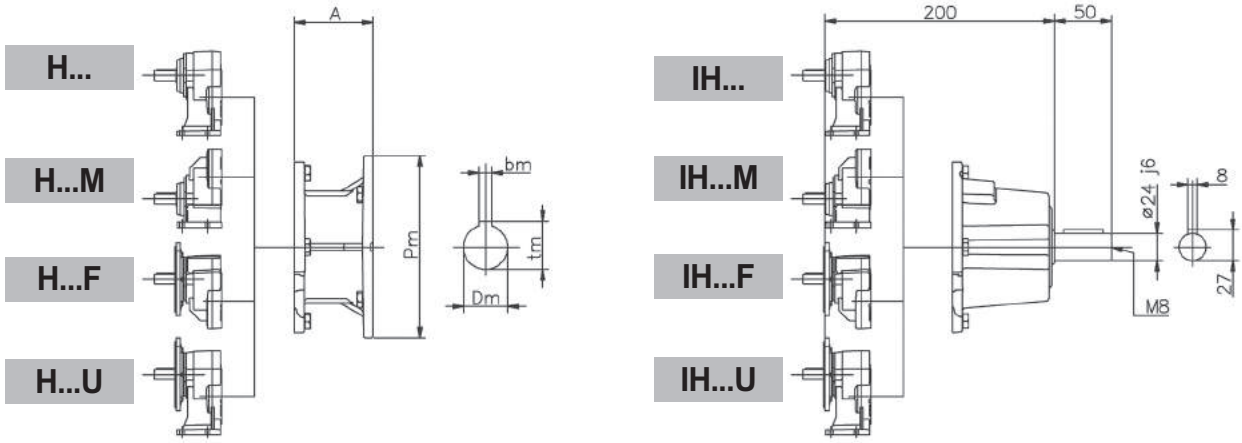
051	IH	PAM		표준모터 / Standard motor				브레이크 모터 / Brake motor			
	~ Kg	A	~ Kg	X	Y	Z	~ Kg	X	Y	Z	~ Kg
71	10,1	69	7,4	241	139	112	11,4	305	139	128	13,6
80		90	8	268	158	122	16,1	341	158	137	19,6
90s		90	8	296	173	130	20	373	173	130	25,5
90l		90	8	321	173	130	22	398	173	130	27,5
100		105	12,3	333	191	139	27,5	415	191	139	33
112		105	12,3	351	211	154	39	448	211	154	48,7

모터 연결부와 관련된 치수 (Pm. Dm. bm. tm)에 대해서는 285페이지를 참조 바람.
For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 285.

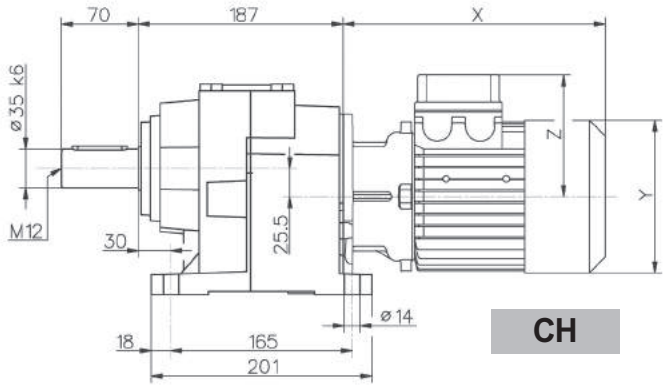
Dimensions / 치수 051



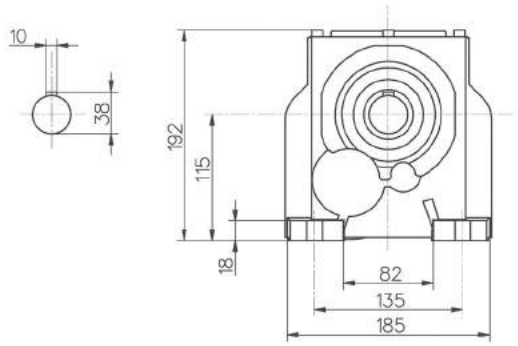


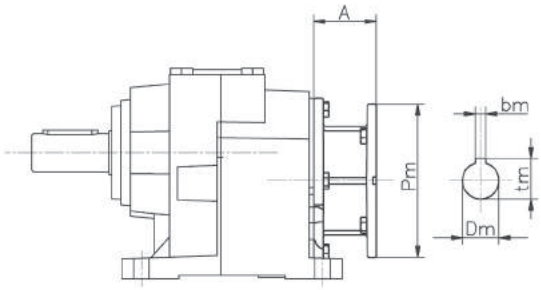


052/..3 치수 / Dimensions

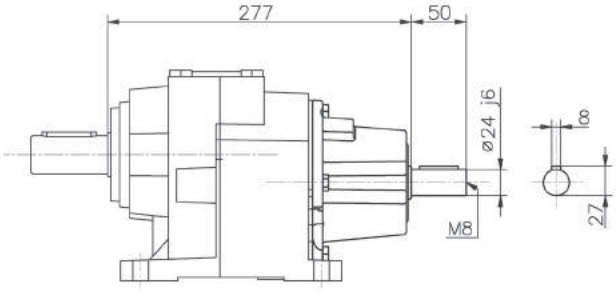


CH

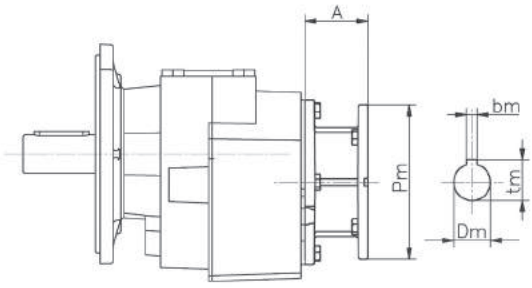




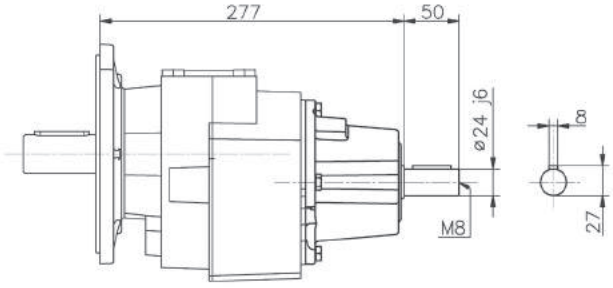
H



IH



H...F FA-FB

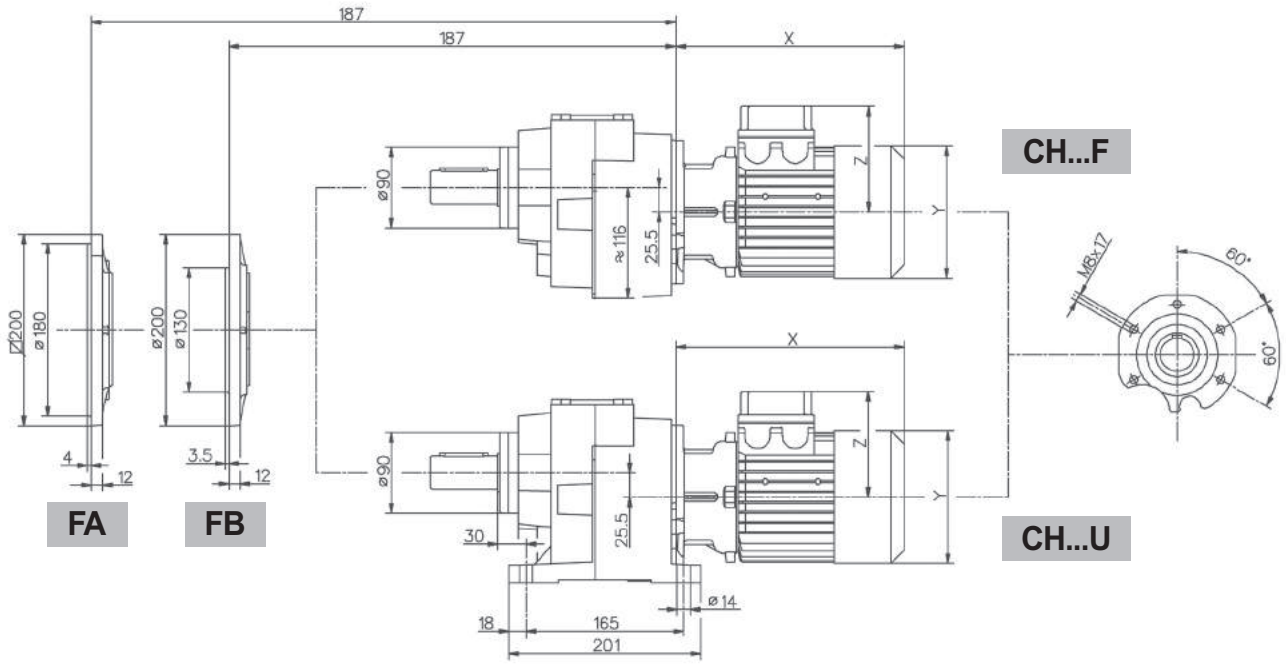


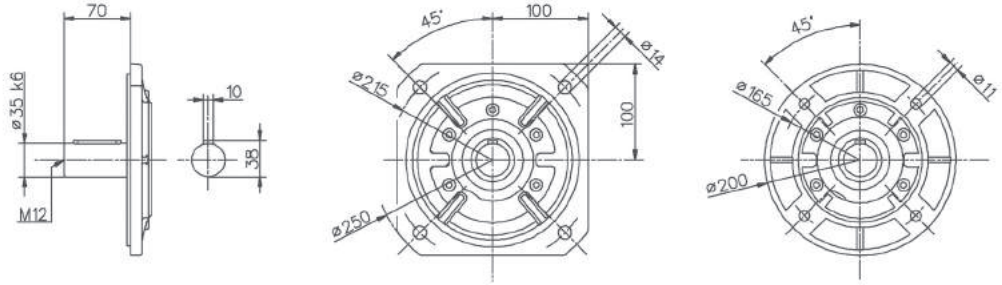
IH...F FA-FB

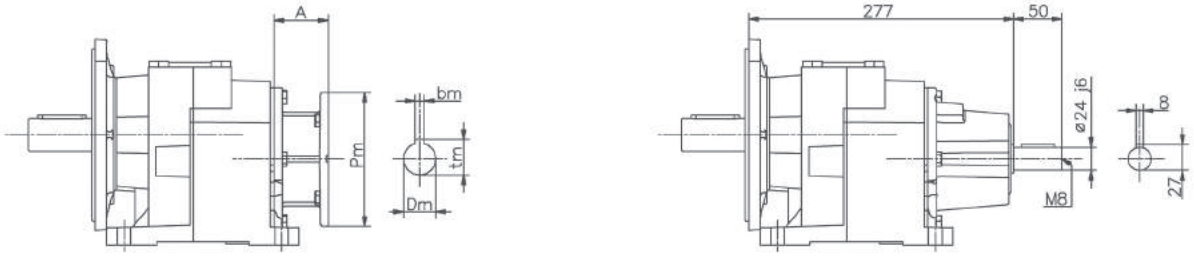
050	IH	PAM		표준모터 / Standard motor				브레이크 모터 / Brake motor			
	~ Kg	A	~ Kg	X	Y	Z	~ Kg	X	Y	Z	~ Kg
63	20,4	57	17,3	215	121	104	20,8	273	121	119	22,3
71		69	17,7	241	139	112	21,7	305	139	128	23,9
80		90	18,3	268	158	122	26,4	341	158	137	29,9
90s		90	18,3	296	173	130	30,3	373	173	130	35,8
90l		90	18,3	321	173	130	32,3	398	173	130	37,8
100		105	22,6	333	191	139	37,8	415	191	139	43,3
112		105	22,6	351	211	154	49,3	448	211	154	59

모터 연결부와 관련된 치수 (Pm, Dm, bm, tm)에 대해서는 285페이지를 참조 바람.
For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 285.

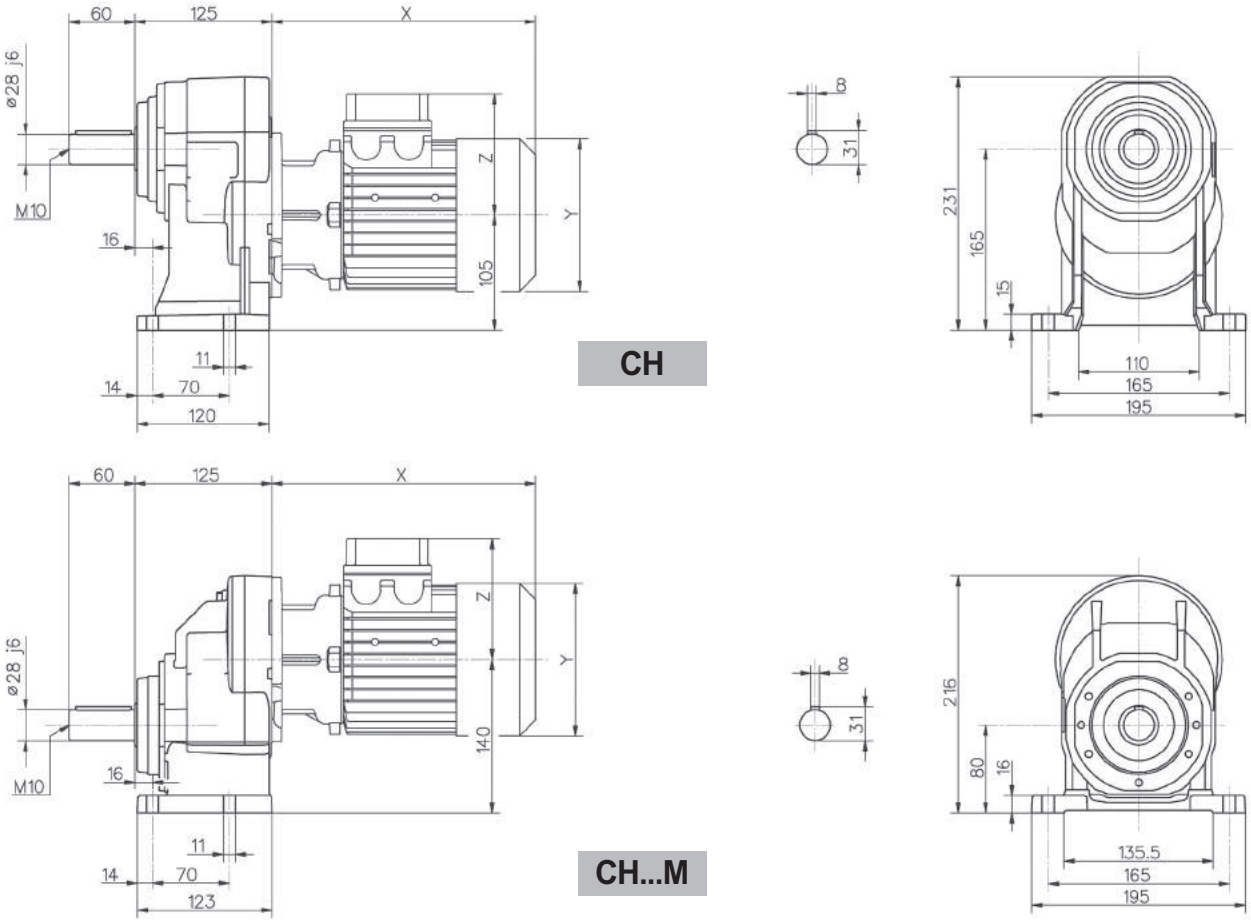
Dimensions / 치수 052/..3







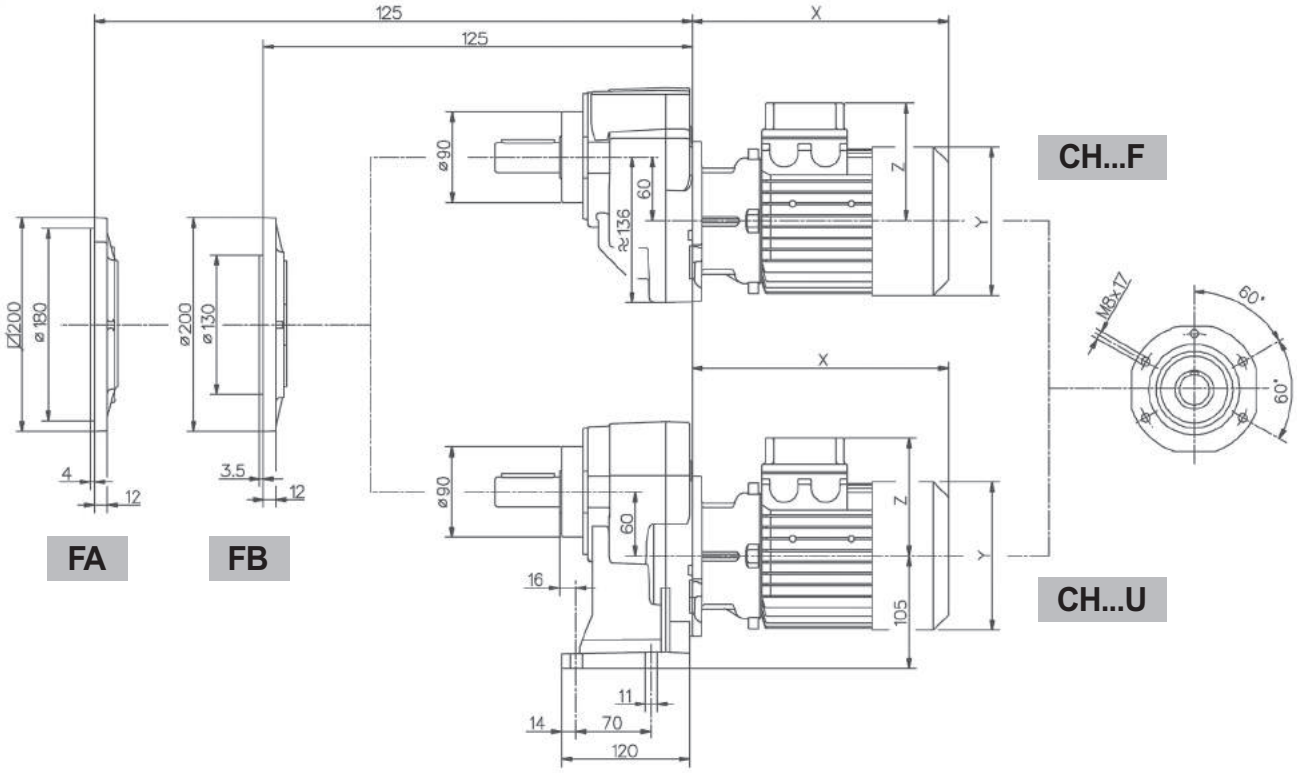
061 치수 / Dimensions

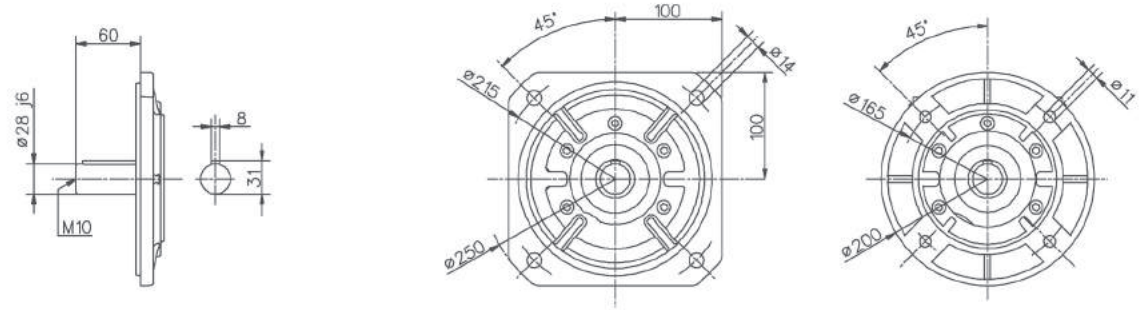


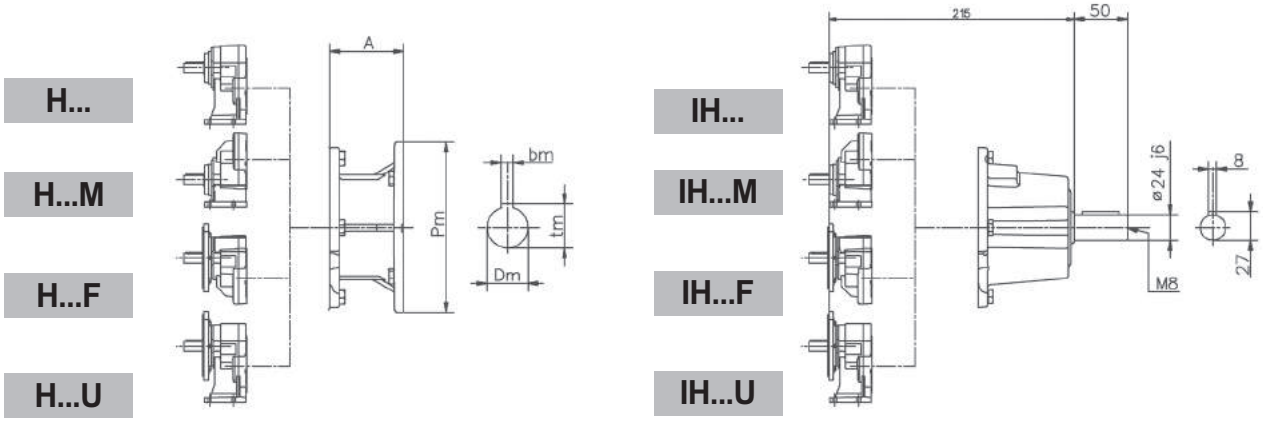
061	IH	PAM		표준모터 / Standard motor				브레이크 모터 / Brake motor			
	~ Kg	A	~ Kg	X	Y	Z	~ Kg	X	Y	Z	~ Kg
80	12	90	9,9	268	158	122	18	341	158	137	21,5
90s		90	9,9	296	173	130	21,9	373	173	130	27,4
90l		90	9,9	321	173	130	23,9	398	173	130	29,4
100		105	14,2	333	191	139	29,4	415	191	139	34,9
112		105	14,2	351	211	154	40,9	448	211	154	50,6

모터 연결부와 관련된 치수 (Pm. Dm. bm. tm)에 대해서는 285페이지를 참조 바람.
For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 285.

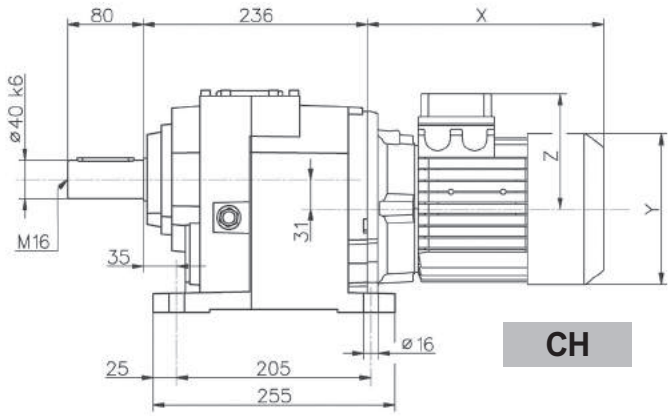
Dimensions / 차수 061



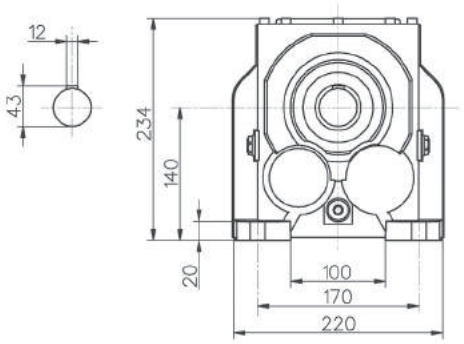


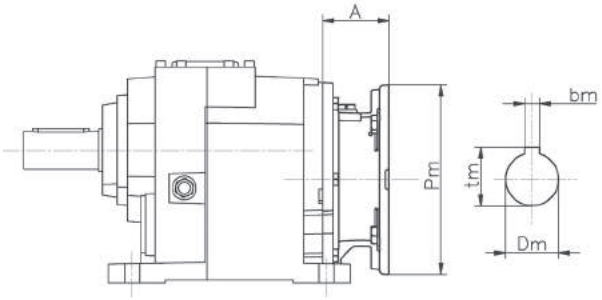


062/..3 치수 / Dimensions

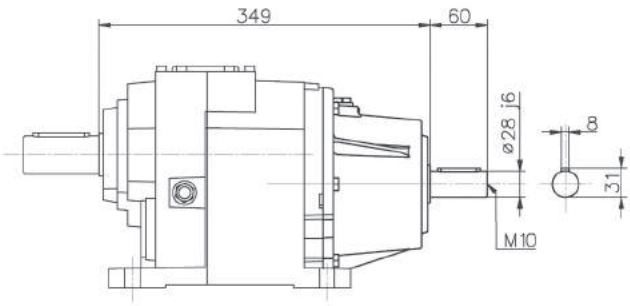


CH

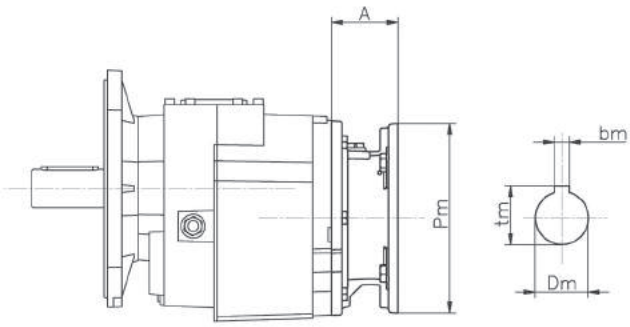




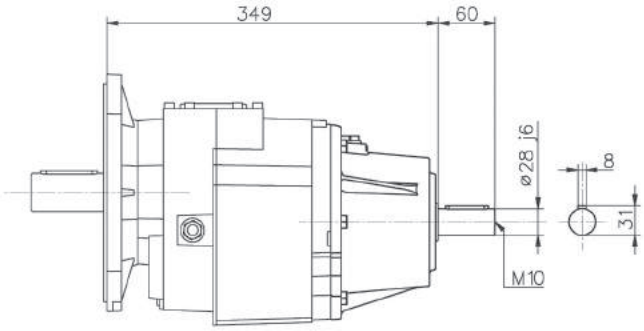
H



IH



H...F FA-FB-FC

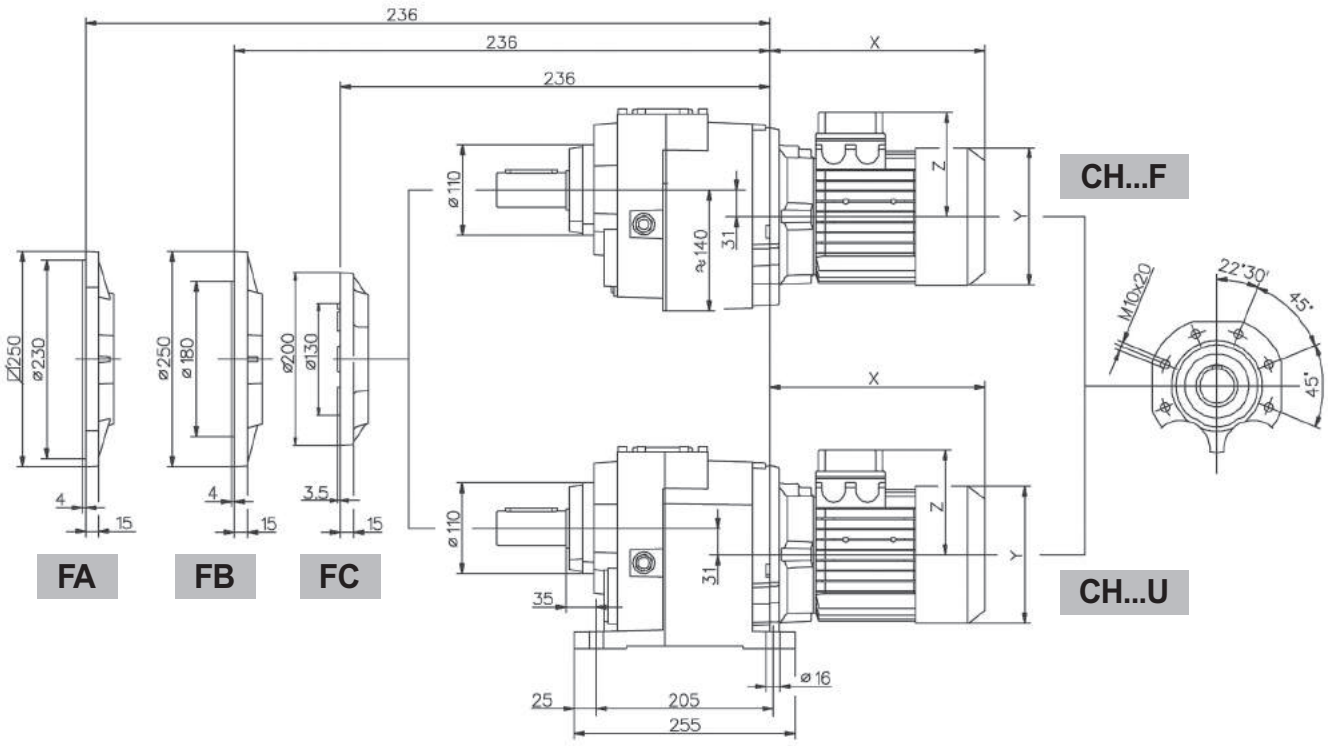


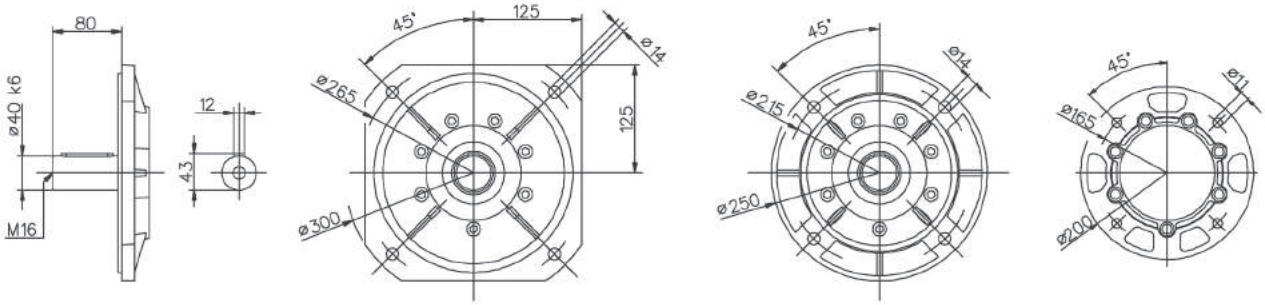
IH...F FA-FB-FC

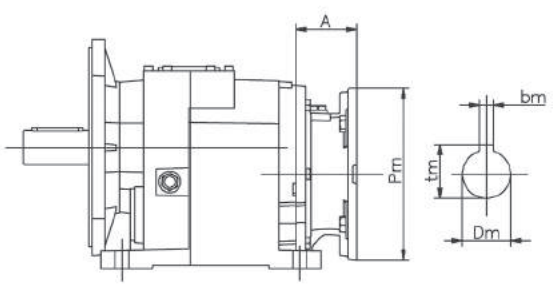
050	IH	PAM		표준모터 / Standard motor				브레이크 모터 / Brake motor			
	~ Kg	A	~ Kg	X	Y	Z	~ Kg	X	Y	Z	~ Kg
71	35,2	49	29,1	221	139	112	32,7	285	139	128	34,9
80		70	31,2	248	158	122	37,8	321	158	137	41,3
90s		70	31,2	276	173	130	40,2	353	173	130	45,7
90l		70	31,2	301	173	130	41,7	378	173	130	47,2
100		85	33,3	335	191	139	46,8	417	191	139	52,3
112		85	33,3	356	211	154	58,2	453	211	154	67,9
132s		110	36	396	249	194	72,2	495	249	194	82,5
132m		110	36	443	249	194	83,8	547	249	194	98,5

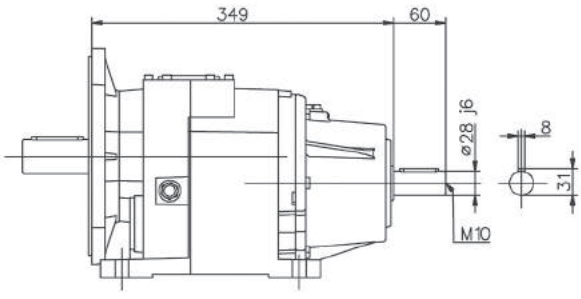
모터 연결부와 관련된 치수 (Pm, Dm, bm, tm)에 대해서는 285페이지를 참조 바람.
For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 285.

Dimensions / 치수 062/..3

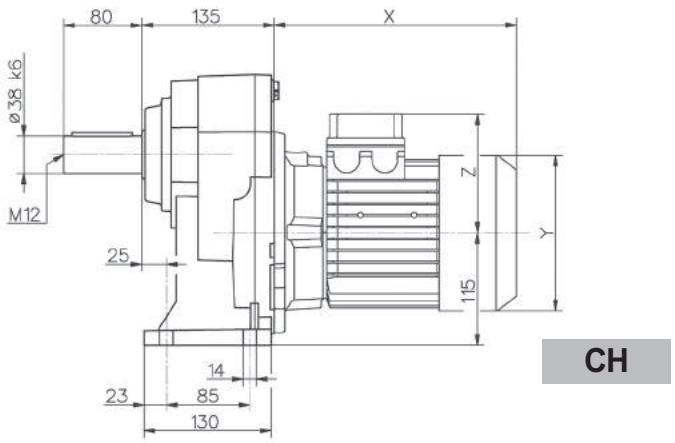




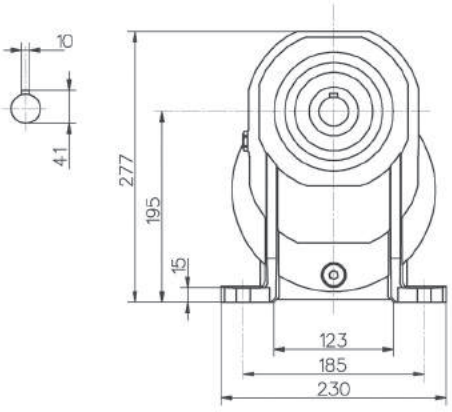


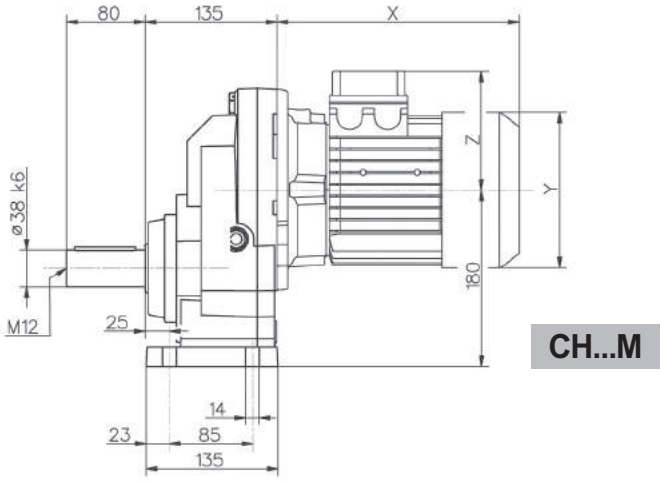


081 치수 / Dimensions

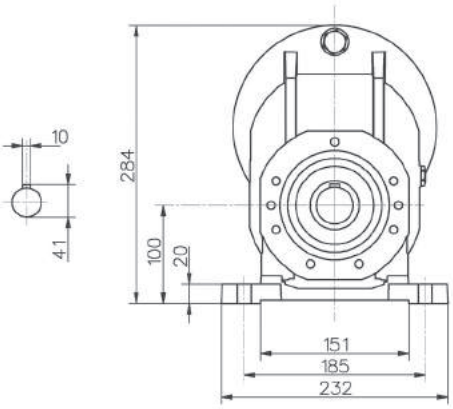


CH





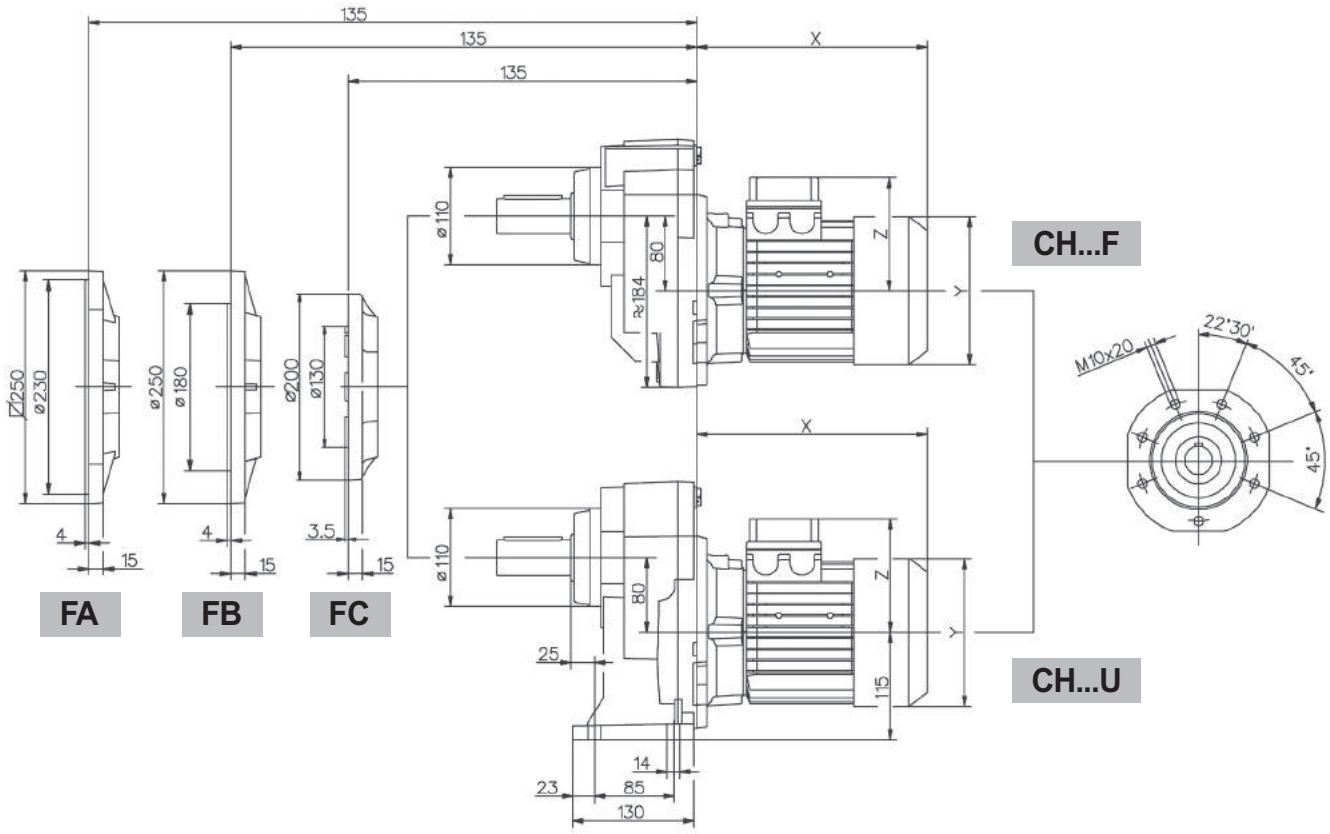
CH...M

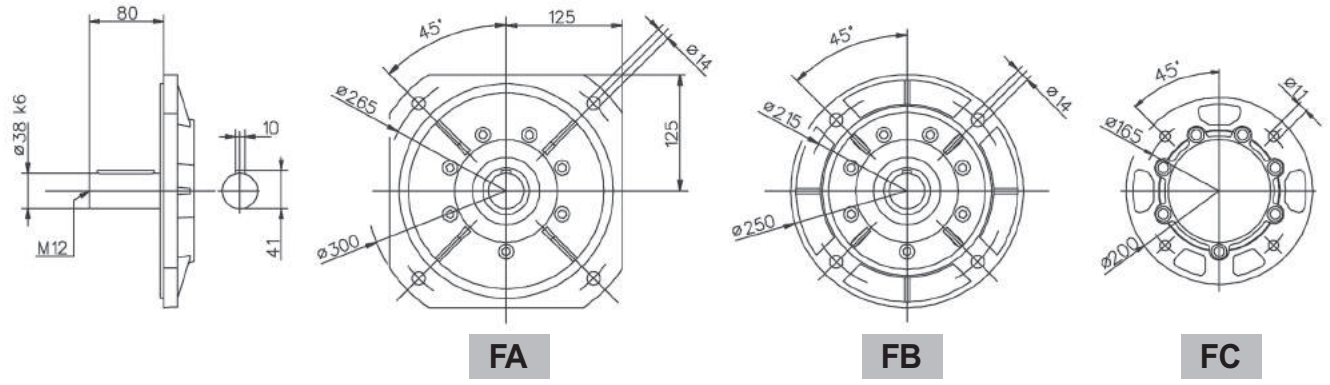


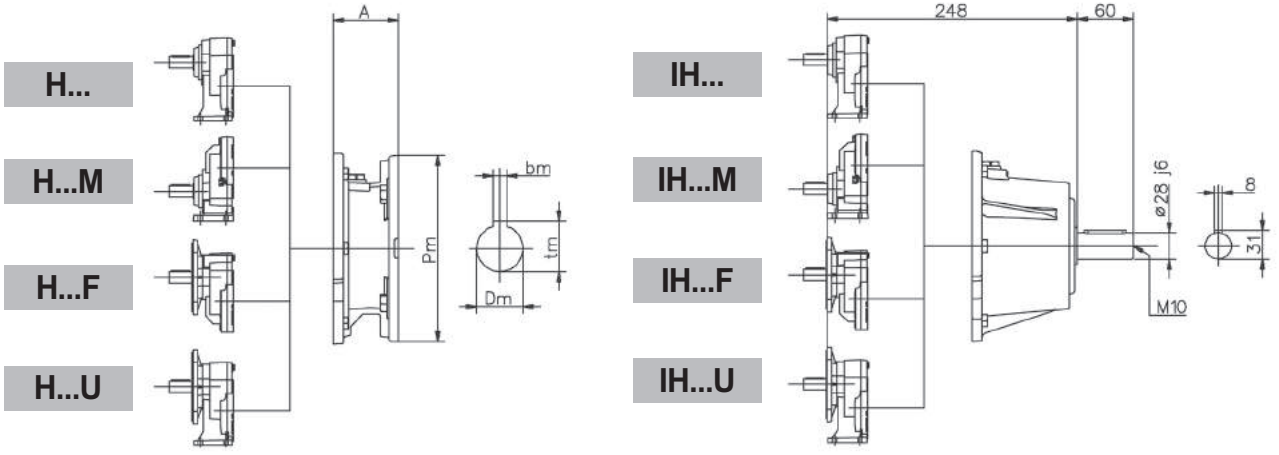
081	IH	PAM		표준모터 / Standard motor				브레이크 모터 / Brake motor			
	~ Kg	A	~ Kg	X	Y	Z	~ Kg	X	Y	Z	~ Kg
80	24,5	70	20,6	248	158	122	27,1	321	158	137	30,6
90s		70	20,6	276	173	130	29,5	353	173	130	35
90l		70	20,6	301	173	130	31	378	173	130	36,5
100		85	22,6	335	191	139	36,1	417	191	139	41,6
112		85	22,6	356	211	154	47,5	453	211	154	57,2
132s		110	25,2	396	249	194	61,5	495	249	194	71,8
132m		110	25,2	443	249	194	73,1	547	249	194	87,8

모터 연결부와 관련된 치수 (Pm. Dm. bm. tm)에 대해서는 285페이지를 참조 바람.
For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 285.

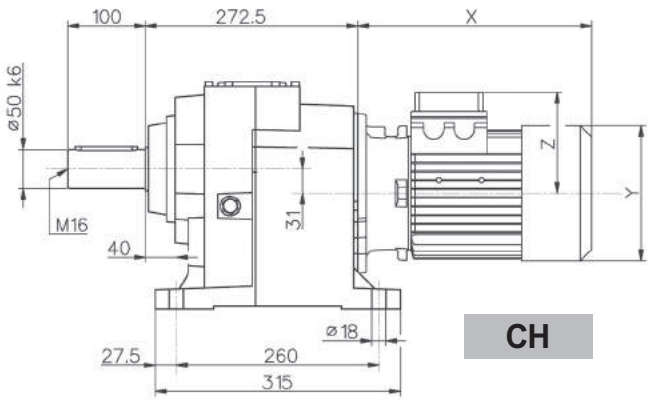
Dimensions / 치수 081



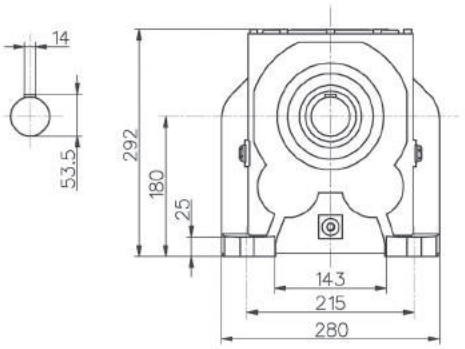


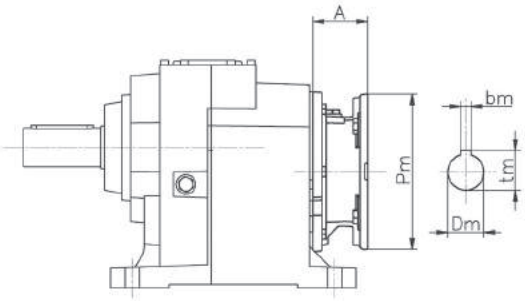


082/..3 치수 / Dimensions

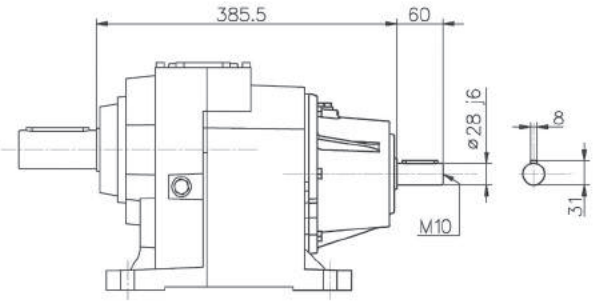


CH

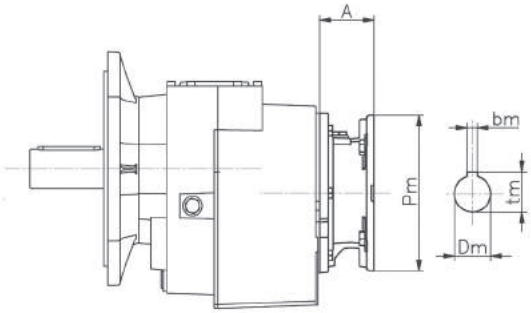




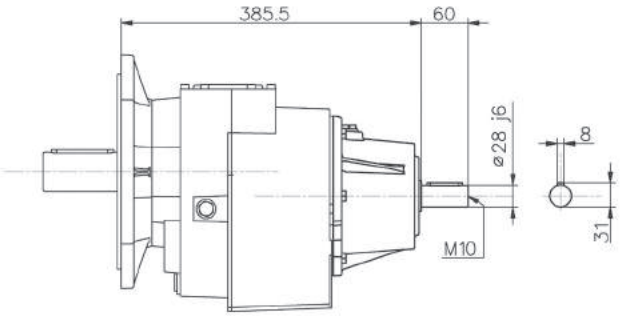
H



IH



H...F FA-FB-FC

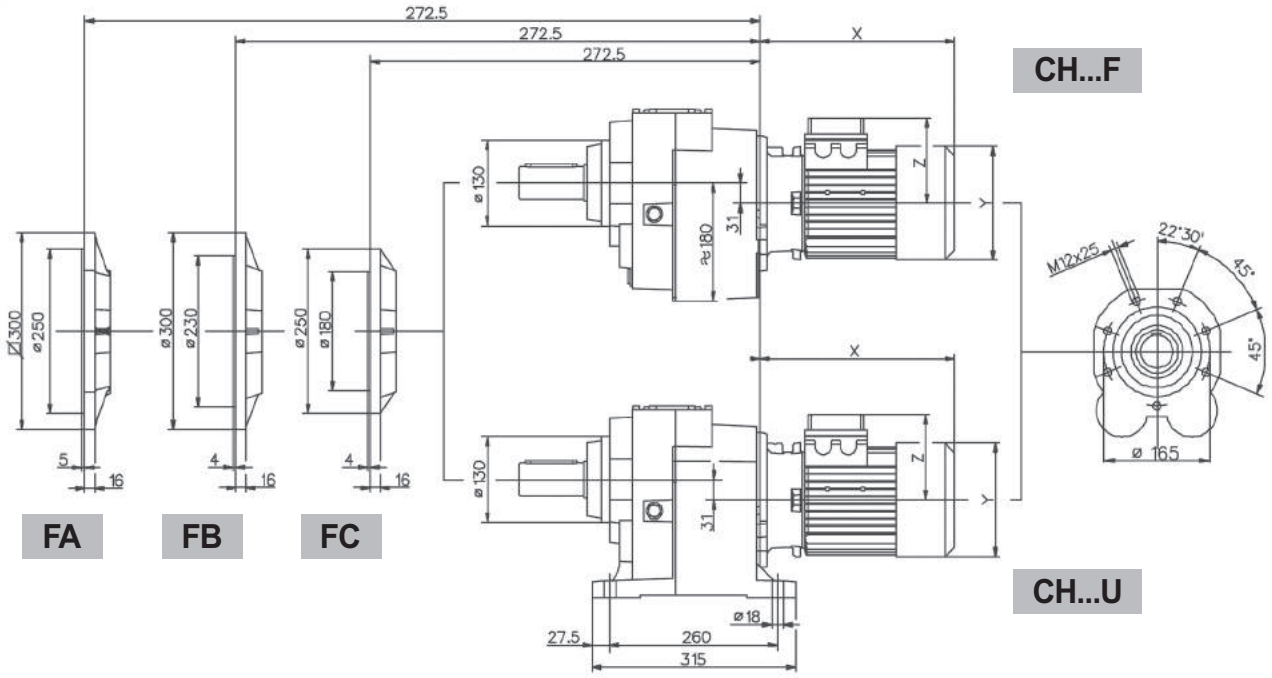


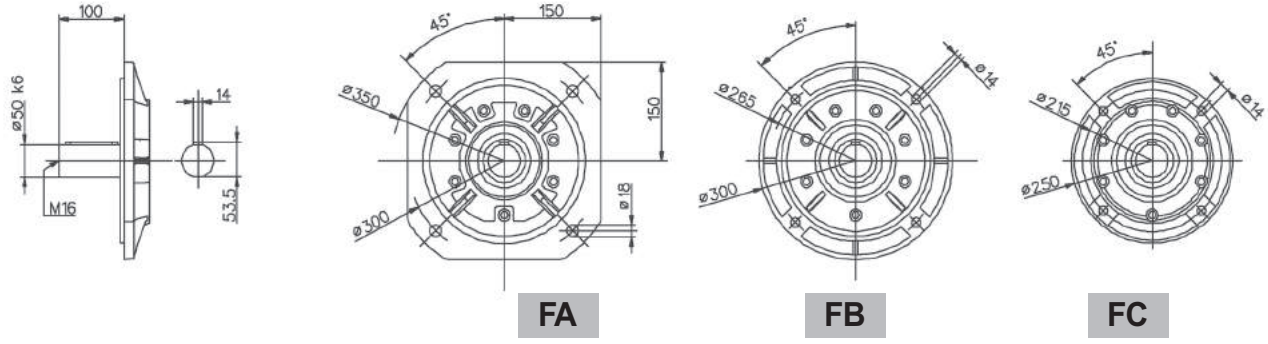
IH...F FA-FB-FC

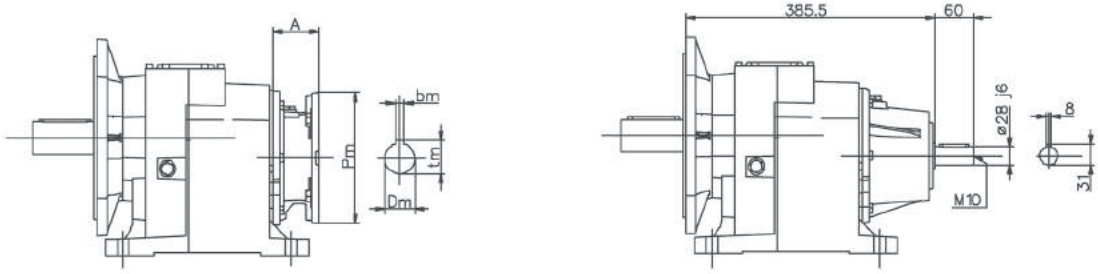
050	IH	PAM		표준모터 / Standard motor				브레이크 모터 / Brake motor			
	~ Kg	A	~ Kg	X	Y	Z	~ Kg	X	Y	Z	~ Kg
80	57,1	70	53,1	248	158	122	59,7	321	158	137	63,2
90s		70	53,1	276	173	130	62,1	353	173	130	67,6
90l		70	53,1	301	173	130	63,6	378	173	130	69,1
100		85	55,2	335	191	139	68,7	417	191	139	74,2
112		85	55,2	356	211	154	80,1	453	211	154	89,8
132s		110	57,2	396	249	194	94,1	495	249	194	104,4
132m		110	57,2	443	249	194	105,7	547	249	194	120,4
160s		158	64,5	522	310	244	–	–	–	–	–
160l		158	64,5	566	310	244	–	–	–	–	–

모터 연결부와 관련된 치수 (Pm. Dm. bm. tm)에 대해서는 285페이지를 참조 바람.
For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 285.

Dimensions / 치수 082/..3



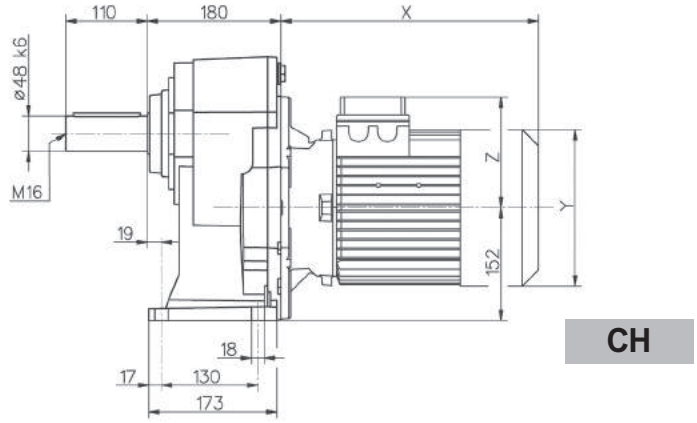




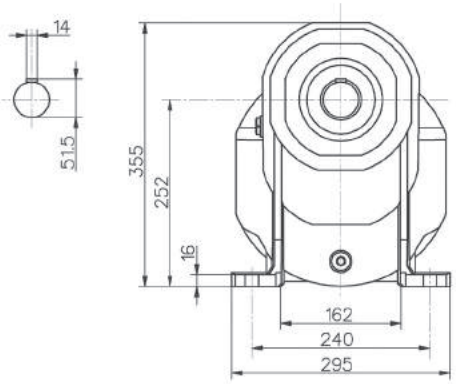
H...U FA-FB-FC

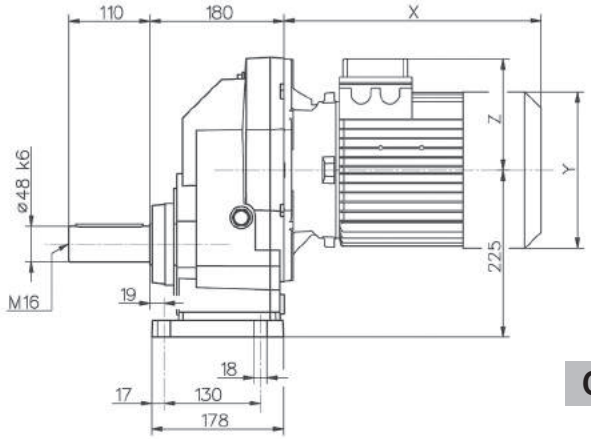
IH...U FA-FB-FC

101 치수 / Dimensions

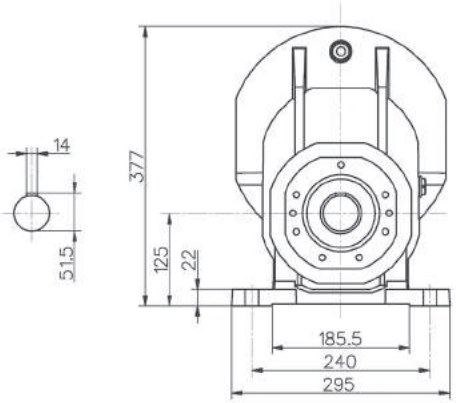


CH





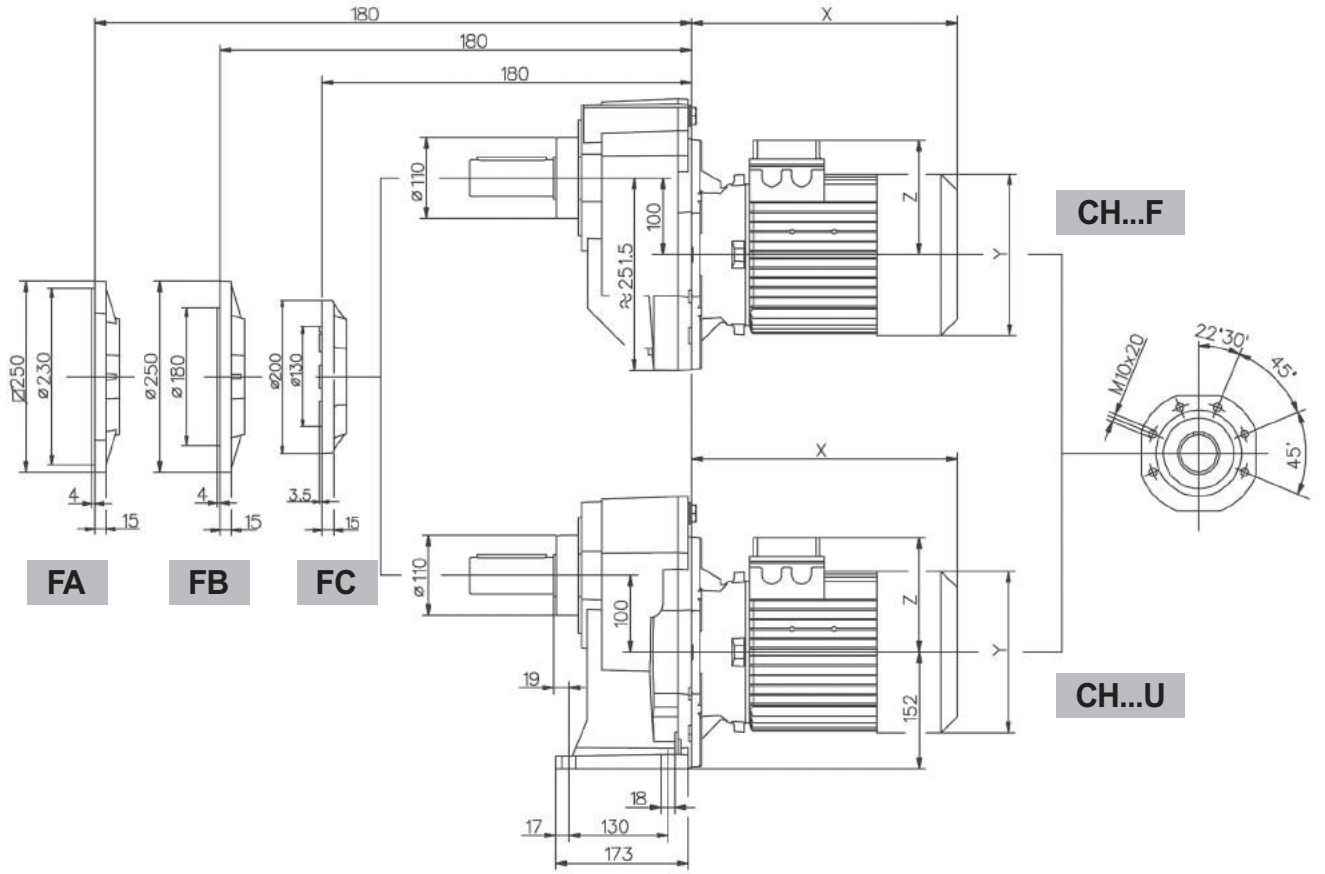
CH...M

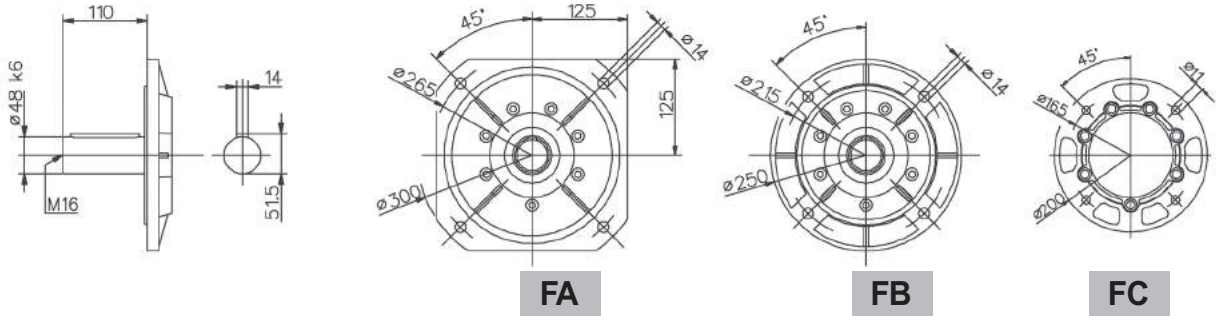


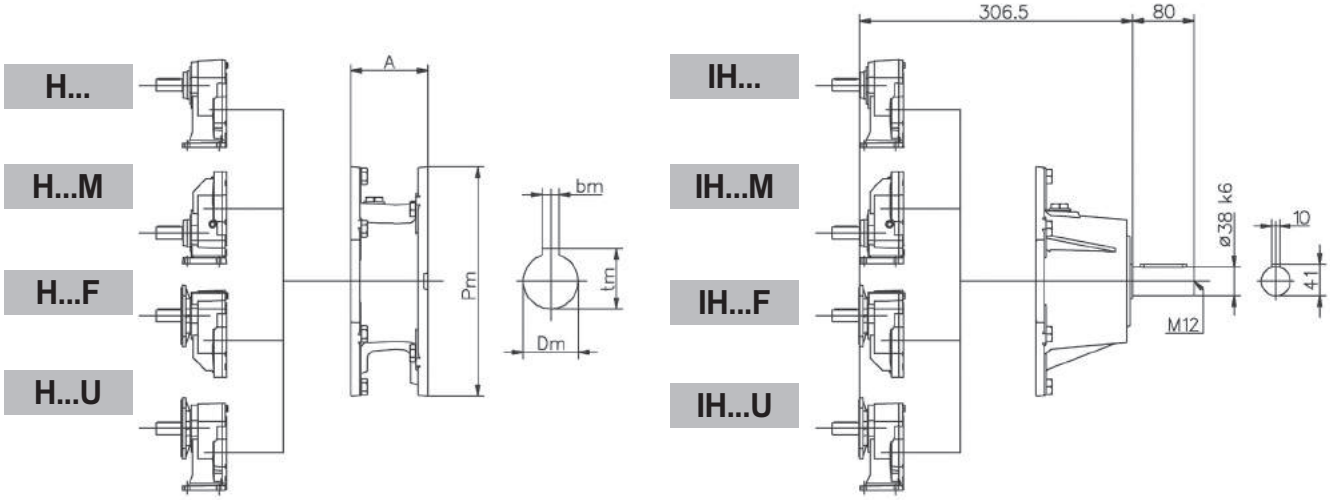
101	IH	PAM		표준모터 / Standard motor				브레이크 모터 / Brake motor			
	~ Kg	A	~ Kg	X	Y	Z	~ Kg	X	Y	Z	~ Kg
100	43,4	76	35,8	326	191	139	49,6	407	191	139	55
112		76	35,8	347	211	154	59,6	443	211	154	69,3
132s		101	38,6	386	249	194	74,6	485	249	194	85
132m		101	38,6	434	249	194	83,6	537	249	194	98,3
160s		148	44,6	540	310	244	–	–	–	–	–
160l		148	44,6	584	310	244	–	–	–	–	–
180		148	44,6	641	349	260	–	–	–	–	–

모터 연결부와 관련된 치수 (Pm, Dm, bm, tm)에 대해서는 285페이지를 참조 바람.
For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 285.

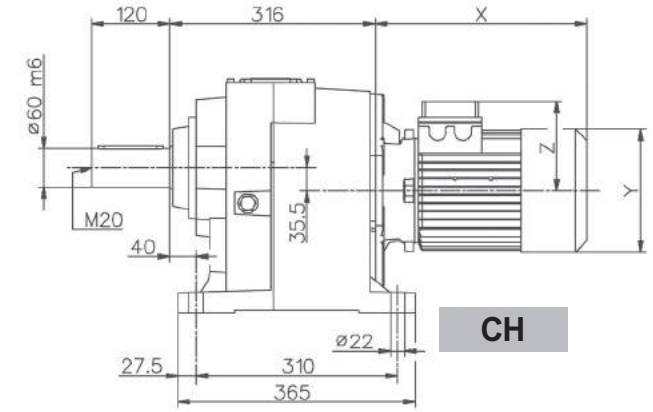
Dimensions / 치수 101



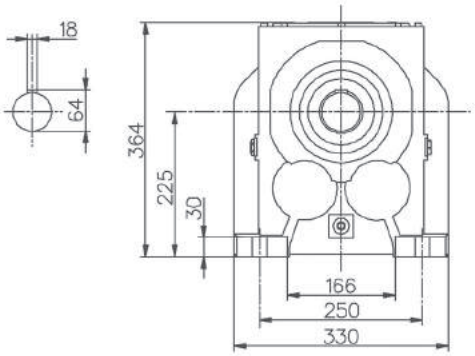


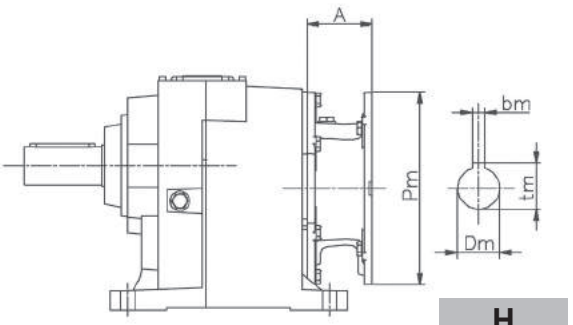


102/..3 치수 / Dimensions

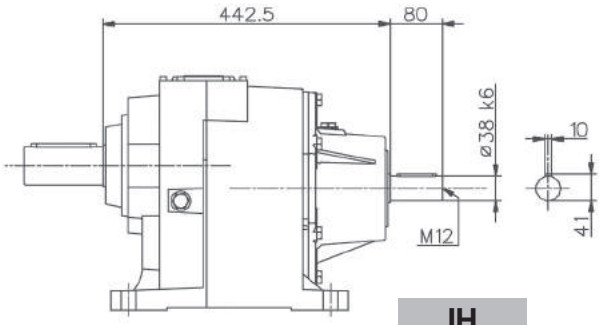


CH

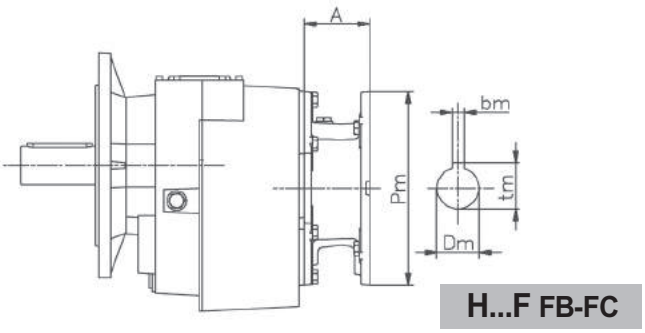




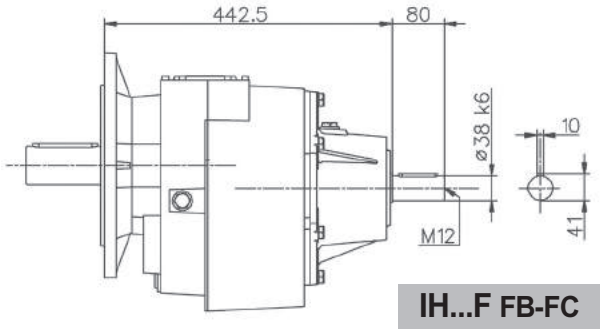
H



IH



H...F FB-FC

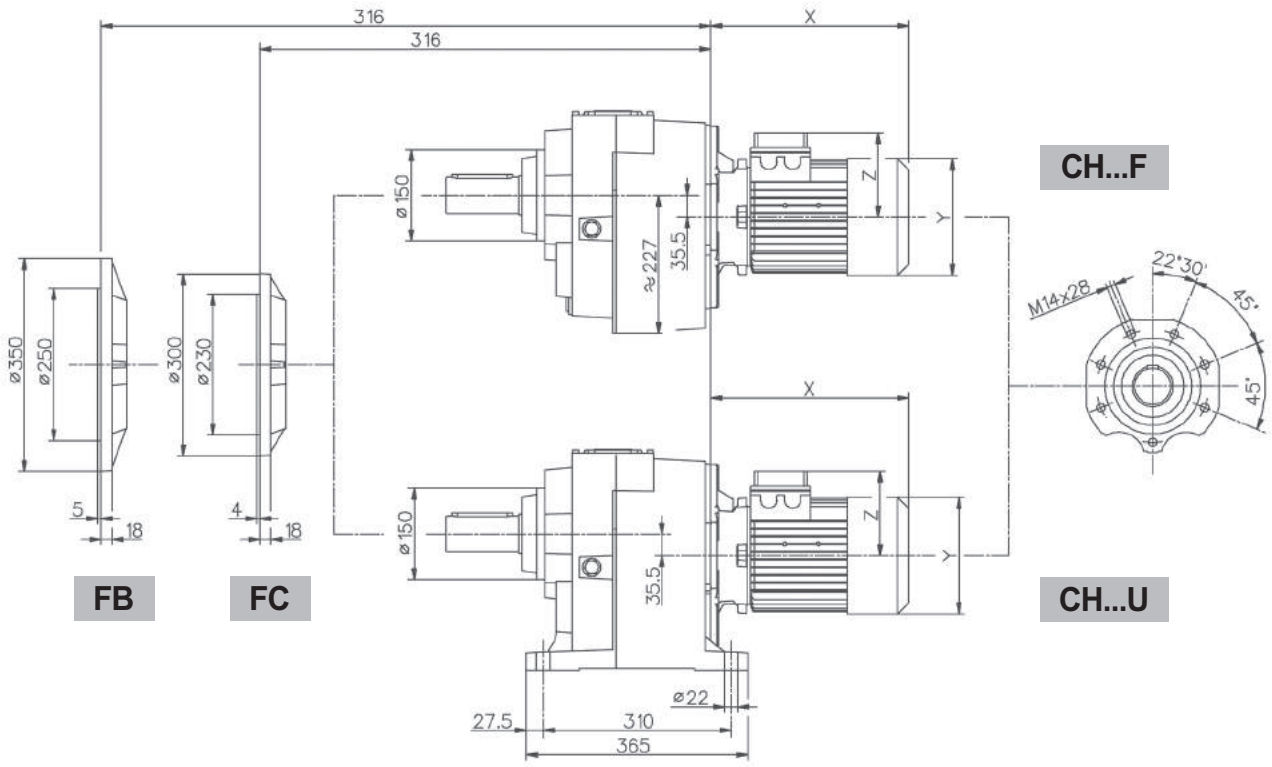


IH...F FB-FC

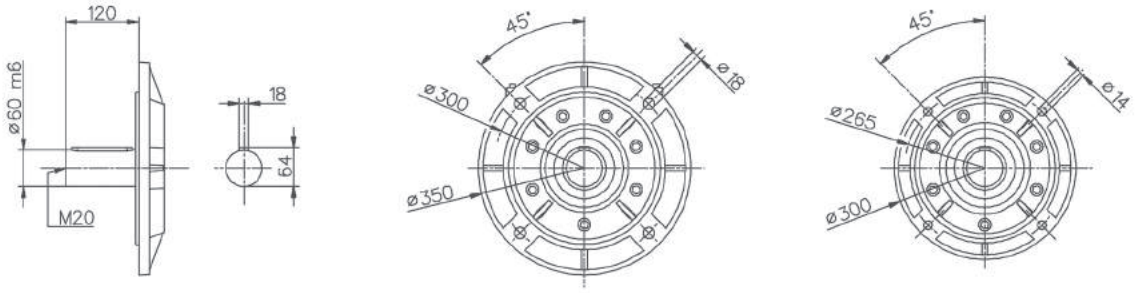
100	IH	PAM		표준모터 / Standard motor				브레이크 모터 / Brake motor			
	~ Kg	A	~ Kg	X	Y	Z	~ Kg	X	Y	Z	~ Kg
90s	94,7	61	84,8	267	173	130	93,8	343	173	130	99,4
90l		61	84,8	292	173	130	94,8	368	173	130	100,4
100		76	87,1	326	191	139	100,8	407	191	139	106,4
112		76	87,1	347	211	154	110,8	443	211	154	120,6
132s		101	89,9	386	249	194	125,8	485	249	194	136,2
132m		101	89,9	434	249	194	134,8	537	249	194	149,6
160s		148	95,9	540	310	244	–	–	–	–	–
160l		148	95,9	584	310	244	–	–	–	–	–
180		148	95,9	641	349	260	–	–	–	–	–

모터 연결부와 관련된 치수 (Pm, Dm, bm, tm)에 대해서는 285페이지를 참조 바람.
For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 285.

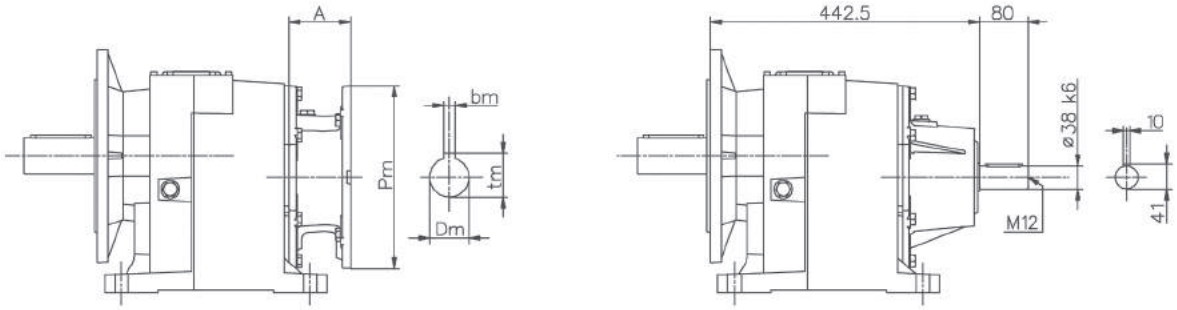
Dimensions / 치수 102/..3



FB **FC** **CH...F** **CH...U**

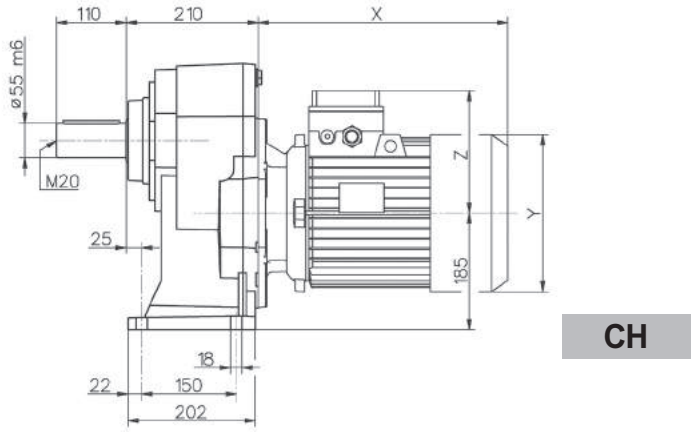


FB **FC**

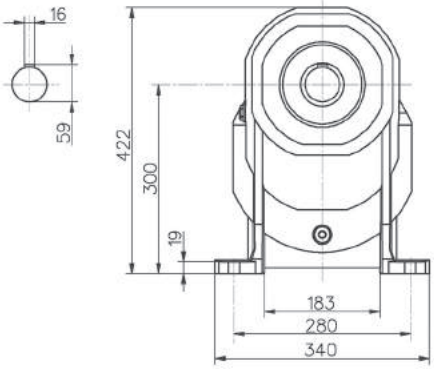


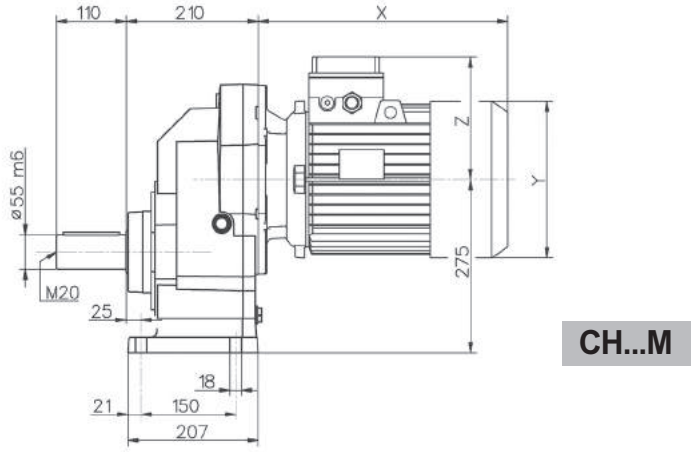
H...U FB-FC **IH...U FB-FC**

121 치수 / Dimensions

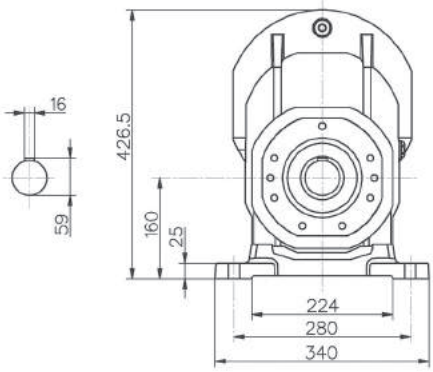


CH





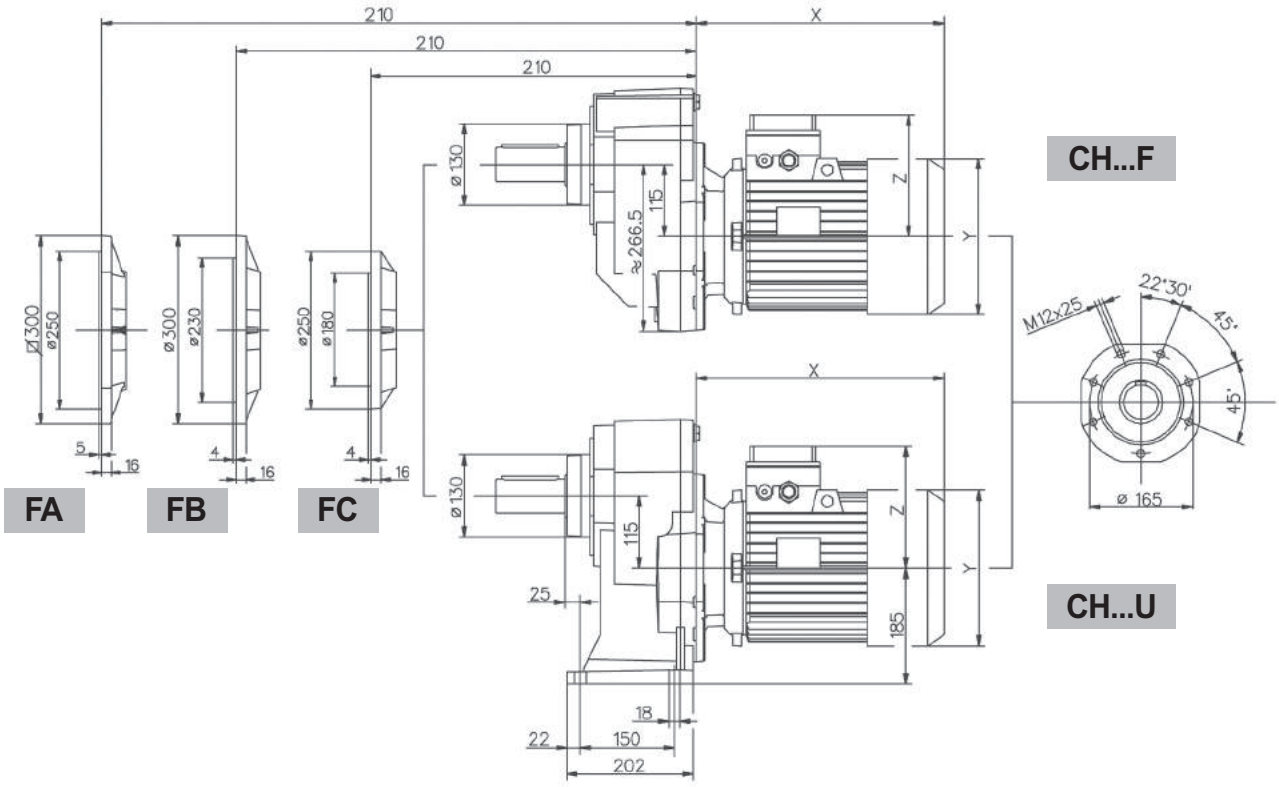
CH...M

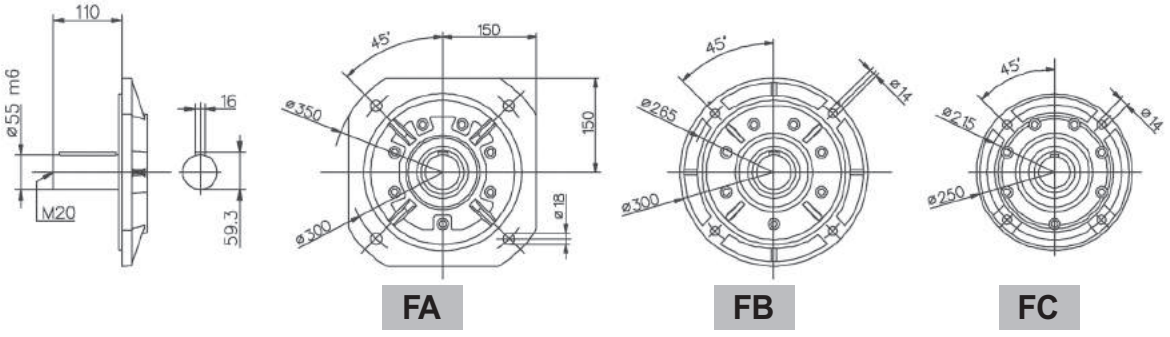


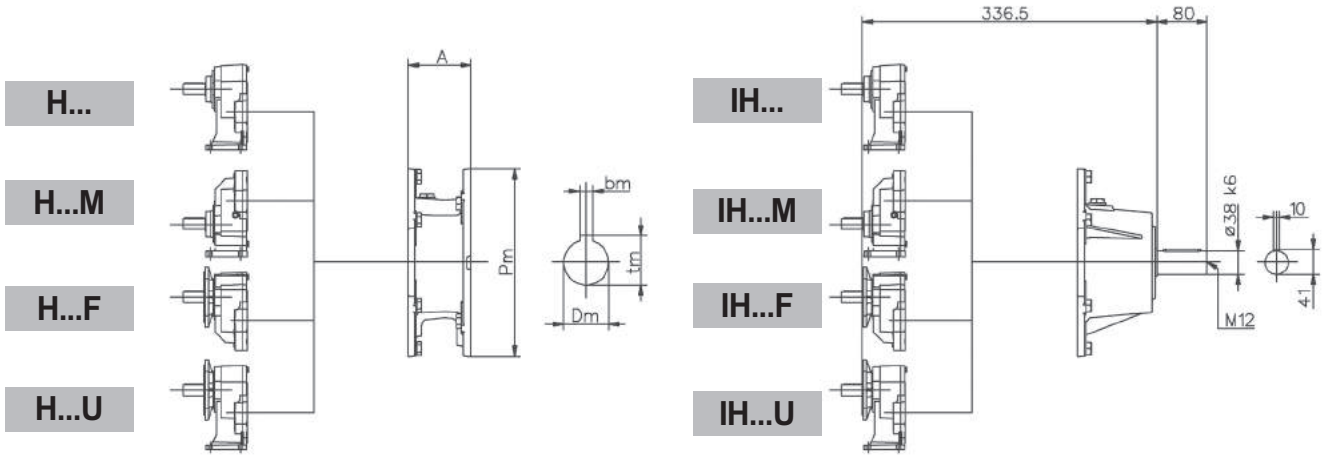
121	IH	PAM		표준모터 / Standard motor				브레이크 모터 / Brake motor			
	~ Kg	A	~ Kg	X	Y	Z	~ Kg	X	Y	Z	~ Kg
132s	45,8	101	41	386	249	194	77	485	249	194	87,3
132m		101	41	434	249	194	86	537	249	194	100,7
160s		148	47	540	310	244	–	–	–	–	–
160l		148	47	584	310	244	–	–	–	–	–
180		148	47	641	349	260	–	–	–	–	–
200		185	62	–	–	–	–	–	–	–	–

모터 연결부와 관련된 치수 (Pm, Dm, bm, tm)에 대해서는 285페이지를 참조 바람.
For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 285.

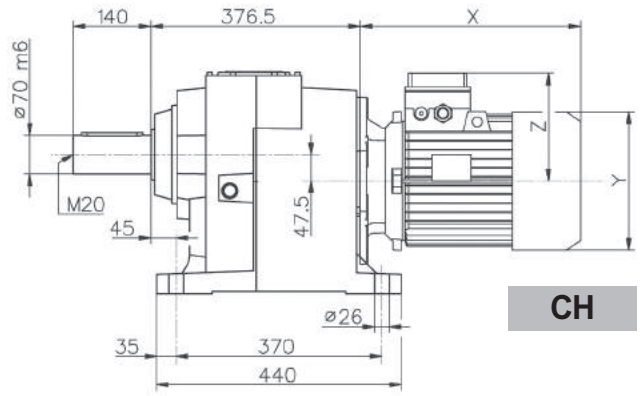
Dimensions / 치수 121



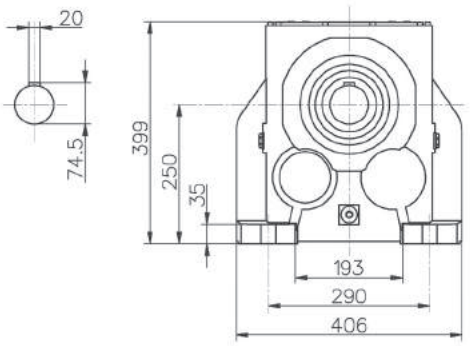


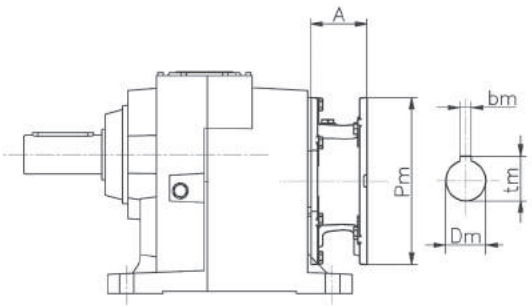


122/..3 치수 / Dimensions

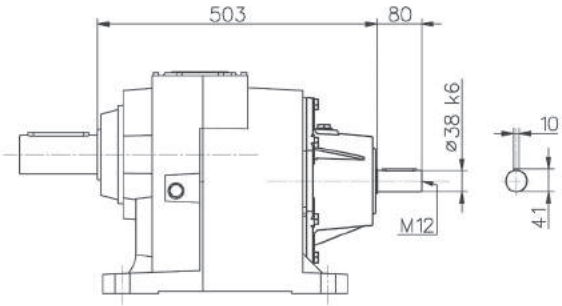


CH

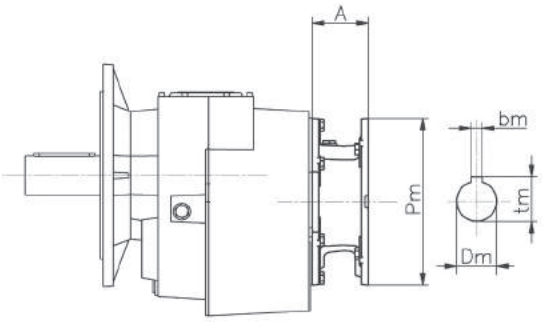




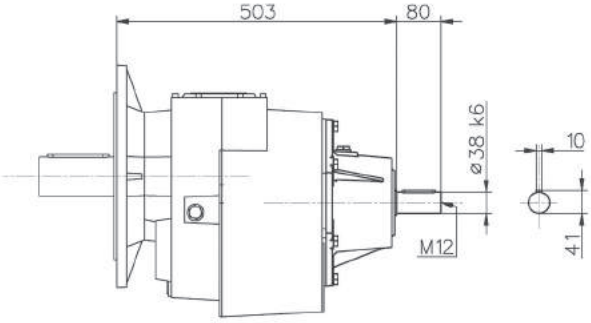
H



IH



H...F FB

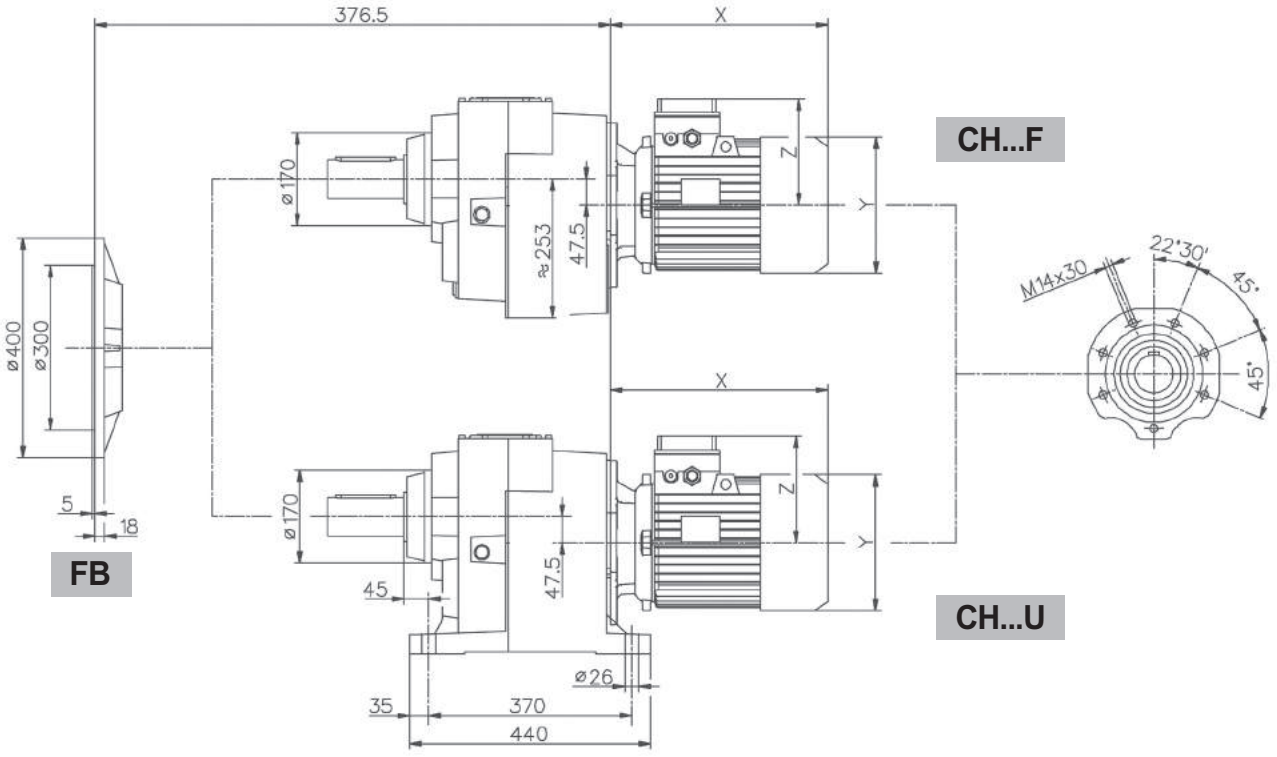


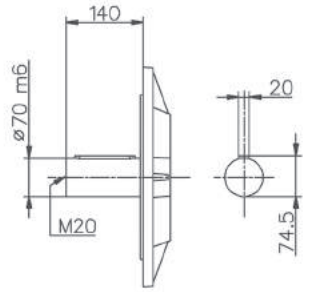
IH...F FB

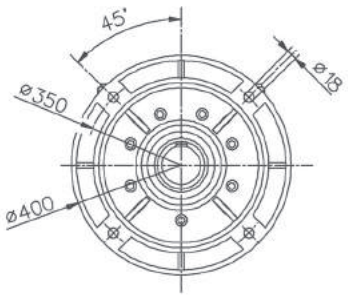
125	IH	PAM		표준모터 / Standard motor				브레이크 모터 / Brake motor			
	~ Kg	A	~ Kg	X	Y	Z	~ Kg	X	Y	Z	~ Kg
100	128,3	76	120,7	326	191	151	134,5	407	191	139	140
112		76	120,7	347	211	166	144,5	443	211	154	154,2
132s		101	123,5	386	249	206	159,5	485	249	194	169,8
132m		101	123,5	434	249	206	168,5	537	249	194	183,2
160s		148	129,5	540	310	256	–	–	–	–	–
160l		148	129,5	584	310	256	–	–	–	–	–
180		148	129,5	641	349	272	–	–	–	–	–
200		185	144,5	–	–	–	–	–	–	–	–

모터 연결부와 관련된 치수 (Pm, Dm, bm, tm)에 대해서는 285페이지를 참조 바람.
For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 285.

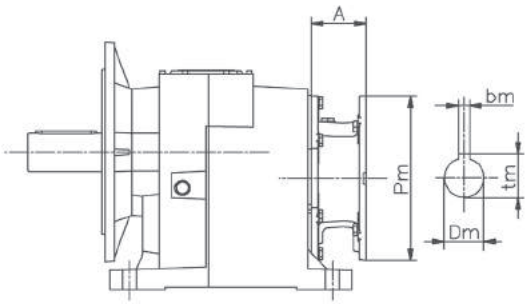
Dimensions / 치수 122/..3



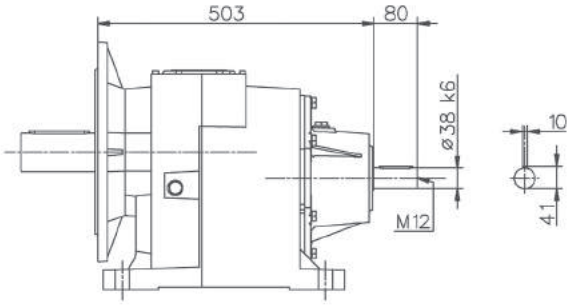




FB

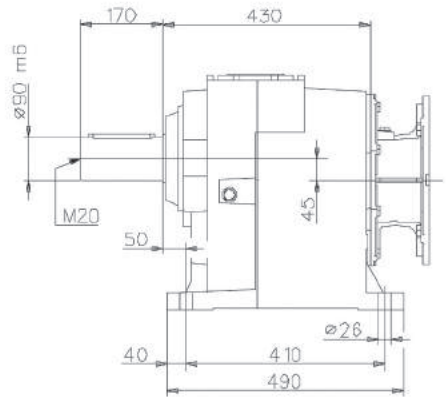


H...U FB

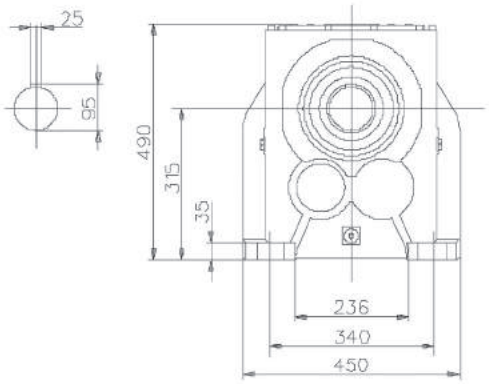


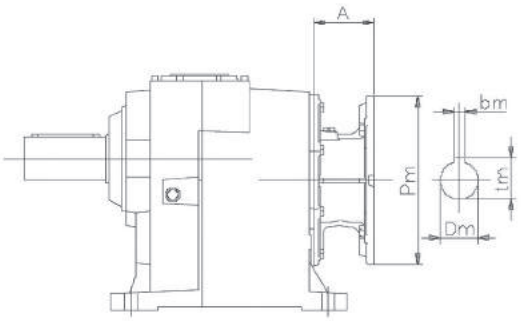
IH...U FB

142/..3 치수 / Dimensions

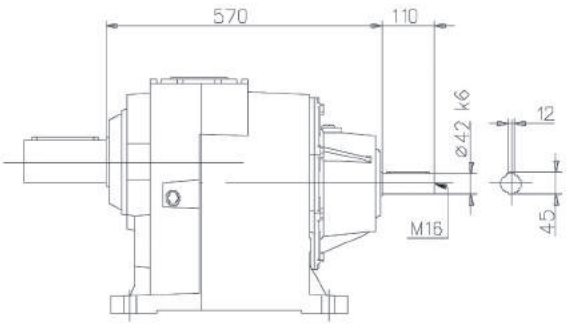


H

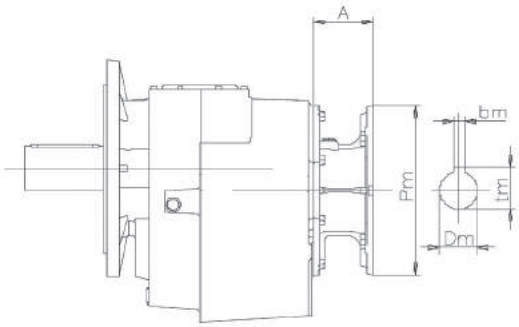




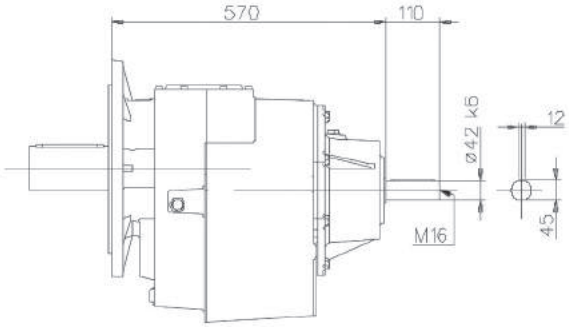
H



IH



H...F FB-FC

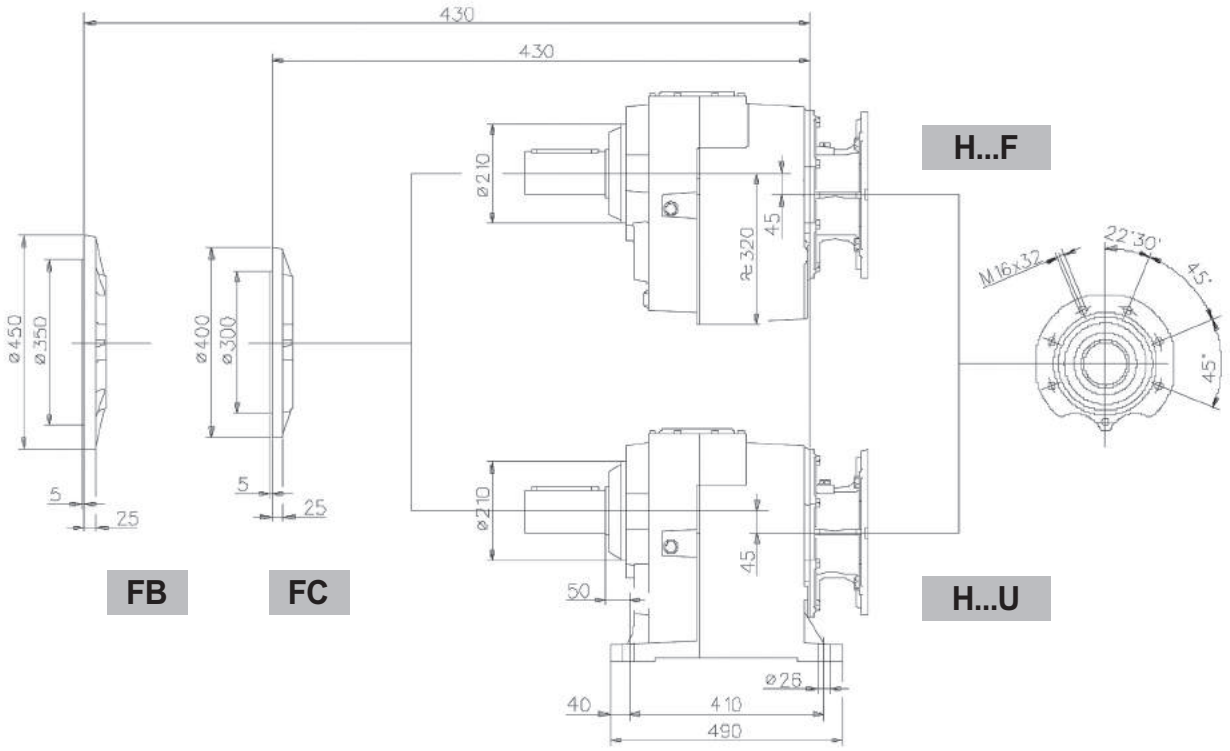


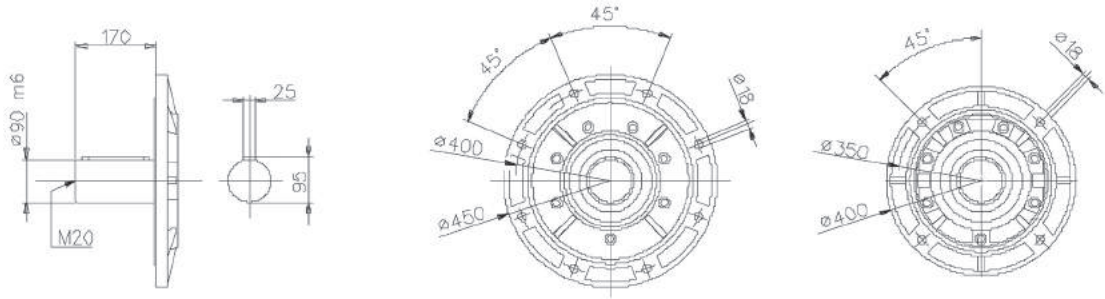
IH...F FB-FC

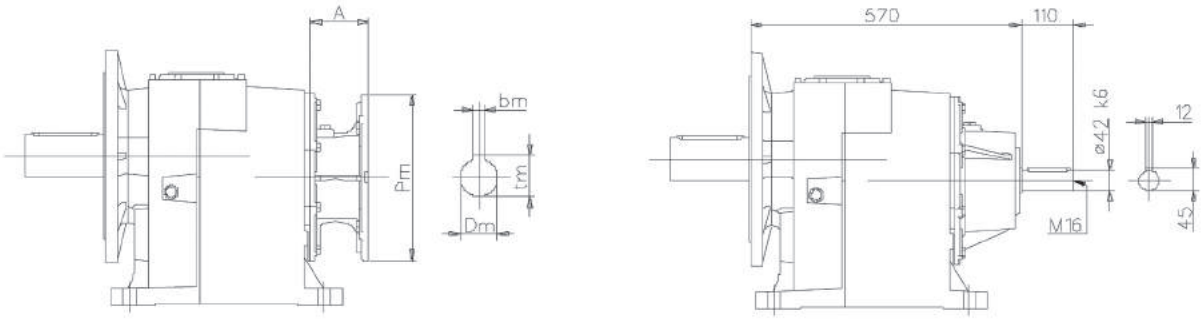
140	IH	PAM		표준모터 / Standard motor				브레이크 모터 / Brake motor			
	~ Kg	A	~ Kg	X	Y	Z	~ Kg	X	Y	Z	~ Kg
132s	212,2	76	197,1	–	–	–	–	–	–	–	–
132m		76	197,1	–	–	–	–	–	–	–	–
160s		124	205	–	–	–	–	–	–	–	–
160l		124	205	–	–	–	–	–	–	–	–
180		124	205	–	–	–	–	–	–	–	–
200		161	219,2	–	–	–	–	–	–	–	–
225		161	221	–	–	–	–	–	–	–	–

모터 연결부와 관련된 치수 (Pm, Dm, bm, tm)에 대해서는 285페이지를 참조 바람.
For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 285.

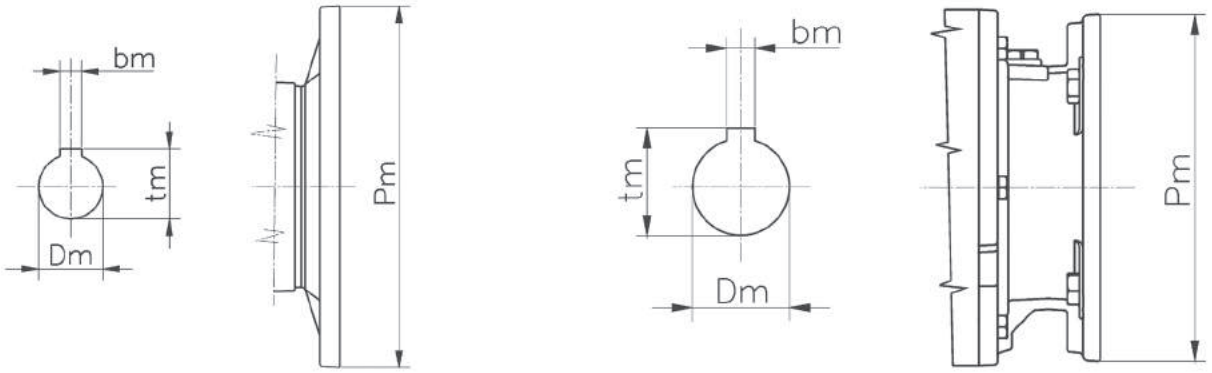
Dimensions / 치수 142/..3





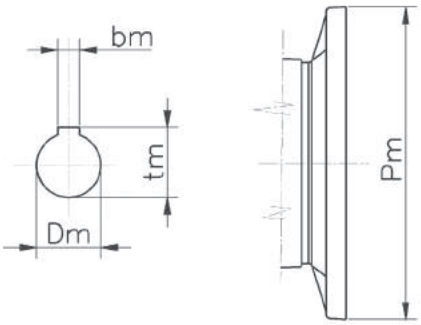


Dimensions / 치수 - PAM B5



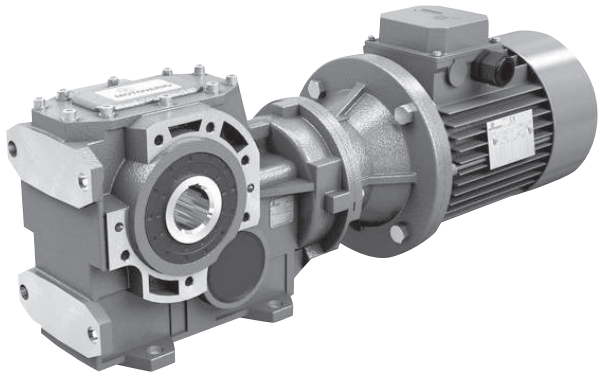
B5	IEC										
	063	071	080	090	100	112	132	160	180	200	225
Pm	140	160	200	200	250	250	300	350	350	400	450
Dm	11	14	19	24	28	28	38	42	48	55	60
bm	4	5	6	8	8	8	10	12	14	16	18
tm	12,8	16,3	21,8	27,3	31,3	31,3	41,3	45,3	51,8	59,3	64,4

Dimensions / 치수 - PAM B14



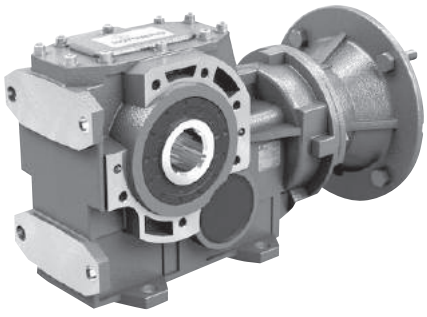
B14	IEC						
	056	063	071	080	090	100	112
Pm	80	90	105	120	140	160	160
Dm	9	11	14	19	24	28	28
bm	3	4	5	6	8	8	8
tm	10,4	12,8	16,3	21,8	27,3	31,3	31,3

B SERIES

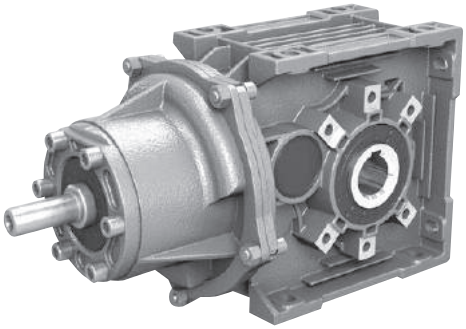


CB

헬리컬 베벨 기어드 모터와 기어 유니트
Helical bevel geared motors and gear units



B

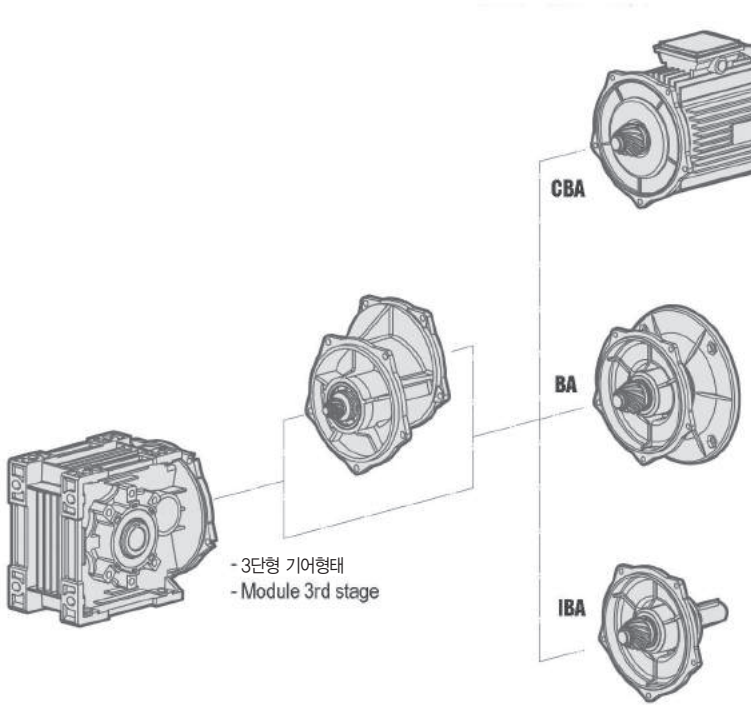


IB

MOTOVARIO®
HEART OF MOTION
a TECO Group company

모듈방식 / Modularity

BA 알루미늄 시리즈 / Aluminium alloy series. /

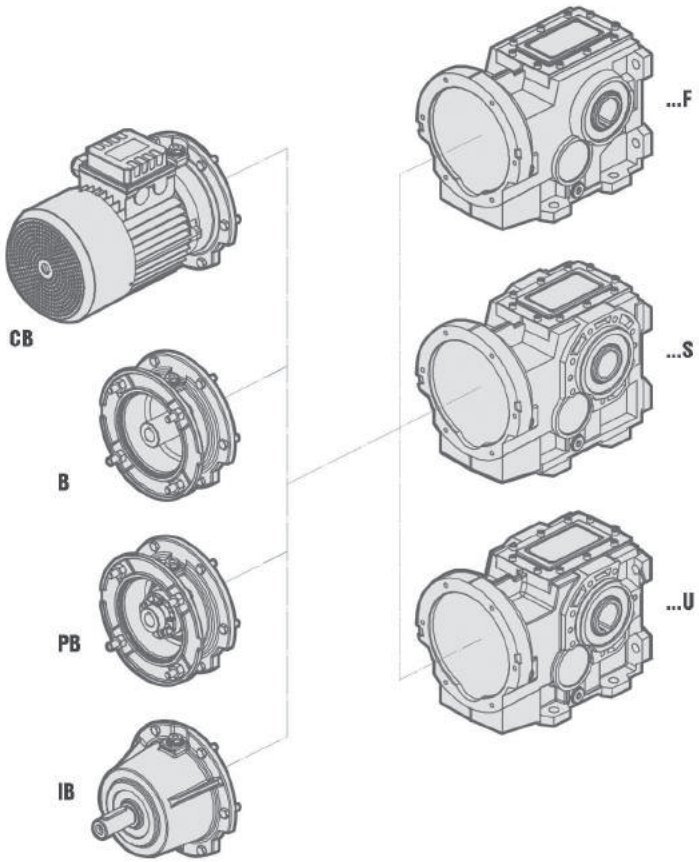


CBA - 모터 일체형
- Compact electric motor versions.

BA - I.E.C 플랜지 모터 취부형
- Fitted for motor coupling version (PAM).

IBA - 입력 샤프트형
- Input shaft versions.

B 주철 시리즈 / Grey cast iron series.



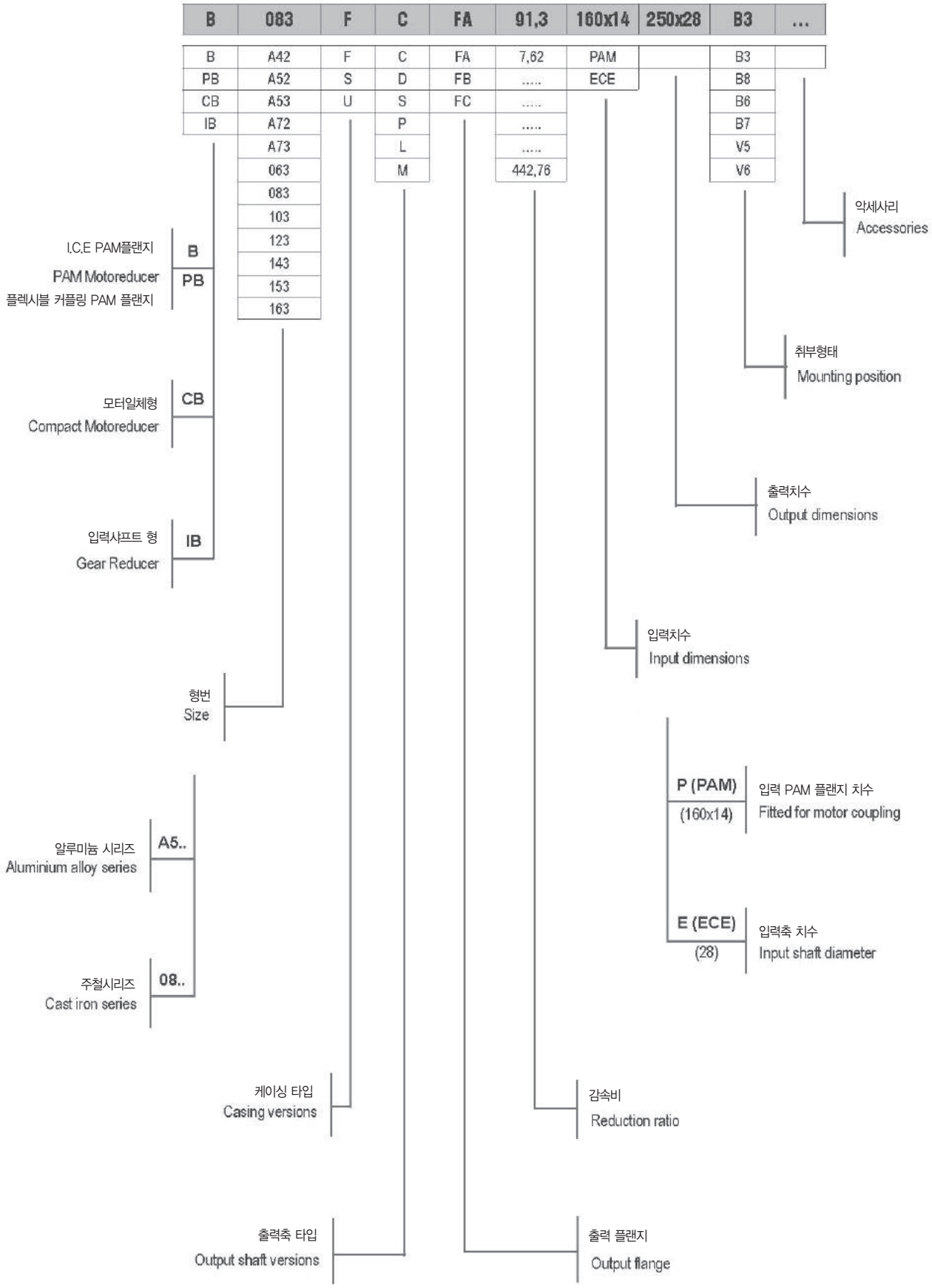
CB - 모터 일체형
- Compact electric motor versions.

B - I.E.C 플랜지 모터 취부형
- Fitted for motor coupling version (PAM).

PB - 플렉시블 커플링 형
- Fitted for motor mounting with flexible coupling.

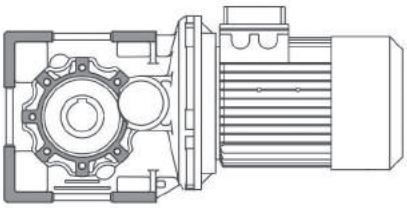
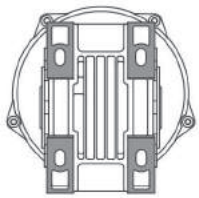
IB - 입력 샤프트형
- Input shaft versions.

모델형식 / Designation

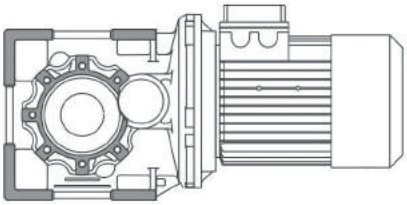
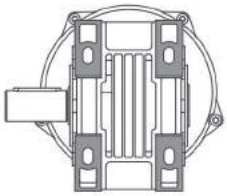


버전 / Versions

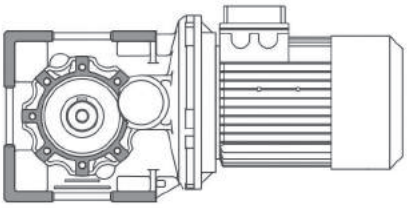
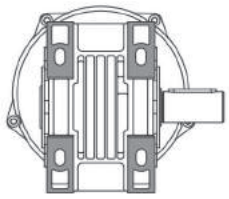
A40 - A50 - A70

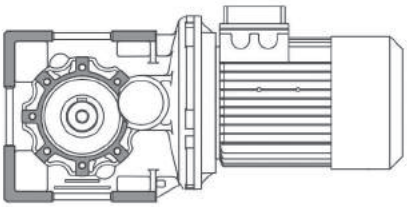
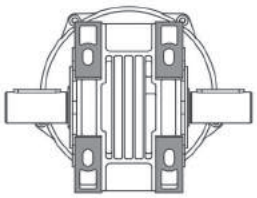
B ... C
- 풋 마운트/중공축
- Foot mounting / hollow shaft.

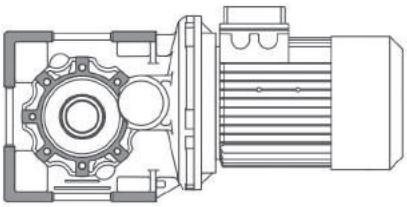
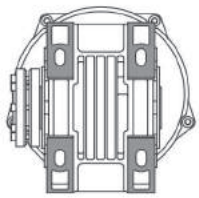
B ... D
- 풋 마운트/중실축 – 왼쪽(D)
- Foot mounting / D solid shaft.

B ... S
- 풋 마운트/중실축 – 오른쪽(S)
- Foot mounting / S solid shaft.

B ... P
- 풋 마운트/중실축 – 양축형
- Foot mounting / double output shaft.

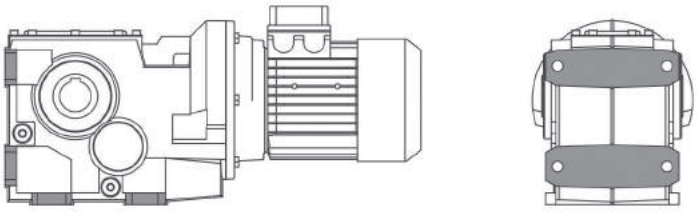



B ... L
- 풋 마운트/샤링크 디스크
- Foot mounting /shrink disc shaft.

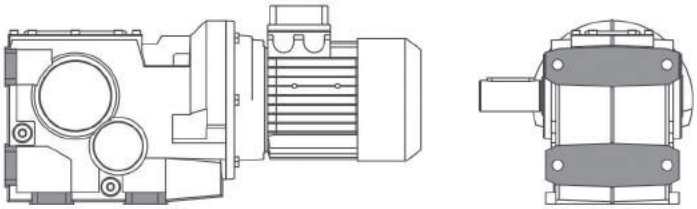
- NB. 감속기 형번 A042–A052–A053은 D–S–P형태로 사용할 수 없음.
- N.B. sizes A42 - A52 - A53 are not available in versions D-S-P.

버전 / Versions

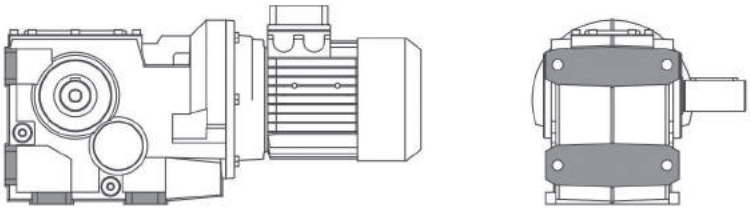
063 - 083 - 103 - 123



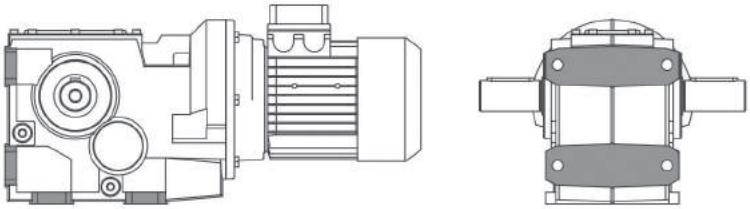
B ... FC
- 풋 마운트 – 중공축
- Foot mounting / hollow shaft.



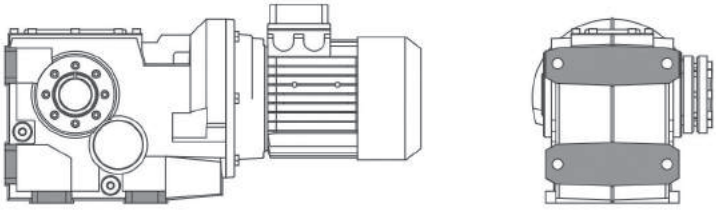
B ... FD
- 풋 마운트 – 중실축 – 왼쪽(D)
- Foot mounting / D solid shaft.



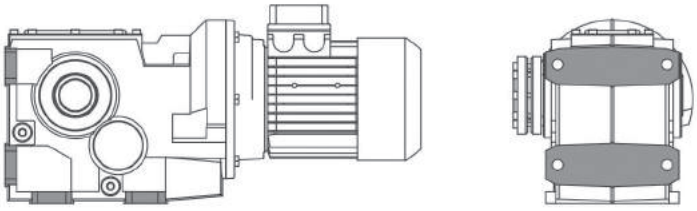
B ... FS
- 풋 마운트 – 중실축 – 오른쪽(S)
- Foot mounting / S solid shaft.



B ... FP
- 풋 마운트 – 중실축 – 양축형
- Foot mounting / double output shaft.



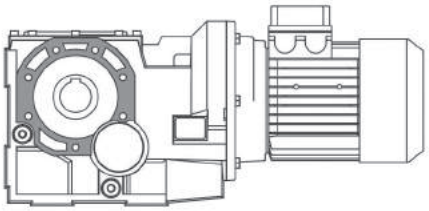
B ... FL
- 풋 마운트 / 샤링크디스크 – 오른쪽(L)
- Foot mounting / shrink disc shaft.



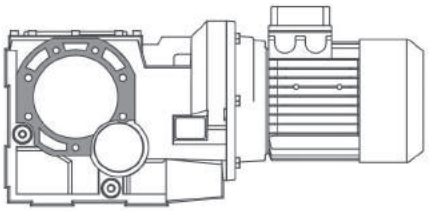
B ... FM
- 풋 마운트 / 샤링크디스크 – 왼쪽(M)
- Foot mounting / shrink disc shaft.

버전 / Versions

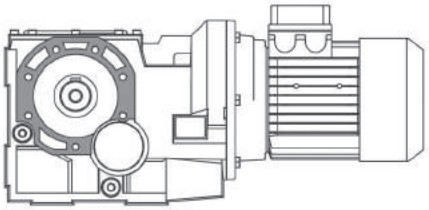
063 - 083 - 103 - 123



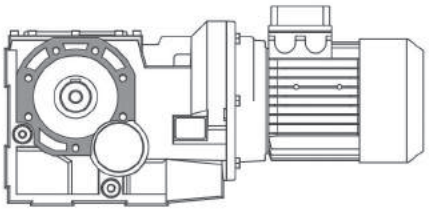
B ... SC
- 플랜지 마운트/중공축
- Flange mounting / hollow shaft.



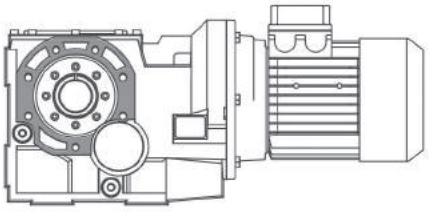
B ... SD
- 플랜지 마운트/중실축-왼쪽(D)
- Flange mounting / D solid shaft.



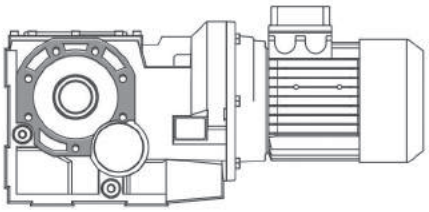
B ... SS
- 플랜지 마운트/중실축-오른쪽(S)
- Flange mounting / S solid shaft.



B ... SP
- 플랜지 마운트/중실축-양축형
- Flange mounting / double output shaft.



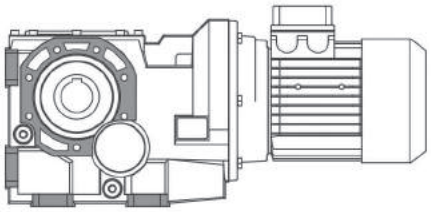
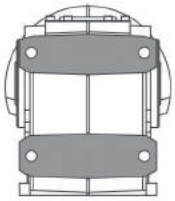
B ... SL
- 플랜지 마운트/샤링크 디스크-오른쪽(L)
- Flange mounting / shrink disc shaft.



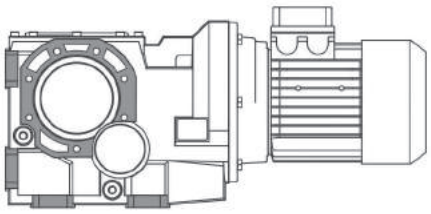
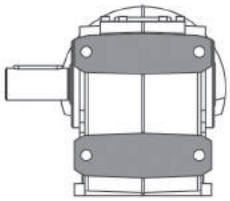
B ... SM
- 플랜지 마운트/샤링크 디스크-왼쪽(M)
- Flange mounting / shrink disc shaft.

버전 / Versions

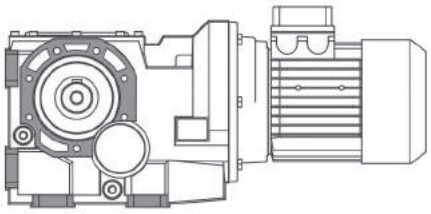
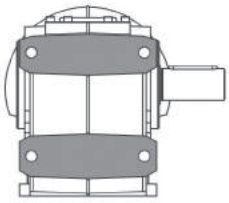
063 - 083 - 103 - 123 - 143 - 153 - 163

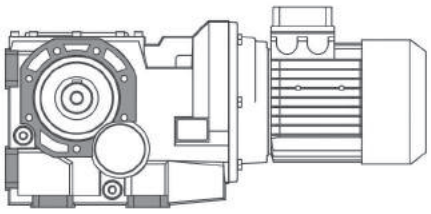
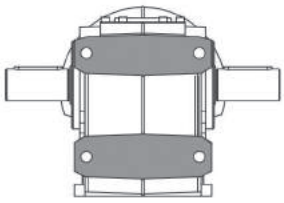
B ... UC
- 풋-플랜지 마운트/중공축
- Foot-flange mounting / hollow shaft.

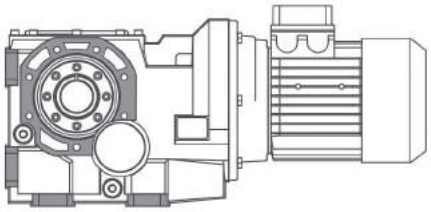
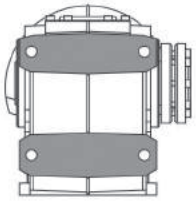
B ... UD
- 풋-플랜지 마운트/중실축-왼쪽(D)
- Foot-flange mounting / D solid shaft.

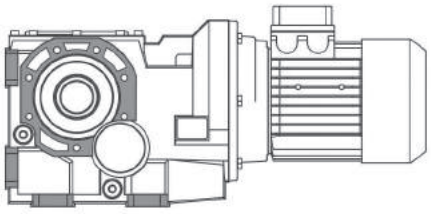
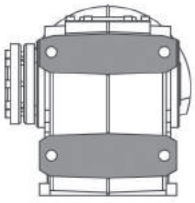
B ... US
- 풋-플랜지 마운트/중실축-오른쪽(S)
- Foot-flange mounting / S solid shaft.

B ... UP
- 풋-플랜지 마운트/중실축-양축형
- Foot-flange mounting / double output shaft.

B ... UL
- 풋-플랜지 마운트/사링크 디스크-오른쪽(L)
- Foot-flange mounting / shrink disc shaft.

B ... UM
- 풋-플랜지 마운트/사링크 디스크-왼쪽(M)
- Foot-flange mounting / shrink disc shaft.

감속비에 따른 모터 취부 분류 / Predisposition

CB...A40 - A50 - A70

	i	063	071	080	090	100	112
CB A42	7,62 ÷ 64,13	B10	B10	B10			
CB A42	78,17	B10	B10				
CB A52	7,91 ÷ 31,63	B10	B10	B10	B10		
CB A52	35,1 ÷ 64,87	B10	B10	B10			
CB A52	79,07	B10	B10				
CB A53	73,7 ÷ 172,53	B10	B10	B10	B10		
CB A53	197,11 ÷ 342,65	B10	B10				
CB A72	8,36 ÷ 22,19				B10	B10	B10
CB A72	27,45 ÷ 40,87			B10	B10	B10	B10
CB A72	45,64 ÷ 67,96			B10	B10		
CB A73	43,89 ÷ 222,93	B10	B10	B10	B10		
CB A73	260,2 ÷ 442,76	B10	B10				

B...A40 - A50 - A70

	i	063	071	080	090	100	112
BA42	7,62 ÷ 64,13	B5	B5-B14	B5 - B14			
BA42	78,17	B5	B5-B14				
BA52	7,91 ÷ 31,63	B5	B5-B14	B5-B14	B5-B14		
BA52	35,1 ÷ 64,87	B5	B5-B14	B5-B14			
BA52	79,07	B5	B5-B14				
BA53	73,7 ÷ 172,53	B5	B5-B14	B5-B14	B5-B14		
BA53	197,11 ÷ 342,65	B5	B5-B14				
BA72	8,36 ÷ 22,19				B5-B14	B5-B14	B5-B14
BA72	27,45 ÷ 40,87			B5-B14	B5-B14	B5-B14	B5-B14
BA72	45,64 ÷ 67,96			B5-B14	B5-B14		
BA73	43,89 ÷ 222,93	B5	B5-B14	B5-B14	B5-B14		
BA73	260,2 ÷ 442,76	B5	B5-B14				

- B = 10 특수 모터(감속기 모터 일체형)
- Motor with special execution
- 테이블 표에 표시된것은 모두 가능함. 단, 안전계수를 필히 확인하시기 바람.
- Teses tables report all possible dimensions, Please verify service factor.

감속비에 따른 모터 취부 분류 / Predisposition

CB - B - PB ...063

i	063	071	080	90	100-112
5.71			B5-B11	B5-B11	B5-B11
6.88			B5-B11	B5-B11	B5-B11
7.32		B5-B11	B5-B11	B5-B11	B5-B11
9.16			B5-B11	B5-B11	B5-B11
10.26			B5-B11	B5-B11	B5-B11
11.03			B5-B11	B5-B11	B5-B11
12.35			B5-B11	B5-B11	B5-B11
13.15		B5-B11	B5-B11	B5-B11	B5-B11
15.18		B5-B11	B5-B11	B5-B11	B5-B11
17.00		B5-B11	B5-B11	B5-B11	B5-B11
22.39		B5-B11	B5-B11	B5-B11	B5-B11
26.09			B5-B11	B5-B11	B5-B11
28.03			B5-B11	B5-B11	B5-B11
33.43		B5-B11	B5-B11	B5-B11	B5-B11
38.58		B5-B11	B5-B11	B5-B11	B5-B11
43.22		B5-B11	B5-B11	B5-B11	B5-B11
50.81		B5-B11	B5-B11	B5-B11	B5-B11
56.93		B5-B11	B5-B11	B5-B11	B5-B11
69.16	B5-B11	B5-B11	B5-B11	B5-B11	
77.48	B5-B11	B5-B11	B5-B11	B5-B11	
90.33	B5-B11	B5-B11	B5-B11		
101.20	B5-B11	B5-B11	B5-B11		
111.74	B5-B11	B5-B11	B5-B11		
124.20	B5-B11	B5-B11	B5-B11		
139.15	B5-B11	B5-B11	B5-B11		
157.42	B5-B11	B5-B11	B5-B11		

CB - B - PB ...083

i	080	090	100	112	132
7.81	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
8.62	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
10.49	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
11.59	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
14.43	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
16.60	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
18.32	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
22.82	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
265.71	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
29.50	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
31.80	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
34.49	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
39.60	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
42.95	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
45.44	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
51.19	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
55.52	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
59.96	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
63.74	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
69.14	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
73.14	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
80.76	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
92.19	B5-B11	B5-B11	B5-B11	B5-B11	
100.57	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
105.29	B5-B11	B5-B11	B5-B11	B5-B11	
116.25	B5-B11	B5-B11	B5-B11	B5-B11	
126.76	B5-B11	B5-B11	B5-B11	B5-B11	
144.77	B5-B11	B5-B11	B5-B11	B5-B11	

- B = 11 특수 모터(감속기 모터 일체형)
- Motor with special execution
- 테이블 표에 표시된것은 모두 가능함. 단, 안전계수를 필히 확인하시기 바람.
- Teses tables report all possible dimensions, Please verify service factor.

감속비에 따른 모터 취부 분류 / Predisposition

CB - B - PB ...103

i	080	090	100	112	132	160
8.13	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	B5
8.97	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	B5
10.92	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	B5
12.05	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	B5
14.99	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	B5
17.27	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	B5
19.06	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	B5
23.70	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	B5
26.51	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	B5
30.55	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	B5
33.07	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
35.87	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
41.12	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
44.61	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
47.28	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
50.24	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
53.02	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
58.50	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
64.89	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
68.58	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
72.76	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
78.92	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
83.66	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
92.31	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
105.44	B5-B11	B5-B11	B5-B11	B5-B11		
114.80	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
120.42	B5-B11	B5-B11	B5-B11	B5-B11		
132.87	B5-B11	B5-B11	B5-B11	B5-B11		
144.69	B5-B11	B5-B11	B5-B11	B5-B11		
165.25	B5-B11	B5-B11	B5-B11	B5-B11		

CB - B - PB ...123

i	080	090	100	112	132	160
7.97				B5-B11	B5	B5
9.62				B5-B11	B5	B5
10.33				B5-B11	B5	B5
12.48				B5-B11	B5	B5
13.84				B5-B11	B5	B5
15.38				B5-B11	B5	B5
18.58				B5-B11	B5	B5
20.61				B5-B11	B5	B5
22.78				B5-B11	B5	B5
25.89		B5-B11	B5-B11	B5-B11	B5	B5
27.51				B5-B11	B5	B5
30.79				B5-B11	B5	B5
31.26		B5-B11	B5-B11	B5-B11	B5	B5
34.68		B5-B11	B5-B11	B5-B11	B5	B5
40.53		B5-B11	B5-B11	B5-B11	B5	B5
44.89		B5-B11	B5-B11	B5-B11	B5	B5
49.80		B5-B11	B5-B11	B5-B11	B5	B5
54.30		B5-B11	B5-B11	B5-B11	B5	B5
59.36		B5-B11	B5-B11	B5-B11	B5	B5
62.59		B5-B11	B5-B11	B5-B11	B5	B5
69.43		B5-B11	B5-B11	B5-B11	B5	B5
74.42		B5-B11	B5-B11	B5-B11	B5	B5
80.04	B5-B11	B5-B11	B5-B11	B5-B11		
89.87		B5-B11	B5-B11	B5-B11	B5	B5
99.70		B5-B11	B5-B11	B5-B11	B5	B5
106.65	B5-B11	B5-B11	B5-B11	B5-B11		
119.60	B5-B11	B5-B11	B5-B11	B5-B11		
129.96	B5-B11	B5-B11	B5-B11	B5-B11		
144.43	B5-B11	B5-B11	B5-B11	B5-B11		
160.23	B5-B11	B5-B11	B5-B11	B5-B11		
180.40	B5-B11	B5-B11	B5-B11	B5-B11		

- B = 11 특수 모터(감속기 모터 일체형)
- Motor with special execution
- 테이블 표에 표시된것은 모두 가능함. 단, 안전계수를 필히 확인하시기 바람.
- Teses tables report all possible dimensions, Please verify service factor.

감속비에 따른 모터 취부 분류 / Predisposition

CB - B - PB ...143

i	100	112	160	160	180	200
10.84			B5-B11	B5	B5	B5
11.67			B5-B11	B5	B5	B5
14.49			B5-B11	B5	B5	B5
17.04			B5-B11	B5	B5	B5
18.66			B5-B11	B5	B5	B5
21.00			B5-B11	B5	B5	B5
22.77			B5-B11	B5	B5	B5
25.63			B5-B11	B5	B5	B5
27.44	B5-B11	B5-B11	B5-B11	B5	B5	B5
30.05	B5-B11	B5-B11	B5-B11	B5	B5	B5
33.01			B5-B11	B5	B5	B5
36.67	B5-B11	B5-B11	B5-B11	B5	B5	B5
40.29			B5-B11	B5	B5	B5
44.16	B5-B11	B5-B11	B5-B11	B5	B5	B5
48.35	B5-B11	B5-B11	B5-B11	B5	B5	B5
53.16	B5-B11	B5-B11	B5-B11	B5	B5	B5
54.63	B5-B11	B5-B11	B5-B11	B5	B5	B5
59.02	B5-B11	B5-B11	B5-B11	B5	B5	B5
64.88	B5-B11	B5-B11	B5-B11	B5	B5	B5
70.43	B5-B11	B5-B11	B5-B11	B5	B5	
77.12	B5-B11	B5-B11	B5-B11	B5	B5	
85.54	B5-B11	B5-B11	B5-B11	B5	B5	B5
94.13	B5-B11	B5-B11	B5-B11	B5	B5	
105.83	B5-B11	B5-B11	B5-B11			
111.94	B5-B11	B5-B11	B5-B11	B5	B5	
124.62	B5-B11	B5-B11	B5-B11	B5	B5	
136.44	B5-B11	B5-B11	B5-B11	B5	B5	
149.59	B5-B11	B5-B11	B5-B11	B5	B5	
166.53	B5-B11	B5-B11	B5-B11	B5	B5	
187.24	B5-B11	B5-B11	B5-B11			

B - PB ...153

i	132	160	180	200	225
10.40		B5	B5	B5	B5
12.64		B5	B5	B5	B5
143.01		B5	B5	B5	B5
15.40		B5	B5	B5	B5
18.56		B5	B5	B5	B5
20.56		B5	B5	B5	B5
23.86		B5	B5	B5	B5
25.19	B5	B5	B5	B5	B5
28.23	B5	B5	B5	B5	B5
30.35	B5	B5	B5	B5	B5
33.63	B5	B5	B5	B5	B5
35.02		B5	B5	B5	B5
38.81		B5	B5	B5	B5
42.30	B5	B5	B5	B5	B5
47.53	B5	B5	B5	B5	B5
50.56	B5	B5	B5	B5	B5
54.64	B5	B5	B5	B5	B5
57.27	B5	B5	B5	B5	B5
60.92	B5	B5	B5	B5	B5
63.47	B5	B5	B5	B5	B5
71.10	B5	B5	B5		
77.22	B5	B5	B5	B5	B5
83.90	B5	B5	B5		
87.70	B5	B5	B5		
93.05	B5	B5	B5	B5	B5
103.12	B5	B5	B5	B5	B5
123.90	B5	B5	B5		
134.30	B5	B5	B5		
149.30	B5	B5	B5		
165.40	B5	B5	B5		

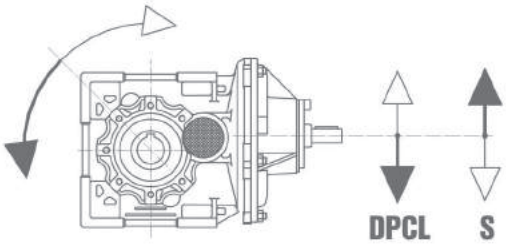
B - PB ...163

i	160	180	200	225	250	280
8.89		B5	B5	B5	B5	B5
10.58		B5	B5	B5	B5	B5
11.87		B5	B5	B5	B5	B5
12.81		B5	B5	B5	B5	B5
14.08		B5	B5	B5	B5	B5
15.52		B5	B5	B5	B5	B5
16.39		B5	B5	B5	B5	B5
18.02	B5	B5	B5	B5	B5	B5
19.96	B5	B5	B5	B5	B5	
21.94	B5	B5	B5	B5	B5	B5
24.17	B5	B5	B5	B5	B5	B5
26.58	B5	B5	B5	B5	B5	B5
28.80	B5	B5	B5	B5	B5	B5
30.92	B5	B5	B5	B5	B5	
34.25	B5	B5	B5	B5	B5	B5
37.66	B5	B5	B5	B5	B5	
40.65	B5	B5	B5	B5	B5	
45.09	B5	B5	B5	B5	B5	
51.00	B5	B5	B5	B5	B5	
53.63	B5	B5	B5	B5	B5	
58.97	B5	B5	B5	B5	B5	
69.78	B5	B5	B5	B5		
76.72	B5	B5	B5			
87.54	B5	B5	B5			
96.25	B5	B5	B5			
103.93	B5	B5	B5			
114.27	B5	B5				
128.29	B5	B5				
138.85	B5	B5				
154.83	B5	B5				

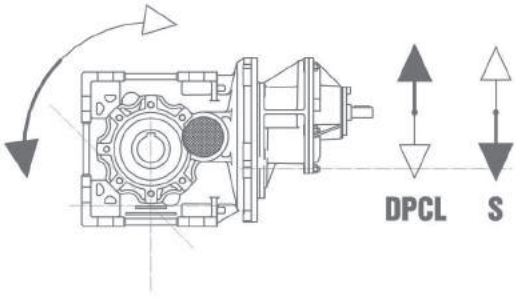
- B = 11 특수 모터(감속기 모터 일체형)
- Motor with special execution
- 테이블 표에 표시된것은 모두 가능함. 단, 안전계수를 필히 확인하시기 바람.
- Teses tables report all possible dimensions, Please verify service factor.

회전방향 / Direction of rotation

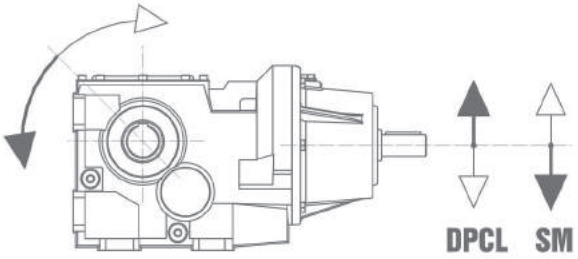
CB - B - IB A42 - A52 - A72



CB - B - IB A53 - A73



CB - B - IB 063 ÷ 163



회전방향 (Direction of rotation)

KO

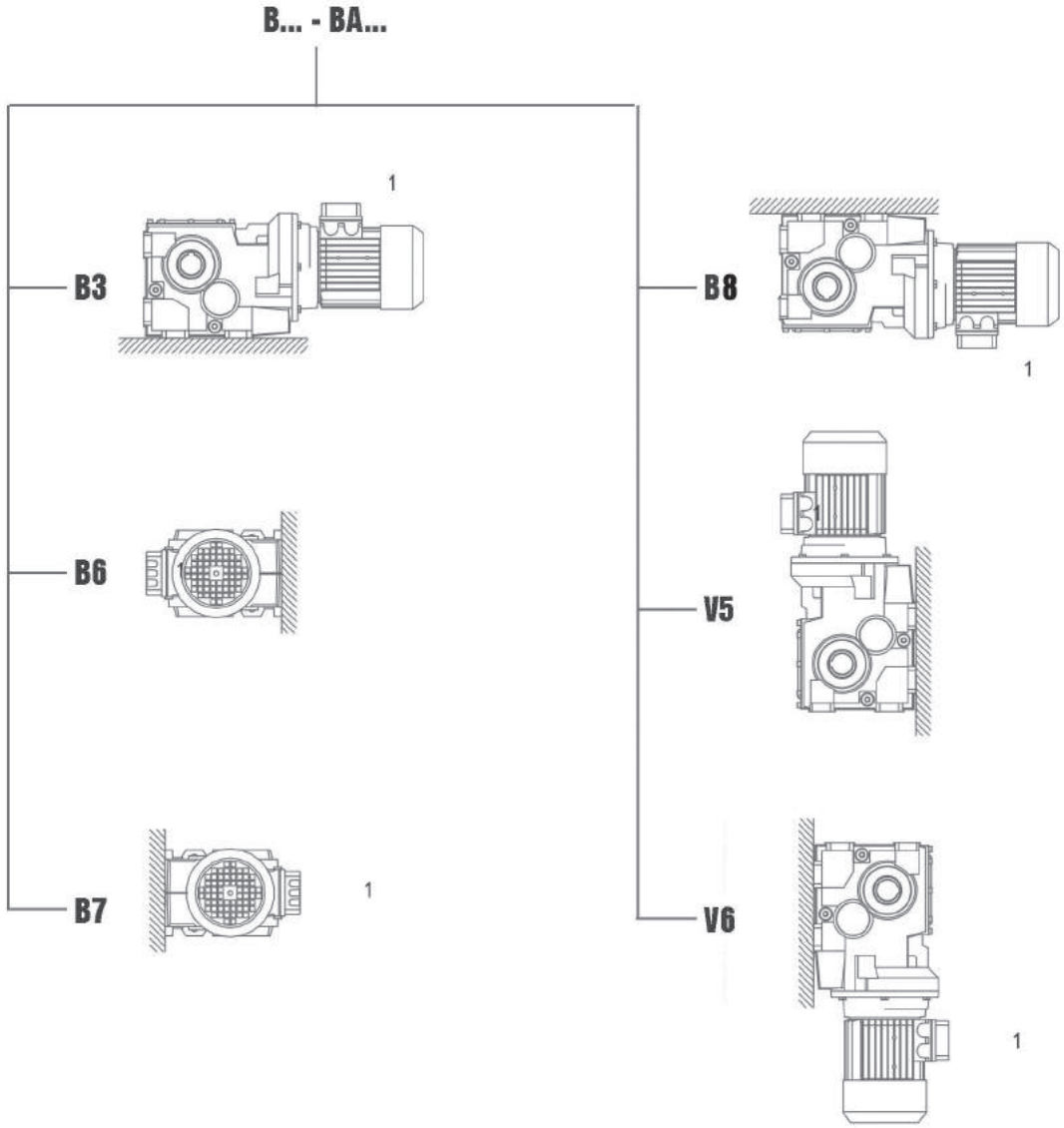
헬리켈 베벨 감속기는 위의 그림과 같은 기본 회전 방향으로 공급된다.
만일 요청사항이 있으면 회전방향을 반대로 할 수 있다.
이때는 주문시 꼭 "카다로그 회전방향과 반대방향을 원함"을 명기해야 한다.
그러나 A42-A52-A53의 제품은 회전방향을 바꿀수 없다.

Direction of rotation

UK

Helical bevel reduction units are supplied as "standard"with rotation as shown in the diagram. On request, the direction of rotation can be reversed; in this case, it is necessary to specify "opposite rotation to catalogue"when ordering. The "opposite rotation to catalogue" is not possible for sizes A42-A52-A53.

취부방식 / Mounting positions

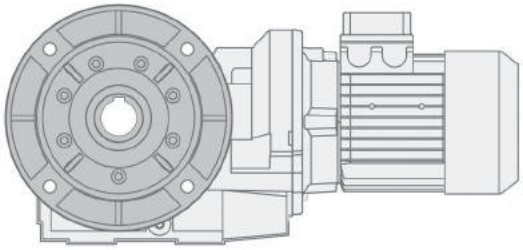


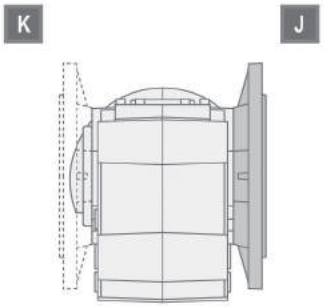
- 수직형으로 사용할 경우에는 6페이지를 참조할 것.
- For vertical positions, check with pages 6.

- 주문시 취부위치를 지정해 주지 않으면 기본 B3/B5 타입으로 출고.
- Unless specified otherwise, the standard positions are B3/B5.

- 원하는 취부형태가 없다면 본사로 연락해서 협의 해야함.
- For positions not envisaged, it is necessary to call our Technical Service.

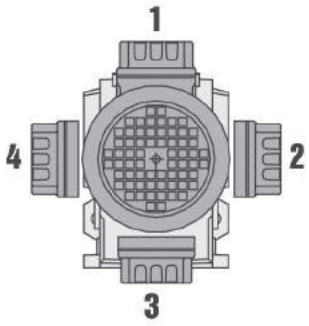
출력플랜지 / Flange

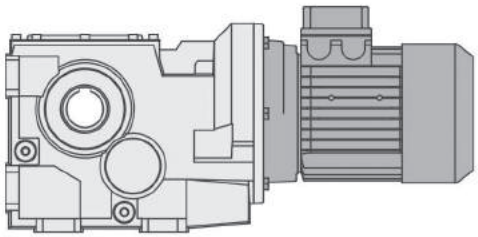


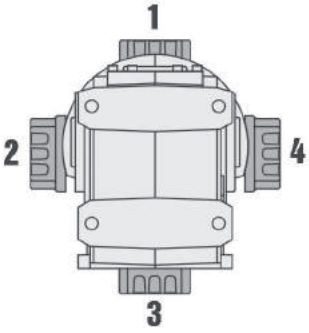


- 출력플랜지의 방향이 정해지지 않으면 " J " 방향(취부형태 B3/B5)로 출하됨.
- Unless specified otherwise, the reduction unit is supplied with the flange in pos. J referred to position B3/B5.

단자박스 위치 / Position of terminal box







- 주문시 특별한 요청시 없으면 단자박스 위치는 1번의 위치로 납품함.
- Unless otherwise specified when ordering, the gear reducer is supplied with terminal box in position 1.

메모 / Notes

B/BA – 모터 용량에 따른 분류/Performance

0,18 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 (a) [N]	Fr2 (b) [N]
50,0	33	3,7	28,00	**BA42**	63B4	-	2800
44,8	36	3,3	31,27	**BA42**	63B4	-	2905
41,4	39	3,0	33,78	**BA42**	63B4	-	2981
29,7	55	2,2	47,12	**BA42**	63B4	-	3331
24,4	67	1,8	57,43	**BA42**	63B4	-	3558
21,8	75	1,5	64,13	**BA42**	63B4	-	3691
17,9	91	1,2	78,17	**BA42**	63B4	-	3943
27,3	60	3,7	51,34	**BA52**	63B4	-	3672
21,6	76	2,6	64,87	**BA52**	63B4	-	3970
17,7	92	2,2	79,07	**BA52**	63B4	-	4000
19,0	81	2,7	73,70	**BA53**	63B4	-	4000
15,0	103	2,1	93,33	**BA53**	63B4	-	4000
12,5	123	1,8	111,61	**BA53**	63B4	-	4000
10,3	151	1,5	136,53	**BA53**	63B4	-	4000
8,1	191	1,2	172,53	**BA53**	63B4	-	4000
7,1	218	1,0	197,11	**BA53**	63B4	-	4000
11,6	133	3,4	120,34	**BA73**	63B4	10000	5500
9,4	165	2,7	149,73	**BA73**	63B4	10000	5500
7,8	199	2,3	180,23	**BA73**	63B4	10000	5500
6,3	246	1,8	222,93	**BA73**	63B4	10000	5500
5,4	288	1,6	260,20	**BA73**	63B4	10000	5500
4,3	356	1,3	321,85	**BA73**	63B4	10000	5500
3,9	396	1,1	357,95	**BA73**	63B4	10000	5500
3,2	489	0,9	442,76	**BA73**	63B4	10000	5500
10,1	154	3,9	139,15	**B063**	63B4	12000	6672
8,9	174	3,4	157,42	**B063**	63B4	12000	6934

0,37 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 (a) [N]	Fr2 (b) [N]
131,8	25	3,5	10,62	**BA42**	71B4	-	2027
108,1	31	2,9	12,95	**BA42**	71B4	-	2165
96,8	35	2,6	14,46	**BA42**	71B4	-	2246
85,0	39	3,0	16,47	**BA42**	71B4	-	2346
60,9	55	2,2	22,97	**BA42**	71B4	-	2621
50,0	67	1,8	28,00	**BA42**	71B4	-	2800
44,8	75	1,6	31,27	**BA42**	71B4	-	2905
41,4	81	1,5	33,78	**BA42**	71B4	-	2981
29,7	113	1,1	47,12	**BA42**	71B4	-	3331
55,9	60	3,3	25,03	**BA52**	71B4	-	2890
44,3	76	2,6	31,63	**BA52**	71B4	-	3124
39,9	84	2,4	35,10	**BA52**	71B4	-	3235
33,4	101	2,0	41,97	**BA52**	71B4	-	3433
27,3	123	1,8	51,34	**BA52**	71B4	-	3672
21,6	156	1,3	64,87	**BA52**	71B4	-	3970
17,7	190	1,1	79,07	**BA52**	71B4	-	4000
19,0	167	1,3	73,70	**BA53**	71B4	-	4000
15,0	212	1,0	93,33	**BA53**	71B4	-	4000
26,5	120	3,7	52,83	**BA73**	71B4	9391	4696
21,4	148	3,0	65,35	**BA73**	71B4	10000	5041
17,3	184	2,5	80,83	**BA73**	71B4	10000	5411
14,4	221	2,0	97,29	**BA73**	71B4	10000	5500

0,37 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 (a) [N]	Fr2 (b) [N]
11,6	273	1,6	120,34	BA73	71B4	10000	5500
9,4	340	1,3	149,73	BA73	71B4	10000	5500
7,8	409	1,1	180,23	BA73	71B4	10000	5500
20,2	157	3,8	69,16	B063	71B4	12000	5239
18,1	176	3,4	77,48	B063	71B4	12000	5425
15,5	205	2,9	90,33	B063	71B4	12000	5684
13,8	230	2,6	101,20	B063	71B4	12000	5882
12,5	254	2,4	111,74	B063	71B4	12000	6058
11,3	282	2,1	124,20	B063	71B4	12000	6251
10,1	316	1,9	139,15	B063	71B4	12000	6463
8,9	358	1,7	157,42	B063	71B4	12000	6697

0,55 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 (a) [N]	Fr2 (b) [N]
183,8	27	3,3	7,62	BA42	71C4/80A4	-	1814
131,8	38	2,4	10,62	BA42	71C4/80A4	-	2027
108,1	46	2,0	12,95	BA42	71C4/80A4	-	2165
96,8	52	1,7	14,46	BA42	71C4/80A4	-	2246
85,0	59	2,0	16,47	BA42	71C4/80A4	-	2346
60,9	82	1,5	22,97	BA42	71C4/80A4	-	2621
50,0	100	1,2	28,00	BA42	71C4/80A4	-	2800
44,8	111	1,1	31,27	BA42	71C4/80A4	-	2905
41,4	120	1,0	33,78	BA42	71C4/80A4	-	2981
121,0	41	3,9	11,57	BA52	71C4/80A4	-	2235
95,7	52	3,1	14,63	BA52	71C4/80A4	-	2416
81,8	61	3,3	17,11	BA52	71C4/80A4	-	2546
68,4	73	2,7	20,46	BA52	71C4/80A4	-	2702
55,9	89	2,2	25,03	BA52	71C4/80A4	-	2890
44,3	113	1,8	31,63	BA52	71C4/80A4	-	3124
39,9	125	1,6	35,10	BA52	71C4/80A4	-	3235
33,4	150	1,3	41,97	BA52	71C4/80A4	-	3433
27,3	183	1,2	51,34	BA52	71C4/80A4	-	3672
42,4	118	3,6	33,04	BA72	80A4	8031	4016
34,3	146	2,7	40,87	BA72	80A4	8621	4311
30,7	163	2,2	45,64	BA72	80A4	8944	4472
25,5	196	1,8	54,94	BA72	80A4	9515	4757
20,6	242	1,4	67,96	BA72	80A4	10000	5107
31,9	148	3,0	43,89	BA73	71C4/80A4	8828	4414
26,5	178	2,5	52,83	BA73	71C4/80A4	9391	4696
21,4	221	2,0	65,35	BA73	71C4/80A4	10000	5041
17,3	273	1,6	80,83	BA73	71C4/80A4	10000	5411
14,4	329	1,4	97,29	BA73	71C4/80A4	10000	5500
11,6	406	1,1	120,34	BA73	71C4/80A4	10000	5500
27,6	172	3,5	50,81	B063	71C4/80A4	12000	4689
24,6	192	3,1	56,93	B063	71C4/80A4	12000	4852
20,2	234	2,6	69,16	B063	71C4/80A4	12000	5141
18,1	262	2,3	77,48	B063	71C4/80A4	12000	5315
15,5	305	2,0	90,33	B063	71C4/80A4	12000	5555
13,8	342	1,8	101,20	B063	71C4/80A4	12000	5738
12,5	377	1,6	111,74	B063	71C4/80A4	12000	5899
11,3	419	1,4	124,20	B063	71C4/80A4	12000	6074
10,1	470	1,3	139,15	B063	71C4/80A4	12000	6264
8,9	532	1,1	157,42	B063	71C4/80A4	12000	6473
22,0	215	3,9	63,74	B083	80A4	18000	7772

0,55 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 (a) [N]	Fr2 (b) [N]
20,2	233	3,6	69,14	**B083**	80A4	18000	7971
19,1	247	3,4	73,14	**B083**	80A4	18000	8112
17,3	273	3,1	80,76	**B083**	80A4	18000	8364
15,2	311	2,7	92,19	**B083**	80A4	18000	8711
13,9	340	2,5	100,57	**B083**	80A4	18000	8945
13,3	356	2,4	105,29	**B083**	80A4	18000	9070
12,0	393	2,2	116,25	**B083**	80A4	18000	9346
11,0	428	2,0	126,76	**B083**	80A4	18000	9592
9,7	489	1,7	144,77	**B083**	80A4	18000	9978
9,7	489	3,7	144,69	**B103**	80A4	22000	12349
8,5	558	3,2	165,25	**B103**	80A4	22000	12869

0,75 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 (a) [N]	Fr2 (b) [N]
183,8	37	2,4	7,62	**BA42**	80B4	-	1814
131,8	52	1,7	10,62	**BA42**	80B4	-	2027
108,1	63	1,4	12,95	**BA42**	80B4	-	2165
96,8	70	1,3	14,46	**BA42**	80B4	-	2246
85,0	80	1,5	16,47	**BA42**	80B4	-	2346
60,9	112	1,1	22,97	**BA42**	80B4	-	2621
148,0	46	3,5	9,46	**BA52**	80B4	-	2090
121,0	56	2,8	11,57	**BA52**	80B4	-	2235
95,7	71	2,3	14,63	**BA52**	80B4	-	2416
81,8	83	2,4	17,11	**BA52**	80B4	-	2546
68,4	99	2,0	20,46	**BA52**	80B4	-	2702
55,9	122	1,6	25,03	**BA52**	80B4	-	2890
44,3	154	1,3	31,63	**BA52**	80B4	-	3124
39,9	171	1,2	35,10	**BA52**	80B4	-	3235
33,4	204	1,0	41,97	**BA52**	80B4	-	3433
27,3	250	0,9	51,34	**BA52**	80B4	-	3672
51,0	133	3,1	27,45	**BA72**	80B4	7550	3775
42,4	161	2,6	33,04	**BA72**	80B4	8031	4016
34,3	199	2,0	40,87	**BA72**	80B4	8621	4311
30,7	222	1,6	45,64	**BA72**	80B4	8944	4472
25,5	267	1,3	54,94	**BA72**	80B4	9515	4757
20,6	330	1,1	67,96	**BA72**	80B4	10000	5107
31,9	202	2,2	43,89	**BA73**	80B4	8828	4414
26,5	243	1,8	52,83	**BA73**	80B4	9391	4696
21,4	301	1,5	65,35	**BA73**	80B4	10000	5041
17,3	372	1,2	80,83	**BA73**	80B4	10000	5411
14,4	448	1,0	97,29	**BA73**	80B4	10000	5500
41,9	154	3,9	33,43	**B063**	80B4	12000	4072
36,3	178	3,4	38,58	**B063**	80B4	12000	4251
32,4	199	3,0	43,22	**B063**	80B4	12000	4396
27,6	234	2,6	50,81	**B063**	80B4	12000	4609
24,6	262	2,3	56,93	**B063**	80B4	12000	4762
20,2	318	1,9	69,16	**B063**	80B4	12000	5031
18,1	357	1,7	77,48	**B063**	80B4	12000	5192
15,5	416	1,4	90,33	**B063**	80B4	12000	5412
13,8	466	1,3	101,20	**B063**	80B4	12000	5577
12,5	515	1,2	111,74	**B063**	80B4	12000	5722
11,3	572	1,0	124,20	**B063**	80B4	12000	5877
10,1	641	0,9	139,15	**B063**	80B4	12000	6044
10,0	653	1,0	90,33	**B063**	80C6	12000	6050

0,75 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 (a) [N]	Fr2 (b) [N]
27,4	236	3,6	51,19	B083	80B4	18000	7183
25,2	256	3,3	55,52	B083	80B4	18000	7365
23,4	276	3,1	59,96	B083	80B4	18000	7540
22,0	293	2,9	63,74	B083	80B4	18000	7682
20,2	318	2,7	69,14	B083	80B4	18000	7873
19,1	337	2,5	73,14	B083	80B4	18000	8008
17,3	372	2,3	80,76	B083	80B4	18000	8249
15,2	424	2,0	92,19	B083	80B4	18000	8580
13,9	463	1,8	100,57	B083	80B4	18000	8802
13,3	485	1,8	105,29	B083	80B4	18000	8921
12,0	535	1,6	116,25	B083	80B4	18000	9181
11,0	584	1,5	126,76	B083	80B4	18000	9412
9,7	667	1,3	144,77	B083	80B4	18000	9773
13,3	486	3,7	105,44	B103	80B4	22000	11075
12,2	529	3,4	114,80	B103	80B4	22000	11370
11,6	554	3,2	120,42	B103	80B4	22000	11538
10,5	612	2,9	132,87	B103	80B4	22000	11891
9,7	666	2,7	144,69	B103	80B4	22000	12203
8,5	761	2,4	165,25	B103	80B4	22000	12703

1,5 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 (a) [N]	Fr2 (b) [N]
176,9	77	2,1	7,91	BA52	90LA4	-	1969
148,0	92	1,7	9,46	BA52	90LA4	-	2090
121,0	113	1,4	11,57	BA52	90LA4	-	2235
95,7	142	1,1	14,63	BA52	90LA4	-	2416
81,8	166	1,2	17,11	BA52	90LA4	-	2546
68,4	199	1,0	20,46	BA52	90LA4	-	2702
139,2	98	3,6	10,06	BA72	90LA4	5403	2701
112,5	121	2,9	12,44	BA72	90LA4	5800	2900
93,9	145	2,9	14,91	BA72	90LA4	6160	3080
78,0	174	2,4	17,94	BA72	90LA4	6552	3276
63,1	216	1,9	22,19	BA72	90LA4	7033	3517
51,0	267	1,6	27,45	BA72	90LA4	7550	3775
42,4	321	1,3	33,04	BA72	90LA4	8031	4016
34,3	397	1,0	40,87	BA72	90LA4	8621	4311
31,9	404	1,1	43,89	BA73	90LA4	8828	4414
26,5	487	0,9	52,83	BA73	90LA4	9391	4696
82,3	157	3,8	17,00	B063	90LA4	11225	3207
62,5	206	2,9	22,39	B063	90LA4	12000	3471
53,7	240	2,5	26,09	B063	90LA4	12000	3622
49,9	258	2,3	28,03	B063	90LA4	12000	3695
41,9	308	1,9	33,43	B063	90LA4	12000	3874
36,3	355	1,7	38,58	B063	90LA4	12000	4022
32,4	398	1,5	43,22	B063	90LA4	12000	4139
27,6	468	1,3	50,81	B063	90LA4	12000	4307
24,6	524	1,1	56,93	B063	90LA4	12000	4424
20,2	637	0,9	69,16	B063	90LA4	12000	4621
52,4	246	3,5	26,71	B083	90LA4	18000	5718
47,5	272	3,1	29,50	B083	90LA4	18000	5890
44,0	293	2,9	31,80	B083	90LA4	18000	6023
40,6	318	2,7	34,49	B083	90LA4	18000	6169

1,5 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 (a) [N]	Fr2 (b) [N]
35,4	365	2,3	39,60	B083	90LA4	18000	6422
32,6	396	2,1	42,95	B083	90LA4	18000	6575
30,8	418	2,0	45,44	B083	90LA4	18000	6681
27,4	471	1,8	51,19	B083	90LA4	18000	6910
25,2	511	1,7	55,52	B083	90LA4	18000	7069
23,4	552	1,5	59,96	B083	90LA4	18000	7221
22,0	587	1,4	63,74	B083	90LA4	18000	7342
20,2	637	1,3	69,14	B083	90LA4	18000	7505
19,1	674	1,3	73,14	B083	90LA4	18000	7619
17,3	744	1,1	80,76	B083	90LA4	18000	7820
15,2	849	1,0	92,19	B083	90LA4	18000	8089
13,9	926	0,9	100,57	B083	90LA4	18000	8267
29,6	435	3,9	47,28	B103	90LA4	22000	8425
27,9	463	3,7	50,24	B103	90LA4	22000	8582
26,4	488	3,5	53,02	B103	90LA4	22000	8723
23,9	539	3,2	58,50	B103	90LA4	22000	8986
21,6	598	2,8	64,89	B103	90LA4	22000	9269
20,4	632	2,7	68,58	B103	90LA4	22000	9422
19,2	670	2,5	72,76	B103	90LA4	22000	9589
17,7	727	2,3	78,92	B103	90LA4	22000	9821
16,7	770	2,3	83,66	B103	90LA4	22000	9989
15,2	850	2,1	92,31	B103	90LA4	22000	10278
13,3	971	1,9	105,44	B103	90LA4	22000	10676
12,2	1057	1,7	114,80	B103	90LA4	22000	10935
11,6	1109	1,6	120,42	B103	90LA4	22000	11083
10,5	1224	1,5	132,87	B103	90LA4	22000	11388
9,7	1332	1,4	144,69	B103	90LA4	22000	11656
8,5	1522	1,2	165,25	B103	90LA4	22000	12078
13,1	982	3,6	106,65	B123	90LA4	30000	15024
11,7	1101	3,2	119,60	B123	90LA4	30000	15502
10,8	1197	2,9	129,96	B123	90LA4	30000	15853
9,7	1330	2,6	144,43	B123	90LA4	30000	16302
8,7	1476	2,4	160,23	B123	90LA4	30000	16746
7,8	1661	2,1	180,40	B123	90LA4	30000	17256

2,2 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 (a) [N]	Fr2 (b) [N]
245,0	77	3,8	5,71	B063	100LA4	7948	2271
203,5	93	3,7	6,88	B063	100LA4	8406	2402
191,2	99	3,5	7,32	B063	100LA4	8564	2447
152,8	124	3,7	9,16	B063	100LA4	9151	2614
136,4	139	3,8	10,26	B063	100LA4	9458	2702
127,0	149	3,6	11,03	B063	100LA4	9656	2759
113,3	167	3,5	12,35	B063	100LA4	9974	2850
106,5	178	3,3	13,15	B063	100LA4	10151	2900
92,3	205	2,9	15,18	B063	100LA4	10563	3018
82,3	230	2,6	17,00	B063	100LA4	10895	3113
62,5	302	2,0	22,39	B063	100LA4	11714	3347
53,7	352	1,7	26,09	B063	100LA4	12000	3478
49,9	379	1,6	28,03	B063	100LA4	12000	3539
41,9	452	1,3	33,43	B063	100LA4	12000	3689
36,3	521	1,2	38,58	B063	100LA4	12000	3808
32,4	584	1,0	43,22	B063	100LA4	12000	3900

2,2 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 (a) [N]	Fr2 (b) [N]
84,4	224	3,8	16,60	B083	100LA4	17019	4863
76,4	247	3,4	18,32	B083	100LA4	17526	5008
61,4	308	2,8	22,82	B083	100LA4	18000	5339
52,4	361	2,4	26,71	B083	100LA4	18000	5585
47,5	398	2,1	29,50	B083	100LA4	18000	5743
44,0	429	2,0	31,80	B083	100LA4	18000	5865
40,6	466	1,8	34,49	B083	100LA4	18000	5998
35,4	535	1,6	39,60	B083	100LA4	18000	6226
32,6	580	1,5	42,95	B083	100LA4	18000	6361
30,8	614	1,4	45,44	B083	100LA4	18000	6456
27,4	691	1,2	51,19	B083	100LA4	18000	6656
25,2	750	1,1	55,52	B083	100LA4	18000	6793
23,4	810	1,0	59,96	B083	100LA4	18000	6923
22,0	861	1,0	63,74	B083	100LA4	18000	7026
20,2	934	0,9	69,14	B083	100LA4	18000	7162
45,8	413	3,9	30,55	B103	100LA4	22000	7254
42,3	447	3,8	33,07	B103	100LA4	22000	7429
39,0	484	3,5	35,87	B103	100LA4	22000	7612
34,0	555	3,1	41,12	B103	100LA4	22000	7927
31,4	603	2,8	44,61	B103	100LA4	22000	8119
29,6	639	2,7	47,28	B103	100LA4	22000	8258
27,9	679	2,5	50,24	B103	100LA4	22000	8404
26,4	716	2,4	53,02	B103	100LA4	22000	8536
23,9	790	2,2	58,50	B103	100LA4	22000	8779
21,6	876	1,9	64,89	B103	100LA4	22000	9040
20,4	926	1,8	68,58	B103	100LA4	22000	9180
19,2	983	1,7	72,76	B103	100LA4	22000	9332
17,7	1066	1,6	78,92	B103	100LA4	22000	9542
16,7	1130	1,6	83,66	B103	100LA4	22000	9694
15,2	1247	1,4	92,31	B103	100LA4	22000	9952
13,3	1424	1,3	105,44	B103	100LA4	22000	10304
12,2	1551	1,2	114,80	B103	100LA4	22000	10530
11,6	1626	1,1	120,42	B103	100LA4	22000	10657
10,5	1795	1,0	132,87	B103	100LA4	22000	10919
9,7	1954	0,9	144,69	B103	100LA4	22000	11145
23,6	802	4,0	59,36	B123	100LA4	30000	12366
22,4	845	3,9	62,59	B123	100LA4	30000	12548
20,2	938	3,5	69,43	B123	100LA4	30000	12907
18,8	1005	3,5	74,42	B123	100LA4	30000	13150
17,5	1081	3,2	80,04	B123	100LA4	30000	13405
15,6	1214	2,9	89,87	B123	100LA4	30000	13815
14,0	1347	2,6	99,70	B123	100LA4	30000	14183
13,1	1441	2,4	106,65	B123	100LA4	30000	14422
11,7	1615	2,2	119,60	B123	100LA4	30000	14827
10,8	1755	2,0	129,96	B123	100LA4	30000	15120
9,7	1951	1,8	144,43	B123	100LA4	30000	15487
8,7	2164	1,6	160,23	B123	100LA4	30000	15842
7,8	2437	1,4	180,40	B123	100LA4	30000	16238
14,9	1271	3,9	94,13	B143	100LA4	45000	45000
13,2	1429	3,5	105,83	B143	100LA4	45000	45000
12,5	1512	3,3	111,94	B143	100LA4	45000	45000
11,2	1683	3,0	124,62	B143	100LA4	45000	45000
10,3	1843	2,7	136,44	B143	100LA4	45000	45000
9,4	2020	2,5	149,59	B143	100LA4	45000	45000
8,4	2249	2,2	166,53	B143	100LA4	45000	45000
7,5	2529	2,0	187,24	B143	100LA4	45000	45000

3,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 (a) [N]	Fr2 (b) [N]
167,5	162	2,2	8,36	BA72	100LB4	5079	2540
139,2	196	1,8	10,06	BA72	100LB4	5403	2701
112,5	242	1,4	12,44	BA72	100LB4	5800	2900
93,9	290	1,4	14,91	BA72	100LB4	6160	3080
78,0	349	1,2	17,94	BA72	100LB4	6552	3276
63,1	431	1,0	22,19	BA72	100LB4	7033	3517
245,0	105	2,8	5,71	B063	100LB4	7821	2235
203,5	127	2,7	6,88	B063	100LB4	8253	2358
191,2	135	2,6	7,32	B063	100LB4	8402	2401
152,8	169	2,7	9,16	B063	100LB4	8948	2556
136,4	189	2,8	10,26	B063	100LB4	9231	2637
127,0	203	2,7	11,03	B063	100LB4	9412	2689
113,3	228	2,5	12,35	B063	100LB4	9700	2771
106,5	242	2,4	13,15	B063	100LB4	9860	2817
92,3	279	2,1	15,18	B063	100LB4	10227	2922
82,3	313	1,9	17,00	B063	100LB4	10518	3005
62,5	412	1,5	22,39	B063	100LB4	11218	3205
53,7	481	1,2	26,09	B063	100LB4	11594	3313
49,9	516	1,2	28,03	B063	100LB4	11766	3362
41,9	616	1,0	33,43	B063	100LB4	12000	3477
179,3	144	3,5	7,81	B083	100LB4	13361	3817
162,4	159	3,8	8,62	B083	100LB4	13769	3934
133,4	193	3,4	10,49	B083	100LB4	14604	4173
120,8	213	3,5	11,59	B083	100LB4	15039	4297
97,0	266	3,0	14,43	B083	100LB4	16034	4581
84,4	306	2,8	16,60	B083	100LB4	16689	4768
76,4	337	2,5	18,32	B083	100LB4	17162	4903
61,4	420	2,0	22,82	B083	100LB4	18000	5209
52,4	492	1,7	26,71	B083	100LB4	18000	5434
47,5	543	1,6	29,50	B083	100LB4	18000	5576
44,0	586	1,5	31,80	B083	100LB4	18000	5684
40,6	635	1,3	34,49	B083	100LB4	18000	5802
35,4	729	1,2	39,60	B083	100LB4	18000	6001
32,6	791	1,1	42,95	B083	100LB4	18000	6117
30,8	837	1,0	45,44	B083	100LB4	18000	6198
27,4	943	0,9	51,19	B083	100LB4	18000	6366
73,5	351	4,0	19,06	B103	100LB4	21696	6199
59,1	436	3,2	23,70	B103	100LB4	22000	6618
52,8	488	3,1	26,51	B103	100LB4	22000	6841
45,8	563	2,8	30,55	B103	100LB4	22000	7131
42,3	609	2,8	33,07	B103	100LB4	22000	7295
39,0	661	2,6	35,87	B103	100LB4	22000	7467
34,0	757	2,2	41,12	B103	100LB4	22000	7761
31,4	822	2,1	44,61	B103	100LB4	22000	7939
29,6	871	2,0	47,28	B103	100LB4	22000	8067
27,9	925	1,8	50,24	B103	100LB4	22000	8202
26,4	977	1,7	53,02	B103	100LB4	22000	8322
23,9	1078	1,6	58,50	B103	100LB4	22000	8543
21,6	1195	1,4	64,89	B103	100LB4	22000	8778
20,4	1263	1,3	68,58	B103	100LB4	22000	8904
19,2	1340	1,3	72,76	B103	100LB4	22000	9038
17,7	1454	1,2	78,92	B103	100LB4	22000	9224
16,7	1541	1,2	83,66	B103	100LB4	22000	9356
15,2	1700	1,1	92,31	B103	100LB4	22000	9580
13,3	1942	0,9	105,44	B103	100LB4	22000	9879
34,5	746	3,8	40,53	B123	100LB4	30000	10836
31,2	827	3,6	44,89	B123	100LB4	30000	11140
28,1	917	3,5	49,80	B123	100LB4	30000	11452

3,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 (a) [N]	Fr2 (b) [N]
25,8	1000	3,2	54,30	B123	100LB4	30000	11713
23,6	1093	2,9	59,36	B123	100LB4	30000	11983
22,4	1153	2,9	62,59	B123	100LB4	30000	12144
20,2	1279	2,6	69,43	B123	100LB4	30000	12460
18,8	1371	2,6	74,42	B123	100LB4	30000	12670
17,5	1474	2,4	80,04	B123	100LB4	30000	12889
15,6	1655	2,1	89,87	B123	100LB4	30000	13235
14,0	1836	1,9	99,70	B123	100LB4	30000	13540
13,1	1964	1,8	106,65	B123	100LB4	30000	13734
11,7	2203	1,6	119,60	B123	100LB4	30000	14056
10,8	2394	1,5	129,96	B123	100LB4	30000	14281
9,7	2660	1,3	144,43	B123	100LB4	30000	14555
8,7	2951	1,2	160,23	B123	100LB4	30000	14809
7,8	3323	1,1	180,40	B123	100LB4	30000	15074
19,9	1297	3,9	70,43	B143	100LB4	45000	45000
18,2	1420	3,5	77,12	B143	100LB4	45000	45000
16,4	1576	3,2	85,54	B143	100LB4	45000	45000
14,9	1734	2,9	94,13	B143	100LB4	45000	45000
13,2	1949	2,6	105,83	B143	100LB4	45000	45000
12,5	2062	2,4	111,94	B143	100LB4	45000	45000
11,2	2295	2,2	124,62	B143	100LB4	45000	45000
10,3	2513	2,0	136,44	B143	100LB4	45000	45000
9,4	2755	1,8	149,59	B143	100LB4	45000	45000
8,4	3067	1,6	166,53	B143	100LB4	45000	45000
7,5	3449	1,4	187,24	B143	100LB4	45000	45000

4,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 (a) [N]	Fr2 (b) [N]
167,5	217	1,6	8,36	BA72	112MA4	5079	2540
139,2	261	1,3	10,06	BA72	112MA4	5403	2701
112,5	323	1,1	12,44	BA72	112MA4	5800	2900
93,9	386	1,1	14,91	BA72	112MA4	6160	3080
78,0	465	0,9	17,94	BA72	112MA4	6552	3276
245,0	140	2,1	5,71	B063	112MA4	7663	2189
203,5	169	2,0	6,88	B063	112MA4	8063	2304
191,2	180	1,9	7,32	B063	112MA4	8199	2343
152,8	225	2,0	9,16	B063	112MA4	8694	2484
136,4	252	2,1	10,26	B063	112MA4	8947	2556
92,3	373	1,6	15,18	B063	112MA4	9806	2802
82,3	418	1,4	17,00	B063	112MA4	10047	2871
62,5	550	1,1	22,39	B063	112MA4	10597	3028
53,7	641	0,9	26,09	B063	112MA4	10871	3106
179,3	192	2,6	7,81	B083	112MA4	13167	3762
162,4	212	2,8	8,62	B083	112MA4	13554	3873
133,4	258	2,5	10,49	B083	112MA4	14343	4098
120,8	285	2,6	11,59	B083	112MA4	14752	4215
97,0	354	2,3	14,43	B083	112MA4	15676	4479
84,4	408	2,1	16,60	B083	112MA4	16277	4651
76,4	450	1,9	18,32	B083	112MA4	16707	4773
61,4	560	1,5	22,82	B083	112MA4	17666	5047
52,4	656	1,3	26,71	B083	112MA4	18000	5244
47,5	724	1,2	29,50	B083	112MA4	18000	5367
44,0	781	1,1	31,80	B083	112MA4	18000	5459
40,6	847	1,0	34,49	B083	112MA4	18000	5557

4,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 (a) [N]	Fr2 (b) [N]
128,2	268	3,7	10,92	**B103**	112MA4	18088	5168
116,2	296	3,4	12,05	**B103**	112MA4	18638	5325
93,4	368	3,3	14,99	**B103**	112MA4	19899	5686
81,1	424	3,3	17,27	**B103**	112MA4	20753	5929
73,5	468	3,0	19,06	**B103**	112MA4	21360	6103
59,1	582	2,4	23,70	**B103**	112MA4	22000	6498
52,8	651	2,3	26,51	**B103**	112MA4	22000	6707
45,8	750	2,1	30,55	**B103**	112MA4	22000	6976
42,3	812	2,1	33,07	**B103**	112MA4	22000	7128
39,0	881	1,9	35,87	**B103**	112MA4	22000	7286
34,0	1010	1,7	41,12	**B103**	112MA4	22000	7554
31,4	1095	1,6	44,61	**B103**	112MA4	22000	7714
29,6	1161	1,5	47,28	**B103**	112MA4	22000	7829
27,9	1234	1,4	50,24	**B103**	112MA4	22000	7948
26,4	1302	1,3	53,02	**B103**	112MA4	22000	8055
23,9	1437	1,2	58,50	**B103**	112MA4	22000	8248
21,6	1593	1,1	64,89	**B103**	112MA4	22000	8450
20,4	1684	1,0	68,58	**B103**	112MA4	22000	8558
19,2	1787	1,0	72,76	**B103**	112MA4	22000	8671
44,8	768	3,6	31,26	**B123**	112MA4	30000	9829
40,4	852	3,3	34,68	**B123**	112MA4	30000	10100
34,5	995	2,8	40,53	**B123**	112MA4	30000	10509
31,2	1102	2,7	44,89	**B123**	112MA4	30000	10778
28,1	1223	2,6	49,80	**B123**	112MA4	30000	11050
25,8	1333	2,4	54,30	**B123**	112MA4	30000	11275
23,6	1458	2,2	59,36	**B123**	112MA4	30000	11505
22,4	1537	2,1	62,59	**B123**	112MA4	30000	11640
20,2	1705	1,9	69,43	**B123**	112MA4	30000	11900
18,8	1827	1,9	74,42	**B123**	112MA4	30000	12070
17,5	1966	1,8	80,04	**B123**	112MA4	30000	12244
15,6	2207	1,6	89,87	**B123**	112MA4	30000	12510
14,0	2448	1,4	99,70	**B123**	112MA4	30000	12736
13,1	2619	1,3	106,65	**B123**	112MA4	30000	12874
11,7	2937	1,2	119,60	**B123**	112MA4	30000	13092
10,8	3191	1,1	129,96	**B123**	112MA4	30000	13234
9,7	3547	1,0	144,43	**B123**	112MA4	30000	13391
26,3	1305	3,8	53,16	**B143**	112MA4	42912	42912
25,6	1341	3,7	54,63	**B143**	112MA4	43217	43217
23,7	1449	3,5	59,02	**B143**	112MA4	44083	44083
21,6	1593	3,1	64,88	**B143**	112MA4	45000	45000
19,9	1730	2,9	70,43	**B143**	112MA4	45000	45000
18,2	1894	2,6	77,12	**B143**	112MA4	45000	45000
16,4	2101	2,4	85,54	**B143**	112MA4	45000	45000
14,9	2311	2,2	94,13	**B143**	112MA4	45000	45000
13,2	2599	1,9	105,83	**B143**	112MA4	45000	45000
12,5	2749	1,8	111,94	**B143**	112MA4	45000	45000
11,2	3060	1,6	124,62	**B143**	112MA4	45000	45000
10,3	3351	1,5	136,44	**B143**	112MA4	45000	45000
9,4	3674	1,4	149,59	**B143**	112MA4	45000	45000
8,4	4090	1,2	166,53	**B143**	112MA4	45000	45000
7,5	4598	1,1	187,24	**B143**	112MA4	45000	45000

5,5 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 (a) [N]	Fr2 (b) [N]
179,3	264	1,9	7,81	B083	132S4	12876	3679
162,4	291	2,1	8,62	B083	132S4	13233	3781
133,4	354	1,8	10,49	B083	132S4	13953	3986
120,8	391	1,9	11,59	B083	132S4	14320	4091
97,0	487	1,7	14,43	B083	132S4	15138	4325
84,4	560	1,5	16,60	B083	132S4	15659	4474
76,4	619	1,4	18,32	B083	132S4	16024	4578
61,4	770	1,1	22,82	B083	132S4	16816	4805
52,4	902	0,9	26,71	B083	132S4	17359	4960
172,3	274	2,9	8,13	B103	132S4	16302	4658
156,1	303	3,0	8,97	B103	132S4	16790	4797
128,2	369	2,7	10,92	B103	132S4	17799	5086
116,2	407	2,5	12,05	B103	132S4	18318	5234
93,4	506	2,4	14,99	B103	132S4	19503	5572
81,1	583	2,4	17,27	B103	132S4	20296	5799
73,5	643	2,2	19,06	B103	132S4	20855	5959
59,1	800	1,7	23,70	B103	132S4	22000	6319
52,8	895	1,7	26,51	B103	132S4	22000	6507
45,8	1032	1,6	30,55	B103	132S4	22000	6745
42,3	1117	1,5	33,07	B103	132S4	22000	6878
39,0	1211	1,4	35,87	B103	132S4	22000	7015
34,0	1389	1,2	41,12	B103	132S4	22000	7242
31,4	1506	1,1	44,61	B103	132S4	22000	7376
29,6	1597	1,1	47,28	B103	132S4	22000	7471
27,9	1696	1,0	50,24	B103	132S4	22000	7568
26,4	1790	0,9	53,02	B103	132S4	22000	7653
75,4	627	3,5	18,58	B123	132S4	29004	8287
67,9	696	3,6	20,61	B123	132S4	29811	8518
61,5	769	3,6	22,78	B123	132S4	30000	8742
54,1	874	3,2	25,89	B123	132S4	30000	9029
50,9	929	3,0	27,51	B123	132S4	30000	9165
45,5	1040	2,7	30,79	B123	132S4	30000	9417
44,8	1056	2,7	31,26	B123	132S4	30000	9451
40,4	1171	2,4	34,68	B123	132S4	30000	9681
34,5	1369	2,0	40,53	B123	132S4	30000	10019
31,2	1516	2,0	44,89	B123	132S4	30000	10235
28,1	1682	1,9	49,80	B123	132S4	30000	10448
25,8	1833	1,7	54,30	B123	132S4	30000	10619
23,6	2004	1,6	59,36	B123	132S4	30000	10787
22,4	2113	1,6	62,59	B123	132S4	30000	10883
20,2	2344	1,4	69,43	B123	132S4	30000	11060
18,8	2513	1,4	74,42	B123	132S4	30000	11170
17,5	2703	1,3	80,04	B123	132S4	30000	11276
15,6	3034	1,2	89,87	B123	132S4	30000	11424
14,0	3366	1,0	99,70	B123	132S4	30000	11530
13,1	3601	1,0	106,65	B123	132S4	30000	11584
38,2	1238	3,9	36,67	B143	132S4	37613	37613
34,7	1360	3,5	40,29	B143	132S4	38514	38514
31,7	1491	3,2	44,16	B143	132S4	39393	39393
29,0	1633	3,1	48,35	B143	132S4	40257	40257
26,3	1795	2,8	53,16	B143	132S4	41155	41155
25,6	1845	2,7	54,63	B143	132S4	41411	41411
23,7	1993	2,5	59,02	B143	132S4	42133	42133
21,6	2191	2,3	64,88	B143	132S4	43004	43004
19,9	2378	2,1	70,43	B143	132S4	43742	43742
18,2	2604	1,9	77,12	B143	132S4	44536	44536

5,5 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 (a) [N]	Fr2 (b) [N]
16,4	2888	1,7	85,54	B143	132S4	45000	45000
14,9	3178	1,6	94,13	B143	132S4	45000	45000
13,2	3573	1,4	105,83	B143	132S4	45000	45000
12,5	3780	1,3	111,94	B143	132S4	45000	45000
11,2	4208	1,2	124,62	B143	132S4	45000	45000
10,3	4607	1,1	136,44	B143	132S4	45000	45000
9,4	5051	1,0	149,59	B143	132S4	45000	45000
23,0	2057	3,9	60,92	B153	132S4	65000	65000
22,1	2143	3,7	63,47	B153	132S4	65000	65000
19,7	2402	3,3	71,15	B153	132S4	65000	65000
18,1	2607	3,1	77,22	B153	132S4	65000	65000
16,7	2833	2,8	83,89	B153	132S4	65000	65000
16,0	2960	2,7	87,65	B153	132S4	65000	65000
15,0	3142	2,5	93,05	B153	132S4	65000	65000
13,6	3482	2,3	103,12	B153	132S4	65000	65000
11,3	4183	1,9	123,88	B153	132S4	65000	65000
10,4	4534	1,8	134,27	B153	132S4	65000	65000
9,4	5040	1,6	149,26	B153	132S4	65000	65000
8,5	5585	1,4	165,42	B153	132S4	65000	65000

7,5 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 (a) [N]	Fr2 (b) [N]
179,3	360	1,4	7,81	B083	132MA4	12488	3568
162,4	397	1,5	8,62	B083	132MA4	12805	3659
133,4	483	1,3	10,49	B083	132MA4	13431	3837
120,8	534	1,4	11,59	B083	132MA4	13744	3927
97,0	664	1,2	14,43	B083	132MA4	14421	4120
84,4	764	1,1	16,60	B083	132MA4	14834	4238
76,4	844	1,0	18,32	B083	132MA4	15114	4318
172,3	374	2,1	8,13	B103	132MA4	16015	4576
156,1	413	2,2	8,97	B103	132MA4	16473	4707
128,2	503	2,0	10,92	B103	132MA4	17414	4975
116,2	555	1,8	12,05	B103	132MA4	17893	5112
93,4	690	1,7	14,99	B103	132MA4	18974	5421
81,1	795	1,8	17,27	B103	132MA4	19686	5625
73,5	877	1,6	19,06	B103	132MA4	20182	5766
59,1	1091	1,3	23,70	B103	132MA4	21279	6080
52,8	1221	1,2	26,51	B103	132MA4	21837	6239
45,8	1407	1,1	30,55	B103	132MA4	22000	6437
42,3	1523	1,1	33,07	B103	132MA4	22000	6545
39,0	1652	1,0	35,87	B103	132MA4	22000	6653
112,2	575	3,5	12,48	B123	132MA4	25286	7225
101,1	637	3,3	13,84	B123	132MA4	25981	7423
91,0	708	3,0	15,38	B123	132MA4	26688	7625
75,4	855	2,6	18,58	B123	132MA4	27956	7987
67,9	949	2,6	20,61	B123	132MA4	28648	8185
61,5	1049	2,7	22,78	B123	132MA4	29310	8374
54,1	1192	2,3	25,89	B123	132MA4	30000	8611
50,9	1267	2,2	27,51	B123	132MA4	30000	8721
45,5	1418	2,0	30,79	B123	132MA4	30000	8920
44,8	1440	1,9	31,26	B123	132MA4	30000	8947
40,4	1597	1,8	34,68	B123	132MA4	30000	9121
34,5	1866	1,5	40,53	B123	132MA4	30000	9366
31,2	2067	1,5	44,89	B123	132MA4	30000	9511

7,5 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 (a) [N]	Fr2 (b) [N]
28,1	2293	1,4	49,80	B123	132MA4	30000	9645
25,8	2500	1,3	54,30	B123	132MA4	30000	9743
23,6	2733	1,2	59,36	B123	132MA4	30000	9830
22,4	2882	1,1	62,59	B123	132MA4	30000	9874
20,2	3197	1,0	69,43	B123	132MA4	30000	9940
18,8	3426	1,0	74,42	B123	132MA4	30000	9970
17,5	3685	0,9	80,04	B123	132MA4	30000	9985
54,6	1180	3,9	25,63	B143	132MA4	33087	33087
51,0	1264	3,6	27,44	B143	132MA4	33647	33647
46,6	1383	3,4	30,05	B143	132MA4	34388	34388
42,4	1520	3,1	33,01	B143	132MA4	35152	35152
38,2	1689	2,8	36,67	B143	132MA4	35997	35997
34,7	1855	2,6	40,29	B143	132MA4	36739	36739
31,7	2033	2,4	44,16	B143	132MA4	37447	37447
29,0	2226	2,2	48,35	B143	132MA4	38127	38127
26,3	2448	2,0	53,16	B143	132MA4	38813	38813
25,6	2515	2,0	54,63	B143	132MA4	39004	39004
23,7	2717	1,8	59,02	B143	132MA4	39532	39532
21,6	2987	1,7	64,88	B143	132MA4	40145	40145
19,9	3243	1,5	70,43	B143	132MA4	40639	40639
18,2	3551	1,4	77,12	B143	132MA4	41138	41138
16,4	3939	1,3	85,54	B143	132MA4	41641	41641
14,9	4334	1,2	94,13	B143	132MA4	42028	42028
13,2	4873	1,0	105,83	B143	132MA4	42388	42388
12,5	5154	1,0	111,94	B143	132MA4	42510	42510
29,5	2189	3,7	47,53	B153	132MA4	61315	61315
27,7	2328	3,4	50,56	B153	132MA4	62453	62453
25,6	2516	3,2	54,64	B153	132MA4	63903	63903
24,4	2637	3,0	57,27	B153	132MA4	64794	64794
23,0	2805	2,9	60,92	B153	132MA4	65000	65000
22,1	2923	2,7	63,47	B153	132MA4	65000	65000
19,7	3276	2,4	71,15	B153	132MA4	65000	65000
18,1	3556	2,2	77,22	B153	132MA4	65000	65000
16,7	3863	2,1	83,89	B153	132MA4	65000	65000
16,0	4036	2,0	87,65	B153	132MA4	65000	65000
15,0	4284	1,9	93,05	B153	132MA4	65000	65000
13,6	4748	1,7	103,12	B153	132MA4	65000	65000
11,3	5704	1,4	123,88	B153	132MA4	65000	65000
10,4	6182	1,3	134,27	B153	132MA4	65000	65000
9,4	6873	1,2	149,26	B153	132MA4	65000	65000
8,5	7616	1,1	165,42	B153	132MA4	65000	65000

9,2 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 (a) [N]	Fr2 (b) [N]
179,3	441	1,1	7,81	B083	132MB4	12158	3474
162,4	487	1,2	8,62	B083	132MB4	12441	3555
133,4	593	1,1	10,49	B083	132MB4	12988	3711
120,8	654	1,1	11,59	B083	132MB4	13255	3787
97,0	815	1,0	14,43	B083	132MB4	13812	3946
84,4	937	0,9	16,60	B083	132MB4	14134	4038
172,3	459	1,7	8,13	B103	132MB4	15771	4506
156,1	506	1,8	8,97	B103	132MB4	16204	4630
128,2	617	1,6	10,92	B103	132MB4	17086	4882
116,2	681	1,5	12,05	B103	132MB4	17531	5009

9,2 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 (a) [N]	Fr2 (b) [N]
93,4	846	1,4	14,99	B103	132MB4	18524	5293
81,1	975	1,4	17,27	B103	132MB4	19168	5476
73,5	1076	1,3	19,06	B103	132MB4	19610	5603
59,1	1339	1,0	23,70	B103	132MB4	20568	5877
52,8	1498	1,0	26,51	B103	132MB4	21042	6012
45,8	1726	0,9	30,55	B103	132MB4	21613	6175
42,3	1868	0,9	33,07	B103	132MB4	21914	6261
175,8	450	3,3	7,97	B123	132MB4	21978	6279
145,5	543	3,3	9,62	B123	132MB4	23109	6603
135,5	584	3,4	10,33	B123	132MB4	23543	6726
112,2	705	2,8	12,48	B123	132MB4	24688	7054
101,1	782	2,7	13,84	B123	132MB4	25316	7233
91,0	869	2,4	15,38	B123	132MB4	25950	7414
75,4	1049	2,1	18,58	B123	132MB4	27064	7733
67,9	1164	2,1	20,61	B123	132MB4	27660	7903
61,5	1287	2,2	22,78	B123	132MB4	28217	8062
54,1	1462	1,9	25,89	B123	132MB4	28897	8256
50,9	1554	1,8	27,51	B123	132MB4	29204	8344
45,5	1739	1,6	30,79	B123	132MB4	29744	8498
44,8	1766	1,6	31,26	B123	132MB4	29813	8518
40,4	1959	1,4	34,68	B123	132MB4	30000	8646
34,5	2289	1,2	40,53	B123	132MB4	30000	8810
31,2	2536	1,2	44,89	B123	132MB4	30000	8896
28,1	2813	1,1	49,80	B123	132MB4	30000	8962
25,8	3067	1,0	54,30	B123	132MB4	30000	8999
23,6	3353	1,0	59,36	B123	132MB4	30000	9016
22,4	3535	0,9	62,59	B123	132MB4	30000	9016
96,7	818	3,8	14,49	B143	132MB4	27921	27921
82,2	962	3,3	17,04	B143	132MB4	29121	29121
75,0	1054	3,4	18,66	B143	132MB4	29792	29792
66,7	1186	3,4	21,00	B143	132MB4	30666	30666
61,5	1286	3,4	22,77	B143	132MB4	31264	31264
54,6	1447	3,2	25,63	B143	132MB4	32127	32127
51,0	1550	3,0	27,44	B143	132MB4	32620	32620
46,6	1697	2,8	30,05	B143	132MB4	33263	33263
42,4	1864	2,5	33,01	B143	132MB4	33916	33916
38,2	2071	2,3	36,67	B143	132MB4	34623	34623
34,7	2276	2,1	40,29	B143	132MB4	35229	35229
31,7	2494	1,9	44,16	B143	132MB4	35792	35792
29,0	2731	1,8	48,35	B143	132MB4	36316	36316
26,3	3002	1,7	53,16	B143	132MB4	36821	36821
25,6	3085	1,6	54,63	B143	132MB4	36958	36958
23,7	3333	1,5	59,02	B143	132MB4	37322	37322
21,6	3665	1,4	64,88	B143	132MB4	37714	37714
19,9	3978	1,3	70,43	B143	132MB4	38000	38000
18,2	4356	1,1	77,12	B143	132MB4	38249	38249
16,4	4832	1,0	85,54	B143	132MB4	38436	38436
14,9	5316	0,9	94,13	B143	132MB4	38503	38503
33,1	2389	3,3	42,30	B153	132MB4	58558	58558
29,5	2685	3,0	47,53	B153	132MB4	60587	60587
27,7	2856	2,8	50,56	B153	132MB4	61679	61679
25,6	3086	2,6	54,64	B153	132MB4	63066	63066
24,4	3235	2,5	57,27	B153	132MB4	63917	63917
23,0	3441	2,3	60,92	B153	132MB4	65000	65000
22,1	3585	2,2	63,47	B153	132MB4	65000	65000
19,7	4018	2,0	71,15	B153	132MB4	65000	65000
18,1	4362	1,8	77,22	B153	132MB4	65000	65000
16,7	4738	1,7	83,89	B153	132MB4	65000	65000

9,2 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 (a) [N]	Fr2 (b) [N]
16,0	4951	1,6	87,65	B153	132MB4	65000	65000
15,0	5255	1,5	93,05	B153	132MB4	65000	65000
13,6	5824	1,4	103,12	B153	132MB4	65000	65000
11,3	6997	1,1	123,88	B153	132MB4	65000	65000
10,4	7584	1,1	134,27	B153	132MB4	65000	65000
9,4	8431	0,9	149,26	B153	132MB4	65000	65000

11,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 (a) [N]	Fr2 (b) [N]
179,3	527	0,9	7,81	B083	132MC4	11809	3374
162,4	582	1,0	8,62	B083	132MC4	12055	3444
133,4	709	0,9	10,49	B083	132MC4	12519	3577
120,8	783	1,0	11,59	B083	132MC4	12737	3639
172,3	549	1,5	8,13	B103	132MC4/160S4	15513	4432
156,1	606	1,5	8,97	B103	132MC4/160S4	15919	4548
128,2	738	1,4	10,92	B103	132MC4/160S4	16739	4783
116,2	814	1,2	12,05	B103	132MC4/160S4	17149	4900
93,4	1012	1,2	14,99	B103	132MC4/160S4	18048	5156
81,1	1166	1,2	17,27	B103	132MC4/160S4	18619	5320
73,5	1287	1,1	19,06	B103	132MC4/160S4	19005	5430
175,8	538	2,8	7,97	B123	132MC4/160S4	21573	6164
145,5	650	2,8	9,62	B123	132MC4/160S4	22621	6463
135,5	698	2,9	10,33	B123	132MC4/160S4	23018	6576
112,2	843	2,4	12,48	B123	132MC4/160S4	24054	6872
101,1	935	2,2	13,84	B123	132MC4/160S4	24613	7032
91,0	1039	2,0	15,38	B123	132MC4/160S4	25169	7191
75,4	1254	1,8	18,58	B123	132MC4/160S4	26121	7463
67,9	1392	1,8	20,61	B123	132MC4/160S4	26613	7604
61,5	1538	1,8	22,78	B123	132MC4/160S4	27060	7731
54,1	1748	1,6	25,89	B123	132MC4/160S4	27582	7881
50,9	1858	1,5	27,51	B123	132MC4/160S4	27807	7945
45,5	2080	1,3	30,79	B123	132MC4/160S4	28180	8051
44,8	2111	1,3	31,26	B123	132MC4/160S4	28225	8064
40,4	2342	1,2	34,68	B123	132MC4/160S4	28499	8143
34,5	2737	1,0	40,53	B123	132MC4/160S4	28777	8222
31,2	3032	1,0	44,89	B123	132MC4/160S4	28856	8245
28,1	3363	1,0	49,80	B123	132MC4/160S4	28839	8240
118,0	801	3,9	11,87	B143	132MC4/160S4	25998	25998
96,7	978	3,2	14,49	B143	132MC4/160S4	27347	27347
82,2	1151	2,8	17,04	B143	132MC4/160S4	28445	28445
75,0	1260	2,9	18,66	B143	132MC4/160S4	29052	29052
66,7	1418	2,8	21,00	B143	132MC4/160S4	29834	29834
61,5	1538	2,9	22,77	B143	132MC4/160S4	30361	30361
54,6	1731	2,7	25,63	B143	132MC4/160S4	31110	31110
51,0	1853	2,5	27,44	B143	132MC4/160S4	31531	31531
46,6	2029	2,3	30,05	B143	132MC4/160S4	32071	32071
42,4	2229	2,1	33,01	B143	132MC4/160S4	32607	32607
38,2	2477	1,9	36,67	B143	132MC4/160S4	33169	33169
34,7	2721	1,8	40,29	B143	132MC4/160S4	33632	33632
31,7	2982	1,6	44,16	B143	132MC4/160S4	34041	34041
29,0	3265	1,5	48,35	B143	132MC4/160S4	34398	34398
26,3	3590	1,4	53,16	B143	132MC4/160S4	34713	34713
25,6	3689	1,4	54,63	B143	132MC4/160S4	34792	34792

11,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 (a) [N]	Fr2 (b) [N]
23,7	3985	1,3	59,02	B143	132MC4/160S4	34981	34981
21,6	4382	1,1	64,88	B143	132MC4/160S4	35141	35141
19,9	4757	1,1	70,43	B143	132MC4/160S4	35207	35207
18,2	5208	1,0	77,12	B143	132MC4/160S4	35191	35191
55,6	1701	4,0	25,19	B153	132MC4/160S4	49720	49720
46,1	2049	3,9	30,35	B153	132MC4/160S4	52556	52556
41,6	2271	3,5	33,63	B153	132MC4/160S4	54166	54166
33,1	2856	2,8	42,30	B153	132MC4/160S4	57873	57873
29,5	3210	2,5	47,53	B153	132MC4/160S4	59817	59817
27,7	3415	2,3	50,56	B153	132MC4/160S4	60859	60859
25,6	3690	2,2	54,64	B153	132MC4/160S4	62181	62181
24,4	3868	2,1	57,27	B153	132MC4/160S4	62988	62988
23,0	4114	1,9	60,92	B153	132MC4/160S4	64055	64055
22,1	4286	1,9	63,47	B153	132MC4/160S4	64767	64767
19,7	4805	1,7	71,15	B153	132MC4/160S4	65000	65000
18,1	5215	1,5	77,22	B153	132MC4/160S4	65000	65000
16,7	5665	1,4	83,89	B153	132MC4/160S4	65000	65000
16,0	5919	1,4	87,65	B153	132MC4/160S4	65000	65000
15,0	6284	1,3	93,05	B153	132MC4/160S4	65000	65000
13,6	6964	1,1	103,12	B153	132MC4/160S4	65000	65000
11,3	8366	1,0	123,88	B153	132MC4/160S4	65000	65000
40,0	2365	3,4	35,02	B153	160S4	54808	54808
36,1	2621	3,1	38,81	B153	160S4	56463	56463
31,0	3045	3,9	45,09	B163	160S4	80000	65000
27,5	3444	3,8	51,00	B163	160S4	80000	65000
26,1	3622	3,6	53,63	B163	160S4	80000	65000
23,7	3982	3,3	58,97	B163	160S4	80000	65000
20,1	4712	2,8	69,78	B163	160S4	80000	65000
18,2	5181	2,5	76,72	B163	160S4	80000	65000
16,0	5912	2,2	87,54	B163	160S4	80000	65000
14,5	6500	2,0	96,25	B163	160S4	80000	65000
13,5	7019	1,9	103,93	B163	160S4	80000	65000
12,3	7717	1,7	114,27	B163	160S4	80000	65000
11,1	8528	1,5	126,29	B163	160S4	80000	65000
10,1	9377	1,4	138,85	B163	160S4	80000	65000
9,0	10456	1,2	154,83	B163	160S4	80000	65000

15,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 (a) [N]	Fr2 (b) [N]
172,3	748	1,1	8,13	B103	160L4	14939	4268
156,1	826	1,1	8,97	B103	160L4	15286	4367
128,2	1006	1,0	10,92	B103	160L4	15968	4562
116,2	1110	0,9	12,05	B103	160L4	16298	4656
175,8	734	2,0	7,97	B123	160L4	20674	5907
145,5	886	2,0	9,62	B123	160L4	21535	6153
135,5	952	2,1	10,33	B123	160L4	21851	6243
112,2	1149	1,7	12,48	B123	160L4	22645	6470
101,1	1275	1,6	13,84	B123	160L4	23050	6586
91,0	1417	1,5	15,38	B123	160L4	23433	6695
75,4	1711	1,3	18,58	B123	160L4	24024	6864
67,9	1898	1,3	20,61	B123	160L4	24287	6939
61,5	2098	1,3	22,78	B123	160L4	24489	6997
54,1	2384	1,2	25,89	B123	160L4	24660	7046

15,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 (a) [N]	Fr2 (b) [N]
50,9	2533	1,1	27,51	B123	160L4	24702	7058
45,5	2836	1,0	30,79	B123	160L4	24704	7058
44,8	2879	1,0	31,26	B123	160L4	24696	7056
129,2	998	3,0	10,84	B143	160L4	24433	24433
118,0	1093	2,8	11,87	B143	160L4	24952	24952
96,7	1334	2,3	14,49	B143	160L4	26070	26070
82,2	1569	2,0	17,04	B143	160L4	26943	26943
75,0	1718	2,1	18,66	B143	160L4	27408	27408
66,7	1934	2,1	21,00	B143	160L4	27983	27983
61,5	2097	2,1	22,77	B143	160L4	28354	28354
54,6	2360	1,9	25,63	B143	160L4	28852	28852
51,0	2527	1,8	27,44	B143	160L4	29113	29113
46,6	2767	1,7	30,05	B143	160L4	29423	29423
42,4	3040	1,5	33,01	B143	160L4	29697	29697
38,2	3377	1,4	36,67	B143	160L4	29937	29937
34,7	3710	1,3	40,29	B143	160L4	30081	30081
31,7	4067	1,2	44,16	B143	160L4	30149	30149
29,0	4453	1,1	48,35	B143	160L4	30137	30137
26,3	4895	1,0	53,16	B143	160L4	30028	30028
25,6	5031	1,0	54,63	B143	160L4	29977	29977
23,7	5435	0,9	59,02	B143	160L4	29780	29780
110,7	1164	3,9	12,64	B153	160L4	39788	39788
99,9	1290	3,9	14,01	B153	160L4	41049	41049
90,9	1418	3,5	15,40	B153	160L4	42237	42237
75,4	1709	3,5	18,56	B153	160L4	44652	44652
68,1	1894	3,4	20,56	B153	160L4	46024	46024
58,7	2197	3,0	23,86	B153	160L4	48057	48057
55,6	2319	2,9	25,19	B153	160L4	48812	48812
49,6	2600	3,1	28,23	B153	160L4	50425	50425
46,1	2795	2,9	30,35	B153	160L4	51462	51462
41,6	3097	2,6	33,63	B153	160L4	52955	52955
40,0	3225	2,5	35,02	B153	160L4	53546	53546
36,1	3574	2,2	38,81	B153	160L4	55065	55065
33,1	3895	2,1	42,30	B153	160L4	56349	56349
29,5	4377	1,8	47,53	B153	160L4	58104	58104
27,7	4656	1,7	50,56	B153	160L4	59038	59038
25,6	5032	1,6	54,64	B153	160L4	60212	60212
24,4	5274	1,5	57,27	B153	160L4	60925	60925
23,0	5610	1,4	60,92	B153	160L4	61861	61861
22,1	5845	1,4	63,47	B153	160L4	62480	62480
19,7	6552	1,2	71,15	B153	160L4	64199	64199
18,1	7111	1,1	77,22	B153	160L4	65000	65000
16,7	7725	1,0	83,89	B153	160L4	65000	65000
16,0	8072	1,0	87,65	B153	160L4	65000	65000
15,0	8569	0,9	93,05	B153	160L4	65000	65000
48,6	2652	3,8	28,80	B163	160L4	80000	65000
40,9	3154	3,8	34,25	B163	160L4	80000	65000
37,2	3468	3,5	37,66	B163	160L4	80000	65000
34,4	3744	3,4	40,65	B163	160L4	80000	65000
31,0	4152	2,9	45,09	B163	160L4	80000	65000
27,5	4697	2,8	51,00	B163	160L4	80000	65000
26,1	4939	2,6	53,63	B163	160L4	80000	65000
23,7	5430	2,4	58,97	B163	160L4	80000	65000
20,1	6426	2,0	69,78	B163	160L4	80000	65000
18,2	7065	1,8	76,72	B163	160L4	80000	65000
16,0	8061	1,6	87,54	B163	160L4	80000	65000
14,5	8863	1,5	96,25	B163	160L4	80000	65000
13,5	9571	1,4	103,93	B163	160L4	80000	65000

15,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 (a) [N]	Fr2 (b) [N]
12,3	10523	1,2	114,27	B163	160L4	80000	65000
11,1	11630	1,1	126,29	B163	160L4	80000	65000
10,1	12787	1,0	138,85	B163	160L4	80000	65000
9,0	14258	0,9	154,83	B163	160L4	80000	65000

18,5 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 (a) [N]	Fr2 (b) [N]
175,8	905	1,7	7,97	B123	180M4	19887	5682
145,5	1093	1,6	9,62	B123	180M4	20585	5881
135,5	1174	1,7	10,33	B123	180M4	20830	5952
112,2	1417	1,4	12,48	B123	180M4	21412	6118
101,1	1572	1,3	13,84	B123	180M4	21683	6195
91,0	1747	1,2	15,38	B123	180M4	21913	6261
75,4	2110	1,0	18,58	B123	180M4	22189	6340
67,9	2341	1,1	20,61	B123	180M4	22251	6358
61,5	2587	1,1	22,78	B123	180M4	22239	6354
54,1	2940	1,0	25,89	B123	180M4	22103	6315
129,2	1231	2,4	10,84	B143	180M4	23597	23597
118,0	1348	2,3	11,87	B143	180M4	24037	24037
96,7	1645	1,9	14,49	B143	180M4	24953	24953
82,2	1935	1,7	17,04	B143	180M4	25629	25629
75,0	2119	1,7	18,66	B143	180M4	25969	25969
66,7	2385	1,7	21,00	B143	180M4	26364	26364
61,5	2586	1,7	22,77	B143	180M4	26598	26598
54,6	2911	1,6	25,63	B143	180M4	26875	26875
51,0	3117	1,5	27,44	B143	180M4	26996	26996
46,6	3412	1,4	30,05	B143	180M4	27106	27106
42,4	3749	1,3	33,01	B143	180M4	27152	27152
38,2	4165	1,2	36,67	B143	180M4	27108	27108
34,7	4576	1,0	40,29	B143	180M4	26974	26974
31,7	5016	1,0	44,16	B143	180M4	26743	26743
29,0	5492	0,9	48,35	B143	180M4	26408	26408
133,4	1192	3,8	10,49	B153	180M4	37248	37248
110,7	1436	3,1	12,64	B153	180M4	39390	39390
99,9	1591	3,1	14,01	B153	180M4	40608	40608
90,9	1749	2,9	15,40	B153	180M4	41751	41751
75,4	2107	2,8	18,56	B153	180M4	44067	44067
68,1	2336	2,8	20,56	B153	180M4	45375	45375
58,7	2710	2,5	23,86	B153	180M4	47305	47305
55,6	2861	2,4	25,19	B153	180M4	48018	48018
49,6	3206	2,5	28,23	B153	180M4	49535	49535
46,1	3447	2,3	30,35	B153	180M4	50506	50506
41,6	3820	2,1	33,63	B153	180M4	51895	51895
40,0	3977	2,0	35,02	B153	180M4	52442	52442
36,1	4408	1,8	38,81	B153	180M4	53842	53842
33,1	4804	1,7	42,30	B153	180M4	55016	55016
29,5	5399	1,5	47,53	B153	180M4	56606	56606
27,7	5743	1,4	50,56	B153	180M4	57444	57444
25,6	6206	1,3	54,64	B153	180M4	58490	58490
24,4	6505	1,2	57,27	B153	180M4	59120	59120
23,0	6919	1,2	60,92	B153	180M4	59940	59940
22,1	7209	1,1	63,47	B153	180M4	60480	60480
19,7	8081	1,0	71,15	B153	180M4	61957	61957

18,5 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 (a) [N]	Fr2 (b) [N]
18,1	8771	0,9	77,22	B153	180M4	62988	62988
57,9	2745	3,8	24,17	B163	180M4	75782	65000
52,7	3019	3,7	26,58	B163	180M4	77894	65000
48,6	3271	3,1	28,80	B163	180M4	79709	65000
45,3	3512	3,3	30,92	B163	180M4	80000	65000
40,9	3890	3,1	34,25	B163	180M4	80000	65000
37,2	4277	2,9	37,66	B163	180M4	80000	65000
34,4	4617	2,8	40,65	B163	180M4	80000	65000
31,0	5121	2,3	45,09	B163	180M4	80000	65000
27,5	5792	2,2	51,00	B163	180M4	80000	65000
26,1	6091	2,1	53,63	B163	180M4	80000	65000
23,7	6697	1,9	58,97	B163	180M4	80000	65000
20,1	7925	1,6	69,78	B163	180M4	80000	65000
18,2	8713	1,5	76,72	B163	180M4	80000	65000
16,0	9942	1,3	87,54	B163	180M4	80000	65000
14,5	10931	1,2	96,25	B163	180M4	80000	65000
13,5	11804	1,1	103,93	B163	180M4	80000	65000
12,3	12979	1,0	114,27	B163	180M4	80000	65000
11,1	14343	0,9	126,29	B163	180M4	80000	65000

22,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 (a) [N]	Fr2 (b) [N]
175,8	1076	1,4	7,97	B123	180L4	19101	5457
145,5	1299	1,4	9,62	B123	180L4	19634	5610
135,5	1396	1,4	10,33	B123	180L4	19810	5660
112,2	1686	1,2	12,48	B123	180L4	20180	5766
101,1	1870	1,1	13,84	B123	180L4	20316	5804
91,0	2078	1,0	15,38	B123	180L4	20394	5827
61,5	3077	0,9	22,78	B123	180L4	19989	5711
129,2	1464	2,0	10,84	B143	180L4	22761	22761
118,0	1603	1,9	11,87	B143	180L4	23122	23122
96,7	1956	1,6	14,49	B143	180L4	23836	23836
82,2	2302	1,4	17,04	B143	180L4	24315	24315
75,0	2520	1,4	18,66	B143	180L4	24530	24530
66,7	2836	1,4	21,00	B143	180L4	24745	24745
61,5	3076	1,4	22,77	B143	180L4	24842	24842
54,6	3461	1,3	25,63	B143	180L4	24899	24899
51,0	3706	1,2	27,44	B143	180L4	24880	24880
46,6	4058	1,2	30,05	B143	180L4	24789	24789
42,4	4458	1,1	33,01	B143	180L4	24606	24606
38,2	4953	1,0	36,67	B143	180L4	24280	24280
133,4	1417	3,2	10,49	B153	180L4	36917	36917
110,7	1708	2,6	12,64	B153	180L4	38991	38991
99,9	1892	2,6	14,01	B153	180L4	40166	40166
90,9	2080	2,4	15,40	B153	180L4	41266	41266
75,4	2506	2,4	18,56	B153	180L4	43482	43482
68,1	2777	2,3	20,56	B153	180L4	44727	44727
58,7	3222	2,1	23,86	B153	180L4	46553	46553
55,6	3402	2,0	25,19	B153	180L4	47224	47224
49,6	3813	2,1	28,23	B153	180L4	48645	48645
46,1	4099	2,0	30,35	B153	180L4	49549	49549
41,6	4543	1,8	33,63	B153	180L4	50835	50835
40,0	4730	1,7	35,02	B153	180L4	51339	51339
36,1	5241	1,5	38,81	B153	180L4	52618	52618

22,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 (a) [N]	Fr2 (b) [N]
33,1	5713	1,4	42,30	B153	180L4	53683	53683
29,5	6420	1,2	47,53	B153	180L4	55108	55108
27,7	6829	1,2	50,56	B153	180L4	55850	55850
25,6	7380	1,1	54,64	B153	180L4	56767	56767
24,4	7736	1,0	57,27	B153	180L4	57314	57314
23,0	8229	1,0	60,92	B153	180L4	58020	58020
22,1	8573	0,9	63,47	B153	180L4	58479	58479
70,2	2695	4,0	19,96	B163	180L4	70883	65000
63,8	2964	3,5	21,94	B163	180L4	72844	65000
57,9	3265	3,2	24,17	B163	180L4	74875	65000
52,7	3590	3,1	26,58	B163	180L4	76896	65000
48,6	3890	2,6	28,80	B163	180L4	78627	65000
45,3	4177	2,8	30,92	B163	180L4	80000	65000
40,9	4626	2,6	34,25	B163	180L4	80000	65000
37,2	5087	2,4	37,66	B163	180L4	80000	65000
34,4	5491	2,3	40,65	B163	180L4	80000	65000
31,0	6090	2,0	45,09	B163	180L4	80000	65000
27,5	6888	1,9	51,00	B163	180L4	80000	65000
26,1	7243	1,8	53,63	B163	180L4	80000	65000
23,7	7964	1,6	58,97	B163	180L4	80000	65000
20,1	9424	1,4	69,78	B163	180L4	80000	65000
18,2	10362	1,3	76,72	B163	180L4	80000	65000
16,0	11823	1,1	87,54	B163	180L4	80000	65000
14,5	12999	1,0	96,25	B163	180L4	80000	65000
13,5	14037	0,9	103,93	B163	180L4	80000	65000

30,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 (a) [N]	Fr2 (b) [N]
129,2	1996	1,5	10,84	B143	200L4	20850	20850
118,0	2186	1,4	11,87	B143	200L4	21030	21030
96,7	2668	1,2	14,49	B143	200L4	21283	21283
82,2	3139	1,0	17,04	B143	200L4	21311	21311
75,0	3436	1,0	18,66	B143	200L4	21242	21242
66,7	3867	1,0	21,00	B143	200L4	21044	21044
61,5	4194	1,0	22,77	B143	200L4	20828	20828
54,6	4720	1,0	25,63	B143	200L4	20382	20382
51,0	5054	0,9	27,44	B143	200L4	20043	20043
133,4	1932	2,3	10,49	B153	200L4	36161	36161
110,7	2328	1,9	12,64	B153	200L4	38080	38080
99,9	2580	1,9	14,01	B153	200L4	39157	39157
90,9	2836	1,8	15,40	B153	200L4	40156	40156
75,4	3418	1,8	18,56	B153	200L4	42145	42145
68,1	3787	1,7	20,56	B153	200L4	43246	43246
58,7	4394	1,5	23,86	B153	200L4	44834	44834
55,6	4639	1,5	25,19	B153	200L4	45410	45410
49,6	5200	1,5	28,23	B153	200L4	46611	46611
46,1	5590	1,4	30,35	B153	200L4	47363	47363
41,6	6194	1,3	33,63	B153	200L4	48411	48411
40,0	6449	1,2	35,02	B153	200L4	48816	48816
36,1	7147	1,1	38,81	B153	200L4	49822	49822
33,1	7790	1,0	42,30	B153	200L4	50635	50635
29,5	8754	0,9	47,53	B153	200L4	51683	51683
117,9	2186	3,5	11,87	B163	200L4	59751	59751
109,3	2359	3,7	12,81	B163	200L4	61084	61084

30,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 (a) [N]	Fr2 (b) [N]
99,4	2594	3,7	14,08	B163	200L4	62768	62768
90,2	2859	3,5	15,52	B163	200L4	64523	64523
85,4	3018	3,3	16,39	B163	200L4	65512	65000
77,7	3318	3,1	18,02	B163	200L4	67261	65000
70,2	3676	2,9	19,96	B163	200L4	69170	65000
63,8	4042	2,6	21,94	B163	200L4	70961	65000
57,9	4452	2,4	24,17	B163	200L4	72801	65000
52,7	4895	2,3	26,58	B163	200L4	74615	65000
48,6	5304	1,9	28,80	B163	200L4	76156	65000
45,3	5695	2,0	30,92	B163	200L4	77522	65000
40,9	6309	1,9	34,25	B163	200L4	79484	65000
37,2	6936	1,8	37,66	B163	200L4	80000	65000
34,4	7487	1,7	40,65	B163	200L4	80000	65000
31,0	8305	1,4	45,09	B163	200L4	80000	65000
27,5	9393	1,4	51,00	B163	200L4	80000	65000
26,1	9877	1,3	53,63	B163	200L4	80000	65000
23,7	10860	1,2	58,97	B163	200L4	80000	65000
20,1	12851	1,0	69,78	B163	200L4	80000	65000
18,2	14130	0,9	76,72	B163	200L4	80000	65000

37,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 (a) [N]	Fr2 (b) [N]
133,4	2383	1,9	10,49	B153	225S4	35500	35500
110,7	2872	1,6	12,64	B153	225S4	37283	37283
99,9	3182	1,6	14,01	B153	225S4	38274	38274
90,9	3498	1,4	15,40	B153	225S4	39186	39186
75,4	4215	1,4	18,56	B153	225S4	40975	40975
68,1	4671	1,4	20,56	B153	225S4	41949	41949
58,7	5419	1,2	23,86	B153	225S4	43330	43330
55,6	5721	1,2	25,19	B153	225S4	43822	43822
49,6	6413	1,2	28,23	B153	225S4	44831	44831
46,1	6894	1,2	30,35	B153	225S4	45449	45449
41,6	7640	1,0	33,63	B153	225S4	46291	46291
40,0	7954	1,0	35,02	B153	225S4	46608	46608
36,1	8815	0,9	38,81	B153	225S4	47376	47376
157,4	2020	3,4	8,89	B163	225S4	54207	54207
132,4	2402	3,3	10,58	B163	225S4	56974	56974
117,9	2696	2,9	11,87	B163	225S4	58860	58860
109,3	2910	3,0	12,81	B163	225S4	60122	60122
99,4	3199	3,0	14,08	B163	225S4	61711	61711
90,2	3526	2,8	15,52	B163	225S4	63357	63357
85,4	3722	2,7	16,39	B163	225S4	64281	64281
77,7	4092	2,5	18,02	B163	225S4	65908	65000
70,2	4533	2,4	19,96	B163	225S4	67672	65000
63,8	4985	2,1	21,94	B163	225S4	69313	65000
57,9	5491	1,9	24,17	B163	225S4	70985	65000
52,7	6037	1,8	26,58	B163	225S4	72619	65000
48,6	6542	1,6	28,80	B163	225S4	73994	65000
45,3	7024	1,6	30,92	B163	225S4	75200	65000
40,9	7781	1,5	34,25	B163	225S4	76912	65000
37,2	8555	1,4	37,66	B163	225S4	78467	65000
34,4	9234	1,4	40,65	B163	225S4	79690	65000
31,0	10243	1,2	45,09	B163	225S4	80000	65000
27,5	11585	1,1	51,00	B163	225S4	80000	65000

37,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 (a) [N]	Fr2 (b) [N]
26,1	12182	1,1	53,63	**B163**	225S4	80000	65000
23,7	13394	1,0	58,97	**B163**	225S4	80000	65000

45,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 (a) [N]	Fr2 (b) [N]
133,4	2899	1,6	10,49	**B153**	225M4	34744	34744
110,7	3493	1,3	12,64	**B153**	225M4	36373	36373
99,9	3871	1,3	14,01	**B153**	225M4	37264	37264
90,9	4254	1,2	15,40	**B153**	225M4	38076	38076
75,4	5126	1,2	18,56	**B153**	225M4	39638	39638
68,1	5681	1,1	20,56	**B153**	225M4	40468	40468
58,7	6591	1,0	23,86	**B153**	225M4	41611	41611
55,6	6958	1,0	25,19	**B153**	225M4	42007	42007
49,6	7799	1,0	28,23	**B153**	225M4	42797	42797
46,1	8384	1,0	30,35	**B153**	225M4	43263	43263
157,4	2457	2,8	8,89	**B163**	225M4	53444	53444
132,4	2922	2,7	10,58	**B163**	225M4	56067	56067
117,9	3279	2,3	11,87	**B163**	225M4	57842	57842
109,3	3539	2,5	12,81	**B163**	225M4	59023	59023
99,4	3891	2,5	14,08	**B163**	225M4	60502	60502
90,2	4288	2,3	15,52	**B163**	225M4	62025	62025
85,4	4527	2,2	16,39	**B163**	225M4	62875	62875
77,7	4977	2,1	18,02	**B163**	225M4	64362	64362
70,2	5513	1,9	19,96	**B163**	225M4	65959	65000
63,8	6062	1,7	21,94	**B163**	225M4	67430	65000
57,9	6678	1,6	24,17	**B163**	225M4	68911	65000
52,7	7343	1,5	26,58	**B163**	225M4	70339	65000
48,6	7957	1,3	28,80	**B163**	225M4	71522	65000
45,3	8543	1,3	30,92	**B163**	225M4	72547	65000
40,9	9463	1,3	34,25	**B163**	225M4	73973	65000
37,2	10405	1,2	37,66	**B163**	225M4	75235	65000
34,4	11231	1,1	40,65	**B163**	225M4	76202	65000
31,0	12457	1,0	45,09	**B163**	225M4	77427	65000
27,5	14090	0,9	51,00	**B163**	225M4	78731	65000

55,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 (a) [N]	Fr2 (b) [N]
157,4	3002	2,3	8,89	**B163**	250M4	52490	52490
132,4	3571	2,2	10,58	**B163**	250M4	54932	54932
117,9	4008	1,9	11,87	**B163**	250M4	56568	56568
109,3	4325	2,0	12,81	**B163**	250M4	57649	57649
99,4	4755	2,0	14,08	**B163**	250M4	58992	58992
90,2	5241	1,9	15,52	**B163**	250M4	60360	60360
85,4	5533	1,8	16,39	**B163**	250M4	61117	61117
77,7	6083	1,7	18,02	**B163**	250M4	62429	62429
70,2	6739	1,6	19,96	**B163**	250M4	63818	63818
63,8	7410	1,4	21,94	**B163**	250M4	65076	65000
57,9	8162	1,3	24,17	**B163**	250M4	66318	65000
52,7	8974	1,2	26,58	**B163**	250M4	67488	65000

55,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 (a) [N]	Fr2 (b) [N]
48,6	9725	1,0	28,80	**B163**	250M4	68433	65000
45,3	10442	1,1	30,92	**B163**	250M4	69230	65000
40,9	11566	1,0	34,25	**B163**	250M4	70299	65000
37,2	12717	1,0	37,66	**B163**	250M4	71196	65000
34,4	13727	0,9	40,65	**B163**	250M4	71841	65000

75,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 (a) [N]	Fr2 (b) [N]
157,4	4094	1,7	8,89	**B163**	280S4	50582	50582
132,4	4869	1,6	10,58	**B163**	280S4	52663	52663
117,9	5465	1,4	11,87	**B163**	280S4	54022	54022
109,3	5898	1,5	12,81	**B163**	280S4	54901	54901
99,4	6485	1,5	14,08	**B163**	280S4	55970	55970
90,2	7147	1,4	15,52	**B163**	280S4	57030	57030
85,4	7545	1,3	16,39	**B163**	280S4	57602	57602
77,7	8296	1,3	18,02	**B163**	280S4	58564	58564
63,8	10104	1,0	21,94	**B163**	280S4	60369	60369
57,9	11130	0,9	24,17	**B163**	280S4	61132	61132
52,7	12238	0,9	26,58	**B163**	280S4	61786	61786

90,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 (a) [N]	Fr2 (b) [N]
157,4	4913	1,4	8,89	**B163**	280M4	49152	49152
132,4	5843	1,4	10,58	**B163**	280M4	50962	50962
117,9	6558	1,2	11,87	**B163**	280M4	52112	52112
109,3	7077	1,2	12,81	**B163**	280M4	52840	52840
99,4	7782	1,2	14,08	**B163**	280M4	53704	53704
90,2	8576	1,2	15,52	**B163**	280M4	54533	54533
85,4	9054	1,1	16,39	**B163**	280M4	54966	54966
77,7	9955	1,0	18,02	**B163**	280M4	55666	55666

IBA/IB – 모터 용량에 따른 분류(입력회전수=1400rpm Fs=1) / Performance(n=1400rpm Fs=1)

IBA42

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 (a) [N]	Fr2 (b) [N]
90	7,62	1,82	183,8	373	-	1814
90	10,62	1,31	131,8	355	-	2027
90	12,95	1,07	108,1	406	-	2165
90	14,46	0,96	96,8	443	-	2246
120	16,47	1,12	85	579	-	2346
120	22,97	0,81	60,9	355	-	2621
120	28,00	0,66	50	406	-	2800
120	31,27	0,59	44,8	443	-	2905
120	33,78	0,55	41,4	458	-	2981
120	47,12	0,39	29,7	355	-	3331
120	57,43	0,32	24,4	406	-	3558
110	64,13	0,26	21,8	406	-	3691
110	78,17	0,22	17,9	406	-	3943

IBA52

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 (a) [N]	Fr2 (b) [N]
160	7,91	3,12	176,9	373	-	1969
160	9,46	2,61	148	414	-	2090
160	11,57	2,13	121	405	-	2235
160	14,63	1,69	95,7	392	-	2416
200	17,11	1,8	81,8	529	-	2546
200	20,46	1,51	68,4	414	-	2702
200	25,03	1,23	55,9	405	-	2890
200	31,63	0,98	44,3	392	-	3124
200	35,10	0,88	39,9	446	-	3235
200	41,97	0,74	33,4	414	-	3433
220	51,34	0,66	27,3	445	-	3672
200	64,87	0,48	21,6	356	-	3970
200	79,07	0,39	17,7	406	-	4000

IBA53

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 (a) [N]	Fr2 (b) [N]
220	73,70	0,49	19	472	-	4000
220	93,33	0,38	15	472	-	4000
220	111,61	0,32	12,5	472	-	4000
220	136,53	0,26	10,3	472	-	4000
220	172,53	0,21	8,1	472	-	4000
220	197,11	0,18	7,1	472	-	4000
220	249,08	0,14	5,6	472	-	4000
220	271,16	0,13	5,2	472	-	4000
220	342,65	0,1	4,1	472	-	4000

IBA72

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 (a) [N]	Fr2 (b) [N]
350	8,36	6,46	167,5	664	5079	2540
350	10,06	5,37	139,2	685	5403	2701
350	12,44	4,34	112,5	667	5800	2900
420	14,91	4,35	93,9	826	6160	3080
420	17,94	3,61	78	685	6552	3276
420	22,19	2,92	63,1	667	7033	3517
420	27,45	2,36	51	667	7550	3775
420	33,04	1,96	42,4	685	8031	4016
400	40,87	1,51	34,3	635	8621	4311
350	45,64	1,18	30,7	646	8944	4472
350	54,94	0,98	25,5	685	9515	4757
350	67,96	0,79	20,6	667	10000	5107

IBA73

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 (a) [N]	Fr2 (b) [N]
450	43,89	1,67	31,9	330	8828	4414
450	52,83	1,39	26,5	411	9391	4696
450	65,35	1,12	21,4	400	10000	5041
450	80,83	0,91	17,3	400	10000	5411
450	97,29	0,75	14,4	411	10000	5500
450	120,34	0,61	11,6	400	10000	5500
450	149,73	0,49	9,4	398	10000	5500
450	180,23	0,41	7,8	411	10000	5500
450	222,93	0,33	6,3	400	10000	5500
450	260,20	0,28	5,4	424	10000	5500
450	321,85	0,23	4,3	400	10000	5500
450	357,95	0,2	3,9	445	10000	5500
450	442,76	0,17	3,2	400	10000	5500

IB063

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 (a) [N]	Fr2 (b) [N]
290	5,71	8,27	245	314	7034	2010
340	6,88	8,05	203,5	337	7335	2096
350	7,32	7,79	191,2	365	7475	2136
460	9,16	8,18	152,8	323	7673	2192
520	10,26	8,25	136,4	315	7774	2221
540	11,03	7,98	127	345	7927	2265
580	12,35	7,65	113,3	380	8142	2326
590	13,15	7,31	106,5	416	8322	2378
590	15,18	6,33	92,3	519	8853	2529
600	17,00	5,75	82,3	581	9248	2642
600	22,39	4,36	62,5	728	10385	2967
600	26,09	3,75	53,7	794	11063	3161
600	28,03	3,49	49,9	821	11393	3255
600	33,43	2,92	41,9	881	12000	3496
600	38,58	2,53	36,3	922	12000	3703
600	43,22	2,26	32,4	951	12000	3874
600	50,81	1,92	27,6	987	12000	4129

IB063

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 (a) [N]	Fr2 (b) [N]
600	56,93	1,72	24,6	1009	12000	4316
600	69,16	1,41	20,2	1041	12000	4654
600	77,48	1,26	18,1	1057	12000	4861
600	90,33	1,08	15,5	1076	12000	5154
600	101,20	0,97	13,8	1089	12000	5380
600	111,74	0,87	12,5	1098	12000	5585
600	124,20	0,79	11,3	1108	12000	5811
600	139,15	0,7	10,1	1116	12000	6062
600	157,42	0,62	8,9	1125	12000	6346

IB083

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 (a) [N]	Fr2 (b) [N]
500	7,81	10,43	179,3	1685	11980	3423
600	8,62	11,33	162,4	1571	12040	3440
650	10,49	10,09	133,4	1728	12807	3659
750	11,59	10,54	120,8	1671	12915	3690
810	14,43	9,14	97	1847	13870	3963
850	16,60	8,34	84,4	1948	14518	4148
850	18,32	7,56	76,4	2047	15115	4319
850	22,82	6,07	61,4	2235	16508	4717
850	26,71	5,18	52,4	2346	17573	5021
850	29,50	4,69	47,5	2408	18000	5220
850	31,80	4,35	44	2451	18000	5376
850	34,49	4,01	40,6	2494	18000	5549
850	39,60	3,5	35,4	2500	18000	5853
850	42,95	3,22	32,6	2500	18000	6039
850	45,44	3,05	30,8	2500	18000	6171
850	51,19	2,7	27,4	2500	18000	6458
850	55,52	2,49	25,2	2500	18000	6660
850	59,96	2,31	23,4	2500	18000	6856
850	63,74	2,17	22	2500	18000	7016
850	69,14	2	20,2	2500	18000	7234
850	73,14	1,89	19,1	2500	18000	7388
850	80,76	1,71	17,3	2500	18000	7666
850	92,19	1,5	15,2	2500	18000	8052
850	100,57	1,38	13,9	2500	18000	8315
850	105,29	1,32	13,3	2500	18000	8457
850	116,25	1,19	12	2500	18000	8771
850	126,76	1,09	11	2500	18000	9053
850	144,77	0,96	9,7	2500	18000	9503

IB103

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 (a) [N]	Fr2 (b) [N]
800	8,13	16,03	172,3	1078	14868	4248
900	8,97	16,35	156,1	1041	15147	4328
1000	10,92	14,92	128,2	1211	16052	4586
1000	12,05	13,52	116,2	1377	16676	4765
1200	14,99	13,04	93,4	1433	17560	5017
1400	17,27	13,2	81,1	1414	17992	5141
1400	19,06	11,97	73,5	1561	18718	5348
1400	23,70	9,62	59,1	1839	20415	5833

IB103

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 (a) [N]	Fr2 (b) [N]
1500	26,51	9,22	52,8	1887	21050	6014
1600	30,55	8,53	45,8	1969	21978	6279
1700	33,07	8,37	42,3	1987	22000	6398
1700	35,87	7,72	39	2065	22000	6610
1700	41,12	6,73	34	2182	22000	6979
1700	44,61	6,21	31,4	2244	22000	7207
1700	47,28	5,86	29,6	2286	22000	7374
1700	50,24	5,51	27,9	2327	22000	7552
1700	53,02	5,22	26,4	2361	22000	7712
1700	58,50	4,73	23,9	2419	22000	8013
1700	64,89	4,27	21,6	2474	22000	8340
1700	68,58	4,04	20,4	2502	22000	8519
1700	72,76	3,81	19,2	2529	22000	8715
1700	78,92	3,51	17,7	2564	22000	8990
1800	83,66	3,5	16,7	2565	22000	9109
1800	92,31	3,18	15,2	2604	22000	9459
1800	105,44	2,78	13,3	2651	22000	9950
1800	114,80	2,55	12,2	2678	22000	10275
1800	120,42	2,43	11,6	2692	22000	10462
1800	132,87	2,21	10,5	2719	22000	10856
1800	144,69	2,03	9,7	2740	22000	11208
1800	165,25	1,77	8,5	2770	22000	11776

IB123

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 (a) [N]	Fr2 (b) [N]
1500	7,97	30,67	175,8	2561	17308	4945
1800	9,62	30,48	145,5	2570	17484	4995
2000	10,33	31,52	135,5	2521	17181	4909
2000	12,48	26,1	112,2	2775	18875	5393
2100	13,84	24,71	101,1	2841	19393	5541
2100	15,38	22,24	91	2957	20420	5834
2200	18,58	19,29	75,4	3095	21892	6255
2500	20,61	19,76	67,9	3073	21629	6180
2800	22,78	20,02	61,5	3061	21364	6104
2800	25,89	17,62	54,1	3174	22840	6526
2800	27,51	16,58	50,9	3223	23562	6732
2800	30,79	14,81	45,5	3306	24944	7127
2800	31,26	14,59	44,8	3316	25133	7181
2800	34,68	13,15	40,4	3384	26458	7559
2800	40,53	11,25	34,5	3473	28532	8152
3000	44,89	10,89	31,2	3490	29033	8295
3200	49,80	10,47	28,1	3510	29606	8459
3200	54,30	9,6	25,8	3550	30000	8825
3200	59,36	8,78	23,6	3589	30000	9214
3300	62,59	8,59	22,4	3598	30000	9319
3300	69,43	7,74	20,2	3638	30000	9795
3500	74,42	7,66	18,8	3641	30000	9859
3500	80,04	7,12	17,5	3667	30000	10211
3500	89,87	6,34	15,6	3703	30000	10788
3500	99,70	5,72	14	3733	30000	11324
3500	106,65	5,35	13,1	3750	30000	11682

IB123

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 (a) [N]	Fr2 (b) [N]
3500	119,60	4,77	11,7	3777	30000	12309
3500	129,96	4,39	10,8	3795	30000	12780
3500	144,43	3,95	9,7	3816	30000	13395
3500	160,23	3,56	8,7	3834	30000	14022
3500	180,40	3,16	7,8	3853	30000	14766

IB143

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 (a) [N]	Fr2 (b) [N]
3000	10,84	45,08	129,2	2299	17471	17471
3100	11,87	42,55	118	2395	17969	17969
3100	14,49	34,86	96,7	2685	19947	19947
3200	17,04	30,59	82,2	2847	21300	21300
3600	18,66	31,43	75	2815	20860	20860
4000	21,00	31,03	66,7	2830	20767	20767
4400	22,77	31,47	61,5	2813	20285	20285
4600	25,63	29,24	54,6	2898	21002	21002
4600	27,44	27,3	51	2971	21858	21858
4700	30,05	25,48	46,6	3040	22664	22664
4700	33,01	23,19	42,4	3126	23910	23910
4800	36,67	21,32	38,2	3197	24993	24993
4800	40,29	19,41	34,7	3269	26324	26324
4800	44,16	17,7	31,7	3334	27663	27663
5000	48,35	16,84	29	3366	28308	28308
5000	53,16	15,32	26,3	3424	29777	29777
5000	54,63	14,91	25,6	3439	30209	30209
5000	59,02	13,8	23,7	3481	31452	31452
5000	64,88	12,55	21,6	3528	33022	33022
5000	70,43	11,56	19,9	3566	34421	34421
5000	77,12	10,56	18,2	3603	36011	36011
5000	85,54	9,52	16,4	3643	37890	37890
5000	94,13	8,65	14,9	3675	39680	39680
5000	105,83	7,7	13,2	3712	41952	41952
5000	111,94	7,28	12,5	3728	43071	43071
5000	124,62	6,54	11,2	3755	45000	45000
5000	136,44	5,97	10,3	3777	45000	45000
5000	149,59	5,44	9,4	3797	45000	45000
5000	166,53	4,89	8,4	3818	45000	45000
5000	187,24	4,35	7,5	3838	45000	45000

IB153

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 (a) [N]	Fr2 (b) [N]
4500	10,49	69,86	133,4	7032	32656	32656
4500	12,64	57,98	110,7	7516	35147	35147
5000	14,01	58,13	99,9	7509	35853	35853
5000	15,40	52,89	90,9	7723	37222	37222
6000	18,56	52,67	75,4	7732	38582	38582
6500	20,56	51,49	68,1	7780	39483	39483
6700	23,86	45,74	58,7	8014	41653	41653
6800	25,19	43,98	55,6	8085	42436	42436
8000	28,23	46,16	49,6	7997	42686	42686
8000	30,35	42,94	46,1	8128	44001	44001

IB153

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 (a) [N]	Fr2 (b) [N]
8000	33,63	38,74	41,6	8298	45923	45923
8000	35,02	37,21	40	8361	46696	46696
8000	38,81	33,58	36,1	8509	48712	48712
8000	42,30	30,81	33,1	8621	50453	50453
8000	47,53	27,41	29,5	8759	52896	52896
8000	50,56	25,77	27,7	8826	54227	54227
8000	54,64	23,85	25,6	8904	55937	55937
8000	57,27	22,75	24,4	8949	56996	56996
8000	60,92	21,39	23	9005	58412	58412
8000	63,47	20,53	22,1	9039	59367	59367
8000	71,15	18,32	19,7	9130	62097	62097
8000	77,22	16,87	18,1	9188	64121	64121
8000	83,89	15,53	16,7	9243	65000	65000
8000	87,65	14,87	16	9270	65000	65000
8000	93,05	14	15	9305	65000	65000
8000	103,12	12,64	13,6	9361	65000	65000
8000	123,88	10,52	11,3	9447	65000	65000
8000	134,27	9,71	10,4	9480	65000	65000
8000	149,26	8,73	9,4	9520	65000	65000
8000	165,42	7,88	8,5	9554	65000	65000

IB163

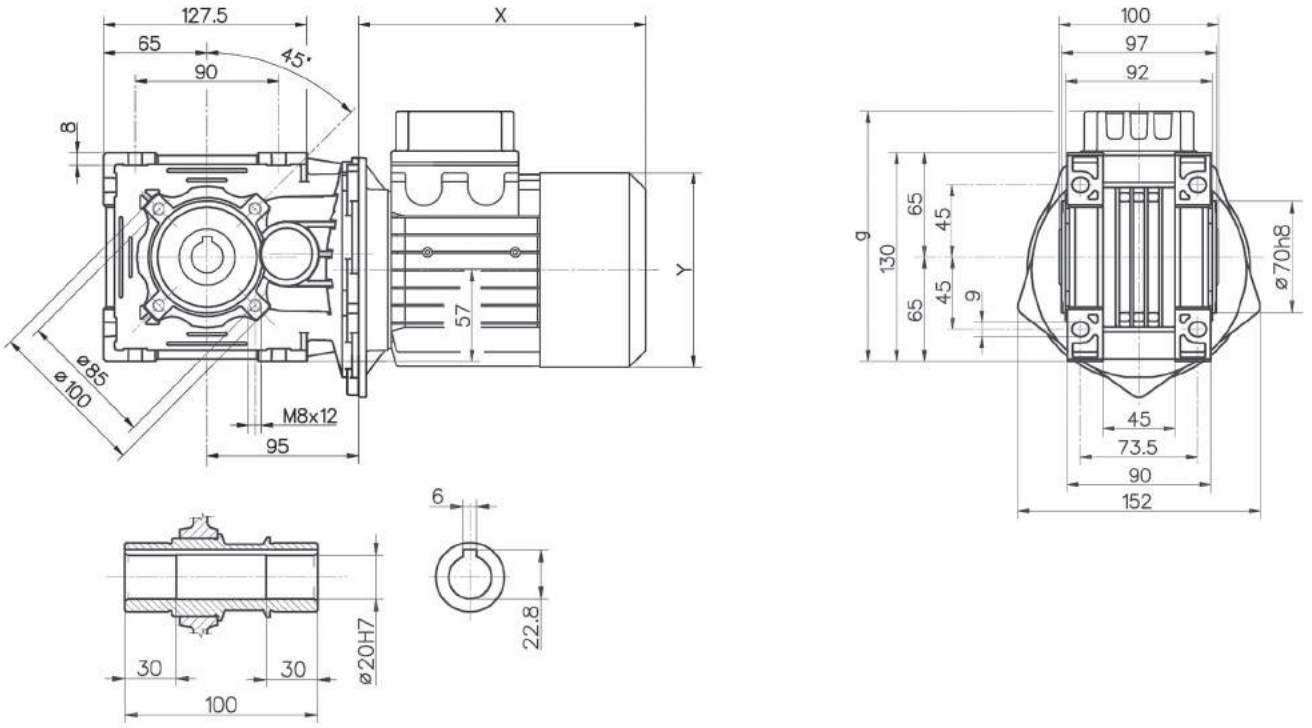
M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 (a) [N]	Fr2 (b) [N]
6800	8,89	124,57	157,4	7073	46145	46145
7900	10,58	121,68	132,4	7148	47640	47640
7700	11,87	105,67	117,9	7565	50376	50376
8800	12,81	111,91	109,3	7403	50078	50078
9600	14,08	111,03	99,4	7426	50762	50762
10000	15,52	104,94	90,2	7584	52265	52265
9900	16,39	98,41	85,4	7754	53698	53698
10400	18,02	94,03	77,7	7869	55082	55082
10700	19,96	87,33	70,2	8043	57072	57072
10400	21,94	77,2	63,8	8307	60008	60008
10500	24,17	70,75	57,9	8475	62369	62369
11100	26,58	68,03	52,7	8546	63887	63887
10200	28,80	57,69	48,6	8815	67696	65000
11500	30,92	60,58	45,3	8740	67456	65000
11900	34,25	56,59	40,9	8844	69762	65000
12300	37,66	53,2	37,2	8932	71943	65000
12700	40,65	50,89	34,4	8992	73630	65000
12000	45,09	43,35	31	9189	78186	65000
13000	51,00	41,52	27,5	9236	80000	65000
13000	53,63	39,48	26,1	9289	80000	65000
13000	58,97	35,91	23,7	9382	80000	65000
13000	69,78	30,35	20,1	9527	80000	65000
13000	76,72	27,6	18,2	9599	80000	65000
13000	87,54	24,19	16	9688	80000	65000
13000	96,25	22	14,5	9745	80000	65000
13000	103,93	20,37	13,5	9787	80000	65000
13000	114,27	18,53	12,3	9835	80000	65000
13000	126,29	16,77	11,1	9881	80000	65000
13000	138,85	15,25	10,1	9921	80000	65000
13000	154,83	13,68	9	9962	80000	65000

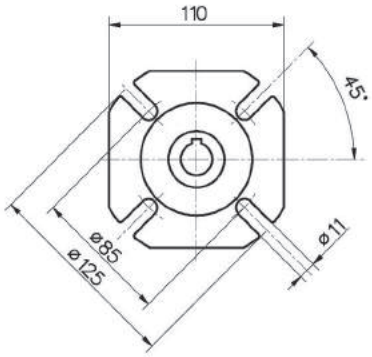
Fr2(a) = FD, FS, FP, SD, SS, SP, UC, UD, US, UP
Fr2(b) = FC, FL, FM, SC, SL, SM, UL, UM + B083UC Ø45

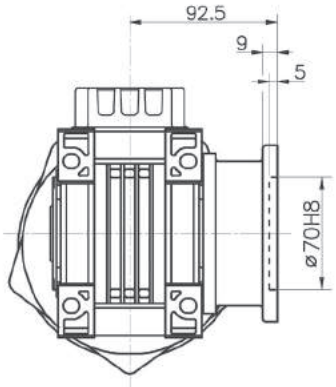
메모 / Notes

A42 치수 / Dimensions

CB







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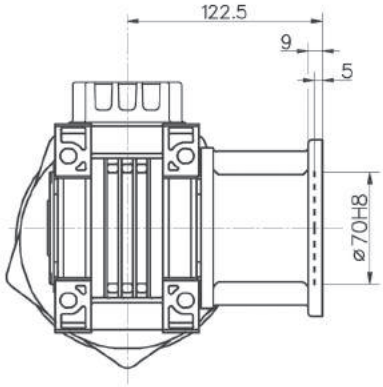


FB

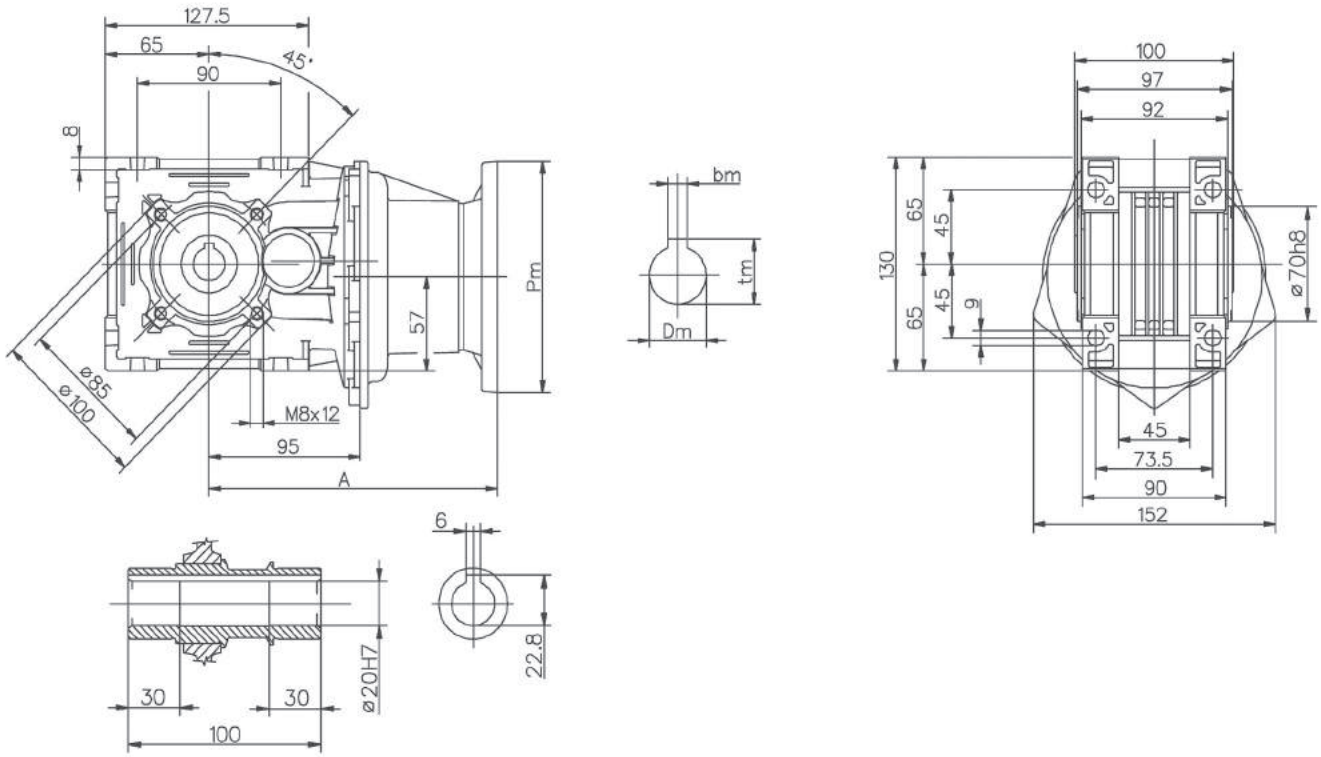
A42	표준모터 / Standard motor				브레이크 모터 / Brake motor			
	g1	X	Y	~Kg	g	X	Y	~Kg
63	161	180	121	7,9	176	238	121	9,3
71	169	205	139	11,8	185	269	139	11,8
80	179	223	158	13,8	194	294	158	16,9

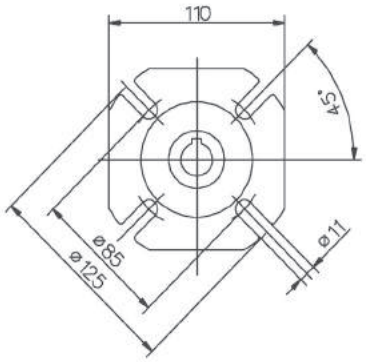
(..) 주문사양
(..) Only on request

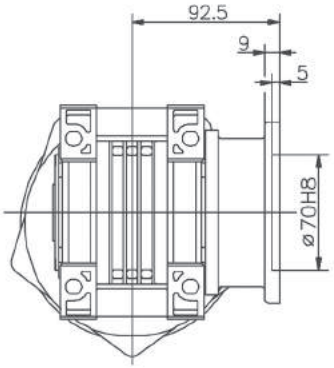
- 모터 포함 무게
- Weight with motor

Dimensions / 치수 A42

B







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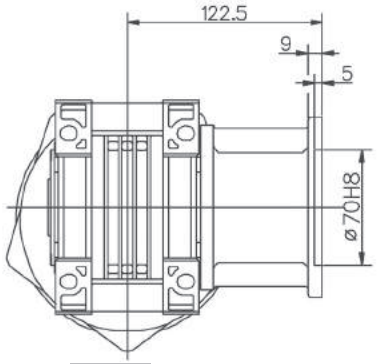


FB

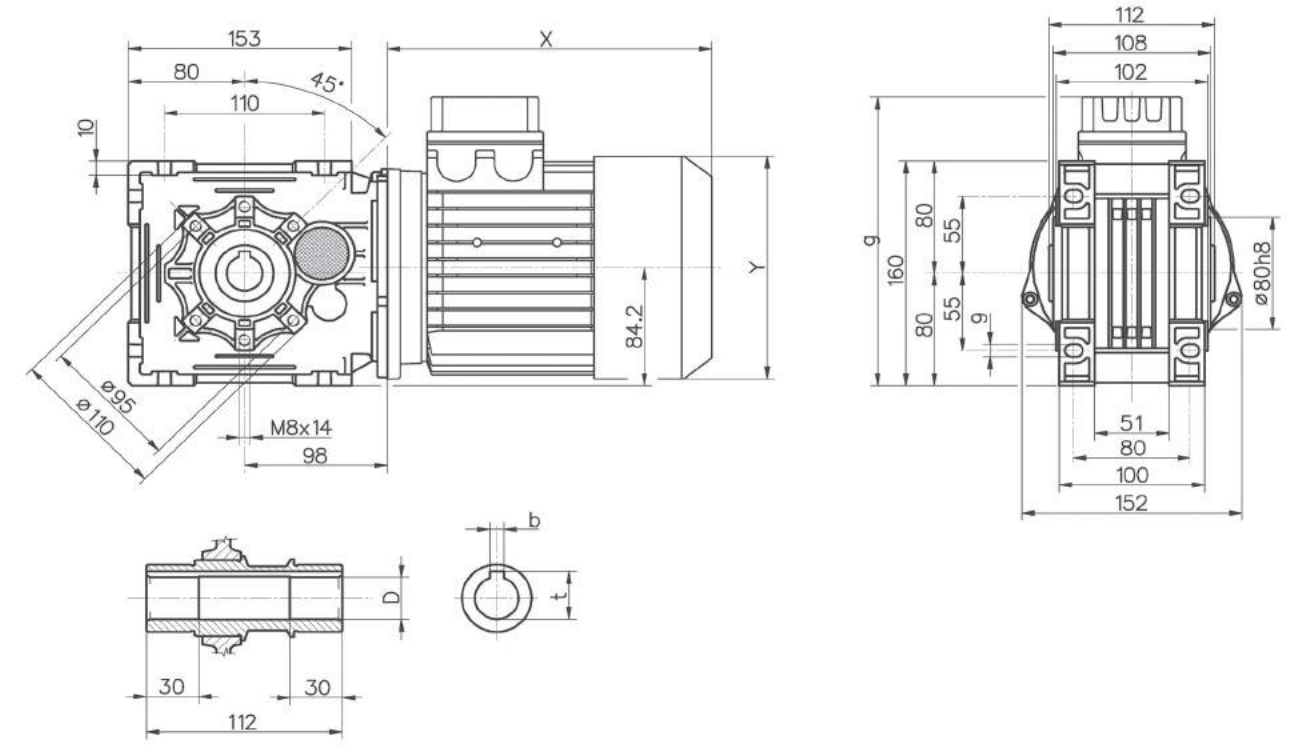
PAM	A	Kg
063	150	5
071	150	5,1
080	181	5,3

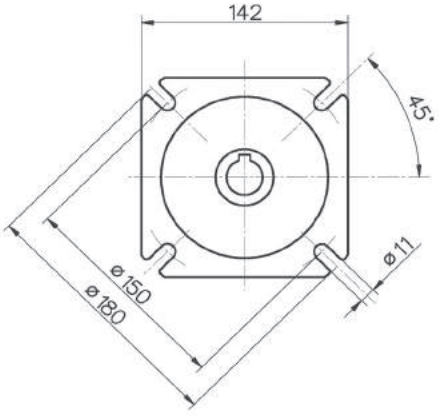
(..)주문사양 – 모터 제외 무게
(..)Only on request – Weight without motor

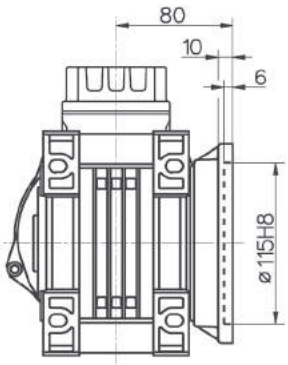
감속기에 취부할 모터의 dimensions (Pm,Dm,bm,tm)을 확인하려면 285페이지 참조
For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 285.

A52 치수 / Dimensions

CB







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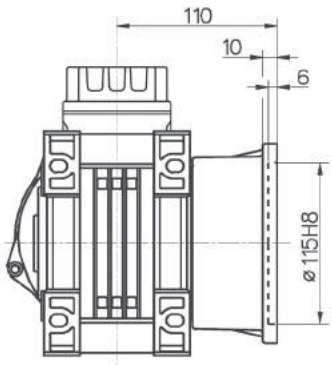


FB

A52	표준모터 / Standard motor				브레이크 모터 / Brake motor			
	g	X	Y	~Kg	g	X	Y	~Kg
63	188	180	121	8,6	204	238	121	10
71	197	205	139	10,6	213	269	139	12,5
80	206	223	158	14,6	222	294	158	17,7
90S	214	237	173	16,5	214	313	173	21,3
90L	214	262	173	19	214	338	173	23,9

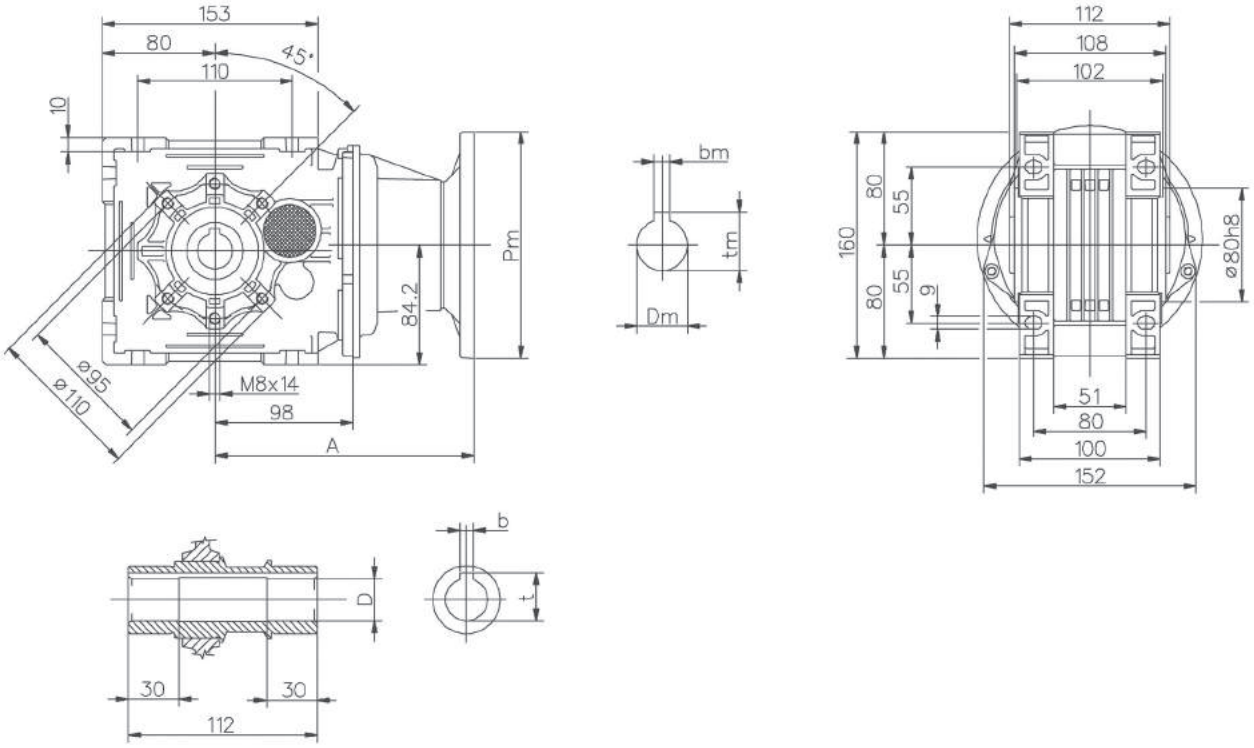
Output Hollow Shaft		
D H7	b	t
25	8	28,3
(28)	(8)	(31,1)

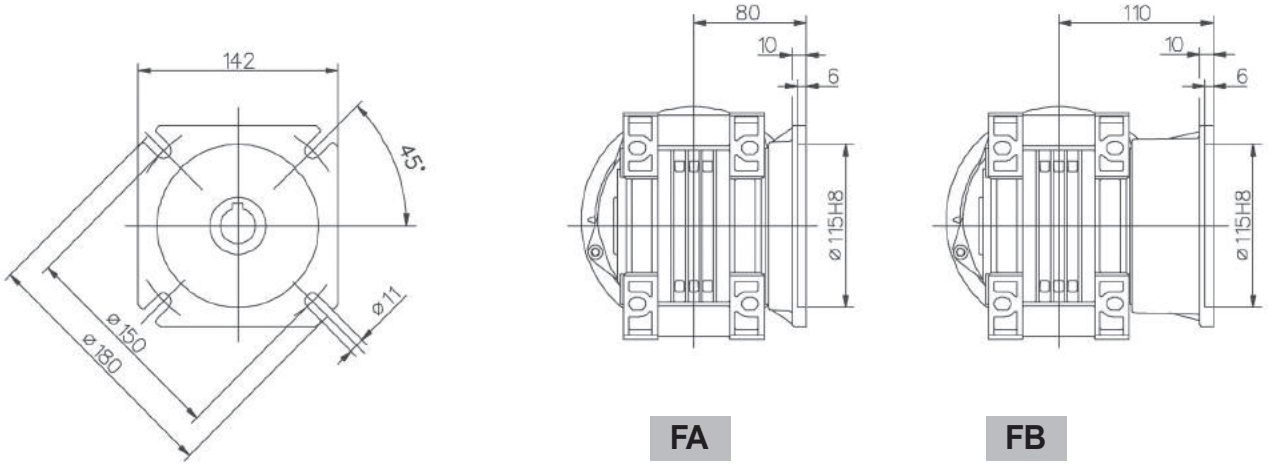
(..) 주문사양
(..) Only on request

- 모터 포함 무게
- Weight with motor

Dimensions / 치수 A52

B





FA FB

Output Hollow Shaft		
D H7	b	t
25	8	28,3
(28)	(8)	(31,1)

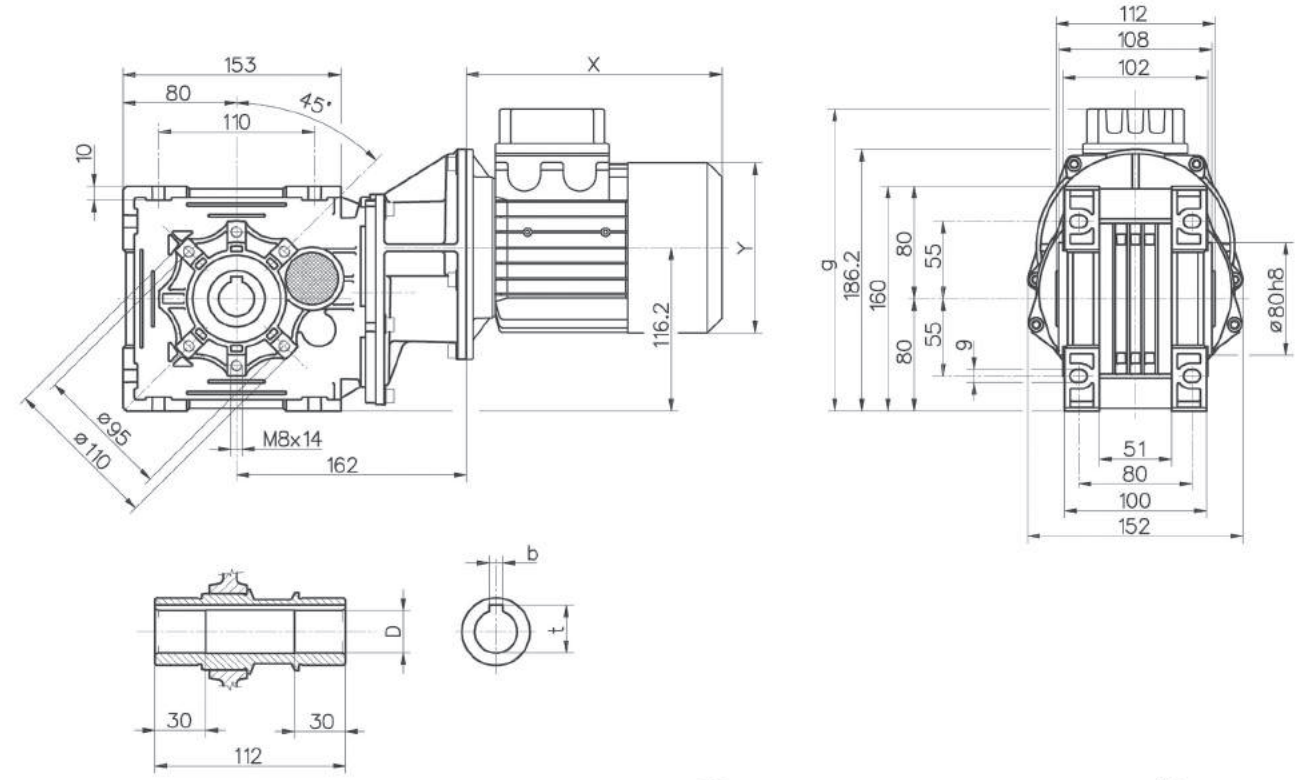
PAM	A	Kg
063	153	5,7
071	153	5,8
080 – 090	184	6

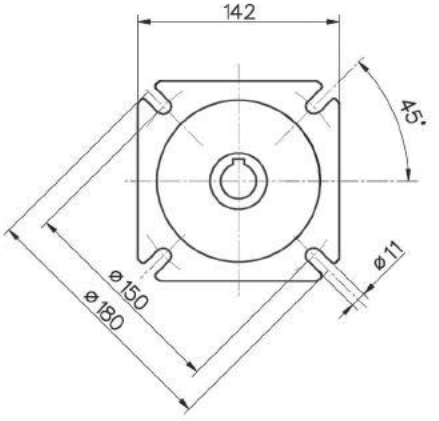
(..)주문사양 – 모터 제외 무게
(..)Only on request – Weight without motor

감속기에 취부할 모터의 dimensions (Pm,Dm,bm,tm)을 확인하려면 285페이지 참조
For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 285.

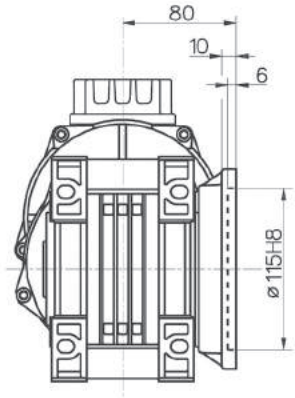
A53 치수 / Dimensions

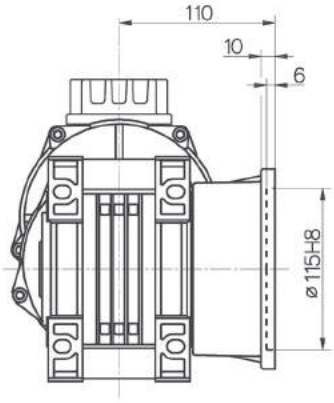
CB





FA





FB

A53	표준모터 / Standard motor				브레이크 모터 / Brake motor			
	g	X	Y	~Kg	g	X	Y	~Kg
63	220	180	121	10,4	236	238	121	11,8
71	229	205	139	12,4	245	269	139	14,3
80	238	223	158	16,4	254	294	158	19,5
90S	246	237	173	18,3	246	313	173	23,1
90L	246	262	173	20,8	246	338	173	25,7

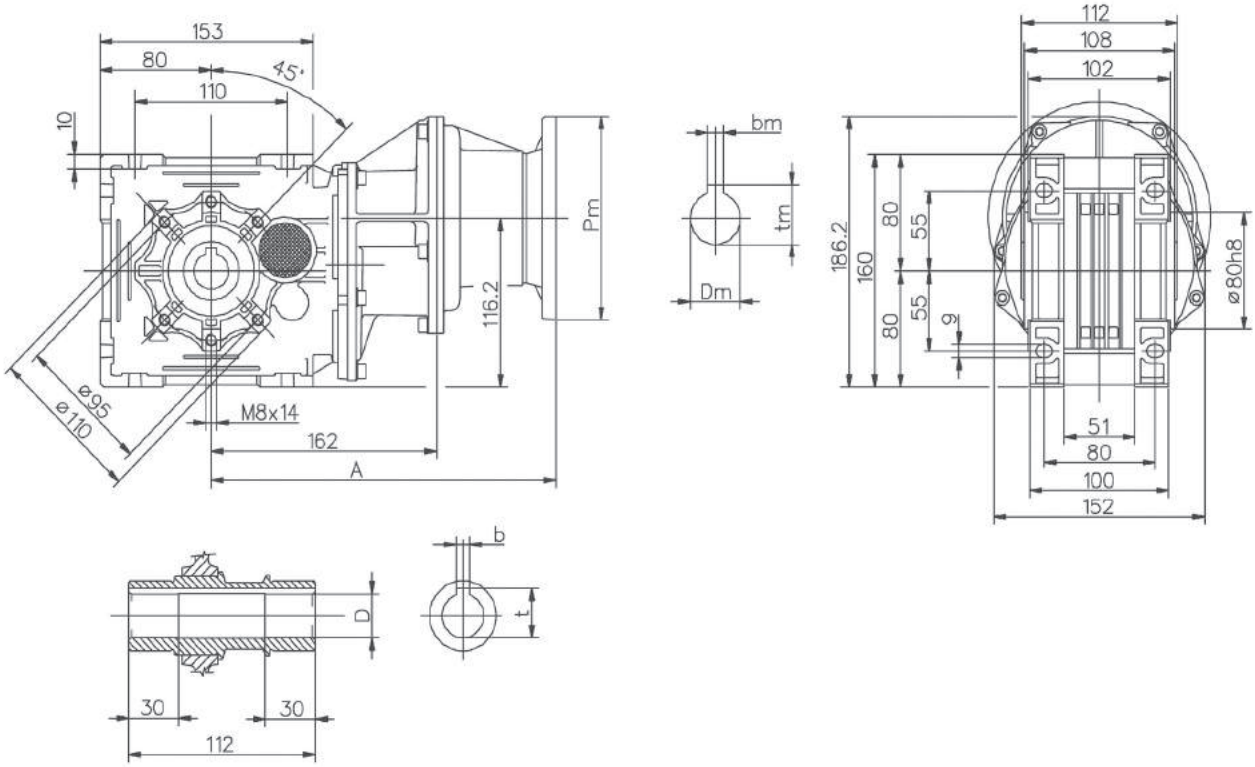
Output Hollow Shaft		
D H7	b	t
25	8	28,3
(28)	(8)	(31,1)

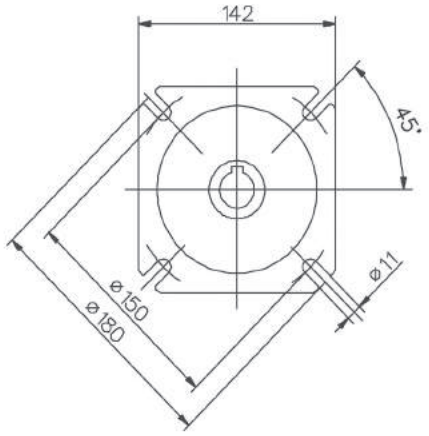
(..) 주문사양
(..) Only on request

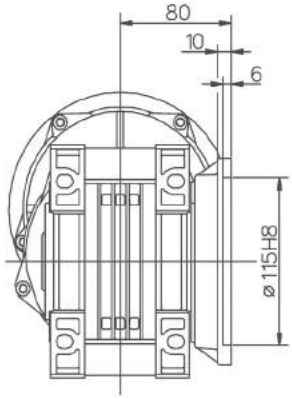
- 모터 포함 무게
- Weight with motor

Dimensions / 치수 A53

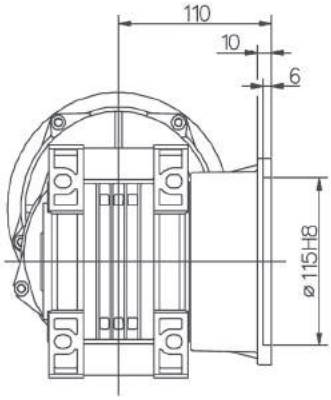
B







FA



FB

Output Hollow Shaft		
D H7	b	t
25	8	28,3
(28)	(8)	(31,1)

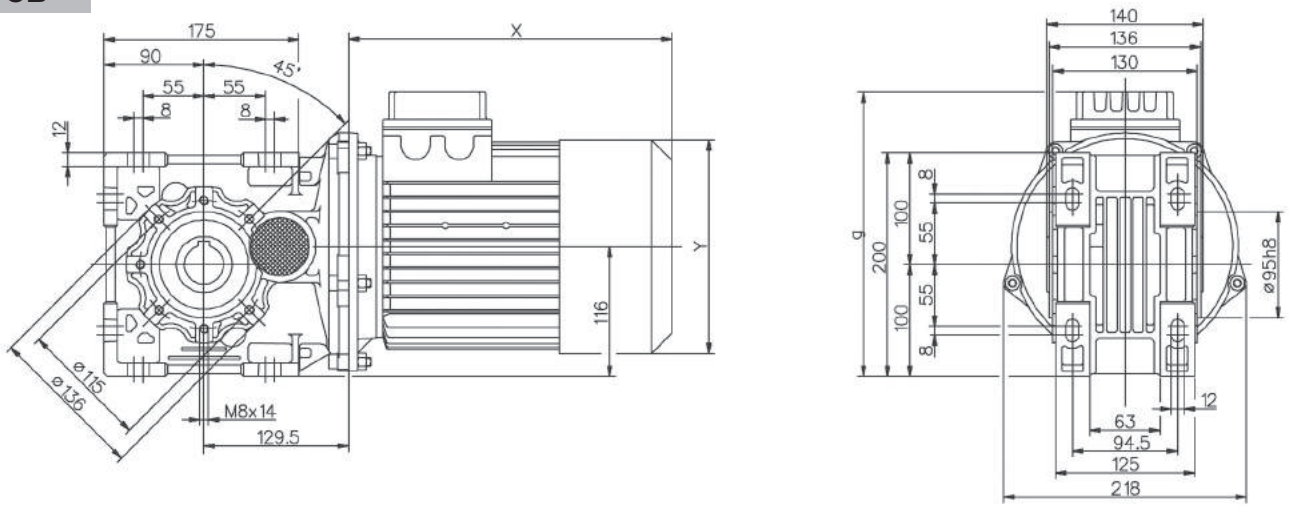
PAM	A	Kg
063	217	7,6
071	217	7,7
080	248	9,1

(..) 주문사양
(..) Only on request

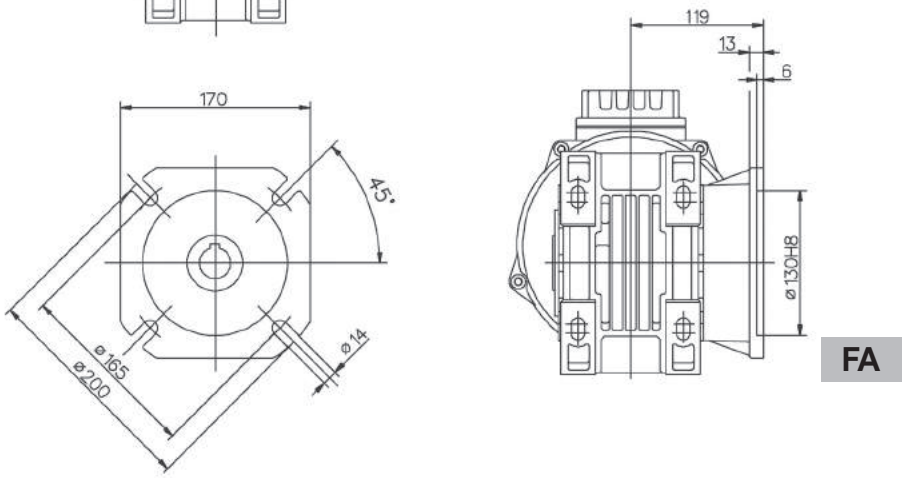
감속기에 취부할 모터의 dimensions (Pm,Dm,bm,tm)을 확인하려면 285페이지 참조
For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 285.

A72 치수 / Dimensions

CB



FA



A72	표준모터 / Standard motor				브레이크 모터 / Brake motor			
	g	X	Y	~Kg	g	X	Y	~Kg
80	238	218	158	22,6	253	290	158	26,6
90S	246	232	173	24,6	246	309	173	28,1
90L	246	257	173	27,1	246	334	173	32,6
100	255	290	191	35,6	255	372	191	42,6
112	270	302	211	42,6	270	400	211	52,6

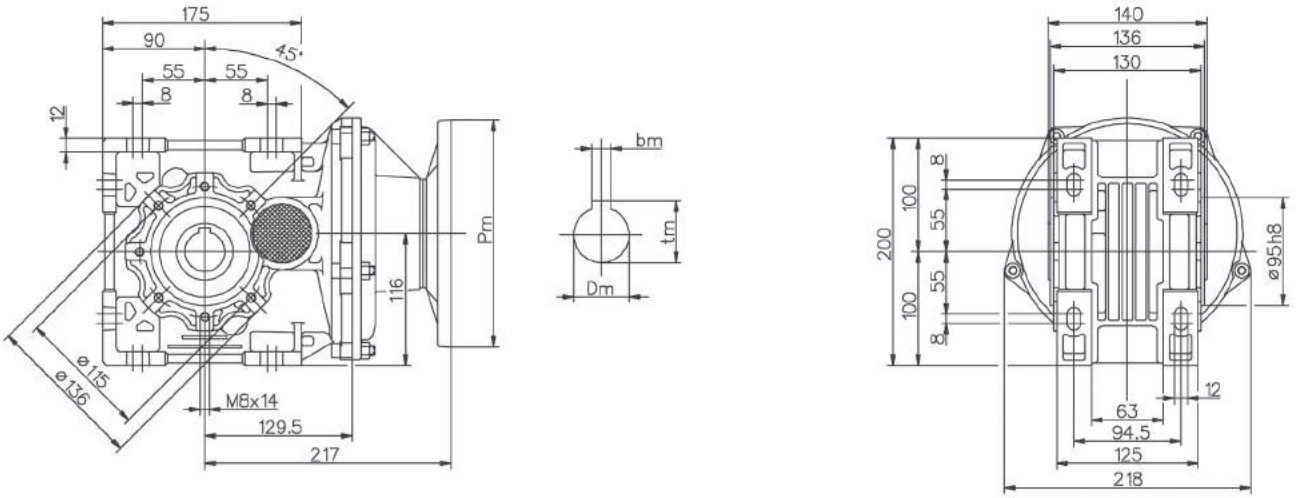
Output Hollow Shaft		
D H7	b	t
35	10	38,3
(30)	(8)	(33,3)

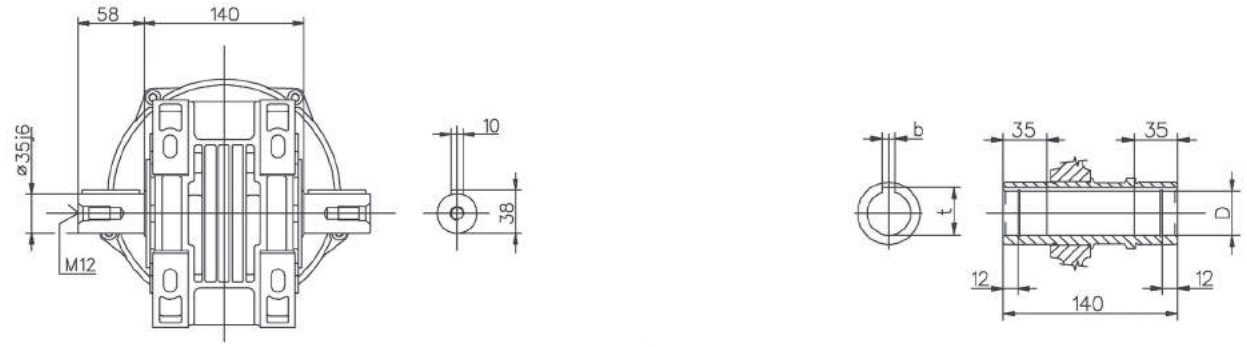
(..) 주문사양
(..) Only on request

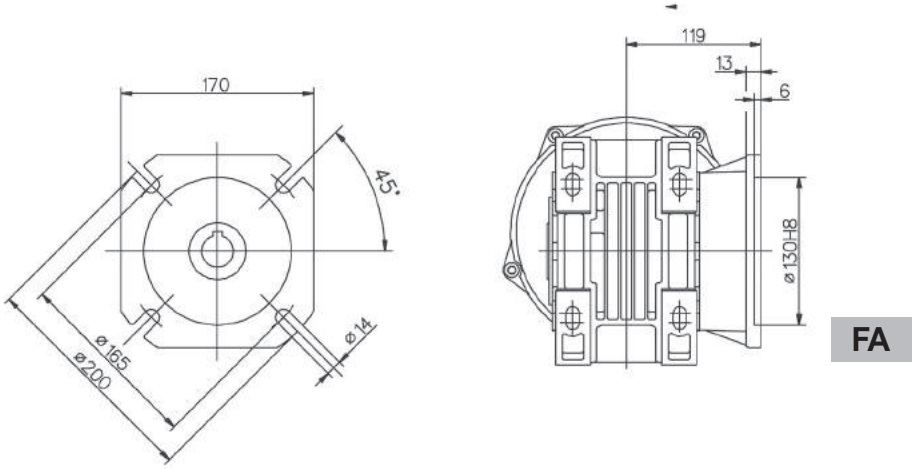
- 모터 포함 무게
- Weight with motor

Dimensions / 치수 A72

B







FA

Output Hollow Shaft		
D H7	b	t
35	10	38,3
(30)	(8)	(33,3)

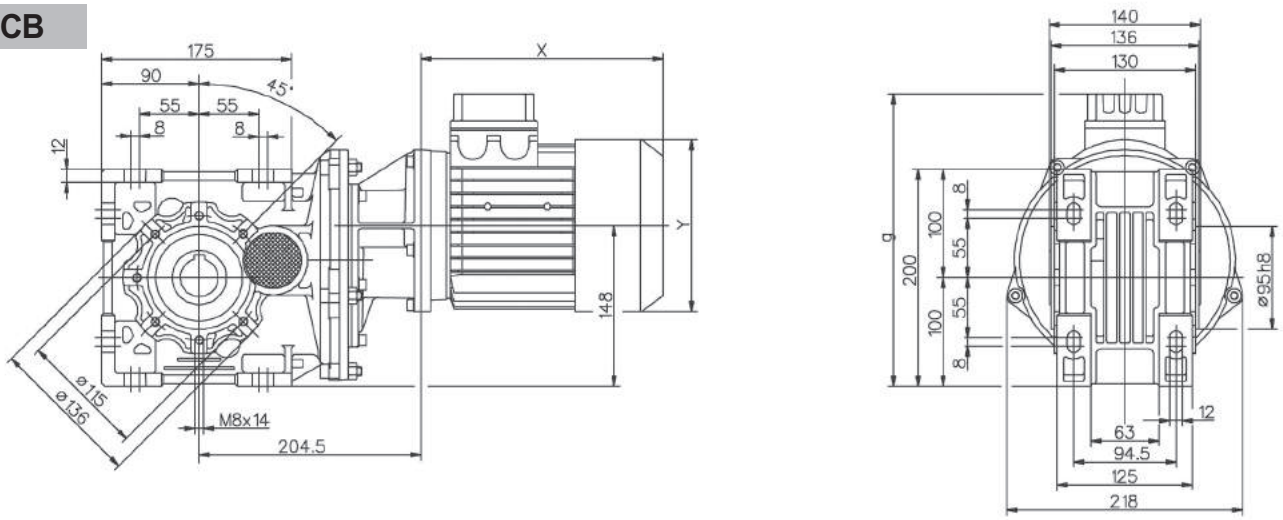
PAM	Kg
080 – 090	16,1
100 – 112	16,3

(..)주문사양 – 모터 제외 무게
(..)Only on request – Weight without motor

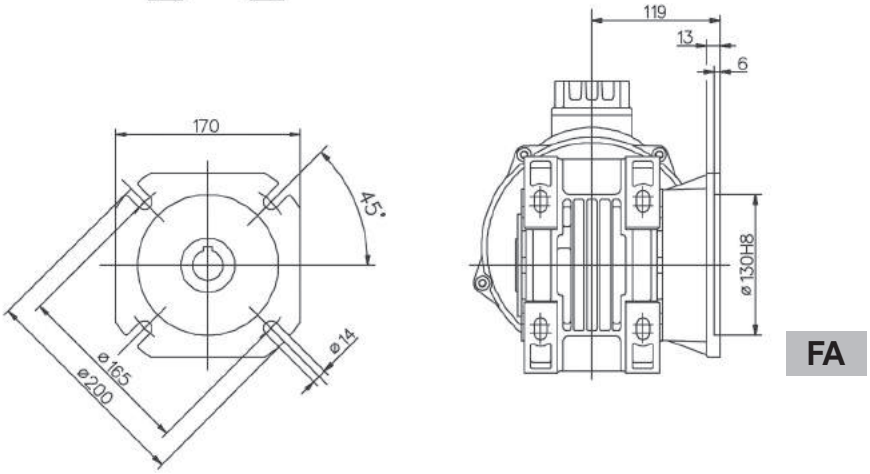
감속기에 취부할 모터의 dimensions (Pm,Dm,bm,tm)을 확인하려면 285페이지 참조
For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 285.

A73 치수 / Dimensions

CB



FA



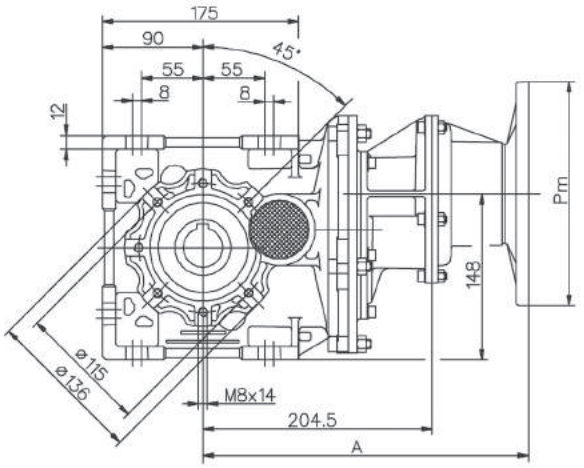
A73	표준모터 / Standard motor				브레이크 모터 / Brake motor			
	g	X	Y	~Kg	g	X	Y	~Kg
63	252	180	121	18,2	267	238	121	19,7
71	260	205	139	20,2	276	269	139	22,2
80	270	223	158	24,2	285	294	158	28,2
90S	278	237	173	26,2	278	313	173	29,7
90L	278	262	173	28,7	278	338	173	34,2

Output Hollow Shaft		
D H7	b	t
35	10	38,3
(30)	(8)	(33,3)

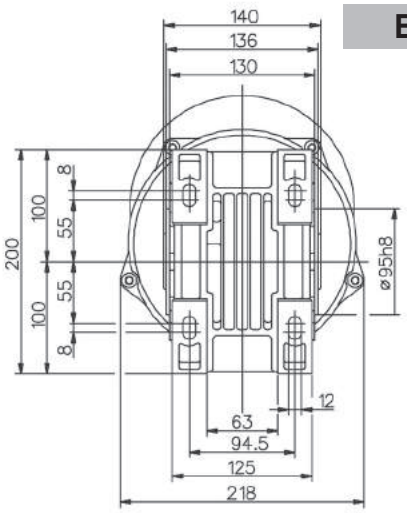
(..) 주문사양
(..) Only on request

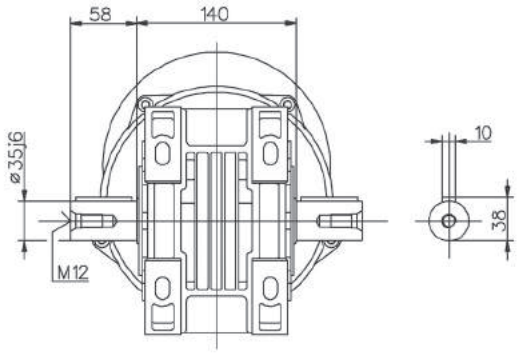
- 모터 포함 무게
- Weight with motor

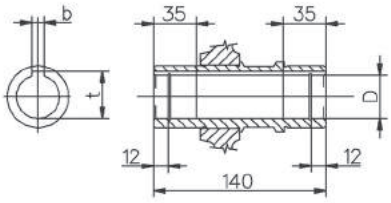
Dimensions / 치수 A73

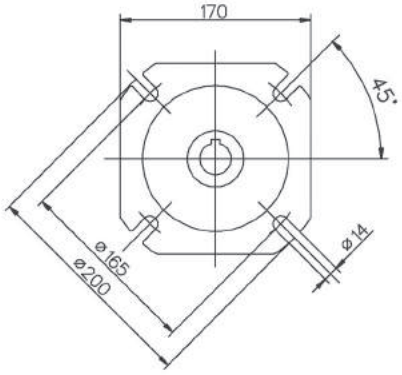


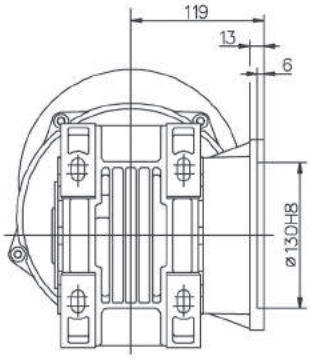
B











FA

Output Hollow Shaft		
D H7	b	t
35	10	38,3
(30)	(8)	(33,3)

PAM	A	Kg
063	259,5	15,3
071	259,5	15,4
080 – 090	290,5	16,8

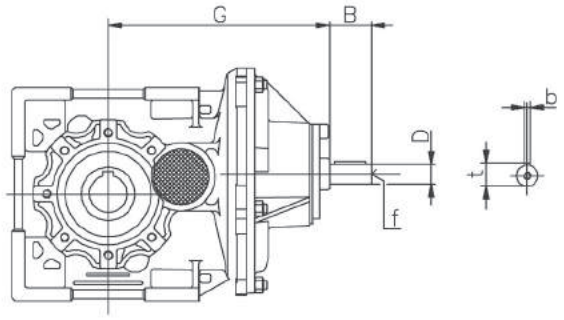
(..)주문사양
(..)Only on request

– 모터 제외 무게
– Weight without motor

감속기에 취부할 모터의 dimensions (Pm,Dm,bm,tm)을 확인하려면 285페이지 참조
For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 285.

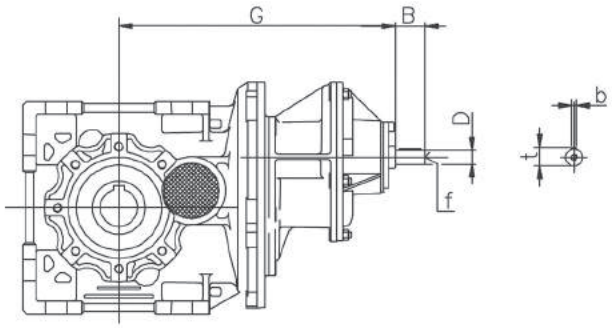
IBA... 치수 / Dimensions

A42 - A52 - A72



	G	Dj6	B	b	t	f	Key
A42	175,5	16	40	5	18	M6	5×5×30mm
A52	179	16	40	5	18	M6	5×5×30mm
A72	210	19	40	6	21,5	M6	6×6×30mm

A53 - A73

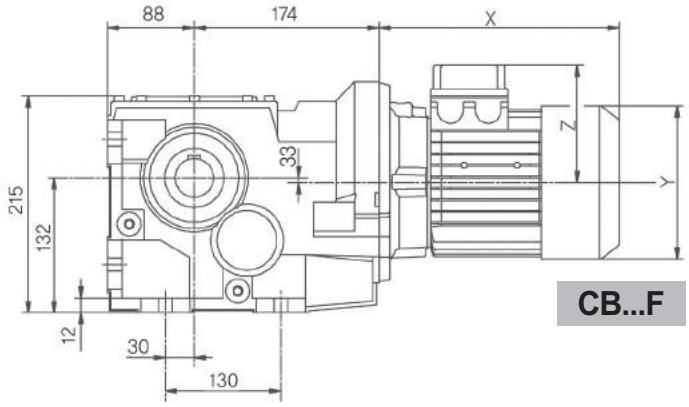


	G	Dj6	B	b	t	f	Key
A53	242,5	16	40	5	18	M6	5×5×30mm
A73	285	16	40	5	18	M6	5×5×30mm

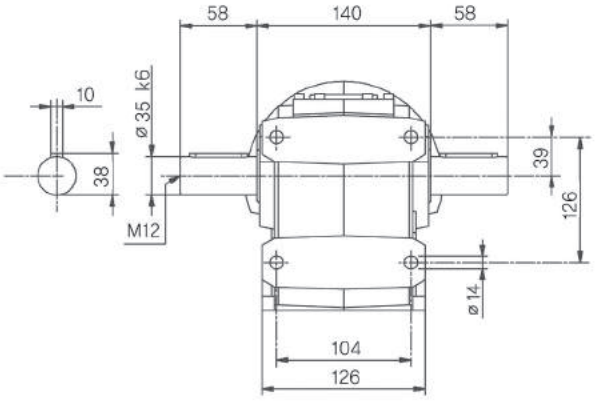
그 밖의 나타나지 않은 부분의 치수는 CBA/BA 감속기부분을 참조.
For the missing dimensions, please consider the drawing of relevant CBA/BA size.

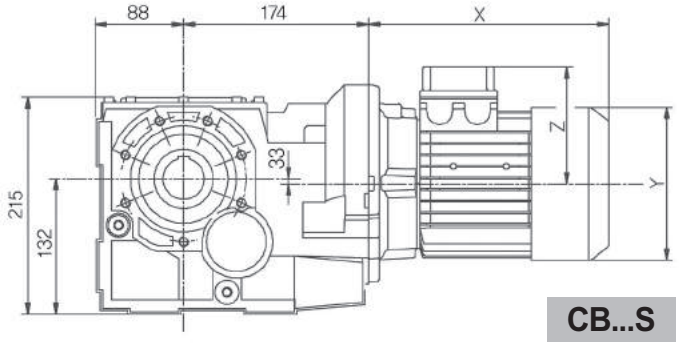
메모 / Notes

063 치수 / Dimensions

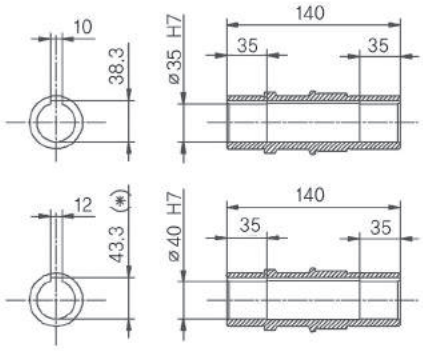


CB...F

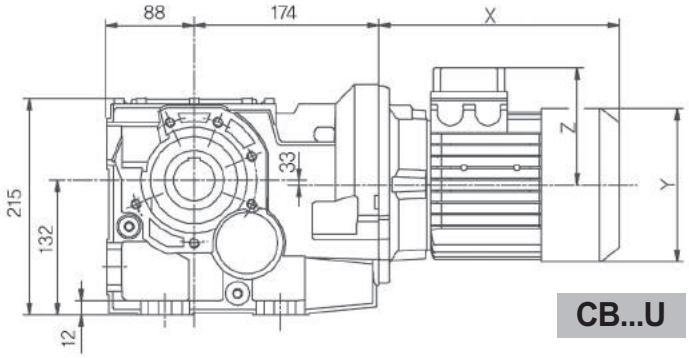




CB...S



(*) 스페샬 키(높이가 낮은 키) 주문사양
(*) Low profile key-way

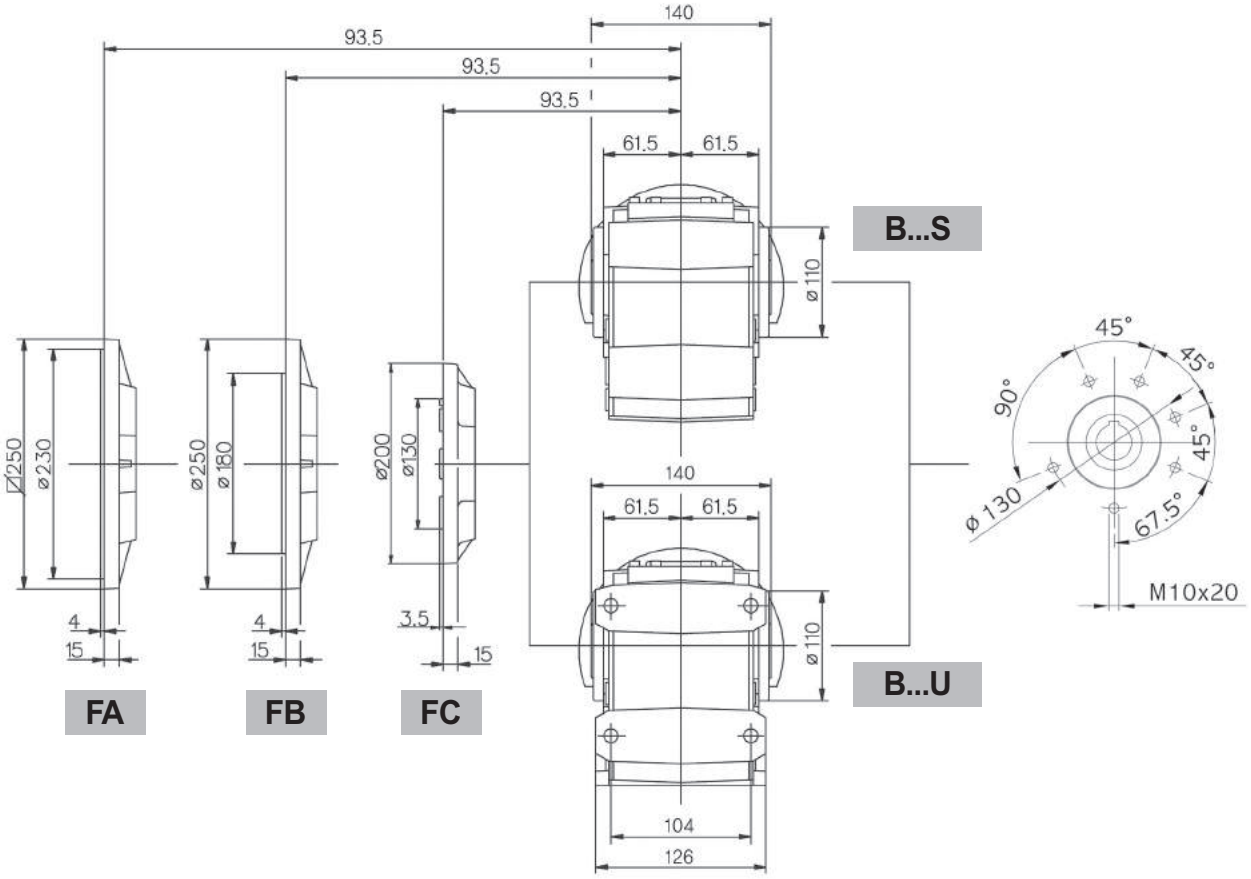


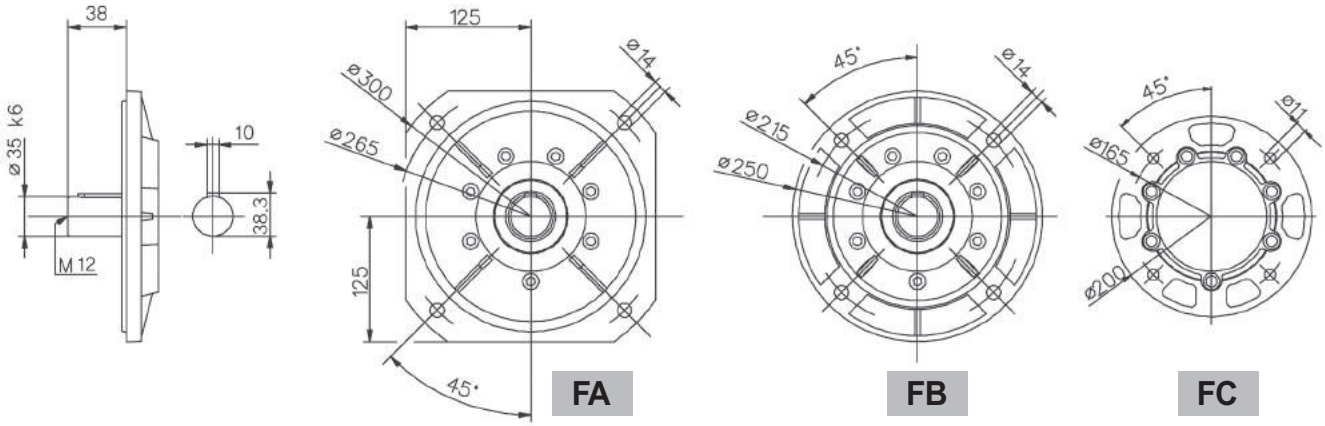
CB...U

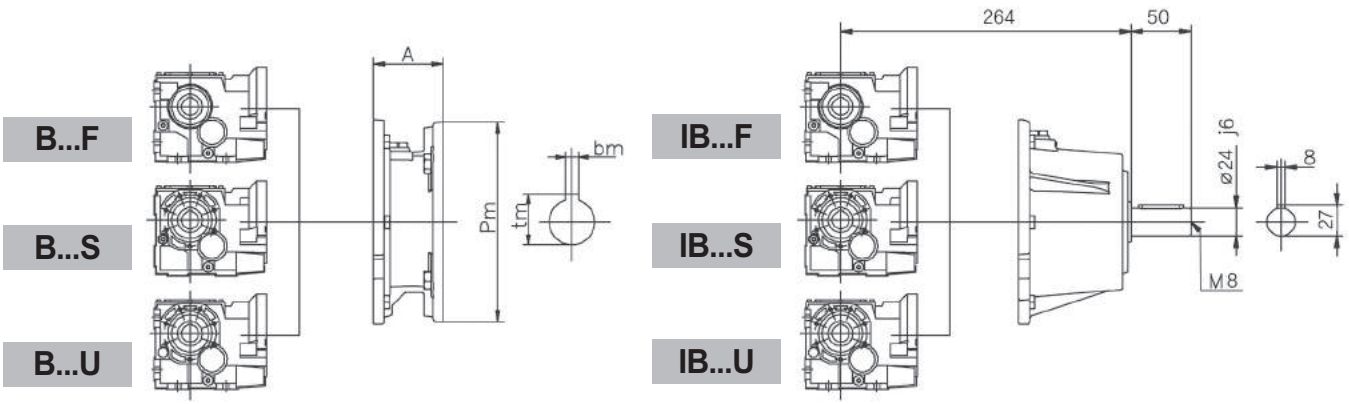
063	IB	PAM		표준모터 / Standard motor				브레이크 모터 / Brake motor			
	~ Kg	A	~ Kg	X	Y	Z	~ Kg	X	Y	Z	~ Kg
063	23,7	57	20,6	215	121	104	24,1	273	121	104	25,6
071		69	21	241	139	112	25	306,5	139	112	27,2
80		90	21,6	268	158	122	29,4	341	158	122	33,2
90s		90	21,6	296	173	130	33,6	373	173	130	39,1
90l		90	21,6	321	173	130	35,6	378	173	130	41,1
100		105	25,9	333	191	139	41,1	415	191	139	46,6
112		105	25,9	351	211	154	52,6	448	211	154	62,3

감속기에 취부할 모터의 dimensions (Pm,Dm,bm,tm)을 확인하려면 285페이지 참조
For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 285.

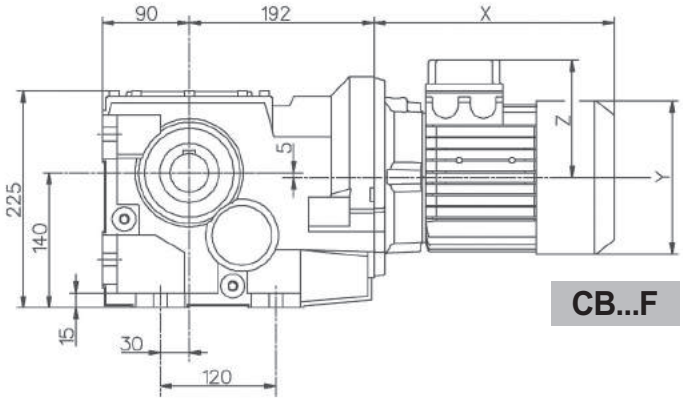
Dimensions / 치수 063



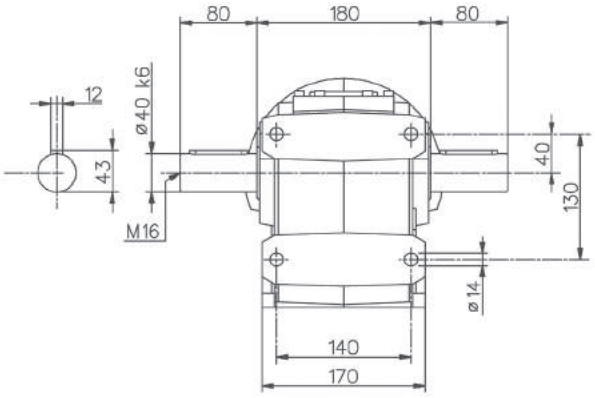


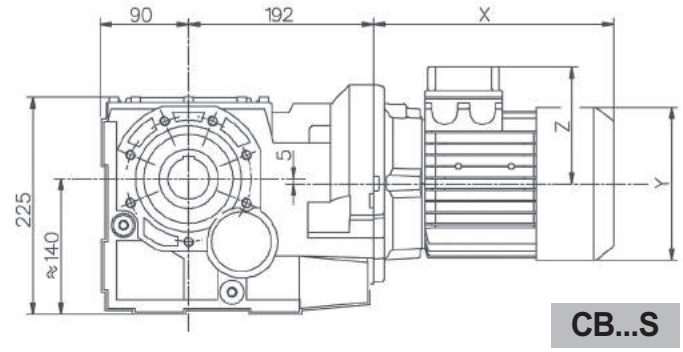


083 치수 / Dimensions

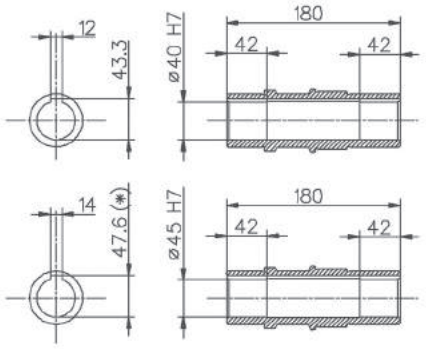


CB...F

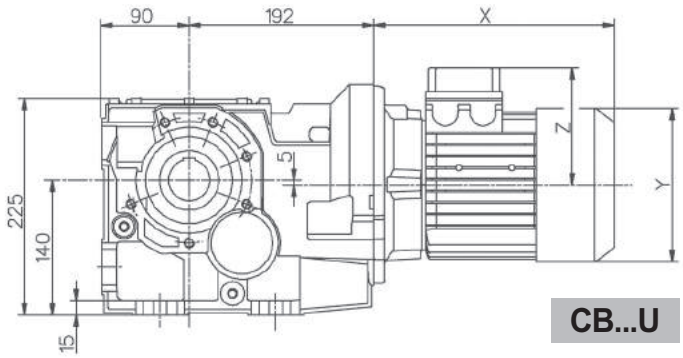




CB...S



(*) 스페샬 키(높이가 낮은 키) 주문사양
(*) Low profile key-way

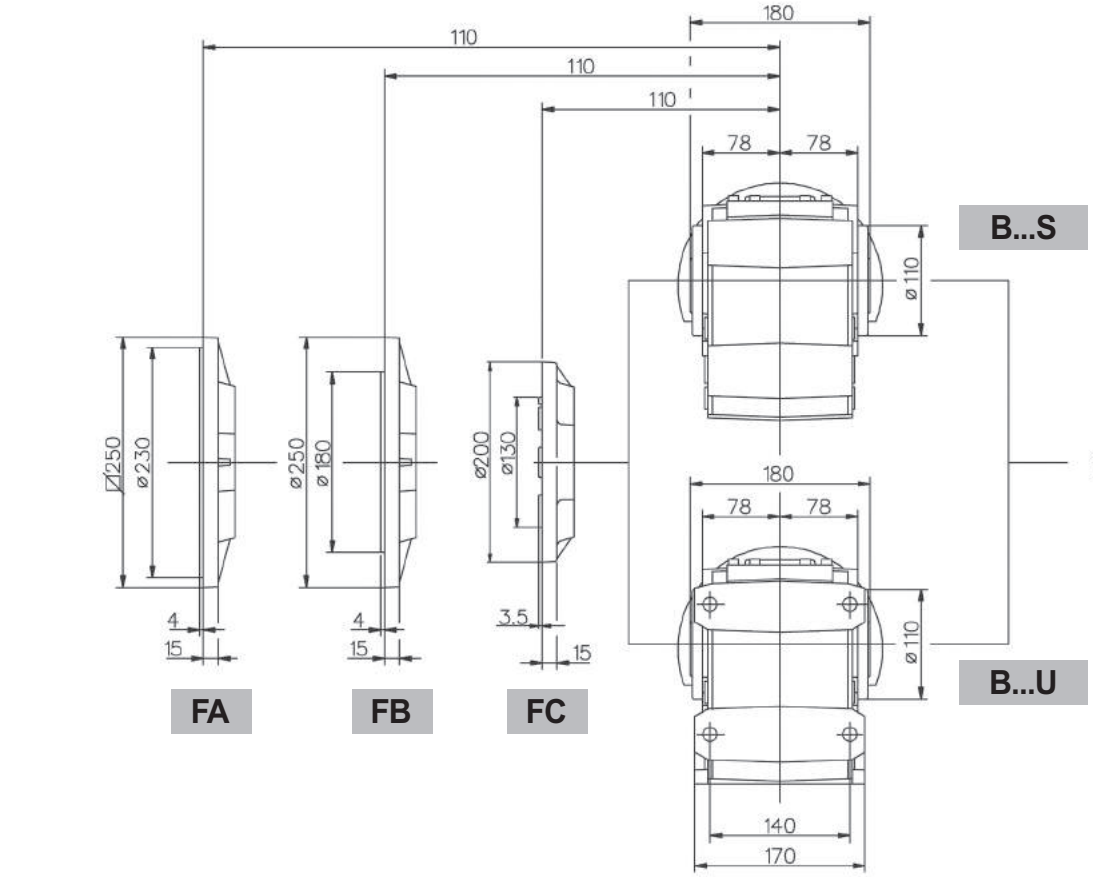


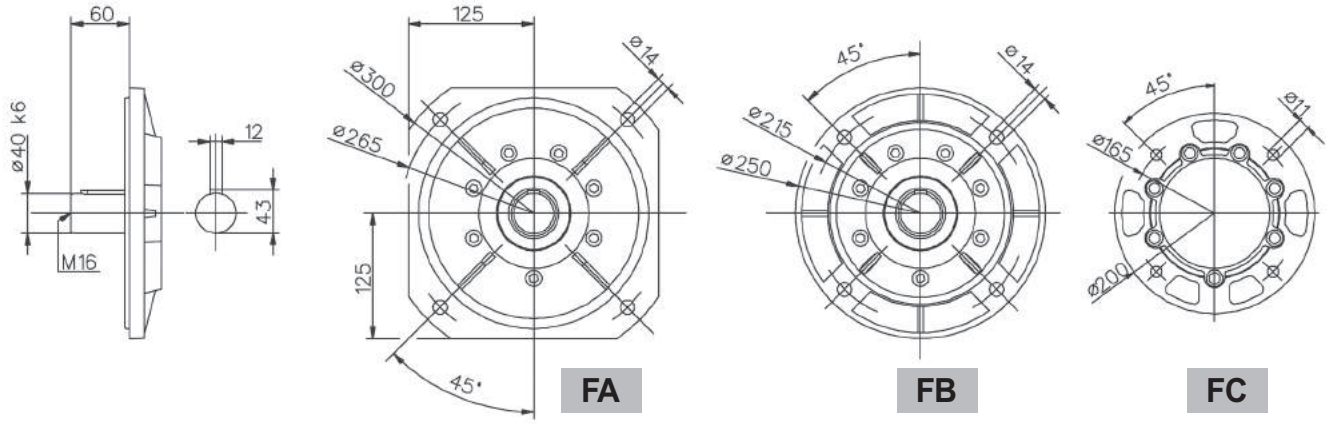
CB...U

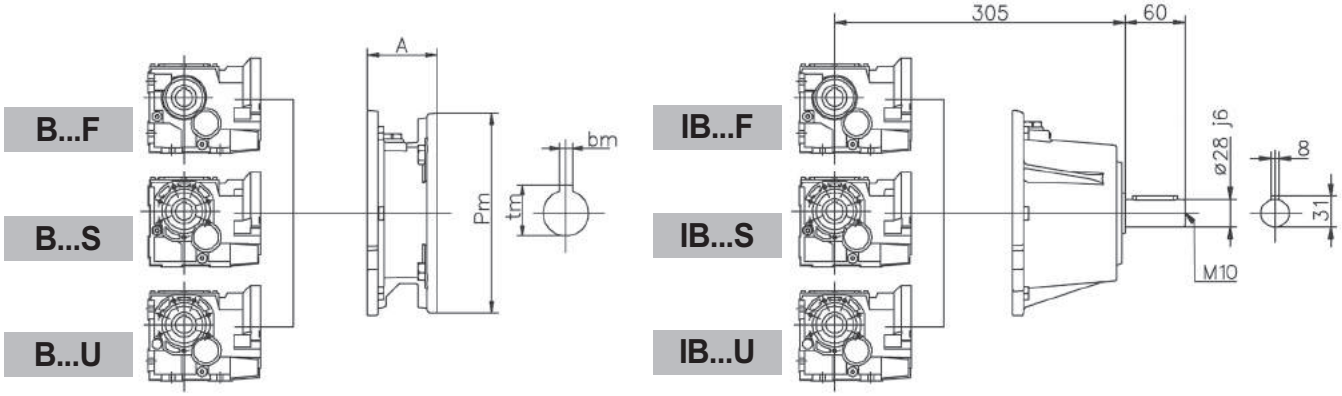
083	IB	PAM		표준모터 / Standard motor				브레이크 모터 / Brake motor			
	~ Kg	A	~ Kg	X	Y	Z	~ Kg	X	Y	Z	~ Kg
80	33,1	70	29,3	248	158	122	35,7	321	158	137	39,2
90s		70	29,3	276	173	130	38,1	353	173	130	43,6
90l		70	29,3	301	173	130	39,6	378	173	130	45,1
100		85	31,3	335	191	139	44,7	417	191	139	50,2
112		85	31,3	356	211	154	56,1	453	211	154	65,8
132s		110	33,8	396	249	194	70,1	495	249	194	80,3
132m		110	33,8	443	249	194	81,7	547	249	194	96,3

감속기에 취부할 모터의 dimensions (Pm,Dm,bm,tm)을 확인하려면 285페이지 참조
For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 285.

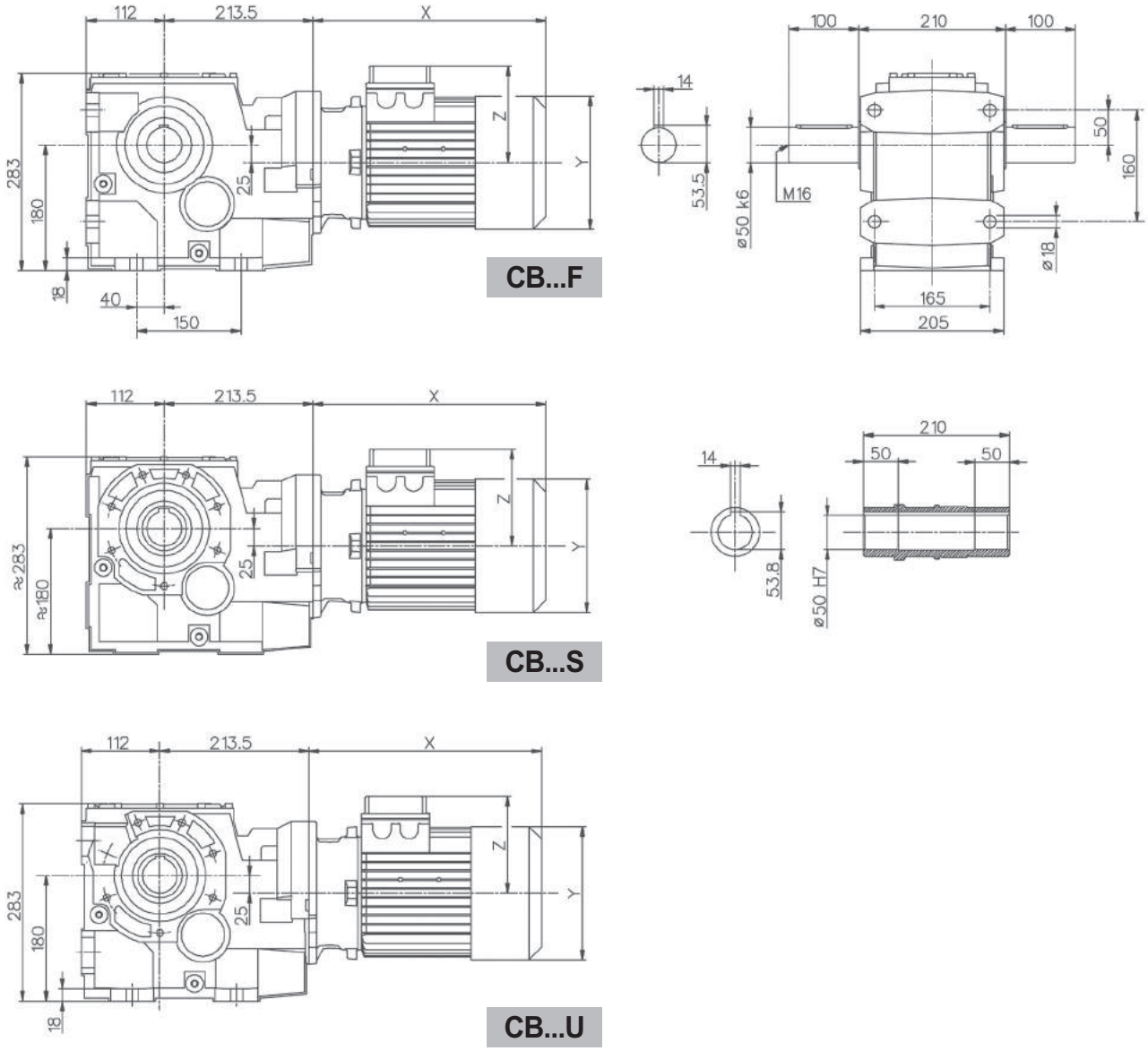
Dimensions / 치수 083







103 치수 / Dimensions

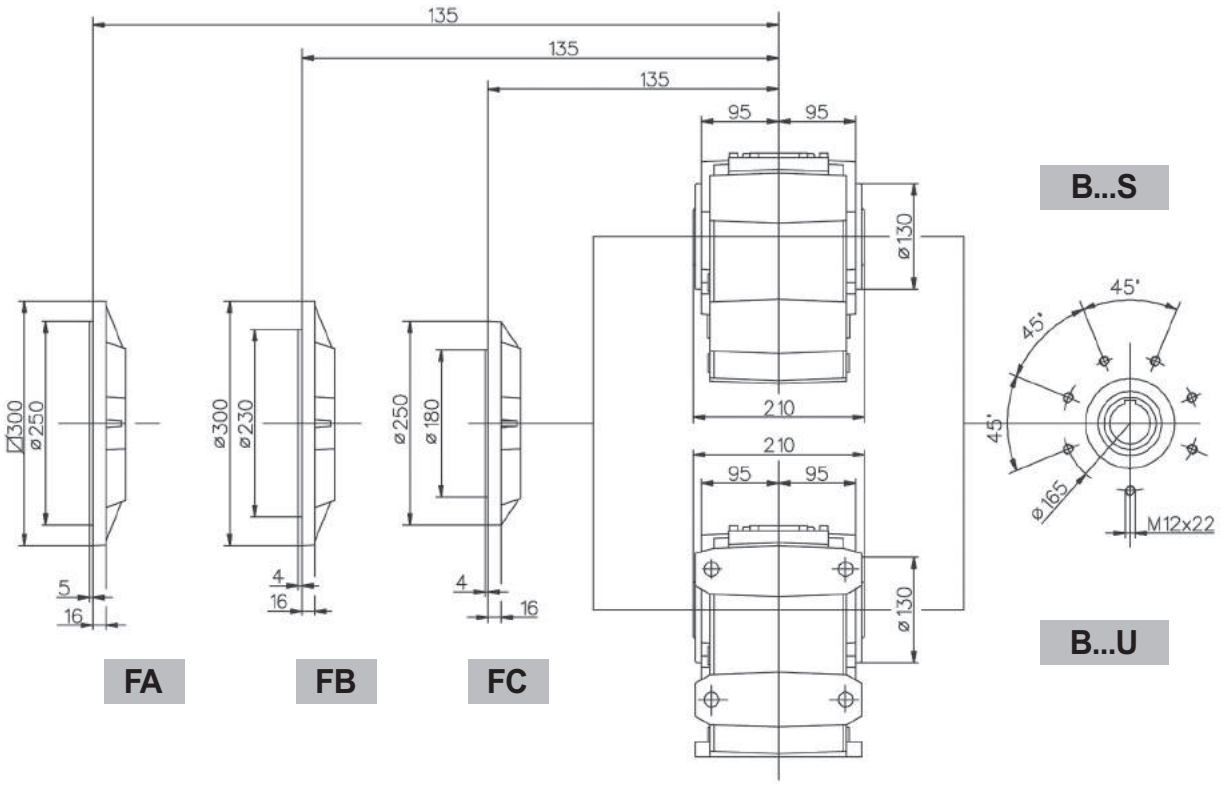


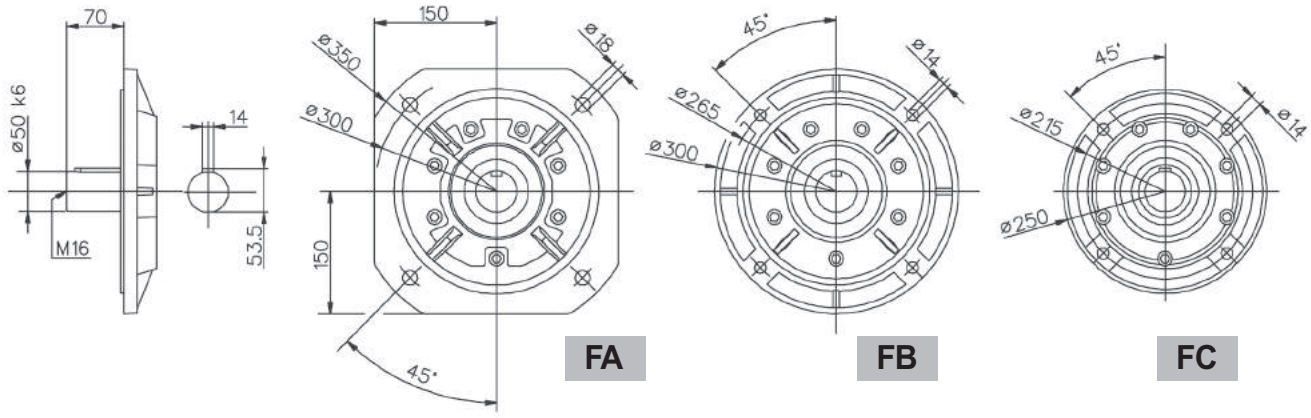
103	IB	PAM		표준모터 / Standard motor				브레이크 모터 / Brake motor			
	~ Kg	A	~ Kg	X	Y	Z	~ Kg	X	Y	Z	~ Kg
80	58,8	70	54,8	248	158	122	61,4	321	158	137	64,8
90s		70	54,8	276	173	130	63,8	353	173	130	69,3
90l		70	54,8	301	173	130	65,3	378	173	130	70,8
100		85	56,8	335	191	139	70,4	417	191	139	75,8
112		85	56,8	356	211	154	81,8	453	211	154	91,5
132s		110	59,5	396	249	194	95,8	495	249	194	106,1
132m		110	59,5	443	249	194	107,4	547	249	194	122,1
160s		158	66,2	522	310	244	–	–	–	–	–
160l		158	66,2	566	310	244	–	–	–	–	–

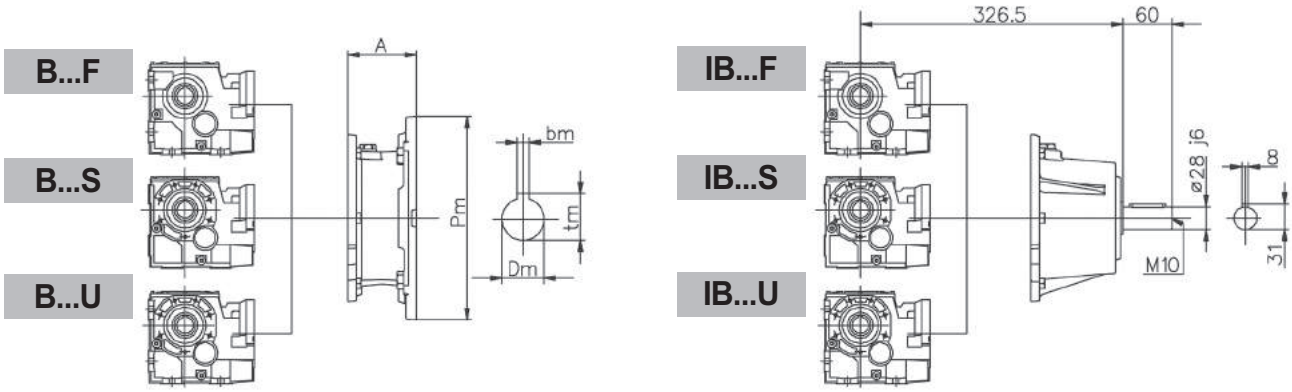
감속기에 취부할 모터의 dimensions (Pm,Dm,bm,tm)을 확인하려면 285페이지 참조

For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 285.

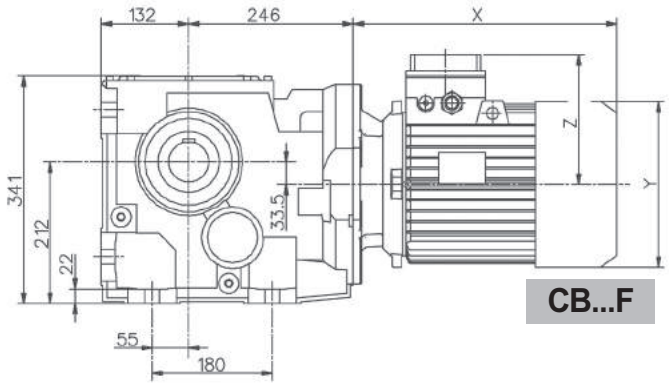
Dimensions / 치수 103



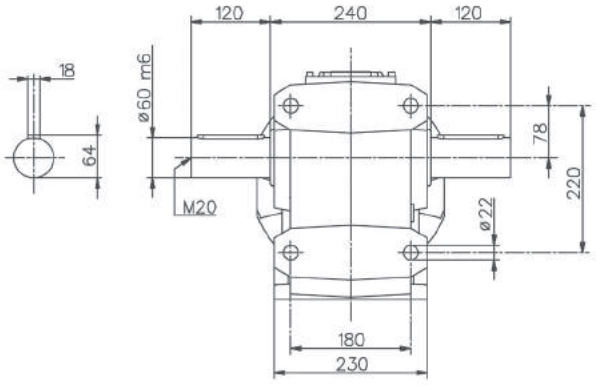


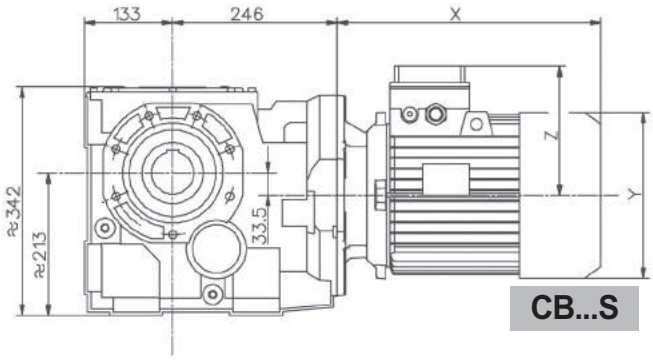


123 치수 / Dimensions

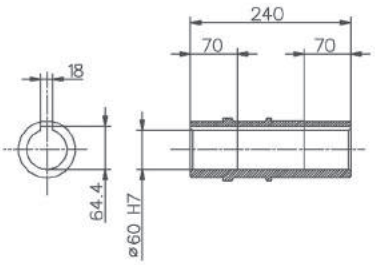


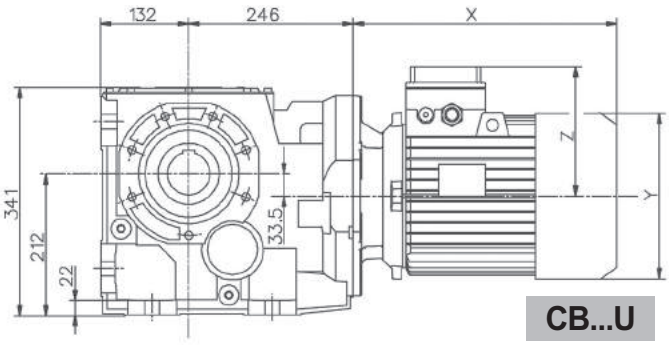
CB...F





CB...S



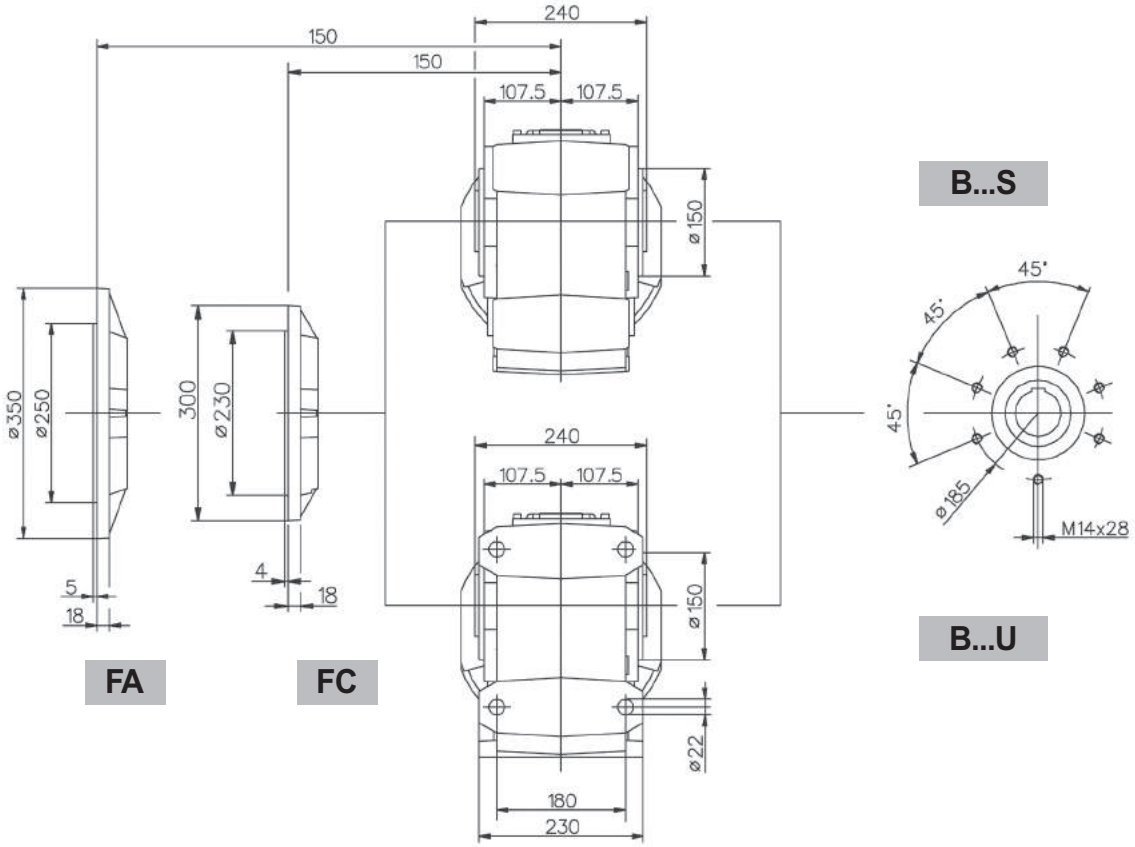


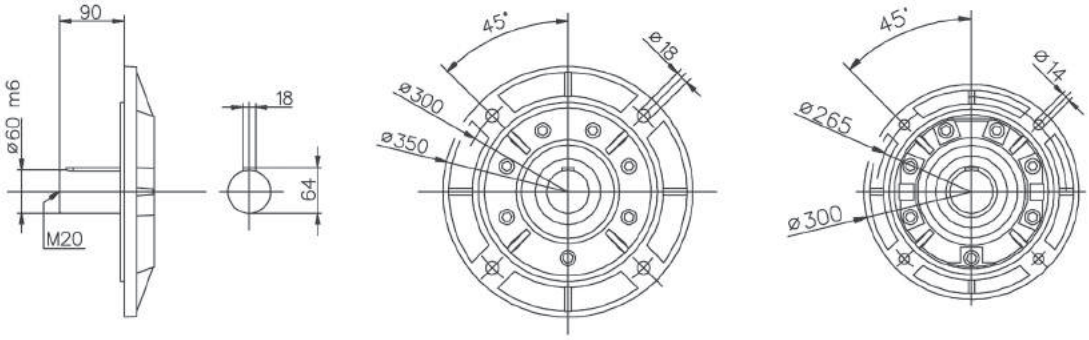
CB...U

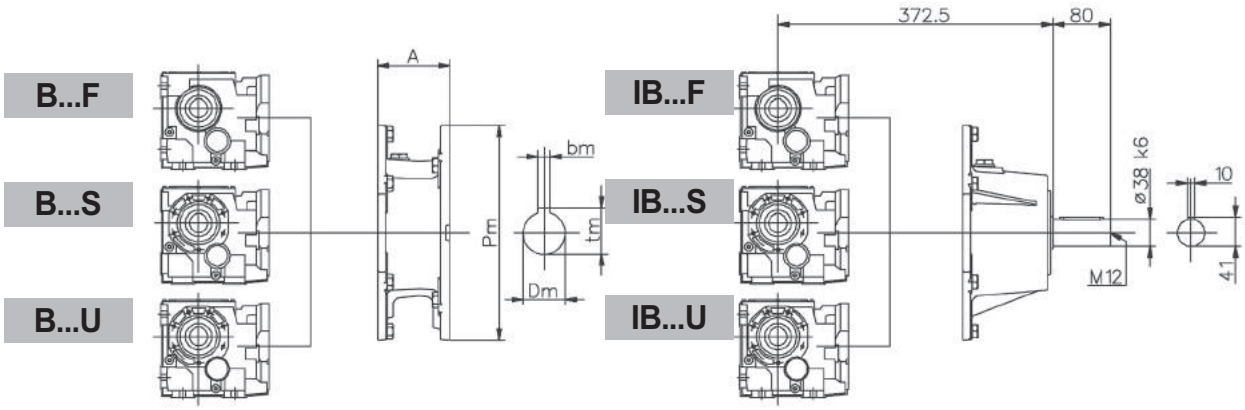
123	IB	PAM		표준모터 / Standard motor				브레이크 모터 / Brake motor			
	~ Kg	A	~ Kg	X	Y	Z	~ Kg	X	Y	Z	~ Kg
90s	86,5	61	76,6	267	173	130	85,7	343	173	130	91,2
90l		61	76,6	292	173	130	86,7	368	173	130	92,2
100		76	79	326	191	139	92,7	407	191	139	98,2
112		76	79	347	211	154	102,7	443	211	154	112,4
132s		101	81,7	386	249	194	117,7	485	249	194	128
132m		101	81,7	434	249	194	126,7	537	249	194	141,4
160s		148	87,7	540	310	244	–	–	–	–	–
160l		148	87,7	584	310	244	–	–	–	–	–
180		148	87,7	641	349	260	–	–	–	–	–

감속기에 취부할 모터의 dimensions (Pm,Dm,bm,tm)을 확인하려면 285페이지 참조
For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 285.

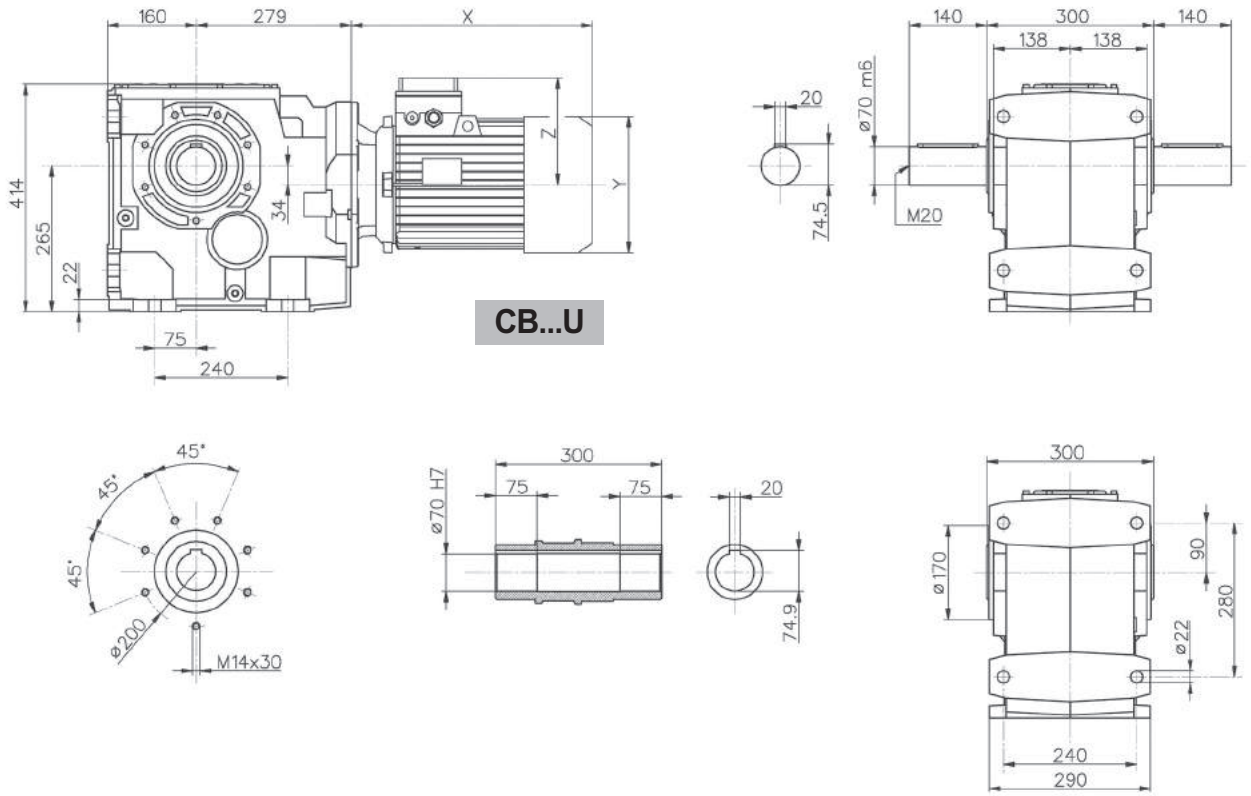
Dimensions / 치수 123







143 치수 / Dimensions



CB...U

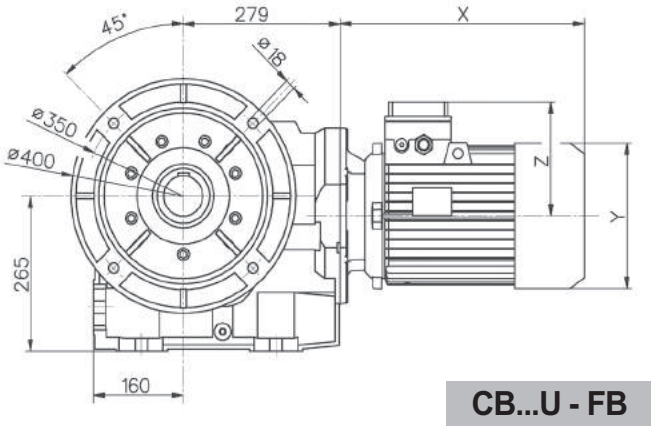
B...U

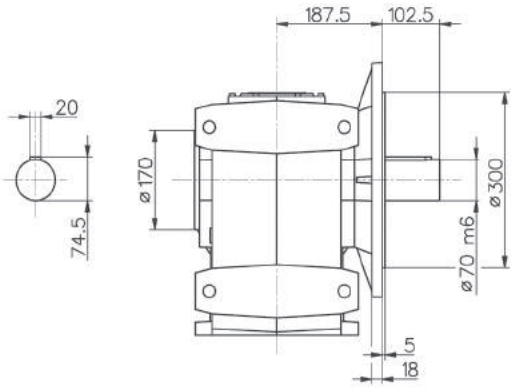
IB...U

143	IB	PAM		표준모터 / Standard motor				브레이크 모터 / Brake motor			
	~ Kg	A	~ Kg	X	Y	Z	~ Kg	X	Y	Z	~ Kg
100	132	76	124	326	191	139	138	407	191	139	143,5
112		76	124	347	211	154	148	443	211	154	158
132s		101	127	386	249	194	163	485	249	194	173
132m		101	127	434	249	194	172	537	249	194	187
160s		148	133	540	310	244	–	–	–	–	–
160l		148	133	584	310	244	–	–	–	–	–
180		148	133	641	349	260	–	–	–	–	–
200		185	148	–	–	–	–	–	–	–	–

감속기에 취부할 모터의 dimensions (Pm,Dm,bm,tm)을 확인하려면 285페이지 참조
For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 285.

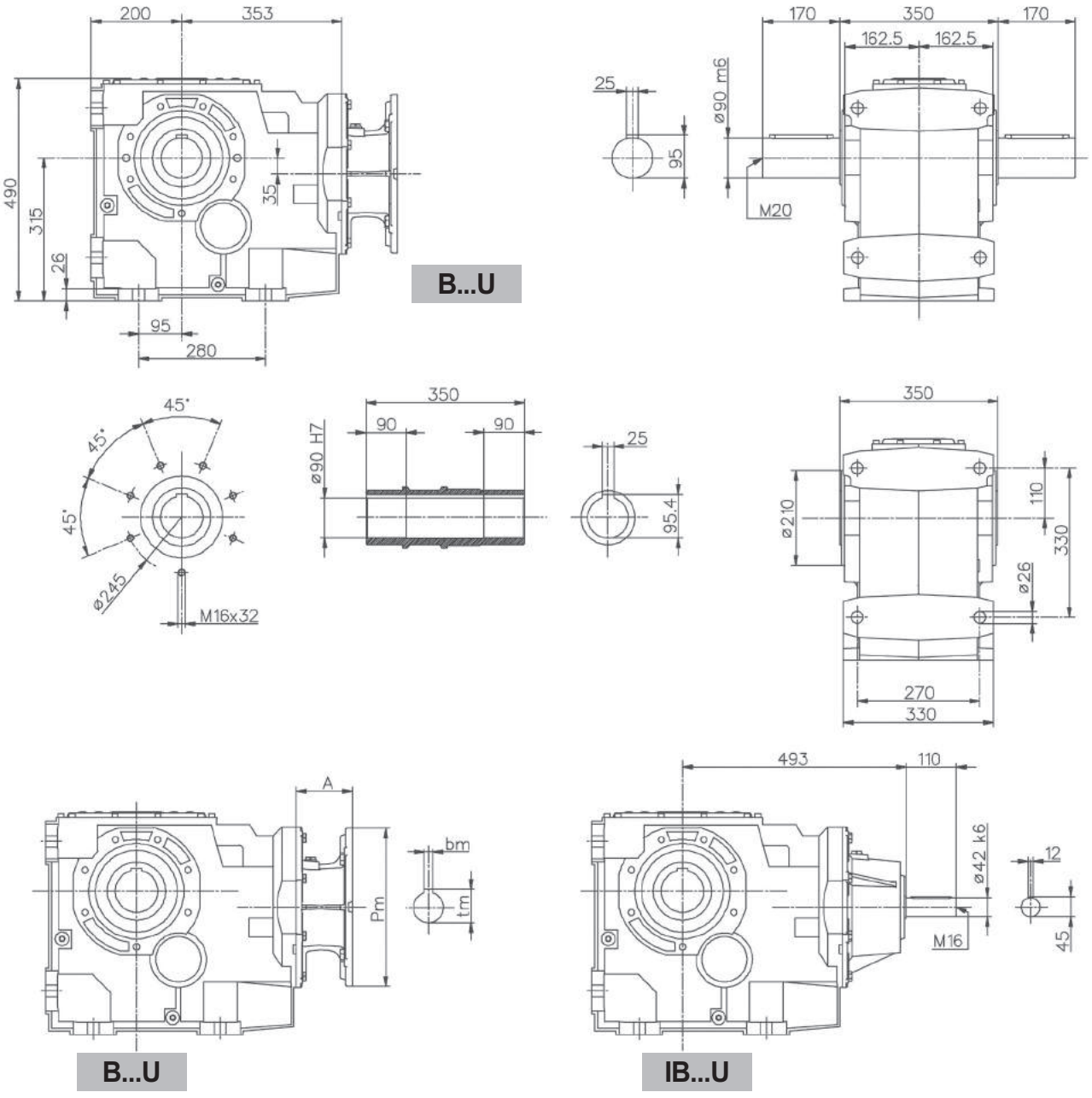
Dimensions / 치수 143





CB...U - FB

153 치수 / Dimensions

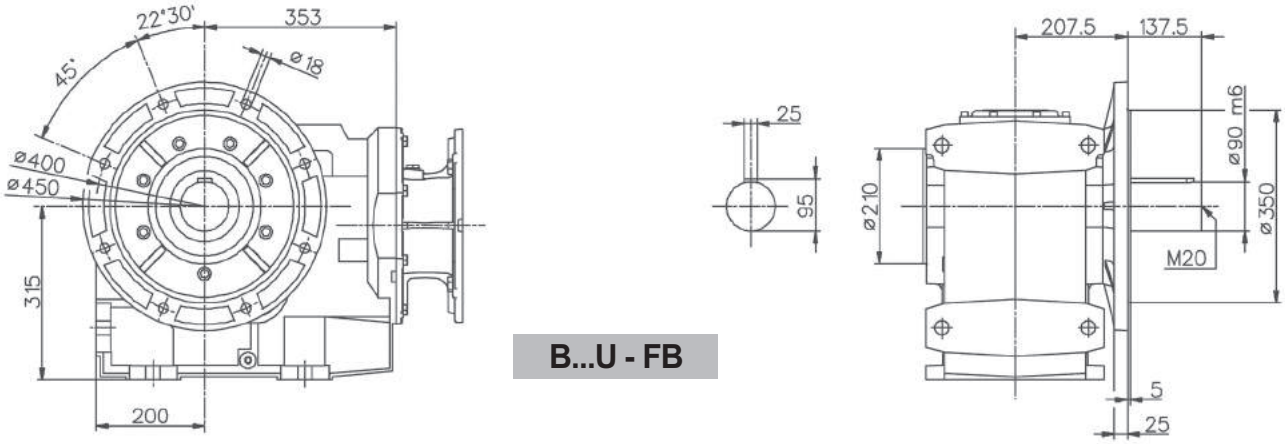


153	IB	PAM		표준모터 / Standard motor				브레이크 모터 / Brake motor			
	~ Kg	A	~ Kg	X	Y	Z	~ Kg	X	Y	Z	~ Kg
132s	213	76	199	–	–	–	–	–	–	–	–
132m		76	199	–	–	–	–	–	–	–	–
160s		124	206,5	–	–	–	–	–	–	–	–
160l		124	206,5	–	–	–	–	–	–	–	–
180		124	206,5	–	–	–	–	–	–	–	–
200		161	221	–	–	–	–	–	–	–	–
225		161	223	–	–	–	–	–	–	–	–

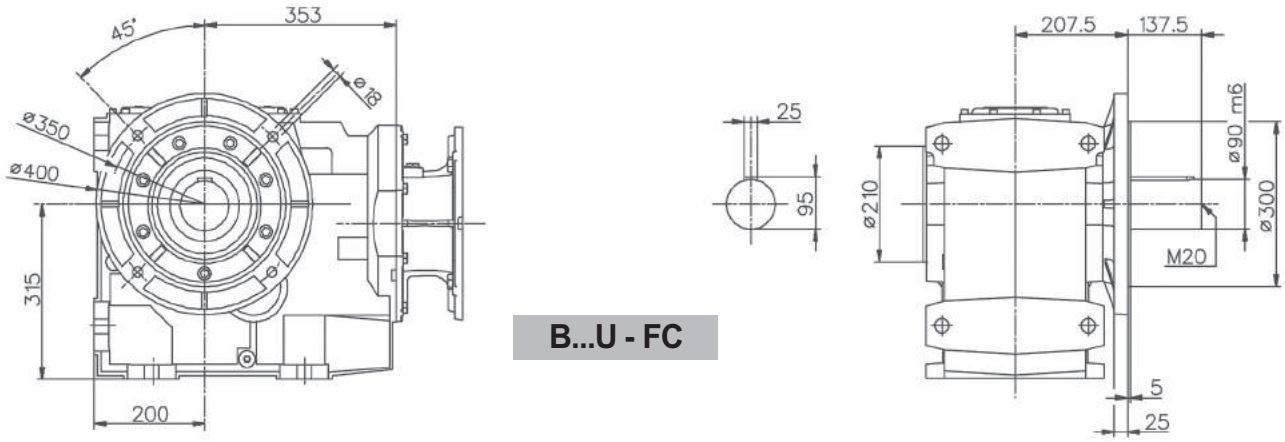
감속기에 취부할 모터의 dimensions (Pm,Dm,bm,tm)을 확인하려면 285페이지 참조

For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 285.

Dimensions / 치수 153

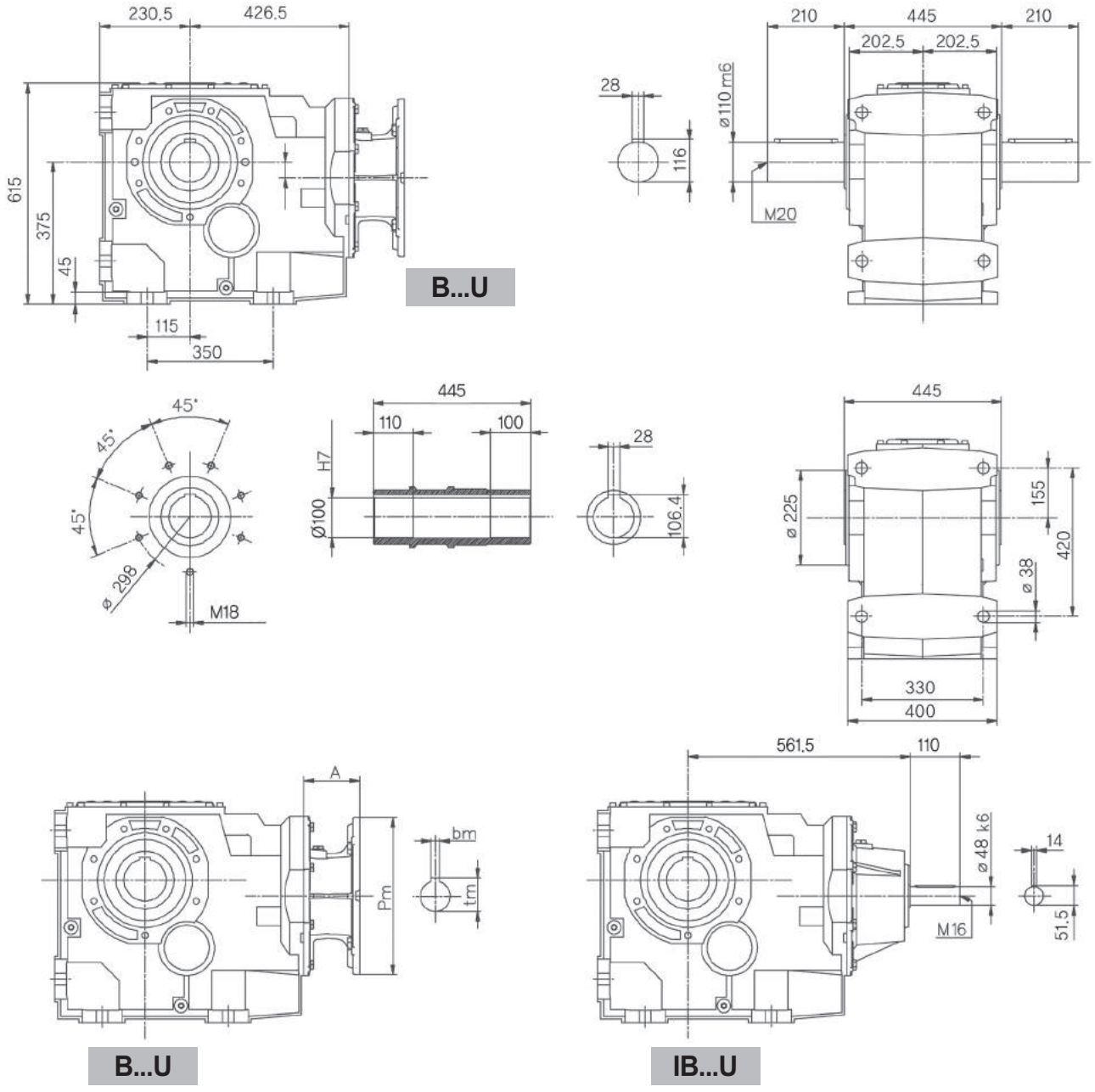


B...U - FB



B...U - FC

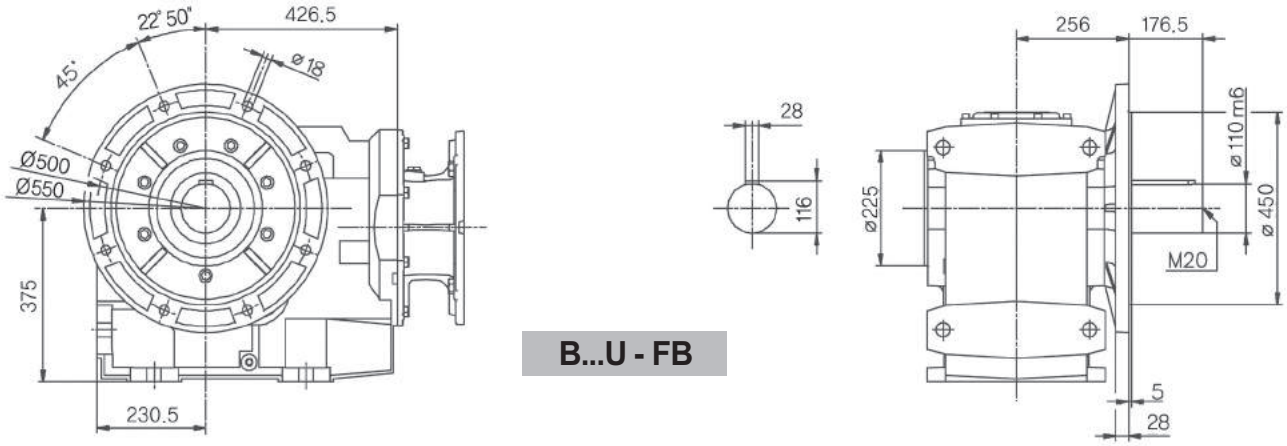
163 치수 / Dimensions



163	IB	PAM		표준모터 / Standard motor				브레이크 모터 / Brake motor			
	~ Kg	A	~ Kg	X	Y	Z	~ Kg	X	Y	Z	~ Kg
160	455,6	109	385,3	–	–	–	–	–	–	–	–
180		109	385,3	–	–	–	–	–	–	–	–
200		146	449,8	–	–	–	–	–	–	–	–
225		146	457,1	–	–	–	–	–	–	–	–
250		175	473,5	–	–	–	–	–	–	–	–
280		175	473,5	–	–	–	–	–	–	–	–

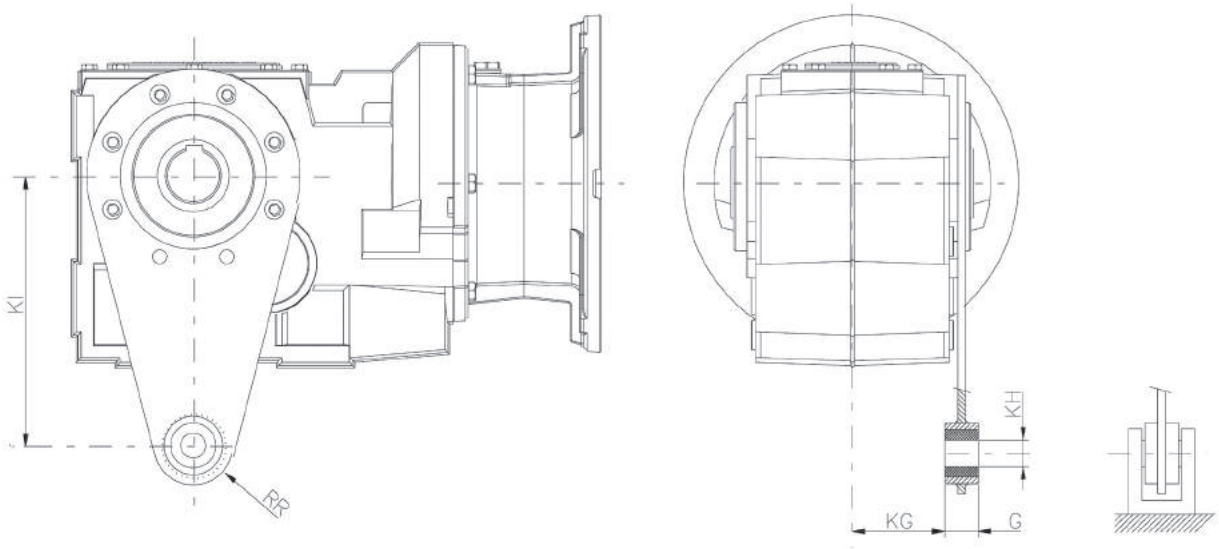
감속기에 취부할 모터의 dimensions (Pm,Dm,bm,tm)을 확인하려면 285페이지 참조
For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 285.

Dimensions / 치수 163



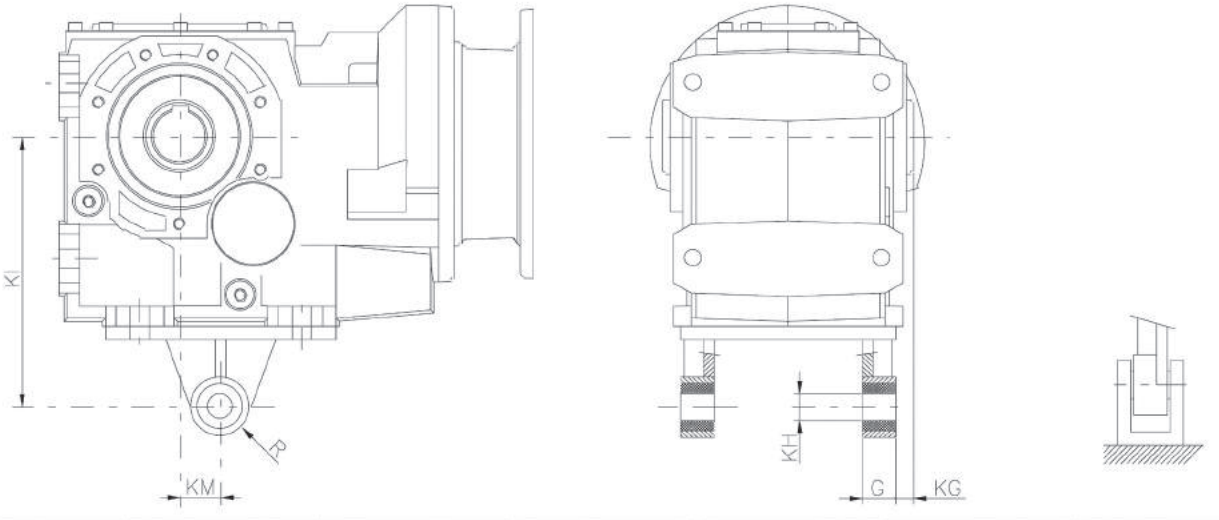
B...U - FB

토오크 암 / Torque arm



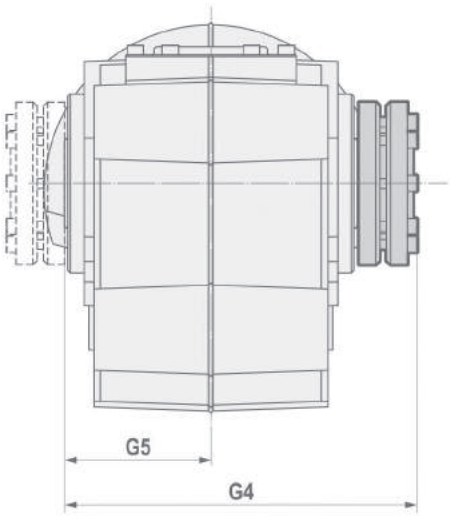
	KI	KG	KH	G	R
A40	100	41	10	14	18
A50	150	47	10	14	18
A70	200	55,5	20	25	30
083 S	200	68,5	20	25	30
103 S	250	83	25	30	35
123 S	300	91,5	25	40	40
083 U	200	78,5	20	25	30
103 U	250	95	25	30	35
123 U	300	103,5	25	40	40

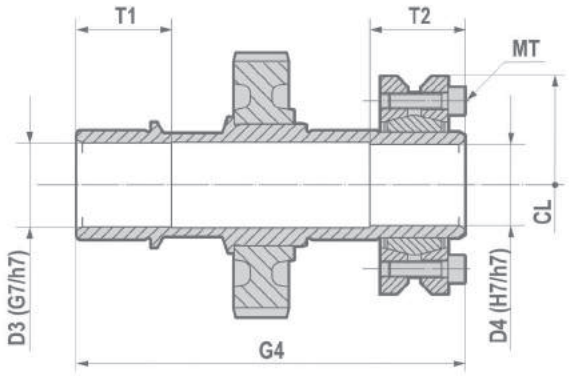
토오크 암 / Torque arm



	KM	KI	KG	KH	G	R
143	45	350	40	30	60	45
153	45	450	45	30	60	45
163	60	550	7.5	40	110	65

샤링크 디스크 / Shrink disc

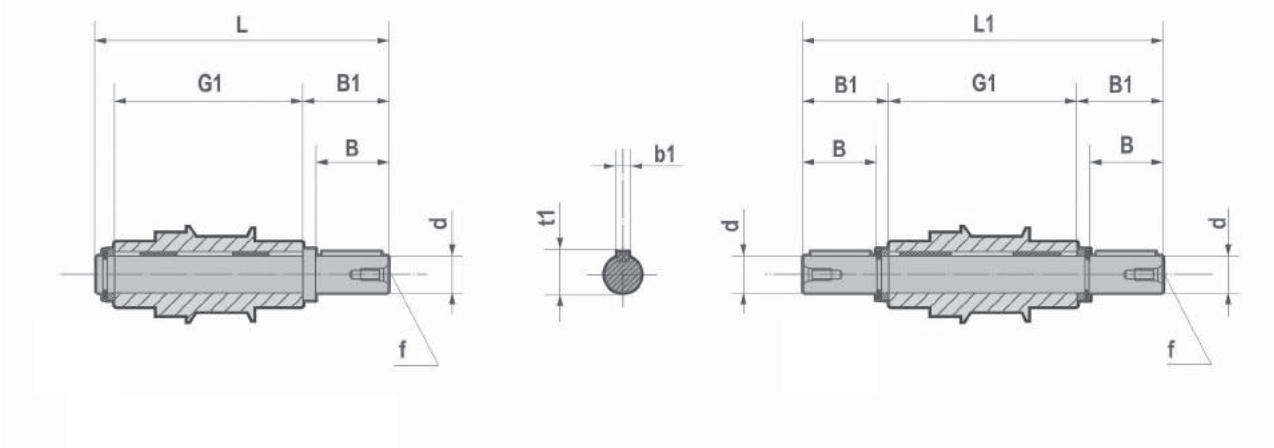




	D3	D4	G4	G5	T1	T2	CL	MT 12.9 (Nm)
A40	24	24	130	50	25	35	72	15
A50	31	30	143	56	35	35	80	15
A70	36	35	173	70	40	35	80	15
063	36	35	173	70	40	35	80	15
080	41	40	217	90	50	40	100	15
100	51	50	248	105	55	40	115	15
125	61	60	282	120	60	50	145	40
140	72	70	355	150	70	65	170	50
150	92	90	415	175	80	75	184	70
163	102	100	512	222,5	100	100	215	70

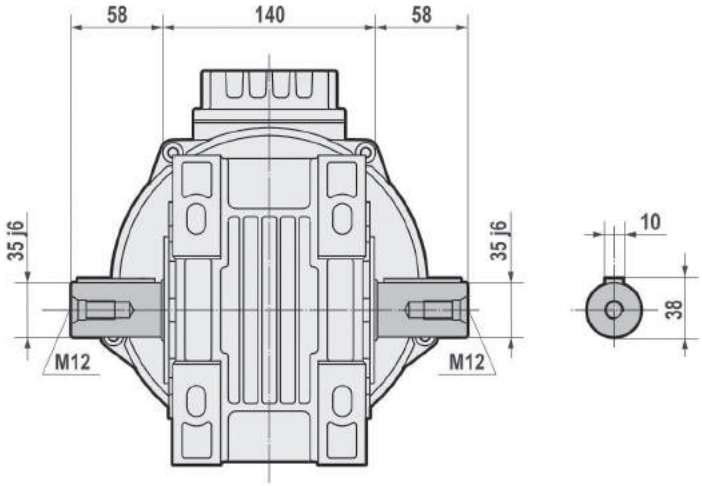
- 사용할 샤프트에 그리스가 묻어 있지 않도록 깨끗이 해야한다.(HT). 상기표에 나타난 토오크로 스크류를 조여야 한다.
- Clean and degrease the surfaces of the shaft to be fitted to. Comply with the indicated tightening torque of screws (MT).

출력 샤프트 / Low speed shafts

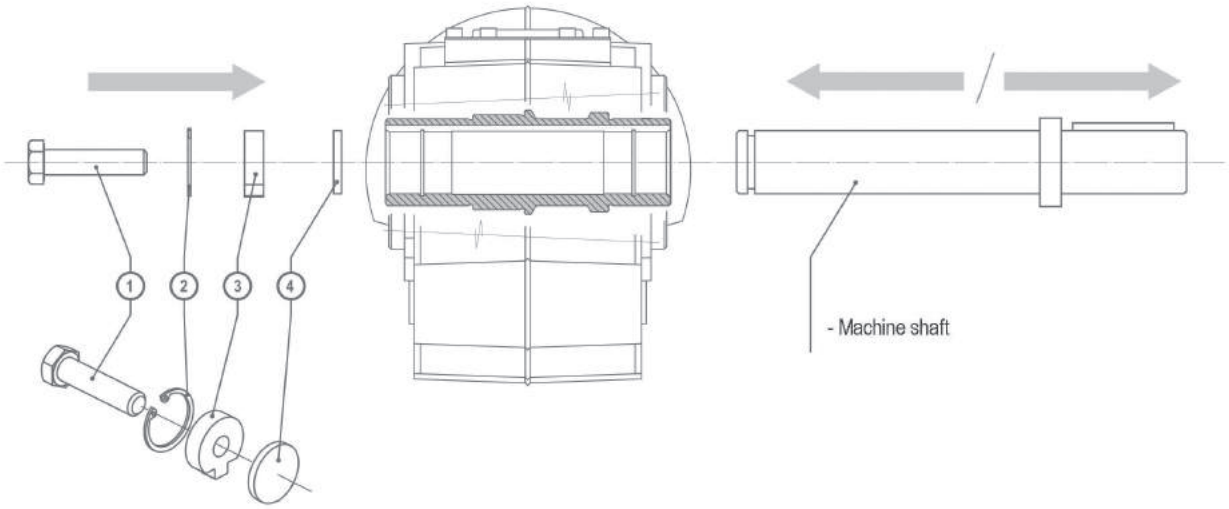


	d h6	B	B1	G1	L	L1	f	b1	t1
A40	20	40	43,5	100	151	187	M6	6	22,5
A50	25	50	53,5	112	173	219	M10	8	58
060	35	58	62	140	210,5	264	M12	10	38
080	40	80	84,25	180	273	348,5	M16	12	43
100	50	100	105	210	325	420	M16	14	53,5
125	60	120	125	240	375	490	M20	18	64
140	70	140	146	300	458	592	M20	20	74,5
150	90	170	176,5	350	540	703	M20	25	95
160	100	210	217,5	445	677	880	M20	28	106

BA70



조립부품 / Assembling/disassembling kit



조립부품 (Assembling/disassembling kit)

KO

마운트/Key way와 중공축 감속기의 분리를 위한 키트. 옵션 사항으로 별도 주문 요청을 하여야 함.

1. Retaining bolt
2. Circlip
3. Fixed nut
4. Forcing washer

Assembling/disassembling kit

UK

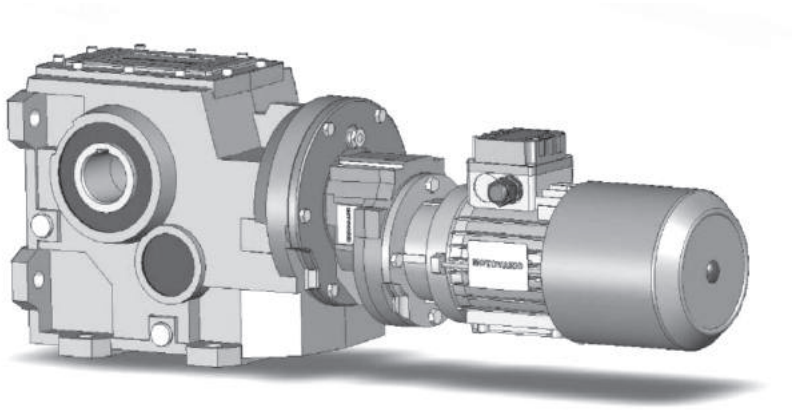
Mounting/dismounting kit for hollow shaft gear reducers with keyway. On request delivery includes :

1. Retaining bolt
2. Circlip
3. Fixed nut
4. Forcing washer

메모 / Notes

H + B

SERIES SERIES



헬리컬 베벨 4단 조합 유니트
Bevel Helical 4 stage units

MOTOVARIO
HEART OF MOTION
a TECO Group company

조합 가능 / 감속 비율

Available ratios

i	H041+B083	H041+B103	H061+B123	H061+B143	H081+B153	H101+B163
	142,1	147,6	142,2	178,3	164,3	166,9
	166,3	172,7	165,5	193,4	188,2	188,7
	198	205,6	179,6	230,6	202,2	215,3
	217,8	226,2	214,1	253,8	236	248,6
	241,2	250,5	235,7	281,5	280	268,6
	305,4	288	261,2	309,8	307,6	317,8
	345,7	342,9	311,6	343,4	337,4	367,5
	421,7	417,7	345,3	408	370,6	434,8
	505,9	574	404	497,7	464,6	547,4
	553,1	631,4	479,2	598,4	510,3	647,6
	612,6	699,2	519,8	713,4	629,2	665,1
	771	880,1	619,8	785,3	743,6	784,2
	880	1004,5	682,3	983	816,8	786,9
	1109,9	1266,9	947,1	1089,4	1007	952,9
	1266,7	1445,9	1049,6	1373,1	1133,8	1060,8
			13213	1568,1	1396,8	1300,6
			1510,9			

감속 비율에 따른 최대허용 용량

Selection table

H041 + B083 M2max 935Nm

i	P1 (kW)	M2 (Nm)	n2	Fe2(a) n1B (N)	Fe2(b) n1B (N)
142,1	1,11	935	9,9	18.000,0	6.438,3
166,3	0,95	935	8,4	18.000,0	6.438,3
198,0	0,80	935	7,1	18.000,0	6.438,3
217,8	0,72	935	6,4	18.000,0	6.438,3
241,2	0,65	935	5,8	18.000,0	6.438,3
305,4	0,52	935	4,6	18.000,0	7.326,0
345,7	0,46	935	4,0	18.000,0	7.957,4
421,1	0,37	935	3,3	18.000,0	7.957,4
502,9	0,31	935	2,8	18.000,0	9.146,5
553,1	0,28	935	2,5	18.000,0	9.146,5
612,6	0,26	935	2,3	18.000,0	9.146,5
771,0	0,20	935	1,8	18.000,0	9.146,5
880,0	0,18	935	1,6	18.000,0	9.146,5
1109,9	0,14	935	1,3	18.000,0	9.500,0
1266,7	0,12	935	1,1	18.000,0	9.500,0

Fr2(a) = FD, FS, FP, SD, SS, SP, UC, UD, US, UP
Fr2(b) = FC, FL, FM, SC, SL, SM, UL, UM + B083UC Ø45

감속 비율에 따른 최대허용 용량

Selection table

H041 + B103 M2max 1985Nm

i	P1 (kW)	M2 (Nm)	n2	Fe2(a) n1B (N)	Fe2(b) n1B (N)
147,6	2,14	1870	9,5	9,5	7.676,9
172,7	1,82	1870	8,1	8,1	7.676,9
205,6	1,53	1870	6,8	6,8	7.676,9
226,2	1,39	1870	6,2	6,2	7.676,9
250,5	1,26	1870	5,6	5,6	7.676,9
288,0	1,09	1870	4,9	4,9	9.370,9
342,9	0,92	1870	4,1	4,1	9.370,9
417,7	0,75	1870	3,4	3,4	9.370,9
574,0	0,58	1980	2,4	2,4	11.302,5
631,4	0,53	1980	2,2	2,2	11.302,5
699,2	0,48	1980	2,0	2,0	11.302,5
880,1	0,38	1980	1,6	1,6	11.302,5
1004,5	0,33	1980	1,4	1,4	11.302,5
1266,9	0,26	1980	1,1	1,1	11.776,0
1445,9	0,23	1980	1,0	1,0	11.776,0

Fr2(a) = FD, FS, FP, SD, SS, SP, UC, UD, US, UP
Fr2(b) = FC, FL, FM, SC, SL, SM, UL, UM

감속 비율에 따른 최대허용 용량

Selection table

H061 + B123 M2max 3500Nm

i	P1 (kW)	M2 (Nm)	n2	Fe2(a) n1B (N)	Fe2(b) n1B (N)
142,2	4,56	3300	9,8	3000,0	9.124,5
165,5	3,92	3300	8,5	3000,0	9.124,5
179,6	3,61	3300	7,8	3000,0	9.124,5
214,1	3,03	3300	6,5	3000,0	9.124,5
235,7	2,75	3300	5,9	3000,0	9.124,5
261,2	2,48	3300	5,4	3000,0	9.124,5
311,6	2,08	3500	4,5	3000,0	10.135,4
345,3	1,88	3500	4,1	3000,0	10.135,4
404,0	1,61	3500	3,5	3000,0	14.058,0
479,2	1,35	3500	2,9	3000,0	14.058,0
519,8	1,25	3500	2,7	3000,0	14.058,0
619,8	1,05	3500	2,3	3000,0	14.058,0
682,3	0,95	3500	2,1	3000,0	14.766,0
947,1	0,68	3500	1,5	3000,0	14.766,0
1049,6	0,62	3500	1,3	3000,0	14.766,0
1323,0	0,49	3500	1,1	3000,0	14.766,0
1510,9	0,43	3500	0,9	3000,0	14.766,0

Fr2(a) = FD, FS, FP, SD, SS, SP, UC, UD, US, UP
Fr2(b) = FC, FL, FM, SC, SL, SM, UL, UM

감속 비율에 따른 최대허용 용량

Selection table

H061 + B143 M2max 5500Nm

i	P1 (kW)	M2 (Nm)	n2	Fe2(a) n1B (N)	Fe2(b) n1B (N)
178,3	5,20	5500	7,9	31138,8	31.138,8
193,4	4,79	5500	7,2	31138,8	31.138,8
230,6	4,02	5500	6,1	31138,8	31.138,8
253,8	3,65	5500	5,5	31138,8	31.138,8
281,5	3,29	5500	5,0	34597,2	34.597,2
309,8	2,99	5500	4,5	34597,2	34.597,2
343,4	2,70	5500	4,1	34597,2	34.597,2
408,0	2,27	5500	3,4	41679,0	41.679,0
497,7	1,86	5500	2,8	41679,0	41.679,0
598,4	1,55	5500	2,3	45000,0	45.000,0
713,4	1,30	5500	2,0	45000,0	45.000,0
785,3	1,18	5500	1,8	45000,0	45.000,0
983,0	0,94	5500	1,4	45000,0	45.000,0
1089,4	0,85	5500	1,3	45000,0	45.000,0
1373,1	0,67	5500	1,0	45000,0	45.000,0
1568,1	0,59	5500	0,9	45000,0	45.000,0

Fr2(a) = FD, FS, FP, SD, SS, SP, UC, UD, US, UP
Fr2(b) = FC, FL, FM, SC, SL, SM, UL, UM

감속 비율에 따른 최대허용 용량

Selection table

H081 + B153 M2max 8800Nm

i	P1 (kW)	M2 (Nm)	n2	Fe2(a) n1B (N)	Fe2(b) n1B (N)
164,3	9,02	8800	8,5	59.646,4	59.646,4
188,2	7,88	8800	7,4	59.646,4	59.646,4
202,2	7,33	8800	6,9	59.646,4	59.646,4
236,0	6,28	8800	5,9	59.646,4	59.646,4
280,0	5,30	8800	5,0	59.646,4	59.646,4
307,6	4,82	8800	4,6	59.646,4	59.646,4
337,4	4,39	8800	4,1	64.248,8	64.248,8
370,6	4,00	8800	3,8	64.248,8	64.248,8
464,6	3,19	8800	3,0	65.000,0	65.000,0
510,3	2,91	8800	2,7	65.000,0	65.000,0
629,2	2,36	8800	2,2	65.000,0	65.000,0
743,6	1,99	8800	1,9	65.000,0	65.000,0
816,8	1,82	8800	1,7	65.000,0	65.000,0
1007,0	1,47	8800	1,4	65.000,0	65.000,0
1133,8	1,31	8800	1,2	65.000,0	65.000,0
1396,8	1,06	8800	1,0	65.000,0	65.000,0

Fr2(a) = FD, FS, FP, SD, SS, SP, UC, UD, US, UP
Fr2(b) = FC, FL, FM, SC, SL, SM, UL, UM

감속 비율에 따른 최대허용 용량

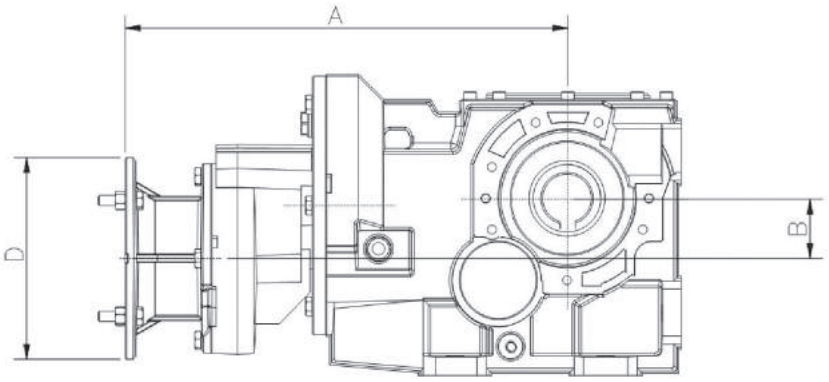
Selection table

H101 + B163 M2max 14300Nm

i	P1 (kW)	M2 (Nm)	n2	Fe2(a) n1B (N)	Fe2(b) n1B (N)
166,9	14,44	14.300	8,4	65.000,0	80.000,0
188,7	12,77	14.300	7,4	65.000,0	80.000,0
215,3	11,19	14.300	6,5	65.000,0	80.000,0
248,6	96,9	14.300	5,6	65.000,0	80.000,0
268,6	89,7	14.300	5,2	65.000,0	80.000,0
317,8	75,8	14.300	4,4	65.000,0	80.000,0
347,5	65,6	14.300	3,8	65.000,0	80.000,0
434,8	55,4	14.300	3,2	65.000,0	80.000,0
547,4	44,0	14.300	2,6	65.000,0	80.000,0
647,6	37,2	14.300	2,2	65.000,0	80.000,0
665,1	36,2	14.300	2,1	65.000,0	80.000,0
784,2	30,7	14.300	1,8	65.000,0	80.000,0
786,9	30,6	14.300	1,8	65.000,0	80.000,0
952,9	25,3	14.300	1,5	65.000,0	80.000,0
1060,8	22,7	14.300	1,3	65.000,0	80.000,0
1300,6	18,5	14.300	1,1	65.000,0	80.000,0

Fr2(a) = FD, FS, FP, SD, SS, SP, UC, UD, US, UP
Fr2(b) = FC, FL, FM, SC, SL, SM, UL, UM

치 수 Dimensions

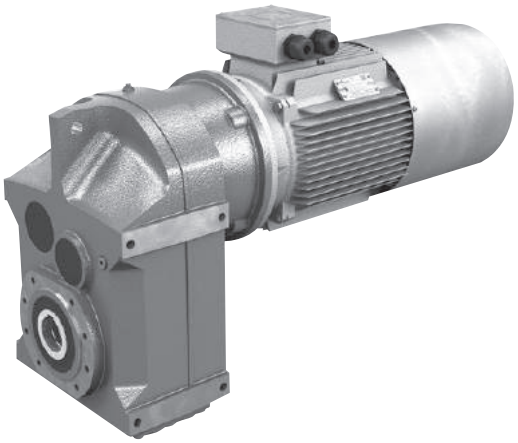


Gearbox	PAM	A (mm)	B (mm)	D (mm)
H041 + B083	071	352	47	160
	080	373		200
	090	373		200
H041 + B103	071	373,5	67	160
	080	394,5		200
	090	394,5		200
H061 + B123	080	456	93,5	200
	090	456		200
	100-112	471		250
H061 + B143	080	471	94	200
	090	489		200
	100-112	489		250
H081 + B153	080	504	115	200
	090	504		200
	100-112	541		250
	132	541		300
H101 + B163	080	556	147	200
	090	556		200
	100-112	581		250
	132	652,5		300
	160	652,5		350
	180	667,5		350

※ "A"는 상황에 따라 달라질 수 있음.

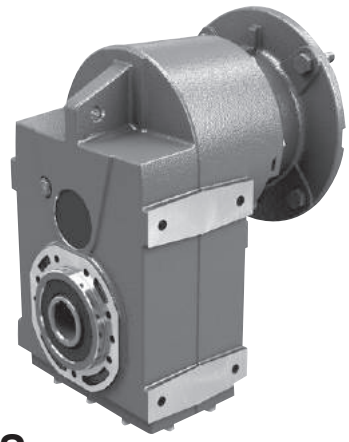
메모 / Notes

S SERIES

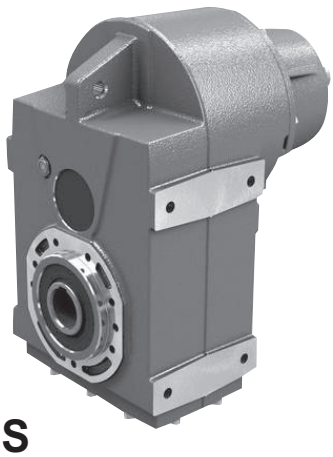


CS

샤프트 마운트 기어드 모터와 기어 유니트
Shaft mounted geared motors and gear units



S

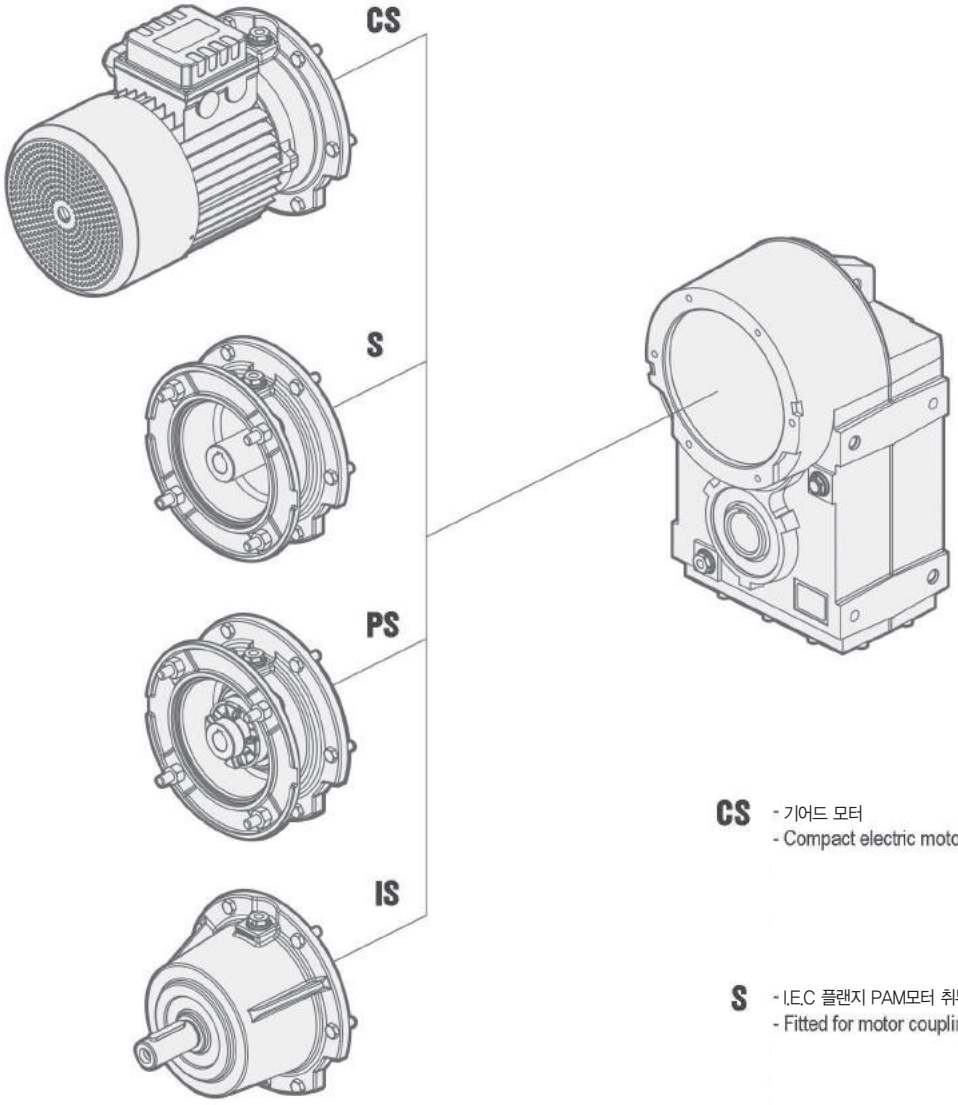


IS

MOTOVARIO®
HEART OF MOTION
a TECO Group company

모듈방식 / Modularity

S 주철시리즈 / Grey cast iron series.



CS - 기어드 모터
- Compact electric motor versions.

S - I.E.C 플랜지 PAM모터 취부형태
- Fitted for motor coupling version (PAM).

PS - 플렉시블 커플링형
- Fitted for motor mounting with flexible coupling.

IS - 입력 샤프트형
- Input shaft versions.

모델형식 / Designation

S	103	C	FA	91,3	160x14	250x28	B3	....
S	052	C	FA	7,34	PAM		B3	
PS	053	D	FB	.....	ECE		B8	
CS	062	L	FC	.....			B6	
IS	063			.....			B7	
	082			.....			V5	
	083			394,69			V6	
	102							
	103							
	122							
	123							

I.E.C PAM 플랜지 / PAM Motoreducer / 플렉시블 커플링 PAM 플랜지 — S / PS

모터일체형 / Compact Motoreducer — CS

입력샤프트 형 / Gear Reducer — IS

형번 / Size

주철시리즈 / Cast iron series — 10..

출력 샤프트 형태 / Output shaft versions

출력 플랜지 / Output flange

감속비 / Reduction ratio

입력치수 / Input dimensions

출력치수 / Output dimensions

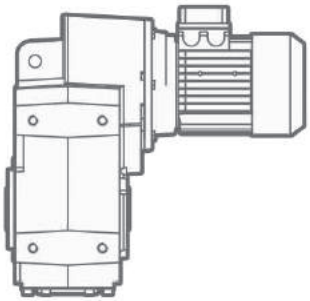
취부형태 / Mounting position

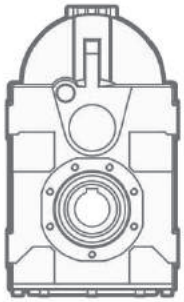
악세사리 / Accessories

P (PAM) (160x14) — 입력 PAM 플랜지 치수 / Fitted for motor coupling

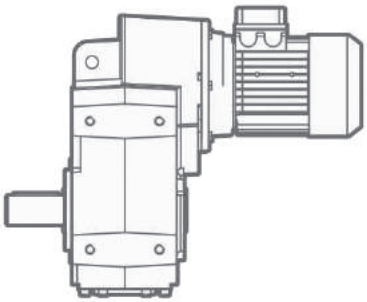
E (ECE) (28) — 입력축 치수 / Input shaft diameter

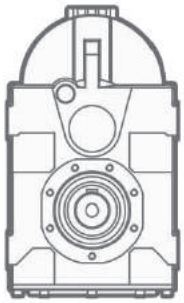
버전 / Versions



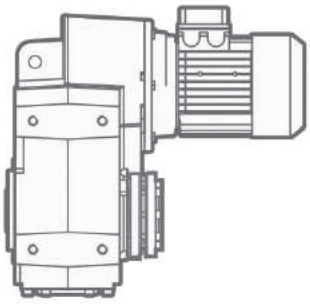


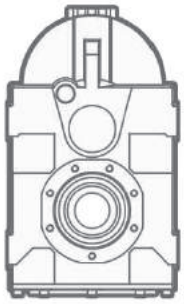
S ... C
- 풋-플랜지 마운트/중공축
- Foot-flange mounting / hollow shaft.





S ... D
- 풋-플랜지 마운트/중실축(D)
- Foot-flange mounting / D solid shaft.





S ... L
- 풋-플랜지 마운트/샤링크 디스크
- Foot-flange mounting / shrink disc shaft.

감속비에 따른 모터 취부 분류 / Predisposition

CS - S - PS ...052

i	071	080	090	100	112
8.63	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
11.14	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
13.66	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
15.27	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
16.29	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
18.63	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
21.04	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
24.07	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
25.79	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
27.81	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
30.00	B5-B11	B5-B11	B5-B11		
32.55	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
36.55	B5-B11	B5-B11	B5-B11		
39.00	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
42.63	B5-B11	B5-B11	B5-B11		
47.20	B5-B11	B5-B11	B5-B11		
52.25	B5-B11	B5-B11	B5-B11		
57.86	B5-B11	B5-B11	B5-B11		
72.83	B5-B11	B5-B11	B5-B11		

CS - S - PS ...053

i	063	071	080	090
74.20	B5-B11	B5-B11	B5-B11	B5-B11
95.84	B5-B11	B5-B11	B5-B11	B5-B11
117.48	B5-B11	B5-B11	B5-B11	B5-B11
137.45	B5-B11	B5-B11	B5-B11	B5-B11
177.55	B5-B11	B5-B11	B5-B11	B5-B11
198.45	B5-B11	B5-B11		
217.64	B5-B11	B5-B11	B5-B11	B5-B11
256.33	B5-B11	B5-B11		
314.21	B5-B11	B5-B11		

CS - S - PS ...062

i	071	080	090	100	112
8.00		B5-B11	B5-B11	B5-B11	B5-B11
9.55		B5-B11	B5-B11	B5-B11	B5-B11
11.71		B5-B11	B5-B11	B5-B11	B5-B11
13.36		B5-B11	B5-B11	B5-B11	B5-B11
15.94		B5-B11	B5-B11	B5-B11	B5-B11
19.55		B5-B11	B5-B11	B5-B11	B5-B11
23.18	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
25.14	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
27.66	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
30.00	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
33.93	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
36.57	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
39.38	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
43.64	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
46.10	B5-B11	B5-B11	B5-B11		
53.53	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
55.00	B5-B11	B5-B11	B5-B11		
67.47	B5-B11	B5-B11	B5-B11		

CS - S - PS ...063

i	071	080	090
81.43	B5-B11	B5-B11	B5-B11
99.89	B5-B11	B5-B11	B5-B11
126.43	B5-B11	B5-B11	B5-B11
150.85	B5-B11	B5-B11	B5-B11
185.05	B5-B11	B5-B11	B5-B11
217.79	B5-B11		
267.16	B5-B11		

- B = 11 특수 모터(감속기 모터 일체형)
- Motor with special execution
- 테이블 표에 표시된것은 모두 가능함. 단, 안전계수를 필히 확인하시기 바람.
- Teses tables report all possible dimensions, Please verify service factor.

감속비에 따른 모터 취부 분류 / Predisposition

CS - S - PS ...082

i	080	090	100	112	132
7.34	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
8.06	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
9.94	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
11.61	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
12.75	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
15.73	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
17.29	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
20.14	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
22.13	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
24.00	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
27.29	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
28.67	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
31.78	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
34.91	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
40.05	B5-B11	B5-B11	B5-B11	B5-B11	
43.05	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
50.25	B5-B11	B5-B11	B5-B11	B5-B11	
54.27	B5-B11	B5-B11	B5-B11	B5-B11	
61.98	B5-B11	B5-B11	B5-B11	B5-B11	

CS - S - PS ...083

i	080	090	100	112	132
67.52		B5-B11	B5-B11	B5-B11	B5-B11
74.18		B5-B11	B5-B11	B5-B11	B5-B11
91.49		B5-B11	B5-B11	B5-B11	B5-B11
117.17	B5-B11	B5-B11	B5-B11		
128.73	B5-B11	B5-B11	B5-B11		
158.76	B5-B11	B5-B11	B5-B11		
184.86	B5-B11	B5-B11	B5-B11		
203.11	B5-B11	B5-B11	B5-B11		
250.50	B5-B11	B5-B11	B5-B11		
292.36	B5-B11	B5-B11	B5-B11		
315.73	B5-B11	B5-B11	B5-B11		
360.58	B5-B11	B5-B11	B5-B11		

CS - S - PS ...102

i	080	090	100	112	132	160
8.06	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	B5
8.85	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	B5
10.88	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	B5
12.75	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	B5
13.99	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	B5
17.21	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	B5
19.00	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
22.13	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
24.28	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
26.33	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
29.87	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
32.40	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
34.91	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
38.30	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
44.00	B5-B11	B5-B11	B5-B11	B5-B11		
47.13	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
55.14	B5-B11	B5-B11	B5-B11	B5-B11		
59.40	B5-B11	B5-B11	B5-B11	B5-B11		
67.84	B5-B11	B5-B11	B5-B11	B5-B11		

CS - S - PS ...103

i	080	090	100	112	132
74.10		B5-B11	B5-B11	B5-B11	B5-B11
81.39		B5-B11	B5-B11	B5-B11	B5-B11
100.15		B5-B11	B5-B11	B5-B11	B5-B11
110.55	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
128.73	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
141.24	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
173.78	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
203.11	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
222.85	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
274.20	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
320.79	B5-B11	B5-B11	B5-B11		
345.60	B5-B11	B5-B11	B5-B11		
394.69	B5-B11	B5-B11	B5-B11		

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- Motor with special execution
- 테이블 표에 표시된것은 모두 가능함. 단, 안전계수를 필히 확인하시기 바람.
- Teses tables report all possible dimensions, Please verify service factor.

감속비에 따른 모터 취부 분류 / Predisposition

CS - S - PS ...122

i	080	090	100	112	132	160	180	200
8.48						B5	B5	B5
9.30						B5	B5	B5
11.42						B5	B5	B5
12.63						B5	B5	B5
13.84						B5	B5	B5
16.99						B5	B5	B5
21.25			B5-B11	B5-B11	B5-B11	B5	B5	
23.29			B5-B11	B5-B11	B5-B11	B5	B5	
26.15			B5-B11	B5-B11	B5-B11	B5	B5	
28.60			B5-B11	B5-B11	B5-B11	B5	B5	
30.51			B5-B11	B5-B11	B5-B11	B5	B5	
33.44			B5-B11	B5-B11	B5-B11	B5	B5	
35.20			B5-B11	B5-B11	B5-B11	B5	B5	
41.07			B5-B11	B5-B11	B5-B11	B5	B5	
43.60	B5	B5-B11	B5-B11	B5-B11	B5-B11			
49.04	B5	B5-B11	B5-B11	B5-B11	B5-B11			
53.75	B5	B5-B11	B5-B11	B5-B11	B5-B11			
66.00	B5	B5-B11	B5-B11	B5-B11	B5-B11			

CS - S - PS ...123

i	080	090	100	112	132
71.07			B5-B11	B5-B11	B5-B11
87.27			B5-B11	B5-B11	B5-B11
112.52	B5	B5-B11	B5-B11	B5-B11	B5-B11
123.33	B5	B5-B11	B5-B11	B5-B11	B5-B11
133.78	B5	B5-B11	B5-B11	B5-B11	B5-B11
151.43	B5	B5-B11	B5-B11	B5-B11	B5-B11
177.53	B5	B5-B11	B5-B11	B5-B11	B5-B11
194.59	B5	B5-B11	B5-B11	B5-B11	B5-B11
238.93	B5	B5-B11	B5-B11	B5-B11	B5-B11
280.10	B5	B5-B11	B5-B11	B5-B11	
301.16	B5	B5-B11	B5-B11	B5-B11	
343.93	B5	B5-B11	B5-B11	B5-B11	

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감속비에 따른 모터 취부 분류 / Predisposition

S - PS ...142

i	132B5	160B5	180B5	200B5
4.11	B5	B5	B5	B5
4.58	B5	B5	B5	B5
5.14	B5	B5	B5	B5
5.81	B5	B5	B5	B5
6.21	B5	B5	B5	B5
7.31	B5	B5	B5	B5
8.20	B5	B5	B5	B5
9.28	B5	B5	B5	B5
9.91	B5	B5	B5	B5
11.40	B5	B5	B5	B5
12.81	B5	B5	B5	B5
14.27	B5	B5	B5	B5
16.00	B5	B5	B5	B5
18.10	B5	B5	B5	B5
19.33	B5	B5	B5	B5
22.24	B5	B5	B5	B5
25.26	B5	B5	B5	
28.33	B5	B5	B5	
32.05	B5	B5	B5	
34.22	B5	B5	B5	
39.27	B5	B5	B5	

S - PS ...152

i	160B5	180B5	200B5	225B5
4.06	B5	B5	B5	B5
4.53	B5	B5	B5	B5
5.20	B5	B5	B5	B5
5.71	B5	B5	B5	B5
6.52	B5	B5	B5	B5
7.28	B5	B5	B5	B5
8.35	B5	B5	B5	B5
9.17	B5	B5	B5	B5
10.41	B5	B5	B5	B5
12.46	B5	B5	B5	B5
13.90	B5	B5	B5	B5
15.96	B5	B5	B5	B5
17.52	B5	B5	B5	B5
19.90	B5	B5	B5	B5
22.88	B5	B5	B5	B5
27.10	B5	B5	B5	B5
29.75	B5	B5	B5	B5
33.79	B5	B5	B5	B5
38.84	B5	B5	B5	B5

S - PS ...143

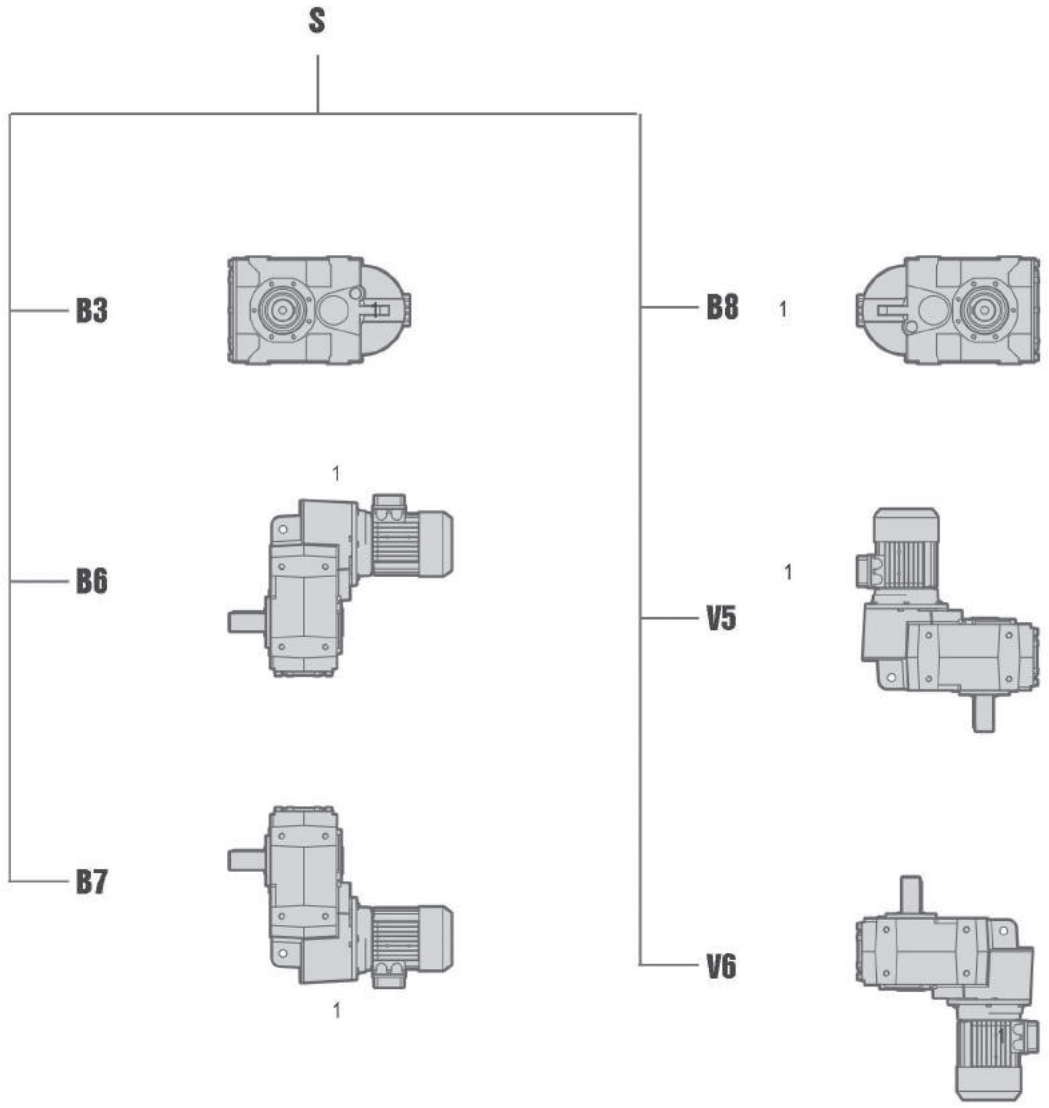
i	100-112B5	132B5	160B5
45.76	B5	B5	B5
50.97	B5	B5	B5
57.17	B5	B5	B5
64.67	B5	B5	B5
69.05	B5	B5	B5
79.45	B5	B5	B5
98.80	B5	B5	
110.05	B5	B5	

S - PS ...153

i	132B5	160B5	180B5
40.10	B5	B5	B5
44.75	B5	B5	B5
51.37	B5	B5	B5
56.39	B5	B5	B5
64.05	B5	B5	B5
73.62	B5	B5	B5
87.15	B5	B5	
97.27	B5	B5	

- B = 11 특수 모터(감속기 모터 일체형)
- Motor with special execution
- 테이블 표에 표시된것은 모두 가능함. 단, 안전계수를 필히 확인하시기 바람.
- Teses tables report all possible dimensions, Please verify service factor.

취부방식 / Mounting positions



- 수직형으로 사용할 경우에는 카다로그 6페이지를 참조할 것.
- For vertical positions, check with pages 6.

- 취부형태가 정해지지 않으면 B3 형태로 출하됨.
- Unless specified otherwise, the standard positions are B3.

- 원하는 취부형태가 카다로그에 없다면 본사로 연락해서 협의해야함.
- For positions not envisaged, it is necessary to call our Technical Service.

S – 모터 용량에 따른 분류 / Performance

0,18 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 D [N]	Fr2 C-L [N]
20,4	77	3,4	137,45	S053	63A2	6000	6000
15,8	99	2,7	177,55	S053	63A2	6000	6000
14,6	111	3,2	95,84	S053	63B4	6000	6000
11,9	136	2,6	117,48	S053	63B4	6000	6000
10,2	159	2,2	137,45	S053	63B4	6000	6000
7,9	205	1,7	177,55	S053	63B4	6000	6000
7,1	229	1,5	198,45	S053	63B4	6000	6000
6,4	251	1,4	217,64	S053	63B4	6000	6000
5,5	296	1,2	256,33	S053	63B4	6000	6000
4,5	363	1,0	314,21	S053	63B4	6000	6000

0,37 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 D [N]	Fr2 C-L [N]
46,7	73	4,0	30	S052	71B4	6000	6000
43,0	79	3,8	32,55	S052	71B4	6000	6000
38,3	89	3,7	36,55	S052	71B4	6000	6000
35,1	97	3,6	39,9	S052	71B4	6000	6000
32,8	103	3,4	42,63	S052	71B4	6000	6000
29,7	114	3,1	47,2	S052	71B4	6000	6000
26,8	127	2,8	52,25	S052	71B4	6000	6000
24,2	140	2,5	57,86	S052	71B4	6000	6000
19,2	176	2,0	72,83	S052	71B4	6000	6000
18,9	176	2,0	74,2	S053	71B4	6000	6000
14,6	227	1,5	95,84	S053	71B4	6000	6000
11,9	279	1,3	117,48	S053	71B4	6000	6000
10,2	326	1,1	137,45	S053	71B4	6000	6000
20,8	163	3,7	67,47	S062	71B4	10000	4000
17,2	193	3,1	81,43	S063	71B4	10000	4000
14,0	237	2,5	99,89	S063	71B4	10000	4000
11,1	300	2,0	126,43	S063	71B4	10000	4000
9,3	358	1,7	150,85	S063	71B4	10000	4000
7,6	439	1,4	185,05	S063	71B4	10000	4000
6,4	517	1,2	217,79	S063	71B4	10000	4000
5,2	634	0,9	267,16	S063	71B4	10000	4000
11,9	278	3,6	117,17	S083	71B4	18000	7200
10,9	305	3,3	128,73	S083	71B4	18000	7200
8,8	377	2,7	158,76	S083	71B4	18000	7200
7,6	439	2,3	184,88	S083	71B4	18000	7200
6,9	482	2,1	203,11	S083	71B4	18000	7200
5,6	594	1,7	250,5	S083	71B4	18000	7200
4,8	694	1,4	292,36	S083	71B4	18000	7200
4,4	749	1,3	315,73	S083	71B4	18000	7200
3,9	855	1,2	360,58	S083	71B4	18000	7200
8,1	412	3,9	173,78	S103	71B4	22000	9000
6,9	482	3,3	203,11	S103	71B4	22000	9000
6,3	529	3,0	222,85	S103	71B4	22000	9000
5,1	651	2,5	274,2	S103	71B4	22000	9000
4,4	761	2,1	320,79	S103	71B4	22000	9000
4,1	820	2,0	345,6	S103	71B4	22000	9000
3,5	936	1,7	394,69	S103	71B4	22000	9000

0,55 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 D [N]	Fr2 C-L [N]
75,1	67	3,6	18,63	S052	71C4/80A4	5236	5236
66,6	76	3,4	21,04	S052	71C4/80A4	5415	5415
58,2	87	3,0	24,07	S052	71C4/80A4	5618	5618
54,3	93	3,1	25,79	S052	71C4/80A4	5723	5723
50,3	100	2,9	27,81	S052	71C4/80A4	5838	5838
46,7	108	2,7	30	S052	71C4/80A4	5955	5955
43,0	117	2,6	32,55	S052	71C4/80A4	6000	6000
38,3	132	2,5	36,55	S052	71C4/80A4	6000	6000
35,1	144	2,4	39,9	S052	71C4/80A4	6000	6000
32,8	154	2,3	42,63	S052	71C4/80A4	6000	6000
29,7	170	2,1	47,2	S052	71C4/80A4	6000	6000
26,8	188	1,9	52,25	S052	71C4/80A4	6000	6000
24,2	208	1,7	57,86	S052	71C4/80A4	6000	6000
19,2	262	1,3	72,83	S052	71C4/80A4	6000	6000
18,9	262	1,3	74,2	S053	71C4/80A4	6000	6000
14,6	338	1,0	95,84	S053	71C4/80A4	6000	6000
32,1	157	3,8	43,64	S062	71C4/80A4	10000	4000
30,4	166	3,6	46,1	S062	71C4/80A4	10000	4000
26,2	193	3,1	53,53	S062	71C4/80A4	10000	4000
25,5	198	3,0	55	S062	71C4/80A4	10000	4000
20,8	243	2,5	67,47	S062	71C4/80A4	10000	4000
17,2	287	2,1	81,43	S063	71C4/80A4	10000	4000
14,0	352	1,7	99,89	S063	71C4/80A4	10000	4000
11,1	446	1,3	126,43	S063	71C4/80A4	10000	4000
9,3	532	1,1	150,85	S063	71C4/80A4	10000	4000
7,6	653	0,9	185,05	S063	71C4/80A4	10000	4000
11,9	413	2,4	117,17	S083	71C4/80A4	18000	7200
10,9	454	2,2	128,73	S083	71C4/80A4	18000	7200
8,8	560	1,8	158,76	S083	71C4/80A4	18000	7200
7,6	652	1,5	184,88	S083	71C4/80A4	18000	7200
6,9	716	1,4	203,11	S083	71C4/80A4	18000	7200
5,6	883	1,1	250,5	S083	71C4/80A4	18000	7200
4,8	1031	1,0	292,36	S083	71C4/80A4	18000	7200
18,9	262	3,8	74,18	S083	80A4	18000	7200
15,3	323	3,1	91,49	S083	80A4	18000	7200
10,9	454	3,5	128,73	S103	71C4/80A4	22000	9000
9,9	498	3,2	141,24	S103	71C4/80A4	22000	9000
8,1	613	2,6	173,78	S103	71C4/80A4	22000	9000
6,9	716	2,2	203,11	S103	71C4/80A4	22000	9000
6,3	786	2,0	222,85	S103	71C4/80A4	22000	9000
5,1	967	1,7	274,2	S103	71C4/80A4	22000	9000
4,4	1131	1,4	320,79	S103	71C4/80A4	22000	9000
4,1	1219	1,3	345,6	S103	71C4/80A4	22000	9000
3,5	1392	1,1	394,69	S103	71C4/80A4	22000	9000
5,9	843	3,6	238,93	S123	80A4	30000	11200
5,0	988	3,0	280,1	S123	80A4	30000	11200
4,6	1062	2,8	301,16	S123	80A4	30000	11200
4,1	1213	2,5	343,93	S123	80A4	30000	11200

0,75 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 D [N]	Fr2 C-L [N]
125,7	55	3,5	11,14	S052	80B4	4430	4430
102,5	67	3,1	13,66	S052	80B4	4688	4688

0,75 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 D [N]	Fr2 C-L [N]
91,7	75	3,2	15,27	S052	80B4	4833	4833
86,0	80	3,0	16,29	S052	80B4	4916	4916
75,1	92	2,6	18,63	S052	80B4	5094	5094
66,6	103	2,5	21,04	S052	80B4	5255	5255
58,2	118	2,2	24,07	S052	80B4	5435	5435
54,3	127	2,3	25,79	S052	80B4	5527	5527
50,3	137	2,1	27,81	S052	80B4	5627	5627
46,7	147	2,0	30	S052	80B4	5727	5727
43,0	160	1,9	32,55	S052	80B4	5834	5834
38,3	179	1,8	36,55	S052	80B4	5983	5983
35,1	196	1,8	39,9	S052	80B4	6000	6000
32,8	209	1,7	42,63	S052	80B4	6000	6000
29,7	232	1,5	47,2	S052	80B4	6000	6000
26,8	257	1,4	52,25	S052	80B4	6000	6000
24,2	284	1,2	57,86	S052	80B4	6000	6000
19,2	358	1,0	72,83	S052	80B4	6000	6000
18,9	357	1,0	74,2	S053	80B4	6000	6000
55,7	123	3,9	25,14	S062	80B4	9895	3958
50,6	136	3,5	27,66	S062	80B4	10000	4000
46,7	147	3,4	30	S062	80B4	10000	4000
41,3	167	3,2	33,93	S062	80B4	10000	4000
38,3	180	3,3	36,57	S062	80B4	10000	4000
35,6	193	3,1	39,38	S062	80B4	10000	4000
32,1	214	2,8	43,64	S062	80B4	10000	4000
30,4	226	2,7	46,1	S062	80B4	10000	4000
26,2	263	2,3	53,53	S062	80B4	10000	4000
25,5	270	2,2	55	S062	80B4	10000	4000
20,8	331	1,8	67,47	S062	80B4	10000	4000
17,2	392	1,5	81,43	S063	80B4	10000	4000
14,0	480	1,2	99,89	S063	80B4	10000	4000
11,1	608	1,0	126,43	S063	80B4	10000	4000
25,8	267	3,8	54,27	S082	80B4	18000	7200
22,6	304	3,3	61,98	S082	80B4	18000	7200
20,7	325	3,1	67,52	S083	80B4	18000	7200
18,9	357	2,8	74,18	S083	80B4	18000	7200
15,3	440	2,3	91,49	S083	80B4	18000	7200
11,9	564	1,8	117,17	S083	80B4	18000	7200
10,9	619	1,6	128,73	S083	80B4	18000	7200
8,8	764	1,3	158,76	S083	80B4	18000	7200
7,6	889	1,1	184,88	S083	80B4	18000	7200
6,9	977	1,0	203,11	S083	80B4	18000	7200
14,0	482	3,3	100,15	S103	80B4	22000	9000
12,7	532	3,0	110,55	S103	80B4	22000	9000
10,9	619	2,6	128,73	S103	80B4	22000	9000
9,9	679	2,4	141,24	S103	80B4	22000	9000
8,1	836	1,9	173,78	S103	80B4	22000	9000
6,9	977	1,6	203,11	S103	80B4	22000	9000
6,3	1072	1,5	222,85	S103	80B4	22000	9000
5,1	1319	1,2	274,2	S103	80B4	22000	9000
4,4	1543	1,0	320,79	S103	80B4	22000	9000
4,1	1662	1,0	345,6	S103	80B4	22000	9000
7,9	854	3,5	177,53	S123	80B4	30000	11200
7,2	936	3,2	194,59	S123	80B4	30000	11200
5,9	1149	2,6	238,93	S123	80B4	30000	11200
5,0	1347	2,2	280,1	S123	80B4	30000	11200
4,6	1448	2,1	301,16	S123	80B4	30000	11200
4,1	1654	1,8	343,93	S123	80B4	30000	11200

1,5 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 D [N]	Fr2 C-L [N]
162,3	85	2,0	8,63	S052	90LA4	3871	3871
125,7	109	1,7	11,14	S052	90LA4	4112	4112
102,5	134	1,6	13,66	S052	90LA4	4298	4298
91,7	150	1,6	15,27	S052	90LA4	4397	4397
86,0	160	1,5	16,29	S052	90LA4	4452	4452
75,1	183	1,3	18,63	S052	90LA4	4562	4562
66,6	207	1,3	21,04	S052	90LA4	4655	4655
58,2	236	1,1	24,07	S052	90LA4	4748	4748
54,3	253	1,1	25,79	S052	90LA4	4791	4791
50,3	273	1,1	27,81	S052	90LA4	4834	4834
46,7	295	1,0	30	S052	90LA4	4871	4871
43,0	320	0,9	32,55	S052	90LA4	4905	4905
38,3	359	0,9	36,55	S052	90LA4	4941	4941
146,7	94	3,8	9,55	S062	90LA4	7162	2865
119,6	115	3,4	11,71	S062	90LA4	7568	3027
104,8	131	3,2	13,36	S062	90LA4	7834	3134
87,8	157	2,9	15,94	S062	90LA4	8194	3277
71,6	192	2,4	19,55	S062	90LA4	8609	3444
60,4	228	2,1	23,18	S062	90LA4	8951	3581
55,7	247	1,9	25,14	S062	90LA4	9112	3645
50,6	272	1,8	27,66	S062	90LA4	9296	3719
46,7	295	1,7	30	S062	90LA4	9450	3780
41,3	333	1,6	33,93	S062	90LA4	9675	3870
38,3	359	1,7	36,57	S062	90LA4	9806	3922
35,6	387	1,6	39,38	S062	90LA4	9929	3972
32,1	429	1,4	43,64	S062	90LA4	10000	4000
30,4	453	1,3	46,1	S062	90LA4	10000	4000
26,2	526	1,1	53,53	S062	90LA4	10000	4000
25,5	540	1,1	55	S062	90LA4	10000	4000
20,8	663	0,9	67,47	S062	90LA4	10000	4000
69,5	198	3,9	20,14	S082	90LA4	18000	5331
63,3	217	3,7	22,13	S082	90LA4	18000	5486
58,3	236	3,4	24	S082	90LA4	18000	5624
51,3	268	3,4	27,29	S082	90LA4	18000	5846
48,8	282	3,2	28,67	S082	90LA4	18000	5934
44,1	312	3,2	31,78	S082	90LA4	18000	6119
40,1	343	2,9	34,91	S082	90LA4	18000	6293
35,0	393	2,5	40,05	S082	90LA4	18000	6552
32,5	423	2,4	43,05	S082	90LA4	18000	6691
27,9	494	2,0	50,25	S082	90LA4	18000	6996
25,8	533	1,9	54,27	S082	90LA4	18000	7151
22,6	609	1,6	61,98	S082	90LA4	18000	7200
20,7	649	1,5	67,52	S083	90LA4	18000	7200
18,9	713	1,4	74,18	S083	90LA4	18000	7200
15,3	880	1,1	91,49	S083	90LA4	18000	7200
36,6	376	4,0	38,3	S102	90LA4	22000	8020
31,8	432	3,0	44	S102	90LA4	22000	8368
29,7	463	3,5	47,13	S102	90LA4	22000	8544
25,4	542	2,4	55,14	S102	90LA4	22000	8958
23,6	583	2,7	59,4	S102	90LA4	22000	9000
20,6	666	2,4	67,84	S102	90LA4	22000	9000
18,9	713	2,2	74,18	S103	90LA4	22000	9000
17,2	783	2,0	81,39	S103	90LA4	22000	9000
14,0	963	1,7	100,15	S103	90LA4	22000	9000
12,7	1063	1,5	110,55	S103	90LA4	22000	9000
10,9	1238	1,3	128,73	S103	90LA4	22000	9000

1,5 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 D [N]	Fr2 C-L [N]
9,9	1358	1,2	141,24	S103	90LA4	22000	9000
8,1	1671	1,0	173,78	S103	90LA4	22000	9000
12,4	1082	2,8	112,52	S123	90LA4	30000	11200
11,4	1186	2,5	123,33	S123	90LA4	30000	11200
10,5	1287	2,3	133,78	S123	90LA4	30000	11200
9,2	1457	2,1	151,43	S123	90LA4	30000	11200
7,9	1708	1,8	177,53	S123	90LA4	30000	11200
7,2	1872	1,6	194,59	S123	90LA4	30000	11200
5,9	2298	1,3	238,93	S123	90LA4	30000	11200
5,0	2694	1,1	280,1	S123	90LA4	30000	11200
4,6	2897	1,0	301,16	S123	90LA4	30000	11200
4,1	3308	0,9	343,93	S123	90LA4	30000	11200

2,2 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 D [N]	Fr2 C-L [N]
162,3	124	1,4	8,63	S052	100LA4	3641	3641
125,7	161	1,2	11,14	S052	100LA4	3815	3815
102,5	197	1,1	13,66	S052	100LA4	3934	3934
91,7	220	1,1	15,27	S052	100LA4	3990	3990
86,0	235	1,0	16,29	S052	100LA4	4018	4018
175,0	115	2,9	8	S062	100LA4	6587	2635
146,7	138	2,6	9,55	S062	100LA4	6885	2754
119,6	169	2,3	11,71	S062	100LA4	7228	2891
104,8	192	2,2	13,36	S062	100LA4	7446	2978
87,8	230	2,0	15,94	S062	100LA4	7731	3092
71,6	282	1,6	19,55	S062	100LA4	8041	3217
60,4	334	1,4	23,18	S062	100LA4	8278	3311
55,7	362	1,3	25,14	S062	100LA4	8381	3353
50,6	398	1,2	27,66	S062	100LA4	8493	3397
46,7	432	1,2	30	S062	100LA4	8579	3431
41,3	489	1,1	33,93	S062	100LA4	8689	3476
38,3	527	1,1	36,57	S062	100LA4	8743	3497
35,6	567	1,1	39,38	S062	100LA4	8785	3514
32,1	629	1,0	43,64	S062	100LA4	8823	3529
89,0	227	3,4	15,73	S082	100LA4	17049	4871
80,9	249	3,1	17,29	S082	100LA4	17543	5012
69,5	290	2,7	20,14	S082	100LA4	18000	5244
63,3	319	2,5	22,13	S082	100LA4	18000	5391
58,3	346	2,3	24	S082	100LA4	18000	5521
51,3	393	2,3	27,29	S082	100LA4	18000	5729
48,8	413	2,2	28,67	S082	100LA4	18000	5811
44,1	458	2,2	31,78	S082	100LA4	18000	5983
40,1	503	2,0	34,91	S082	100LA4	18000	6142
35,0	577	1,7	40,05	S082	100LA4	18000	6380
32,5	620	1,6	43,05	S082	100LA4	18000	6506
27,9	724	1,4	50,25	S082	100LA4	18000	6780
25,8	782	1,3	54,27	S082	100LA4	18000	6917
22,6	893	1,1	61,98	S082	100LA4	18000	7156
20,7	953	1,0	67,52	S083	100LA4	18000	7200
18,9	1046	1,0	74,18	S083	100LA4	18000	7200
53,2	379	4,0	26,33	S102	100LA4	22000	7053
46,9	430	3,5	29,87	S102	100LA4	22000	7326
43,2	467	3,2	32,4	S102	100LA4	22000	7507

2,2 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 D [N]	Fr2 C-L [N]
40,1	503	2,8	34,91	**S102**	**100LA4**	22000	7676
36,6	552	2,7	38,3	**S102**	**100LA4**	22000	7890
31,8	634	2,1	44	**S102**	**100LA4**	22000	8218
29,7	679	2,4	47,13	**S102**	**100LA4**	22000	8384
25,4	794	1,6	55,14	**S102**	**100LA4**	22000	8771
23,6	856	1,9	59,4	**S102**	**100LA4**	22000	8958
20,6	977	1,6	67,84	**S102**	**100LA4**	22000	9000
18,9	1046	1,5	74,18	**S103**	**100LA4**	22000	9000
17,2	1148	1,4	81,39	**S103**	**100LA4**	22000	9000
14,0	1413	1,1	100,15	**S103**	**100LA4**	22000	9000
12,7	1559	1,0	110,55	**S103**	**100LA4**	22000	9000
28,5	706	3,4	49,04	**S122**	**100LA4**	30000	11200
26,0	774	3,4	53,75	**S122**	**100LA4**	30000	11200
21,2	951	3,2	66	**S122**	**100LA4**	30000	11200
19,7	1003	2,7	71,07	**S123**	**100LA4**	30000	11200
16,0	1231	2,4	87,27	**S123**	**100LA4**	30000	11200
12,4	1587	1,9	112,52	**S123**	**100LA4**	30000	11200
11,4	1740	1,7	123,33	**S123**	**100LA4**	30000	11200
10,5	1887	1,6	133,78	**S123**	**100LA4**	30000	11200
9,2	2136	1,4	151,43	**S123**	**100LA4**	30000	11200
7.9	2504	1.2	177.63	**S123**	**100LA4**	-	11200
7.2	2745	1.1	194.59	**S123**	**100LA4**	-	11200
17.6	1121	3.7	79.45	**S143**	**100LA4**	-	24700
14.2	1394	3.2	98.80	**S143**	**100LA4**	-	25800
12.7	1553	3.0	110.05	**S143**	**100LA4**	-	25800
11.36	1741	2.7	123.43	**S143**	**100LA4**	-	26300
10.0	1970	2.5	139.64	**S143**	**100LA4**	-	26700
9.4	2103	2.3	149.09	**S143**	**100LA4**	-	26700
8.9	2222	1.7	157.48	**S143**	**100LA4**	-	26700
8.2	2420	1.9	171.54	**S143**	**100LA4**	-	27000
8.0	2474	1.7	175.40	**S143**	**100LA4**	-	27000
7.1	2775	1.7	196.73	**S143**	**100LA4**	-	26700
6.3	3140	1.7	222.56	**S143**	**100LA4**	-	25700
5.9	3352	1.5	237.62	**S143**	**100LA4**	-	25100
5.1	3857	1.2	273.41	**S143**	**100LA4**	-	23900

3,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 D [N]	Fr2 C-L [N]
162,3	169	1,0	8,63	**S052**	**100LB4**	3379	3379
175,0	157	2,1	8	**S062**	**100LB4**	6321	2528
146,7	188	1,9	9,55	**S062**	**100LB4**	6568	2627
119,6	230	1,7	11,71	**S062**	**100LB4**	6839	2736
104,8	262	1,6	13,36	**S062**	**100LB4**	7003	2801
87,8	313	1,4	15,94	**S062**	**100LB4**	7201	2881
71,6	384	1,2	19,55	**S062**	**100LB4**	7392	2957
60,4	455	1,0	23,18	**S062**	**100LB4**	7508	3003
55,7	494	1,0	25,14	**S062**	**100LB4**	7546	3019
190,8	144	3,8	7,34	**S082**	**100LB4**	13364	3818
173,6	158	3,8	8,06	**S082**	**100LB4**	13753	3929
140,8	195	3,3	9,94	**S082**	**100LB4**	14654	4187
120,6	228	3,1	11,61	**S082**	**100LB4**	15348	4385
109,8	250	3,0	12,75	**S082**	**100LB4**	15781	4509

3,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 D [N]	Fr2 C-L [N]
89,0	309	2,5	15,73	S082	100LB4	16779	4794
80,9	340	2,3	17,29	S082	100LB4	17245	4927
69,5	396	1,9	20,14	S082	100LB4	18000	5145
63,3	435	1,8	22,13	S082	100LB4	18000	5282
58,3	471	1,7	24	S082	100LB4	18000	5403
51,3	536	1,7	27,29	S082	100LB4	18000	5595
48,8	563	1,6	28,67	S082	100LB4	18000	5670
44,1	624	1,6	31,78	S082	100LB4	18000	5826
40,1	686	1,5	34,91	S082	100LB4	18000	5971
35,0	787	1,3	40,05	S082	100LB4	18000	6183
32,5	846	1,2	43,05	S082	100LB4	18000	6294
27,9	987	1,0	50,25	S082	100LB4	18000	6533
25,8	1066	0,9	54,27	S082	100LB4	18000	6650
109,8	250	4,0	12,75	S102	100LB4	19555	5587
81,3	338	3,8	17,21	S102	100LB4	21431	6123
73,7	373	3,8	19	S102	100LB4	22000	6308
63,3	435	3,2	22,13	S102	100LB4	22000	6602
57,7	477	3,1	24,28	S102	100LB4	22000	6786
53,2	517	2,9	26,33	S102	100LB4	22000	6951
46,9	587	2,6	29,87	S102	100LB4	22000	7210
43,2	637	2,4	32,4	S102	100LB4	22000	7382
40,1	686	2,0	34,91	S102	100LB4	22000	7541
36,6	752	2,0	38,3	S102	100LB4	22000	7742
31,8	864	1,5	44	S102	100LB4	22000	8047
29,7	926	1,7	47,13	S102	100LB4	22000	8201
25,4	1083	1,2	55,14	S102	100LB4	22000	8556
23,6	1167	1,4	59,4	S102	100LB4	22000	8727
20,6	1333	1,2	67,84	S102	100LB4	22000	9000
18,9	1427	1,1	74,18	S103	100LB4	22000	9000
17,2	1566	1,0	81,39	S103	100LB4	22000	9000
34,1	807	3,7	41,07	S122	100LB4	30000	11200
32,1	856	3,5	43,6	S122	100LB4	30000	11200
28,5	963	2,5	49,04	S122	100LB4	30000	11200
26,0	1056	2,5	53,75	S122	100LB4	30000	11200
21,2	1297	2,3	66	S122	100LB4	30000	11200
19,7	1367	2,0	71,07	S123	100LB4	30000	11200
16,0	1679	1,8	87,27	S123	100LB4	30000	11200
12,4	2164	1,4	112,52	S123	100LB4	30000	11200
11,4	2372	1,3	123,33	S123	100LB4	30000	11200
10,5	2573	1,2	133,78	S123	100LB4	30000	11200
9,2	2913	1,0	151,43	S123	100LB4	30000	11200
21.6	1244	3.8	64.67	S143	100LA4	-	22700
20.3	1328	3.7	69.05	S143	100LA4	-	23200
17.6	1528	2.7	79.45	S143	100LA4	-	23100
14.2	1901	2.3	98.80	S143	100LA4	-	24000
12.7	2117	2.2	110.05	S143	100LA4	-	23500
11.3	2375	2.0	123.43	S143	100LA4	-	24000
10.0	2686	1.8	139.64	S143	100LA4	-	24100
9.4	2868	1.7	149.09	S143	100LA4	-	23800
8.9	3029	1.3	157.48	S143	100LA4	-	23800
8.2	3300	1.4	171.54	S143	100LA4	-	23800
8.0	3374	1.3	175.40	S143	100LA4	-	23800
7.1	3785	1.3	196.73	S143	100LA4	-	23200
6.3	4281	1.1	222.56	S143	100LA4	-	21600
5.9	4571	1.1	237.62	S143	100LA4	-	23000
5.1	5259	0.9	273.41	S143	100LA4	-	23200

4,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 D [N]	Fr2 C-L [N]
175,0	210	1,6	8	S062	112MA4	5989	2396
146,7	250	1,4	9,55	S062	112MA4	6171	2469
119,6	307	1,3	11,71	S062	112MA4	6353	2541
104,8	350	1,2	13,36	S062	112MA4	6448	2579
87,8	417	1,1	15,94	S062	112MA4	6540	2616
71,6	512	0,9	19,55	S062	112MA4	6581	2632
190,8	192	2,9	7,34	S082	112MA4	13206	3773
173,6	211	2,8	8,06	S082	112MA4	13580	3880
140,8	260	2,5	9,94	S082	112MA4	14440	4126
120,6	304	2,3	11,61	S082	112MA4	15098	4314
109,8	334	2,2	12,75	S082	112MA4	15507	4430
89,0	412	1,9	15,73	S082	112MA4	16441	4697
80,9	453	1,7	17,29	S082	112MA4	16873	4821
69,5	528	1,5	20,14	S082	112MA4	17574	5021
63,3	580	1,4	22,13	S082	112MA4	18000	5146
58,3	629	1,3	24	S082	112MA4	18000	5255
51,3	715	1,3	27,29	S082	112MA4	18000	5427
48,8	751	1,2	28,67	S082	112MA4	18000	5494
44,1	832	1,2	31,78	S082	112MA4	18000	5631
40,1	914	1,1	34,91	S082	112MA4	18000	5756
35,0	1049	1,0	40,05	S082	112MA4	18000	5937
32,5	1128	0,9	43,05	S082	112MA4	18000	6030
158,3	232	3,9	8,85	S102	112MA4	17308	4945
128,6	285	3,3	10,88	S102	112MA4	18438	5268
109,8	334	3,0	12,75	S102	112MA4	19339	5525
100,1	366	3,3	13,99	S102	112MA4	19883	5681
81,3	451	2,9	17,21	S102	112MA4	21139	6040
73,7	498	2,8	19	S102	112MA4	21757	6216
63,3	580	2,4	22,13	S102	112MA4	22000	6495
57,7	636	2,4	24,28	S102	112MA4	22000	6668
53,2	690	2,2	26,33	S102	112MA4	22000	6823
46,9	782	1,9	29,87	S102	112MA4	22000	7065
43,2	849	1,8	32,4	S102	112MA4	22000	7224
40,1	914	1,5	34,91	S102	112MA4	22000	7371
36,6	1003	1,5	38,3	S102	112MA4	22000	7556
31,8	1153	1,1	44	S102	112MA4	22000	7833
29,7	1234	1,3	47,13	S102	112MA4	22000	7972
25,4	1444	0,9	55,14	S102	112MA4	22000	8289
23,6	1556	1,0	59,4	S102	112MA4	22000	8439
20,6	1777	0,9	67,84	S102	112MA4	22000	8705
45,9	799	3,8	30,51	S122	112MA4	30000	10150
41,9	876	3,4	33,44	S122	112MA4	30000	10406
39,8	922	3,3	35,2	S122	112MA4	30000	10549
34,1	1076	2,8	41,07	S122	112MA4	30000	10985
32,1	1142	2,6	43,6	S122	112MA4	30000	11156
28,5	1285	1,9	49,04	S122	112MA4	30000	11200
26,0	1408	1,8	53,75	S122	112MA4	30000	11200
21,2	1729	1,7	66	S122	112MA4	30000	11200
19,7	1823	1,5	71,07	S123	112MA4	30000	11200
16,0	2238	1,3	87,27	S123	112MA4	30000	11200
12,4	2886	1,0	112,52	S123	112MA4	30000	11200
11,4	3163	0,9	123,33	S123	112MA4	30000	11200
30.6	1174	3.4	45.76	S143	112MA4	-	20500
27.5	1307	3.4	50.97	S143	112MA4	-	21100
24.5	1466	3.2	57.17	S143	112MA4	-	20900
21.6	1659	2.9	64.67	S143	112MA4	-	21100
20.3	1771	2.8	69.05	S143	112MA4	-	21600
17.6	2038	2.0	79.45	S143	112MA4	-	21000

4,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 D [N]	Fr2 C-L [N]
14.2	2534	1.8	98.81	**S143**	**112MA4**	-	21700
12.7	2823	1.7	110.05	**S143**	**112MA4**	-	20800
11.3	3166	1.5	123.43	**S143**	**112MA4**	-	21200
10.0	3582	1.4	139.64	**S143**	**112MA4**	-	21000
9.4	3824	1.3	149.09	**S143**	**112MA4**	-	20300
8.9	4039	0.9	157.48	**S143**	**112MA4**	-	20300
8.2	4400	1.1	171.54	**S143**	**112MA4**	-	19800
8.0	4499	0.9	175.40	**S143**	**112MA4**	-	19800
7.1	5046	0.9	196.73	**S143**	**112MA4**	-	20000

5,5 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 D [N]	Fr2 C-L [N]
190,8	264	2,1	7,34	**S082**	**132S4**	12969	3705
173,6	290	2,1	8,06	**S082**	**132S4**	13319	3806
140,8	358	1,8	9,94	**S082**	**132S4**	14120	4034
120,6	418	1,7	11,61	**S082**	**132S4**	14723	4207
109,8	459	1,6	12,75	**S082**	**132S4**	15095	4313
89,0	566	1,4	15,73	**S082**	**132S4**	15933	4552
80,9	623	1,2	17,29	**S082**	**132S4**	16315	4661
69,5	725	1,1	20,14	**S082**	**132S4**	16925	4836
63,3	797	1,0	22,13	**S082**	**132S4**	17298	4942
58,3	864	0,9	24	**S082**	**132S4**	17618	5034
51,3	983	0,9	27,29	**S082**	**132S4**	18000	5176
173,6	290	2,9	8,06	**S102**	**132S4**	16616	4747
158,3	319	2,8	8,85	**S102**	**132S4**	17083	4881
128,6	392	2,4	10,88	**S102**	**132S4**	18160	5189
109,8	459	2,2	12,75	**S102**	**132S4**	19014	5432
100,1	504	2,4	13,99	**S102**	**132S4**	19526	5579
81,3	620	2,1	17,21	**S102**	**132S4**	20700	5914
73,7	684	2,0	19	**S102**	**132S4**	21272	6078
63,3	797	1,8	22,13	**S102**	**132S4**	22000	6334
57,7	874	1,7	24,28	**S102**	**132S4**	22000	6492
53,2	948	1,6	26,33	**S102**	**132S4**	22000	6631
46,9	1076	1,4	29,87	**S102**	**132S4**	22000	6848
43,2	1167	1,3	32,4	**S102**	**132S4**	22000	6988
40,1	1257	1,1	34,91	**S102**	**132S4**	22000	7117
36,6	1380	1,1	38,3	**S102**	**132S4**	22000	7277
29,7	1697	0,9	47,13	**S102**	**132S4**	22000	7629
65,9	765	3,7	21,25	**S122**	**132S4**	30000	8947
60,1	839	3,5	23,29	**S122**	**132S4**	30000	9168
53,5	942	3,2	26,15	**S122**	**132S4**	30000	9449
49,0	1030	2,9	28,6	**S122**	**132S4**	30000	9667
45,9	1099	2,7	30,51	**S122**	**132S4**	30000	9826
41,9	1205	2,5	33,44	**S122**	**132S4**	30000	10050
39,8	1268	2,4	35,2	**S122**	**132S4**	30000	10175
34,1	1479	2,0	41,07	**S122**	**132S4**	30000	10549
32,1	1570	1,9	43,6	**S122**	**132S4**	30000	10692
28,5	1766	1,4	49,04	**S122**	**132S4**	30000	10971
26,0	1936	1,3	53,75	**S122**	**132S4**	30000	11183
21,2	2377	1,3	66	**S122**	**132S4**	30000	11200
19,7	2506	1,1	71,07	**S123**	**132S4**	30000	11200
16,0	3078	1,0	87,27	**S123**	**132S4**	30000	11200

5,5 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 D [N]	Fr2 C-L [N]
40.9	1233	3.9	34.22	**S142**	**132S4**	-	18700
35.5	1418	3.1	39.47	**S142**	**132S4**	-	18600
30.6	1614	2.5	45.76	**S143**	**132S4**	-	18800
27.5	1798	2.5	50.97	**S143**	**132S4**	-	19400
24.5	2016	2.3	57.17	**S143**	**132S4**	-	18700
21.6	2281	1.9	64.67	**S143**	**132S4**	-	18700
20.3	2435	1.9	69.05	**S143**	**132S4**	-	19300
17.6	2802	1.6	79.45	**S143**	**132S4**	-	18000
14.2	3485	1.3	98.80	**S143**	**132S4**	-	18200
12.7	3881	1.2	110.05	**S143**	**132S4**	-	16600
11.3	4353	1.1	123.43	**S143**	**132S4**	-	16900
10.0	4925	1.0	139.64	**S143**	**132S4**	-	16100
9.4	5258	0.9	149.09	**S143**	**132S4**	-	14900
21.9	2259	3.9	64.05	**S153**	**132S4**	-	30200
19.0	2297	3.0	73.62	**S153**	**132S4**	-	30800
16.1	3074	2.3	87.15	**S153**	**132S4**	-	31000
14.4	3431	2.3	97.27	**S153**	**132S4**	-	31400
12.5	3938	2.3	111.66	**S153**	**132S4**	-	31700
11.4	4323	2.2	122.56	**S153**	**132S4**	-	31900
10.1	4910	1.9	139.20	**S153**	**132S4**	-	32000
9.1	5432	1.3	154.01	**S153**	**132S4**	-	30000
8.7	5643	1.4	160.01	**S153**	**132S4**	-	28000
7.9	6236	1.3	176.81	**S153**	**132S4**	-	27300
7.2	6844	1.3	194.05	**S153**	**132S4**	-	26500
6.4	7773	1.2	220.41	**S153**	**132S4**	-	25000
5.5	8935	0.9	253.35	**S153**	**132S4**	-	25000

7,5 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 D [N]	Fr2 C-L [N]
190,8	360	1,5	7,34	**S082**	**132MA4**	12653	3615
173,6	396	1,5	8,06	**S082**	**132MA4**	12972	3706
140,8	488	1,3	9,94	**S082**	**132MA4**	13692	3912
120,6	570	1,2	11,61	**S082**	**132MA4**	14224	4064
109,8	626	1,2	12,75	**S082**	**132MA4**	14547	4156
89,0	772	1,0	15,73	**S082**	**132MA4**	15256	4359
80,9	849	0,9	17,29	**S082**	**132MA4**	15571	4449
173,6	396	2,1	8,06	**S102**	**132MA4**	16342	4669
158,3	434	2,1	8,85	**S102**	**132MA4**	16782	4795
128,6	535	1,8	10,88	**S102**	**132MA4**	17790	5083
109,8	626	1,6	12,75	**S102**	**132MA4**	18580	5309
100,1	687	1,7	13,99	**S102**	**132MA4**	19051	5443
81,3	845	1,5	17,21	**S102**	**132MA4**	20115	5747
73,7	933	1,5	19	**S102**	**132MA4**	20627	5893
63,3	1087	1,3	22,13	**S102**	**132MA4**	21416	6119
57,7	1192	1,3	24,28	**S102**	**132MA4**	21895	6256
53,2	1293	1,2	26,33	**S102**	**132MA4**	22000	6375
46,9	1467	1,0	29,87	**S102**	**132MA4**	22000	6558
43,2	1591	0,9	32,4	**S102**	**132MA4**	22000	6674
65,9	1044	2,7	21,25	**S122**	**132MA4**	30000	8646
60,1	1144	2,5	23,29	**S122**	**132MA4**	30000	8838
53,5	1285	2,3	26,15	**S122**	**132MA4**	30000	9079
49,0	1405	2,1	28,6	**S122**	**132MA4**	30000	9262
45,9	1499	2,0	30,51	**S122**	**132MA4**	30000	9393

7,5 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 D [N]	Fr2 C-L [N]
41,9	1643	1,8	33,44	S122	132MA4	30000	9576
39,8	1729	1,7	35,2	S122	132MA4	30000	9676
34,1	2017	1,5	41,07	S122	132MA4	30000	9967
32,1	2141	1,4	43,6	S122	132MA4	30000	10074
28,5	2408	1,0	49,04	S122	132MA4	30000	10275
26,0	2640	1,0	53,75	S122	132MA4	30000	10421
21,2	3242	0,9	66	S122	132MA4	30000	10701
191.3	359	3.9	7.31	S142	132MA4	-	15800
170.5	403	3.9	8.20	S142	132MA4	-	16000
150.7	456	3.9	9.28	S142	132MA4	-	16200
141.3	487	3.9	9.91	S142	132MA4	-	16300
122.7	560	3.9	11.40	S142	132MA4	-	16500
62.9	1093	3.9	22.24	S142	132MA4	-	17000
55.4	1241	3.1	25.26	S142	132MA4	-	17300
49.4	1392	3.1	28.33	S142	132MA4	-	17000
43.7	1574	3.0	32.05	S142	132MA4	-	17000
40.9	1681	2.9	34.22	S142	132MA4	-	17300
35.6	1934	2.3	39.37	S142	132MA4	-	16600
30.6	2201	1.8	45.76	S143	132MA4	-	17100
27.5	2451	1.8	50.97	S143	132MA4	-	17100
24.5	2749	1.7	57.17	S143	132MA4	-	15700
21.6	3110	1.4	64.67	S143	132MA4	-	15500
20.3	3321	1.4	69.05	S143	132MA4	-	16100
17.6	3821	1.2	79.45	S143	132MA4	-	13900
14.2	4752	0.9	98.80	S143	132MA4	-	13600
34.9	1929	3.3	40.10	S153	132MA4	-	27200
119.0	2152	3.3	44.75	S153	132MA4	-	27700
27.2	2471	3.2	51.37	S153	132MA4	-	28200
24.8	2712	3.0	56.39	S153	132MA4	-	27400
21.9	3080	2.9	64.05	S153	132MA4	-	27700
19.0	3541	2.2	73.62	S153	132MA4	-	28100
16.1	4192	1.7	87.15	S153	132MA4	-	27500
14.4	5678	1.7	97.27	S153	132MA4	-	27600
12.5	5370	1.7	111.66	S153	132MA4	-	27600
11.4	5894	1.6	122.56	S153	132MA4	-	27300
10.1	6695	1.4	139.20	S153	132MA4	-	26800
9.1	7407	1.0	154.01	S153	132MA4	-	25800
8.7	7695	1.1	160.01	S153	132MA4	-	24900
7.9	8503	1.0	176.81	S153	132MA4	-	23700
7.2	9333	1.0	194.05	S153	132MA4	-	23500

11,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 D [N]	Fr2 C-L [N]
190,8	529	1,0	7,34	S082	132MC4	12101	3457
173,6	581	1,0	8,06	S082	132MC4	12365	3533
140,8	716	0,9	9,94	S082	132MC4	12943	3698
73,7	1369	1,0	19	S102	132MC4	19496	5570
173,6	581	1,5	8,06	S102	132MC4/160S4	15862	4532
158,3	637	1,4	8,85	S102	132MC4/160S4	16256	4644
128,6	784	1,2	10,88	S102	132MC4/160S4	17143	4898
109,8	918	1,1	12,75	S102	132MC4/160S4	17822	5092
100,1	1008	1,2	13,99	S102	132MC4/160S4	18218	5205
81,3	1240	1,0	17,21	S102	132MC4/160S4	19091	5455

11,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 D [N]	Fr2 C-L [N]
32,1	3140	1,0	43,6	**S122**	**132MC4**	30000	8993
65,9	1531	1,8	21,25	**S122**	**132MC4/160S4**	28416	8119
60,1	1678	1,7	23,29	**S122**	**132MC4/160S4**	28910	8260
53,5	1884	1,6	26,15	**S122**	**132MC4/160S4**	29504	8430
49,0	2060	1,5	28,6	**S122**	**132MC4/160S4**	29934	8553
45,9	2198	1,4	30,51	**S122**	**132MC4/160S4**	30000	8636
41,9	2409	1,2	33,44	**S122**	**132MC4/160S4**	30000	8746
39,8	2536	1,2	35,2	**S122**	**132MC4/160S4**	30000	8803
34,1	2958	1,0	41,07	**S122**	**132MC4/160S4**	30000	8948
165,0	611	2,5	8,48	**S122**	**160S4**	22955	6558
150,6	670	2,5	9,3	**S122**	**160S4**	23509	6717
122,6	822	2,3	11,42	**S122**	**160S4**	24757	7073
110,9	910	2,4	12,63	**S122**	**160S4**	25368	7248
101,2	997	2,4	13,84	**S122**	**160S4**	25923	7407
82,4	1224	2,1	16,99	**S122**	**160S4**	27144	7756
87.4	1153	3.0	16.00	**S142**	**160S4**	-	15600
77.3	1304	3.0	18.10	**S142**	**160S4**	-	15700
72.4	1393	3.0	19.33	**S142**	**160S4**	-	15700
62.9	1602	2.7	22.24	**S142**	**160S4**	-	15100
55.4	1820	2.1	25.26	**S142**	**160S4**	-	15300
49.4	2041	2.1	28.33	**S142**	**160S4**	-	14400
43.7	2309	2.1	32.05	**S142**	**160S4**	-	14300
40.9	2465	2.0	34.22	**S142**	**160S4**	-	14500
35.6	2836	1.3	39.37	**S142**	**160S4**	-	13100
30.6	3228	1.2	45.76	**S143**	**160S4**	-	12800
27.5	3595	1.2	50.97	**S143**	**160S4**	-	13000
24.5	4033	1.2	57.17	**S143**	**160S4**	-	10600
21.6	4562	1.0	64.67	**S143**	**160S4**	-	9900
20.3	4871	1.0	69.05	**S143**	**160S4**	-	10600
34.9	2829	2.2	40.10	**S153**	**160S4**	-	24600
119.0	3157	2.2	44.75	**S153**	**160S4**	-	24800
27.2	3624	2.2	51.37	**S153**	**160S4**	-	24900
24.8	3978	2.1	56.39	**S153**	**160S4**	-	23300
21.9	4518	1.9	64.05	**S153**	**160S4**	-	23400
19.0	5193	1.5	73.62	**S153**	**160S4**	-	23300
16.1	6148	1.2	87.15	**S153**	**160S4**	-	21500
14.4	6861	1.2	97.27	**S153**	**160S4**	-	20900
12.5	7877	1.2	111.66	**S153**	**160S4**	-	20400
11.4	8645	1.1	122.56	**S153**	**160S4**	-	19300
10.1	9819	0.9	139.20	**S153**	**160S4**	-	17800

15,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 D [N]	Fr2 C-L [N]
173,6	792	1,1	8,06	**S102**	**160L4**	15314	4375
158,3	869	1,0	8,85	**S102**	**160L4**	15654	4473
165,0	833	1,8	8,48	**S122**	**160L4**	22113	6318
150,6	913	1,9	9,3	**S122**	**160L4**	22586	6453
122,6	1121	1,7	11,42	**S122**	**160L4**	23624	6750
110,9	1240	1,8	12,63	**S122**	**160L4**	24116	6890
101,2	1359	1,8	13,84	**S122**	**160L4**	24550	7014
82,4	1669	1,6	16,99	**S122**	**160L4**	25458	7274
65,9	2087	1,3	21,25	**S122**	**160L4**	26307	7516
60,1	2288	1,3	23,29	**S122**	**160L4**	26599	7600

15,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 D [N]	Fr2 C-L [N]
53,5	2569	1,2	26,15	**S122**	**160L4**	26909	7688
49,0	2809	1,1	28,6	**S122**	**160L4**	27096	7742
45,9	2997	1,0	30,51	**S122**	**160L4**	27199	7771
41,9	3285	0,9	33,44	**S122**	**160L4**	27293	7798
170.5	806	4.0	8.20	**S142**	**160L4**	-	14600
150.7	912	4.0	9.28	**S142**	**160L4**	-	14600
141.3	974	4.0	9.91	**S142**	**160L4**	-	14700
122.7	1120	3.7	11.40	**S142**	**160L4**	-	14700
109.3	1259	2.9	12.81	**S142**	**160L4**	-	14100
98.1	1402	2.9	14.27	**S142**	**160L4**	-	14000
87.4	1572	2.9	16.00	**S142**	**160L4**	-	14000
77.3	1779	2.7	18.10	**S142**	**160L4**	-	14000
72.4	1899	2.5	19.33	**S142**	**160L4**	-	13400
62.9	2185	2.0	22.24	**S142**	**160L4**	-	12800
55.4	2481	1.6	25.26	**S142**	**160L4**	-	12900
49.4	2783	1.6	28.33	**S142**	**160L4**	-	11600
43.7	3148	1.5	32.05	**S142**	**160L4**	-	11100
40.9	3362	1.4	34.22	**S142**	**160L4**	-	11400
35.6	3868	1.1	39.37	**S142**	**160L4**	-	9100
30.6	4402	0.9	45.76	**S143**	**160L4**	-	8500
27.5	4903	0.9	50.97	**S143**	**160L4**	-	8400
112.4	1224	3.7	12.46	**S152**	**160L4**	-	22100
100.6	1366	3.7	13.90	**S152**	**160L4**	-	22300
87.7	1569	3.7	15.96	**S152**	**160L4**	-	22600
79.9	1722	3.7	17.52	**S152**	**160L4**	-	22300
70.3	1955	3.3	19.90	**S152**	**160L4**	-	22900
61.2	2248	3.7	22.88	**S152**	**160L4**	-	22700
51.6	2663	2.8	27.10	**S152**	**160L4**	-	22000
47.1	2922	2.7	29.75	**S152**	**160L4**	-	22000
41.4	3319	2.5	33.79	**S152**	**160L4**	-	21900
36.0	3815	2.0	38.84	**S152**	**160L4**	-	21600
34.9	3857	1.6	40.10	**S153**	**160L4**	-	21600
119.0	4305	1.6	44.75	**S153**	**160L4**	-	21500
27.2	4942	1.6	51.37	**S153**	**160L4**	-	21200
24.8	5424	1.5	56.39	**S153**	**160L4**	-	18800
21.9	6161	1.4	64.05	**S153**	**160L4**	-	18500
19.0	7081	1.1	73.62	**S153**	**160L4**	-	17800

18,5 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 D [N]	Fr2 C-L [N]
165,0	1028	1,5	8,48	**S122**	**180M4**	21376	6108
150,6	1126	1,5	9,3	**S122**	**180M4**	21779	6223
122,6	1383	1,4	11,42	**S122**	**180M4**	22633	6466
110,9	1530	1,4	12,63	**S122**	**180M4**	23019	6577
101,2	1677	1,4	13,84	**S122**	**180M4**	23348	6671
82,4	2059	1,3	16,99	**S122**	**180M4**	23983	6852
65,9	2574	1,1	21,25	**S122**	**180M4**	24462	6989
60,1	2822	1,0	23,29	**S122**	**180M4**	24577	7022
53,5	3169	0,9	26,15	**S122**	**180M4**	24638	7040
340.6	498	3.8	4.11	**S142**	**180M4**	-	13000
305.0	556	3.8	4.58	**S142**	**180M4**	-	13200
272.4	623	3.8	5.14	**S142**	**180M4**	-	13500

18,5 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 D [N]	Fr2 C-L [N]
240.5	705	3.8	5.81	**S142**	**180M4**	-	13800
225.4	753	3.8	6.21	**S142**	**180M4**	-	13900
191.3	887	3.2	7.31	**S142**	**180M4**	-	13900
170.5	994	3.2	8.20	**S142**	**180M4**	-	13900
150.7	1125	3.2	9.28	**S142**	**180M4**	-	13900
141.3	1201	3.2	9.91	**S142**	**180M4**	-	13900
122.7	1382	3.0	11.41	**S142**	**180M4**	-	13800
109.3	1552	2.4	12.81	**S142**	**180M4**	-	13000
98.1	1729	2.4	14.27	**S142**	**180M4**	-	12700
87.4	1939	2.4	16.00	**S142**	**180M4**	-	12700
77.3	2194	2.2	18.10	**S142**	**180M4**	-	12500
72.4	2342	2.1	19.33	**S142**	**180M4**	-	11700
62.9	2695	1.6	22.24	**S142**	**180M4**	-	10900
55.4	3060	1.3	25.26	**S142**	**180M4**	-	10800
49.4	3433	1.3	28.33	**S142**	**180M4**	-	9000
43.7	3883	1.2	32.05	**S142**	**180M4**	-	8200
40.9	4146	1.2	34.22	**S142**	**180M4**	-	7500
35.6	4770	0.9	39.37	**S142**	**180M4**	-	5600
112.4	1510	3.0	12.46	**S152**	**180M4**	-	21200
100.6	1685	3.0	13.90	**S152**	**180M4**	-	21300
87.7	1935	3.0	15.96	**S152**	**180M4**	-	21500
79.9	2123	3.0	17.52	**S152**	**180M4**	-	21000
70.3	2412	3.0	19.90	**S152**	**180M4**	-	21100
61.2	2772	3.7	22.88	**S152**	**180M4**	-	21100
51.6	3284	2.3	27.10	**S152**	**180M4**	-	1900
47.1	3604	2.2	29.75	**S152**	**180M4**	-	20000
41.4	4094	2.0	33.79	**S152**	**180M4**	-	19700
36.0	4705	1.6	38.84	**S152**	**180M4**	-	19000
34.9	4757	1.3	40.10	**S153**	**180M4**	-	19000
119.0	5309	1.3	44.75	**S153**	**180M4**	-	18600
27.2	6095	1.3	51.37	**S153**	**180M4**	-	18000
24.8	6690	1.2	56.39	**S153**	**180M4**	-	14800
21.9	7598	1.2	64.05	**S153**	**180M4**	-	14200

22,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 D [N]	Fr2 C-L [N]
165,0	1222	1,2	8,48	**S122**	**180L4**	20640	5897
150,6	1339	1,3	9,3	**S122**	**180L4**	20972	5992
122,6	1645	1,2	11,42	**S122**	**180L4**	21641	6183
110,9	1819	1,2	12,63	**S122**	**180L4**	21923	6264
101,2	1994	1,2	13,84	**S122**	**180L4**	22147	6328
82,4	2448	1,1	16,99	**S122**	**180L4**	22507	6431
65,9	3061	0,9	21,25	**S122**	**180L4**	22617	6462
340.6	592	3.2	4.11	**S142**	**180L4**	-	12300
305.0	661	3.2	4.58	**S142**	**180L4**	-	12500
272.4	741	3.2	5.14	**S142**	**180L4**	-	12800
240.5	838	3.2	5.81	**S142**	**180L4**	-	13100
225.4	895	3.2	6.21	**S142**	**180L4**	-	13300
191.3	1054	2.7	7.31	**S142**	**180L4**	-	13300
170.5	1182	2.7	8.20	**S142**	**180L4**	-	13200
150.7	1338	2.7	9.28	**S142**	**180L4**	-	13100
141.3	1428	2.7	9.91	**S142**	**180L4**	-	13100
122.7	1643	2.5	11.40	**S142**	**180L4**	-	12900

22,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 D [N]	Fr2 C-L [N]
109.3	1846	2.0	12.81	**S142**	**180L4**	-	11800
98.1	2056	2.0	14.27	**S142**	**180L4**	-	11500
87.4	2306	2.0	16.00	**S142**	**180L4**	-	11400
77.3	2609	1.9	18.10	**S142**	**180L4**	-	11000
72.4	2785	1.7	19.33	**S142**	**180L4**	-	10000
62.9	3205	1.3	22.24	**S142**	**180L4**	-	8900
55.4	3639	1.1	25.26	**S142**	**180L4**	-	8800
49.4	4082	1.1	28.33	**S142**	**180L4**	-	6500
43.7	4618	1.0	32.05	**S142**	**180L4**	-	4000
40.9	4930	1.0	34.22	**S142**	**180L4**	-	5900
112.4	1796	2.5	12.46	**S152**	**180L4**	-	20200
100.6	2004	2.5	13.90	**S152**	**180L4**	-	20300
87.7	2301	2.5	15.96	**S152**	**180L4**	-	20400
79.9	2525	2.5	17.52	**S152**	**180L4**	-	19800
70.3	2868	2.5	19.90	**S152**	**180L4**	-	20300
61.2	3297	2.3	22.88	**S152**	**180L4**	-	19600
51.6	3905	1.9	27.10	**S152**	**180L4**	-	17900
47.1	4286	1.8	29.75	**S152**	**180L4**	-	17900
41.4	4868	1.7	33.79	**S152**	**180L4**	-	17400
36.0	5596	1.4	38.84	**S152**	**180L4**	-	16400
34.9	5567	1.1	40.10	**S153**	**180L4**	-	16400
31.3	6314	1.1	44.75	**S153**	**180L4**	-	15700
27.2	7248	1.1	51.37	**S153**	**180L4**	-	14700
24.8	7955	1.1	56.39	**S153**	**180L4**	-	10700
21.9	9036	1.0	64.05	**S153**	**180L4**	-	9800

30,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 D [N]	Fr2 C-L [N]
165,0	1666	0,9	8,48	**S122**	**200L4**	18957	5416
150,6	1827	0,9	9,3	**S122**	**200L4**	19127	5465
340.6	807	1.0	4.11	**S142**	**200L4**	-	11000
305.0	901	2.3	4.58	**S142**	**200L4**	-	11300
272.4	1011	2.3	5.14	**S142**	**200L4**	-	11500
240.5	1143	2.3	5.81	**S142**	**200L4**	-	11800
225.4	1221	2.3	6.21	**S142**	**200L4**	-	12000
191.3	1438	2.0	7.31	**S142**	**200L4**	-	11900
170.5	1612	2.0	8.20	**S142**	**200L4**	-	11700
150.7	1824	2.0	9.28	**S142**	**200L4**	-	11400
141.3	1948	2.0	9.91	**S142**	**200L4**	-	11300
122.7	2241	1.9	11.40	**S142**	**200L4**	-	10900
109.3	2517	1.5	12.81	**S142**	**200L4**	-	9300
98.1	2804	1.5	14.27	**S142**	**200L4**	-	8600
87.4	3145	1.5	16.00	**S142**	**200L4**	-	8300
77.3	3557	1.4	18.10	**S142**	**200L4**	-	7500
72.4	3798	1.3	19.33	**S142**	**200L4**	-	6100
62.9	4370	1.0	22.24	**S142**	**200L4**	-	4400
214.7	1282	3.7	6.52	**S152**	**200L4**	-	19200
192.3	1430	3.6	7.28	**S152**	**200L4**	-	19300
167.5	1642	3.4	8.35	**S152**	**200L4**	-	19400
152.7	1802	3.2	9.17	**S152**	**200L4**	-	19400
134.4	2047	3.0	10.41	**S152**	**200L4**	-	19300
112.4	2448	2.2	12.46	**S152**	**200L4**	-	17900

30,0 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 D [N]	Fr2 C-L [N]
100.6	2733	2.2	13.90	**S152**	**200L4**	-	17800
87.7	3137	2.1	15.96	**S152**	**200L4**	-	17600
79.9	3443	2.0	17.52	**S152**	**200L4**	-	16500
70.3	3911	1.9	19.90	**S152**	**200L4**	-	17000
61.2	4495	1.7	22.88	**S152**	**200L4**	-	15600
51.6	5325	1.4	27.10	**S152**	**200L4**	-	13100
47.1	5845	1.3	29.75	**S152**	**200L4**	-	12400
41.4	6638	1.2	33.79	**S152**	**200L4**	-	11200
36.0	7630	1.0	38.84	**S152**	**200L4**	-	9500

37.0 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 D [N]	Fr2 C-L [N]
344.8	984	3.8	4.06	**S152**	**225S4**	-	17000
309.1	1098	3.7	4.53	**S152**	**225S4**	-	17400
269.2	1261	3.5	5.20	**S152**	**225S4**	-	17700
245.2	1384	3.4	5.71	**S152**	**225S4**	-	18000
214.7	1581	3.0	6.52	**S152**	**225S4**	-	18300
192.3	1765	2.9	7.28	**S152**	**225S4**	-	18300
167.5	2025	2.7	8.35	**S152**	**225S4**	-	18200
152.7	2223	2.6	9.17	**S152**	**225S4**	-	18100
134.4	2524	2.5	10.41	**S152**	**225S4**	-	17900
112.4	3020	1.8	12.46	**S152**	**225S4**	-	16000
100.6	3370	1.7	13.90	**S152**	**225S4**	-	15700
87.7	3869	1.7	15.96	**S152**	**225S4**	-	15300
79.9	4247	1.6	17.52	**S152**	**225S4**	-	13800
70.3	4823	1.5	19.90	**S152**	**225S4**	-	14200
61.2	5544	1.4	22.88	**S152**	**225S4**	-	12400
51.6	6568	1.1	27.10	**S152**	**225S4**	-	9000
47.1	7208	1.1	29.75	**S152**	**225S4**	-	8000
41.4	8187	1.0	33.79	**S152**	**225S4**	-	6200

45.0 kW

n2 [1/min]	M2 [Nm]	f.s.	i			Fr2 D [N]	Fr2 C-L [N]
344.8	1197	3.2	4.06	**S152**	**225M4**	-	16000
309.1	1336	3.0	4.53	**S152**	**225M4**	-	16400
269.2	1533	2.9	5.20	**S152**	**225M4**	-	16700
245.2	1683	2.8	5.71	**S152**	**225M4**	-	17000
214.7	1922	2.5	6.52	**S152**	**225M4**	-	17300
192.3	2145	2.4	7.28	**S152**	**225M4**	-	17300
167.5	2463	2.2	8.35	**S152**	**225M4**	-	17100
152.7	2703	2.1	9.17	**S152**	**225M4**	-	16900
134.4	3070	2.0	10.41	**S152**	**225M4**	-	16600
112.4	3673	1.4	12.46	**S152**	**225M4**	-	14300
100.6	4099	1.4	13.90	**S152**	**225M4**	-	13800
87.7	4706	1.4	15.96	**S152**	**225M4**	-	13200
79.9	5165	1.3	17.52	**S152**	**225M4**	-	11400
70.3	5866	1.3	19.90	**S152**	**225M4**	-	10800
61.2	6743	1.1	22.88	**S152**	**225M4**	-	9600
51.6	7988	0.9	27.10	**S152**	**225M4**	-	6400

IS – 모터 용량에 따른 분류(입력회전수=1400rpm Fs=1)/Performance(n1=1400 rpm Fs=1)

IS052

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 D [N]	Fr2 C-L [N]
170	8,63	3,01	162,3	718	3375	3375
190	11,14	2,6	125,7	810	3644	3644
210	13,66	2,35	102,5	869	3857	3857
240	15,27	2,4	91,7	857	3874	3874
240	16,29	2,25	86	891	3987	3987
240	18,63	1,97	75,1	956	4231	4231
260	21,04	1,89	66,6	974	4345	4345
260	24,07	1,65	58,2	1029	4611	4611
290	25,79	1,72	54,3	1013	4578	4578
290	27,81	1,59	50,3	1042	4736	4736
290	30	1,48	46,7	1069	4898	4898
300	32,55	1,41	43	1084	5020	5020
330	36,55	1,38	38,3	1091	5109	5109
350	39,9	1,34	35,1	1100	5200	5200
350	42,63	1,25	32,8	1119	5359	5359
350	47,2	1,13	29,7	1147	5612	5612
350	52,25	1,02	26,8	1172	5873	5873
350	57,86	0,92	24,2	1195	6000	6000
350	72,83	0,73	19,2	1238	6000	6000

IS053

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 D [N]	Fr2 C-L [N]
350	74,2	0,74	18,9	1242	6000	6000
350	95,84	0,57	14,6	1279	6000	6000
350	117,48	0,46	11,9	1302	6000	6000
350	137,45	0,4	10,2	1317	6000	6000
350	177,55	0,31	7,9	1338	6000	6000
350	198,45	0,28	7,1	1345	6000	6000
350	217,64	0,25	6,4	1350	6000	6000
350	256,33	0,21	5,5	1359	6000	6000
350	314,21	0,17	4,5	1367	6000	6000

IS062

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 D [N]	Fr2 C-L [N]
330	8	6,3	175	350	5225	2090
360	9,55	5,76	146,7	441	5474	2190
390	11,71	5,09	119,6	554	5825	2330
420	13,36	4,8	104,8	602	6004	2401
450	15,94	4,31	87,8	684	6334	2533
460	19,55	3,59	71,6	805	6911	2764
470	23,18	3,1	60,4	888	7415	2966
480	25,14	2,92	55,7	919	7635	3054
480	27,66	2,65	50,6	963	7976	3190
500	30	2,55	46,7	981	8149	3260
540	33,93	2,43	41,3	1000	8364	3346
600	36,57	2,51	38,3	988	8280	3312
600	39,38	2,33	35,6	1018	8578	3431
600	43,64	2,1	32,1	1056	9005	3602

IS062

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 D [N]	Fr2 C-L [N]
600	46,1	1,99	30,4	1075	9239	3695
600	53,53	1,71	26,2	1121	9898	3959
600	55	1,67	25,5	1129	10000	4000
600	67,47	1,36	20,8	1181	10000	4000

IS063

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 D [N]	Fr2 C-L [N]
600	81,43	1,15	17,2	1220	10000	4000
600	99,89	0,94	14	1255	10000	4000
600	126,43	0,74	11,1	1287	10000	4000
600	150,85	0,62	9,3	1307	10000	4000
600	185,05	0,51	7,6	1326	10000	4000
600	217,79	0,43	6,4	1338	10000	4000
600	267,16	0,35	5,2	1351	10000	4000

IS082

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 D [N]	Fr2 C-L [N]
550	7,34	11,44	190,8	1261	12030	3437
600	8,06	11,36	173,6	1273	12302	3515
650	9,94	9,98	140,8	1482	13161	3760
700	11,61	9,21	120,6	1598	13797	3942
750	12,75	8,98	109,8	1632	14140	4040
770	15,73	7,48	89	1859	15264	4361
770	17,29	6,8	80,9	1962	15832	4523
770	20,14	5,84	69,5	2107	16778	4794
800	22,13	5,52	63,3	2154	17288	4939
800	24	5,09	58,3	2219	17830	5094
900	27,29	5,04	51,3	2228	18000	5253
900	28,67	4,79	48,8	2264	18000	5354
1000	31,78	4,81	44,1	2262	18000	5474
1000	34,91	4,37	40,1	2327	18000	5676
1000	40,05	3,81	35	2412	18000	5983
1000	43,05	3,55	32,5	2452	18000	6150
1000	50,25	3,04	27,9	2529	18000	6521
1000	54,27	2,81	25,8	2563	18000	6712
1000	61,98	2,46	22,6	2616	18000	7055

IS083

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 D [N]	Fr2 C-L [N]
1000	67,52	2,31	20,7	2646	18000	7200
1000	74,18	2,1	18,9	2677	18000	7200
1000	91,49	1,7	15,3	2735	18000	7200
1000	117,17	1,33	11,9	2791	18000	7200
1000	128,73	1,21	10,9	2808	18000	7200

IS083

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 D [N]	Fr2 C-L [N]
1000	158,76	0,98	8,8	2842	18000	7200
1000	184,88	0,84	7,6	2863	18000	7200
1000	203,11	0,77	6,9	2874	18000	7200
1000	250,5	0,62	5,6	2895	18000	7200
1000	292,36	0,53	4,8	2908	18000	7200
1000	315,73	0,49	4,4	2914	18000	7200
1000	360,58	0,43	3,9	2923	18000	7200

IS102

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 D [N]	Fr2 C-L [N]
850	8,06	16,1	173,6	647	15163	4332
900	8,85	15,54	158,3	729	15574	4450
950	10,88	13,33	128,6	1050	16712	4775
1000	12,75	11,98	109,8	1247	17610	5032
1200	13,99	13,1	100,1	1084	17719	5063
1300	17,21	11,53	81,3	1311	18935	5410
1400	19	11,25	73,7	1352	19415	5547
1400	22,13	9,66	63,3	1583	20603	5886
1500	24,28	9,44	57,7	1616	21097	6028
1500	26,33	8,7	53,2	1724	21777	6222
1500	29,87	7,67	46,9	1873	22000	6533
1500	32,4	7,07	43,2	1961	22000	6741
1400	34,91	6,12	40,1	2098	22000	7011
1500	38,3	5,98	36,6	2119	22000	7187
1300	44	4,51	31,8	2333	22000	7724
1600	47,13	5,18	29,7	2235	22000	7701
1300	55,14	3,6	25,4	2465	22000	8396
1600	59,4	4,11	23,6	2391	22000	8406
1600	67,84	3,6	20,6	2465	22000	8836

IS103

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 D [N]	Fr2 C-L [N]
1600	74,18	3,36	18,9	2510	22000	9000
1600	81,39	3,07	17,2	2552	22000	9000
1600	100,15	2,49	14	2634	22000	9000
1600	110,55	2,26	12,7	2667	22000	9000
1600	128,73	1,94	10,9	2713	22000	9000
1600	141,24	1,77	9,9	2737	22000	9000
1600	173,78	1,44	8,1	2784	22000	9000
1600	203,11	1,23	6,9	2814	22000	9000
1600	222,85	1,12	6,3	2829	22000	9000
1600	274,2	0,91	5,1	2859	22000	9000
1600	320,79	0,78	4,4	2878	22000	9000
1600	345,6	0,72	4,1	2886	22000	9000
1600	394,69	0,63	3,5	2899	22000	9000

IS122

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 D [N]	Fr2 C-L [N]
1500	8,48	27	165	2951	19587	5596
1700	9,3	27,92	150,6	2916	19606	5602
1900	11,42	25,41	122,6	3010	20674	5907
2200	12,63	26,61	110,9	2966	20480	5851
2400	13,84	26,48	101,2	2970	20608	5888
2600	16,99	23,36	82,4	3087	21932	6266
2800	21,25	20,12	65,9	3209	23608	6745
2900	23,29	19,01	60,1	3251	24280	6937
3000	26,15	17,52	53,5	3307	25277	7222
3000	28,6	16,02	49	3364	26374	7535
3000	30,51	15,01	45,9	3401	27189	7768
3000	33,44	13,7	41,9	3451	28374	8107
3000	35,2	13,01	39,8	3476	29050	8300
3000	41,07	11,16	34,1	3546	30000	8903
3000	43,6	10,51	32,1	3571	30000	9145
2400	49,04	7,47	28,5	3685	30000	10285
2600	53,75	7,39	26	3688	30000	10464
3000	66	6,94	21,2	3705	30000	10962

IS123

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 D [N]	Fr2 C-L [N]
2700	71,07	5,92	19,7	3748	30000	11200
3000	87,27	5,36	16	3768	30000	11200
3000	112,52	4,16	12,4	3813	30000	11200
3000	123,33	3,79	11,4	3826	30000	11200
3000	133,78	3,5	10,5	3837	30000	11200
3000	151,43	3,09	9,2	3852	30000	11200
3000	177,53	2,64	7,9	3869	30000	11200
3000	194,59	2,4	7,2	3877	30000	11200
3000	238,93	1,96	5,9	3894	30000	11200

IS142

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 D [N]	Fr2 C-L [N]
1389	4.11	51.61	340.6	5100	-	7700
1547	4.59	51.55	305.0	5100	-	7800
1737	5.14	51.58	272.4	5100	-	7900
1964	5.82	51.54	240.5	5100	-	8000
2099	6.21	51.59	225.4	5100	-	8100
1915	7.32	39.97	191.3	5300	-	9800
2149	8.21	39.97	170.5	5300	-	9400
2432	9.29	39.99	150.7	5300	-	8900
2597	9.91	40.00	141.3	5300	-	8600
2987	11.41	39.99	122.7	5300	-	7800
2123	12.81	25.30	109.3	5500	-	10600
2365	14.27	25.31	98.1	5500	-	10000
2652	16.01	25.30	87.4	5500	-	9800
3000	18.11	25.30	77.3	5500	-	9200
3204	19.33	25.30	72.4	5000	-	8900
3686	22.24	25.30	62.9	5000	-	6500
2896	25.26	17.51	55.4	5900	-	10700
3248	28.33	17.50	49.4	5900	-	8800
3674	32.05	17.50	43.7	5900	-	7900
3923	34.22	17.50	40.9	5900	-	8400
4431	39.38	17.18	35.6	6050	-	6300

IS143

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 D [N]	Fr2 C-L [N]
4013	45.77	13.67	30.6	2950	-	9000
4470	50.97	13.68	27.5	2950	-	8900
4735	57.17	12.91	24.5	3400	-	6800
4774	64.68	11.51	21.6	3750	-	7500
4876	69.06	11.01	20.3	3900	-	9100
4233	79.45	8.31	17.6	4200	-	11600
4440	98.81	7.01	14.2	4300	-	14200
4734	110.05	6.71	12.7	4350	-	12500
4754	123.44	6.01	11.3	4400	-	14800
4841	139.64	5.41	10.0	4450	-	15900
4786	149.1	5.01	9.4	4470	-	16500
3801	157.49	3.76	8.9	4570	-	20700
4669	171.55	4.24	8.2	4550	-	18500
4234	175.41	3.76	8.0	4570	-	18500
4749	196.74	3.76	7.1	4570	-	18500
4715	222.57	3.30	6.3	4600	-	18500
4882	237.63	3.20	5.9	4600	-	18500
4792	273.41	2.73	5.1	4650	-	18500

IS152

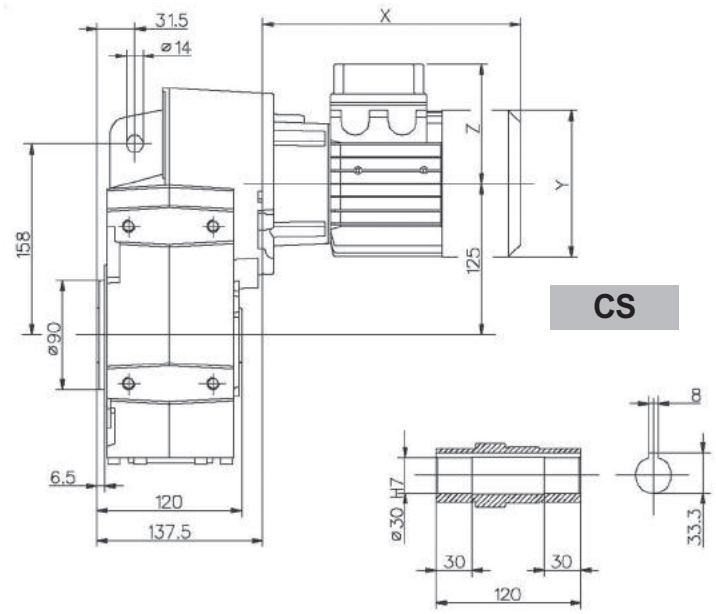
M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 D [N]	Fr2 C-L [N]
2573	4.06	96.75	344.8	6250	-	10500
2871	4.53	96.72	309.1	6250	-	10500
3296	5.2	96.71	269.2	6250	-	10600
3619	5.71	96.76	245.2	6250	-	10700
3844	6.52	89.99	214.7	7250	-	10900
4292	7.28	90.03	192.3	7250	-	10300
4923	8.36	89.95	167.5	7250	-	9300
5406	9.17	90.00	152.7	7250	-	8600
6137	10.42	89.95	134.4	7250	-	7300
3306	12.46	40.50	112.4	5900	-	14800
3688	13.91	40.49	100.6	5900	-	14500
4234	15.97	40.49	87.7	5900	-	13900
4648	17.53	40.50	79.9	5900	-	12200
5280	19.91	40.50	70.3	5900	-	11600
6070	22.88	40.51	61.2	5900	-	11300
6089	27.11	34.30	51.6	7250	-	10700
6685	29.75	34.31	47.1	7250	-	9900
7592	33.79	34.31	41.4	7250	-	8400
7689	38.84	30.23	36.0	7700	-	9500

IS153

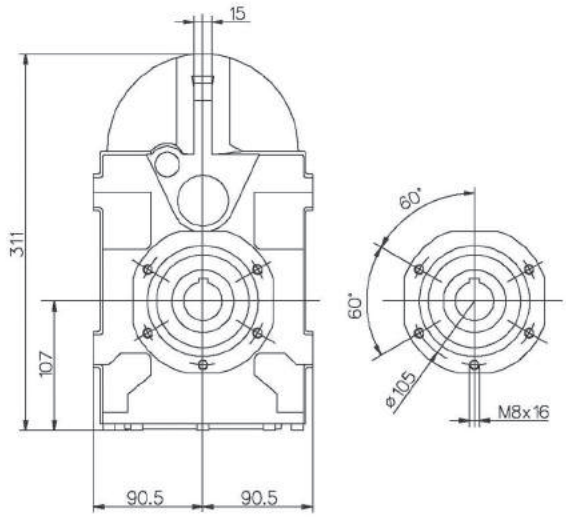
M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 D [N]	Fr2 C-L [N]
6281	40.10	24.43	34.9	4650	-	14300
7010	44.76	24.43	119.0	4650	-	13300
7865	51.38	23.87	27.2	4650	-	11900
8254	56.39	22.83	24.8	4900	-	8000
8795	64.05	21.41	21.9	5400	-	9900
7779	73.63	16.48	19.0	5770	-	15600
7105	57.16	12.71	16.1	5925	-	17100
7931	97.27	12.71	14.4	5925	-	16000
9104	111.67	12.71	12.5	5925	-	15100
9536	122.57	12.13	11.4	5925	-	15900
9142	139.21	10.24	10.1	5925	-	19400
7129	154.02	7.22	9.1	6175	-	19400
8084	160.02	7.88	8.7	6150	-	19400
8184	176.81	7.22	7.9	6175	-	19400
8982	194.06	7.22	7.2	6175	-	19400
9353	220.42	6.62	6.4	6200	-	19400
8279	253.36	5.10	5.5	6250	-	19400

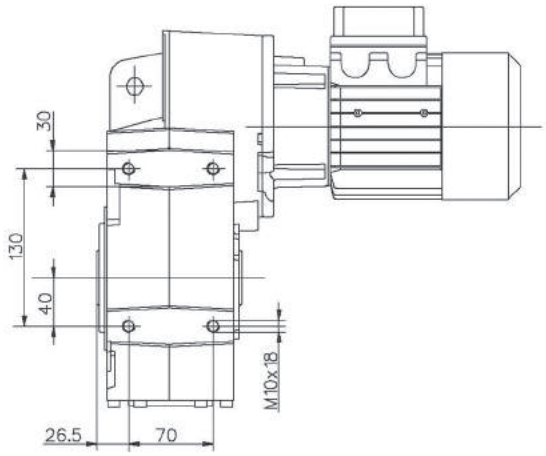
메모 / Notes

052/..3 치수 / Dimensions

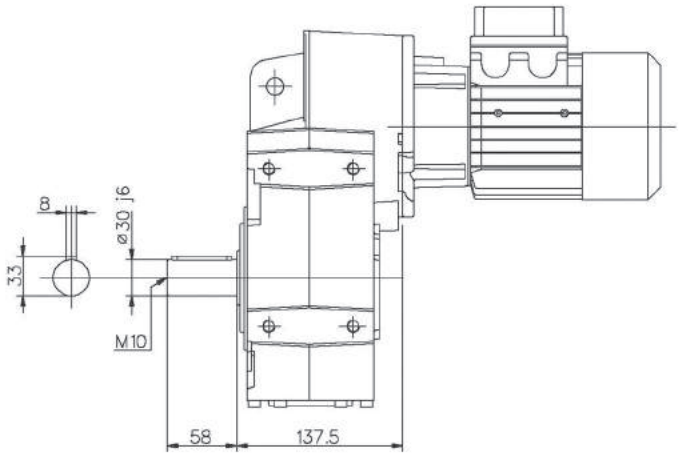


CS





CS...C

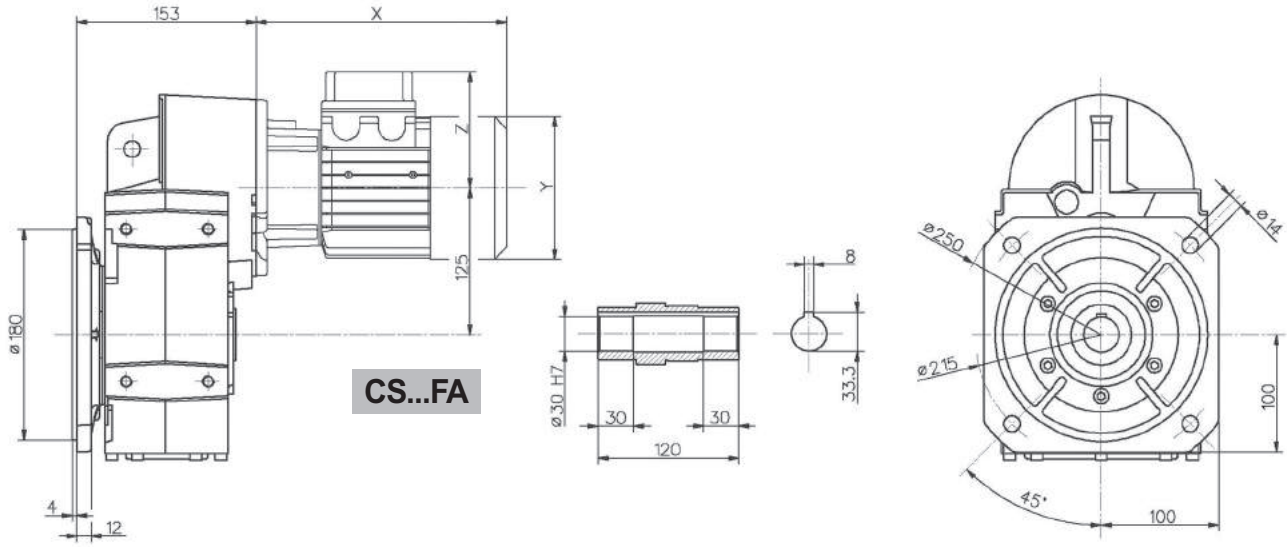


CS...D

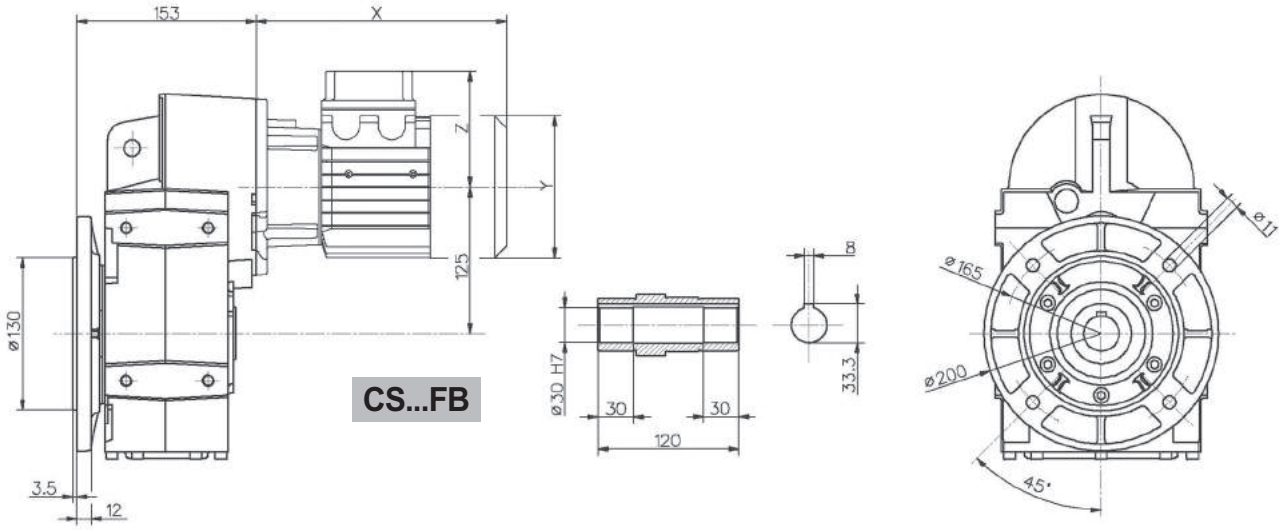
050	IS	PAM		표준모터 / Standard motor				브레이크 모터 / Brake motor			
	~ Kg	A	~ Kg	X	Y	Z	~ Kg	X	Y	Z	~ Kg
63	21	57	17,8	215	121	104	21,3	273	121	119	22,8
71		69	18,2	241	139	112	22,2	305	139	128	24,4
80		90	18,8	268	158	122	26,9	341	158	137	30,4
90s		90	18,8	296	173	130	30,8	373	173	130	36,3
90l		90	18,8	321	173	130	32,8	398	173	130	38,3
100		105	23	333	191	139	38,3	415	191	139	43,8
112		105	23	351	211	154	49,8	448	211	154	59,5

감속기에 취부할 모터의 dimensions (Pm,Dm,bm,tm)을 확인하려면 285페이지 참조
For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 285.

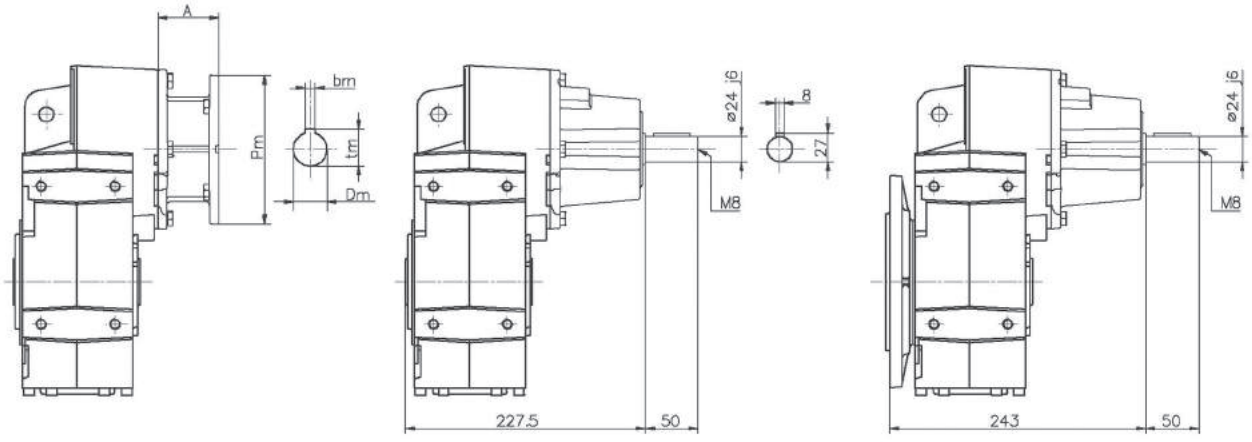
Dimensions / 차수 052/..3



CS...FA

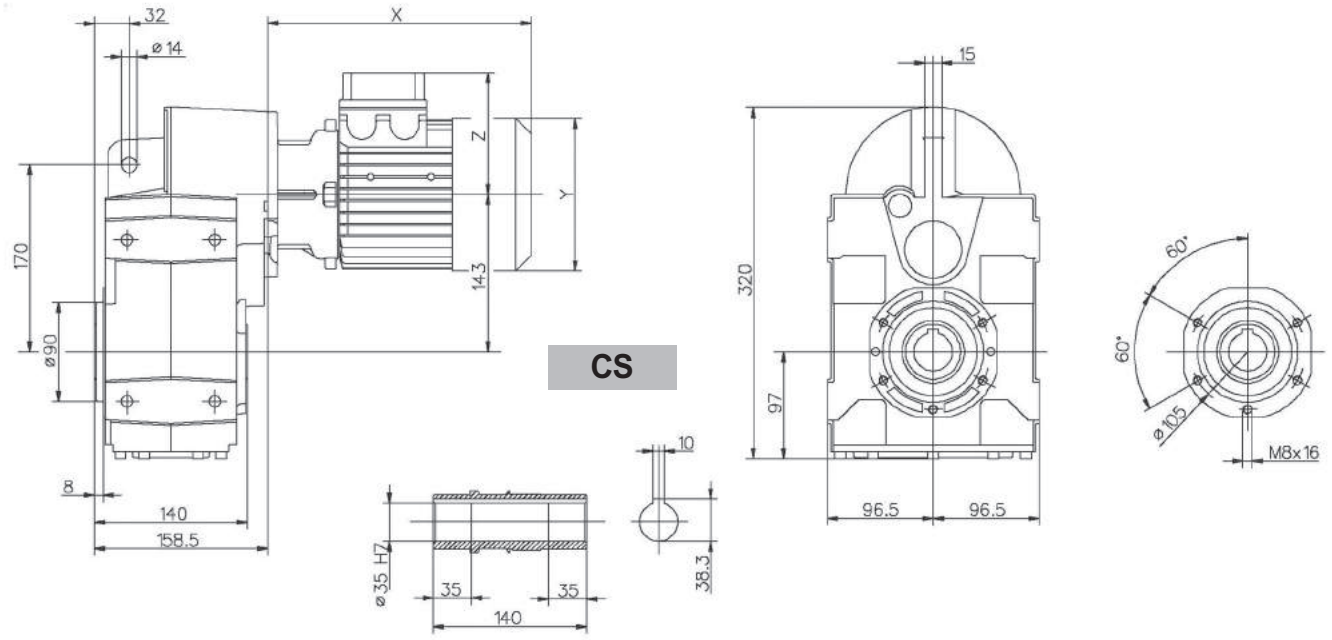


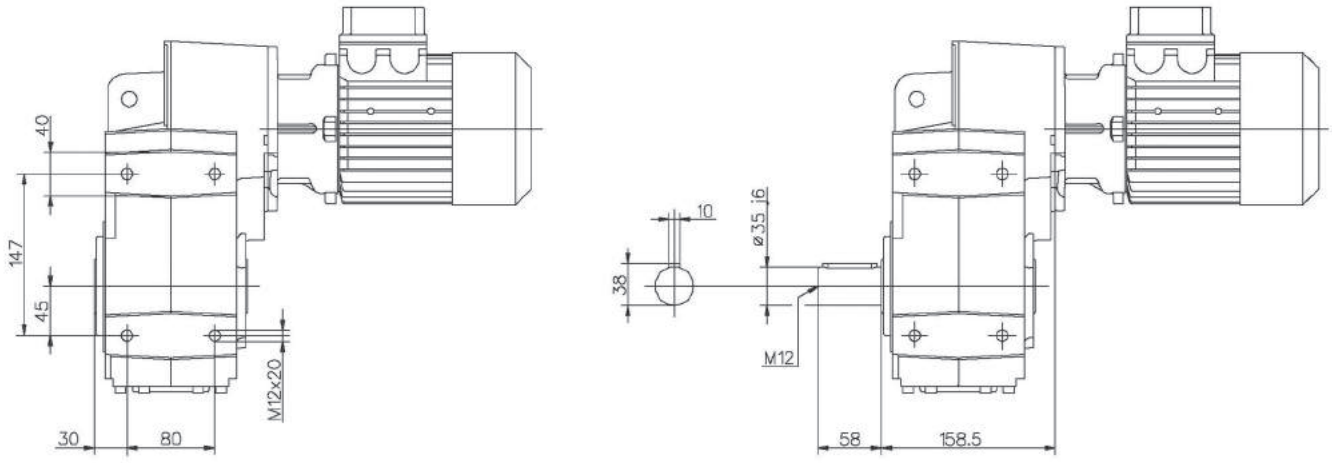
CS...FB



S...C IS...C IS...FA - FB

062/..3 치수 / Dimensions

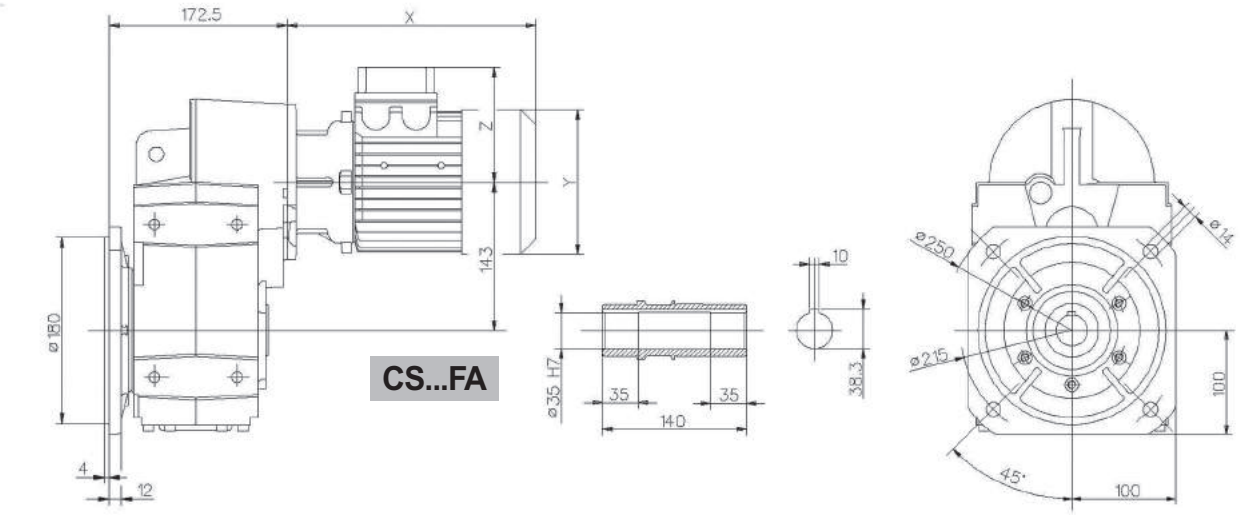




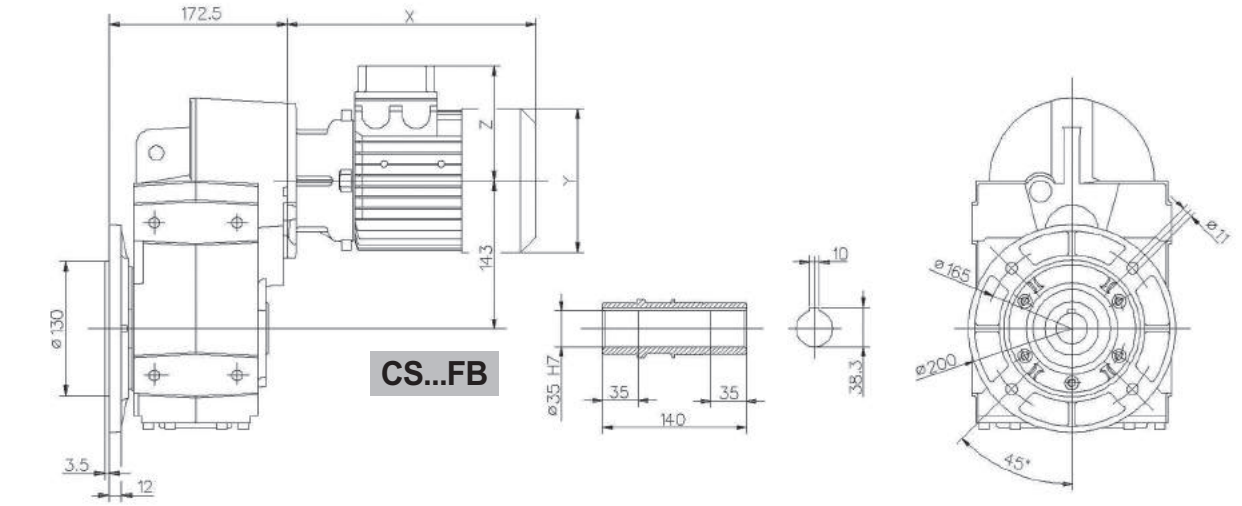
060	IS	PAM		표준모터 / Standard motor				브레이크 모터 / Brake motor			
	~ Kg	A	~ Kg	X	Y	Z	~ Kg	X	Y	Z	~ Kg
71	24,8	69	22	241	139	112	26	305	139	128	28,3
80		90	22,7	268	158	122	30,8	341	158	137	34,3
90s		90	22,7	296	173	130	34,7	373	173	130	40,2
90l		90	22,7	321	173	130	36,7	398	173	130	42,2
100		105	27	333	191	139	42,2	415	191	139	47,7
112		105	27	351	211	154	53,7	448	211	154	63,4

감속기에 취부할 모터의 dimensions (Pm,Dm,bm,tm)을 확인하려면 285페이지 참조
For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 285.

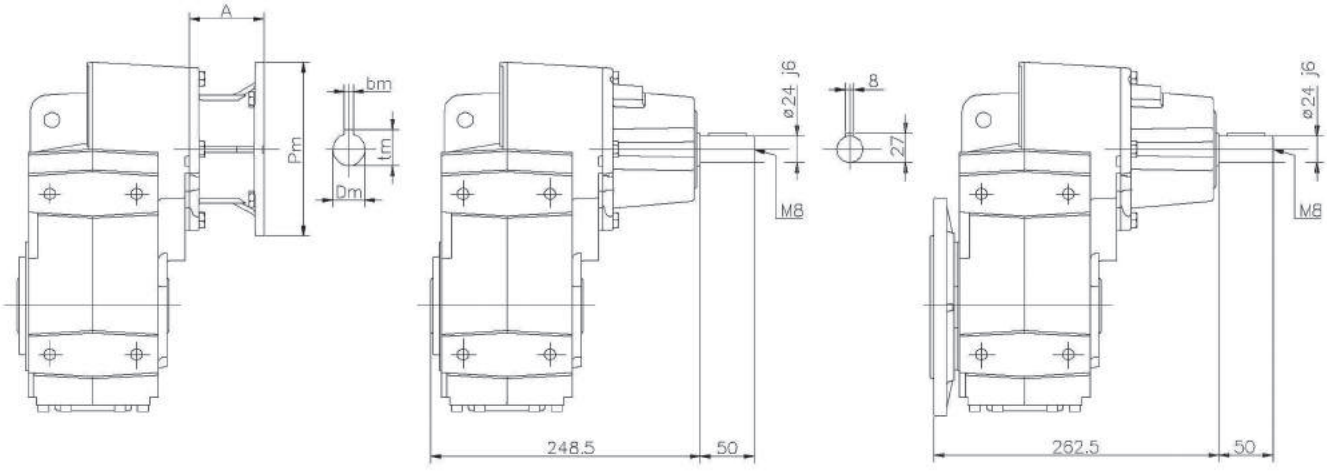
Dimensions / 치수 062/..3



CS...FA

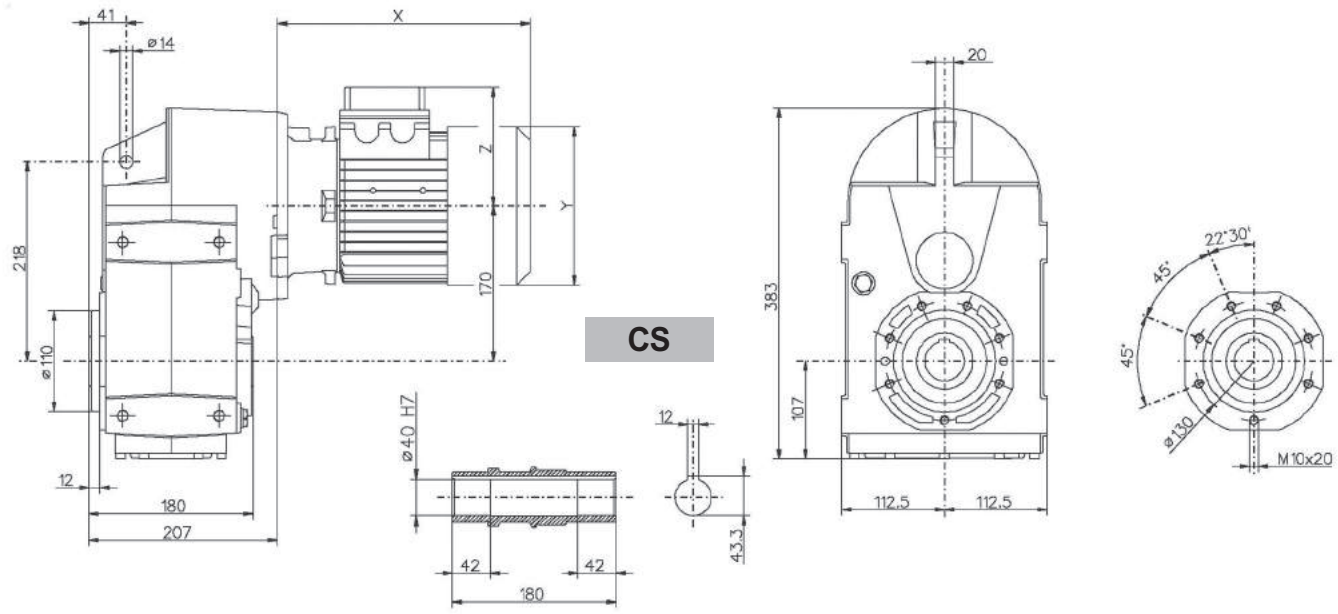


CS...FB

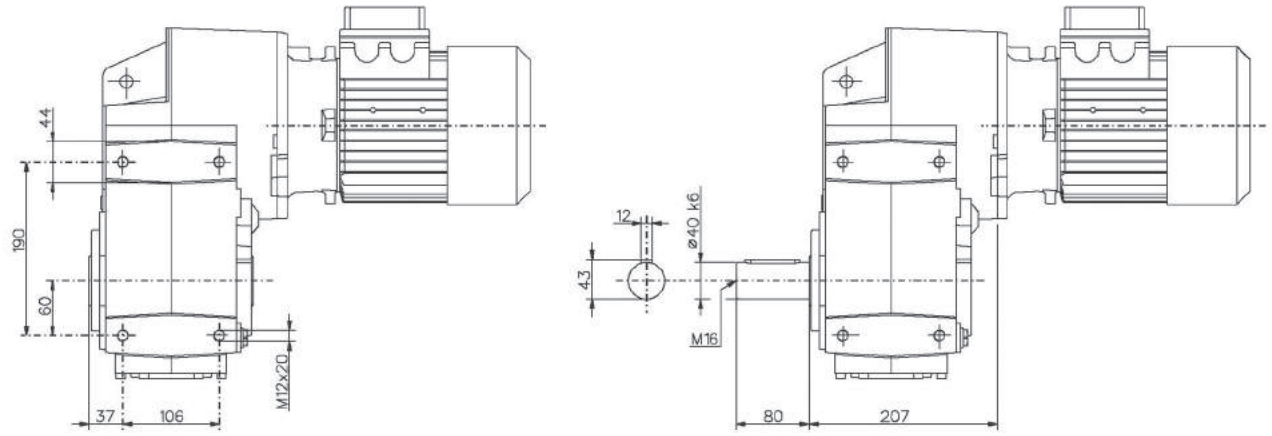


S...C IS...C IS...FA - FB

082/..3 치수 / Dimensions



CS



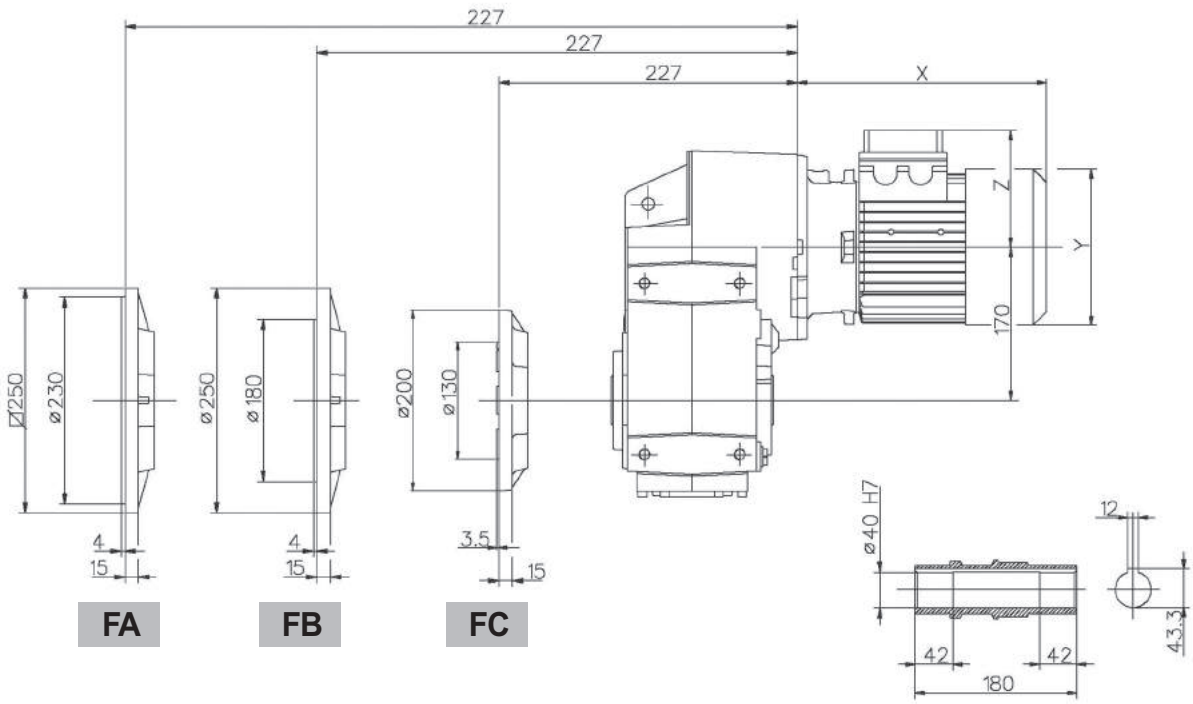
CS...C CS...D

080	IS	PAM		표준모터 / Standard motor				브레이크 모터 / Brake motor			
	~ Kg	A	~ Kg	X	Y	Z	~ Kg	X	Y	Z	~ Kg
71	39	49	32,9	221	139	112	36,5	285	139	128	38,7
80		70	35	248	158	122	41,6	321	158	137	45
90s		70	35	276	173	130	44	353	173	130	49,5
90l		70	35	301	173	130	45,5	378	173	130	51
100		85	37	335	191	139	50,6	417	191	139	56
112		85	37	356	211	154	62	453	211	154	71,7
132s		110	39,7	396	249	194	76	495	249	194	86,3
132m		110	39,7	443	249	194	87,6	547	249	194	102,3

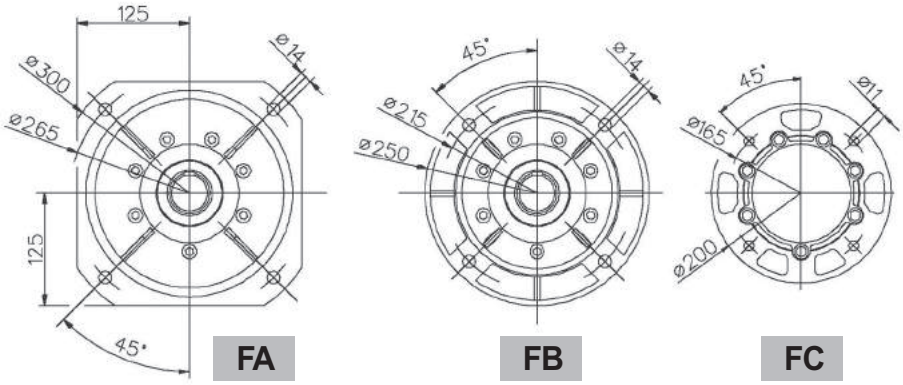
감속기에 취부할 모터의 dimensions (Pm,Dm,bm,tm)을 확인하려면 285페이지 참조

For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 285.

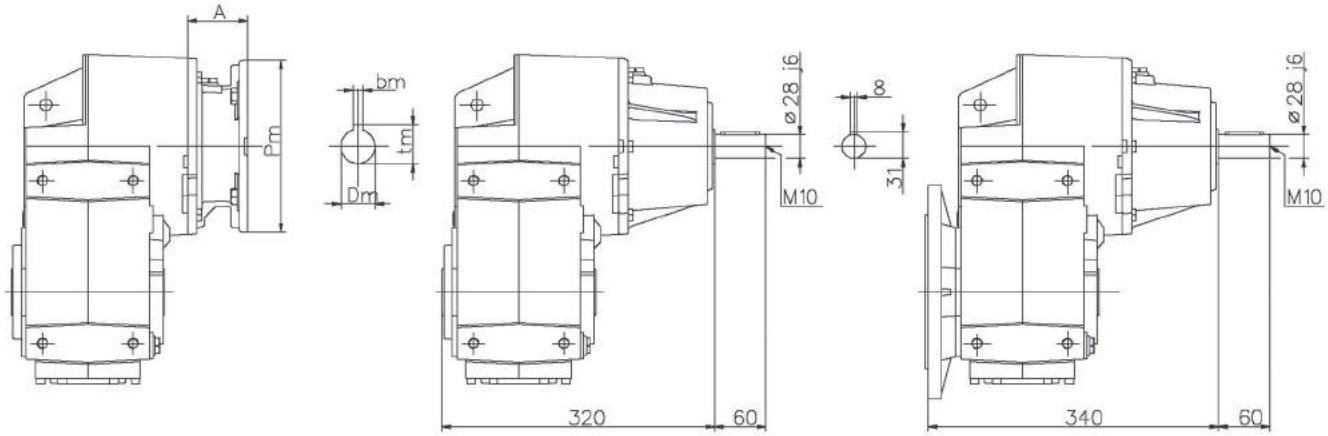
Dimensions / 치수 082/..3



FA FB FC

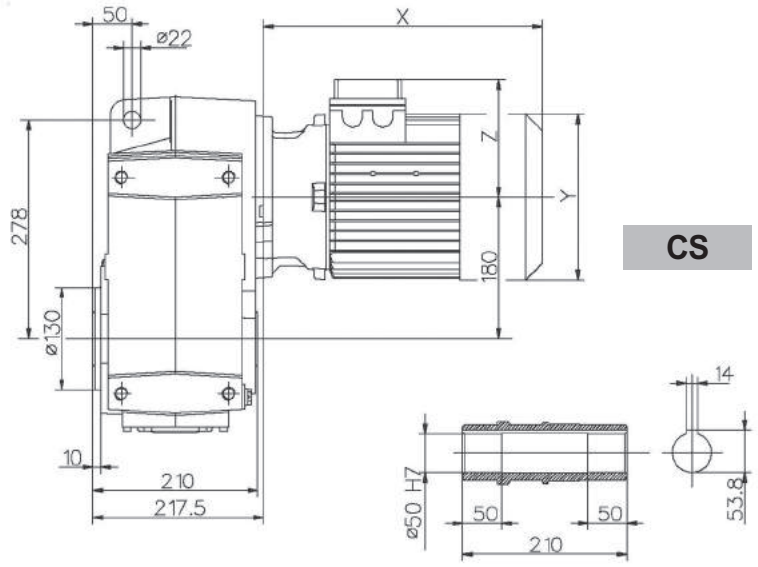


FA FB FC

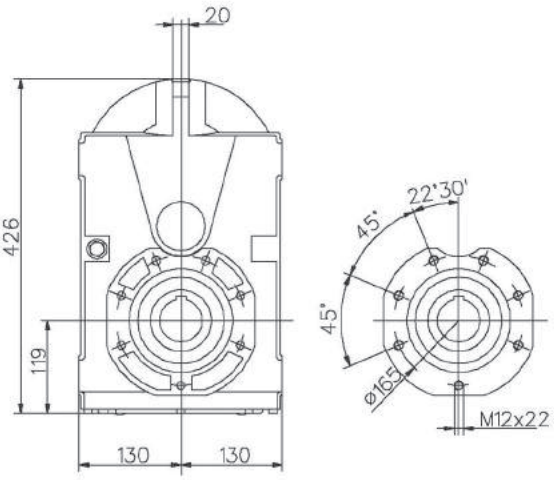


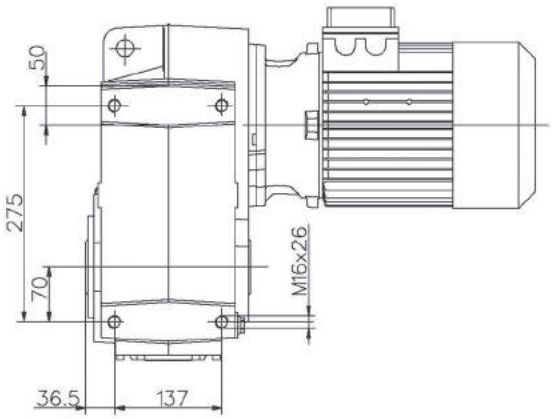
S...C IS...C IS...FA - FB - FC

102/..3 치수 / Dimensions

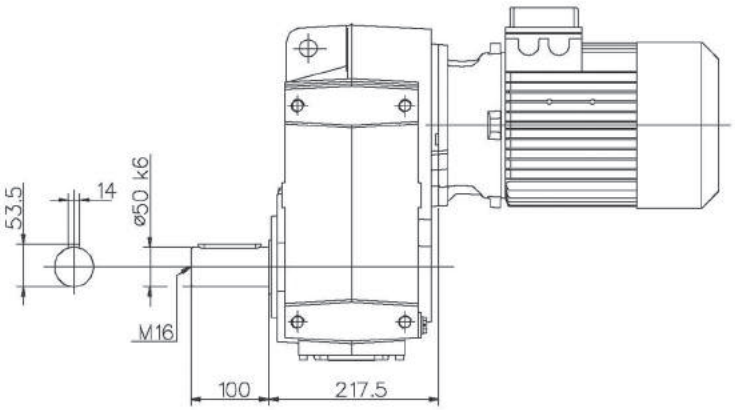


CS





CS...C

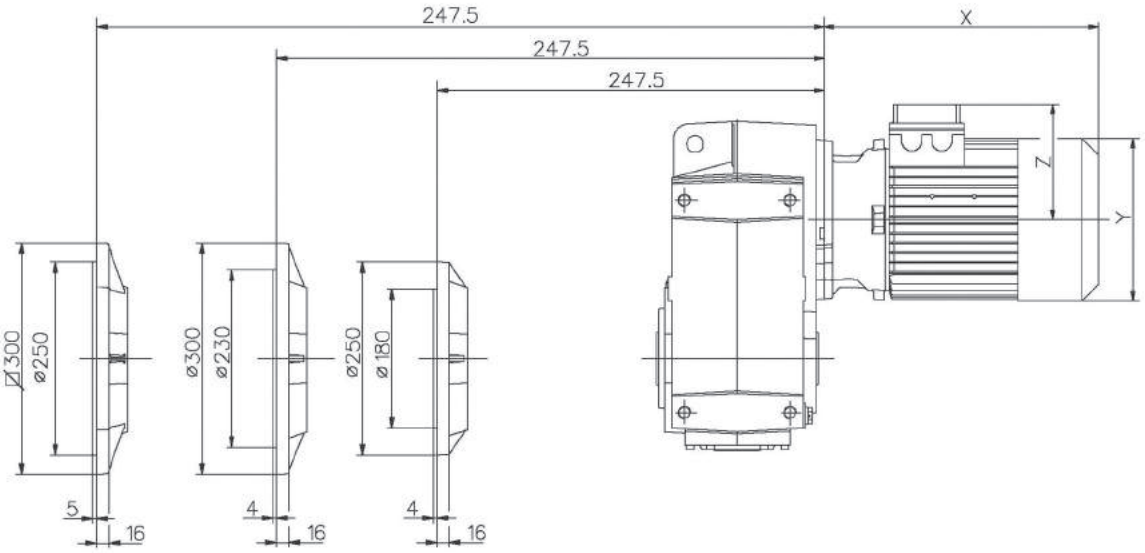


CS...D

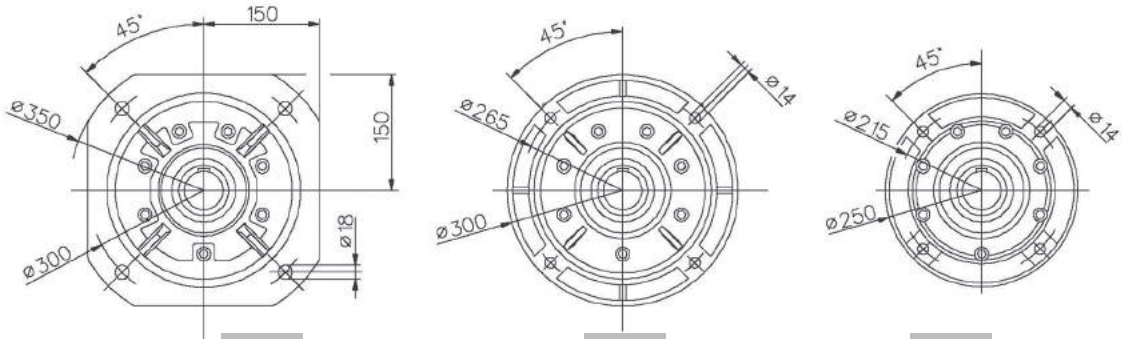
100	IS	PAM		표준모터 / Standard motor				브레이크 모터 / Brake motor			
	~ Kg	A	~ Kg	X	Y	Z	~ Kg	X	Y	Z	~ Kg
71	50	49	44	221	139	112	47,5	285	139	128	49,7
80		70	46	248	158	122	52,6	321	158	137	56
90s		70	46	276	173	130	55	353	173	130	60,5
90l		70	46	301	173	130	56,5	378	173	130	62
100		85	48	335	191	139	61,6	417	191	139	67
112		85	48	356	211	154	73	453	211	154	82,7
132s		110	50,7	396	249	194	87	495	249	194	97,3
132m		110	50,7	443	249	194	98,6	547	249	194	113,3
160s		158	57,4	522	310	244	–	–	–	–	–
160l		158	57,4	566	310	244	–	–	–	–	–

감속기에 취부할 모터의 dimensions (Pm,Dm,bm,tm)을 확인하려면 285페이지 참조
For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 285.

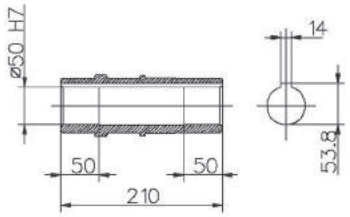
Dimensions / 치수 102/..3

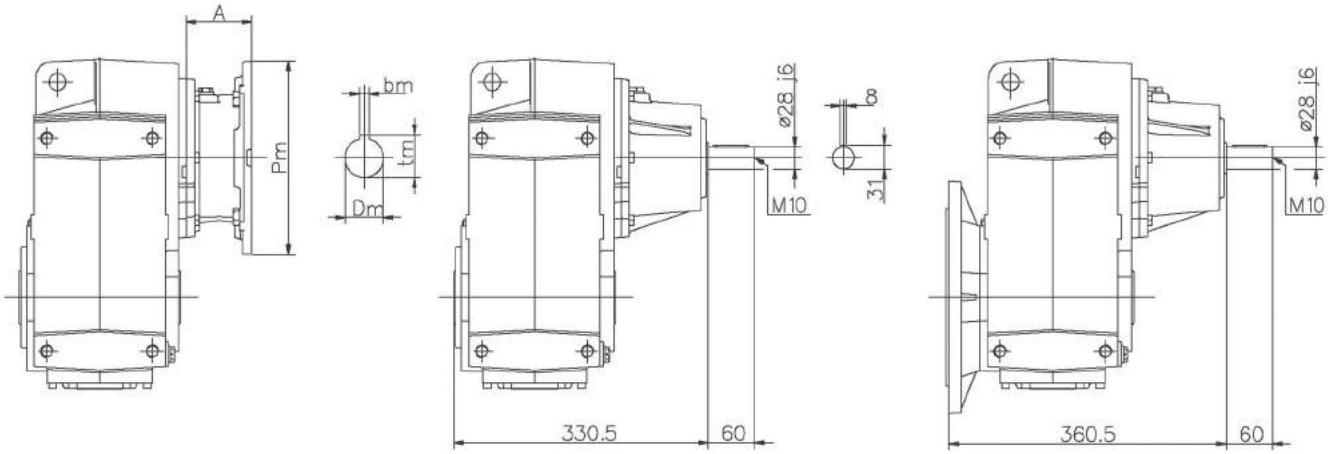


FA FB FC



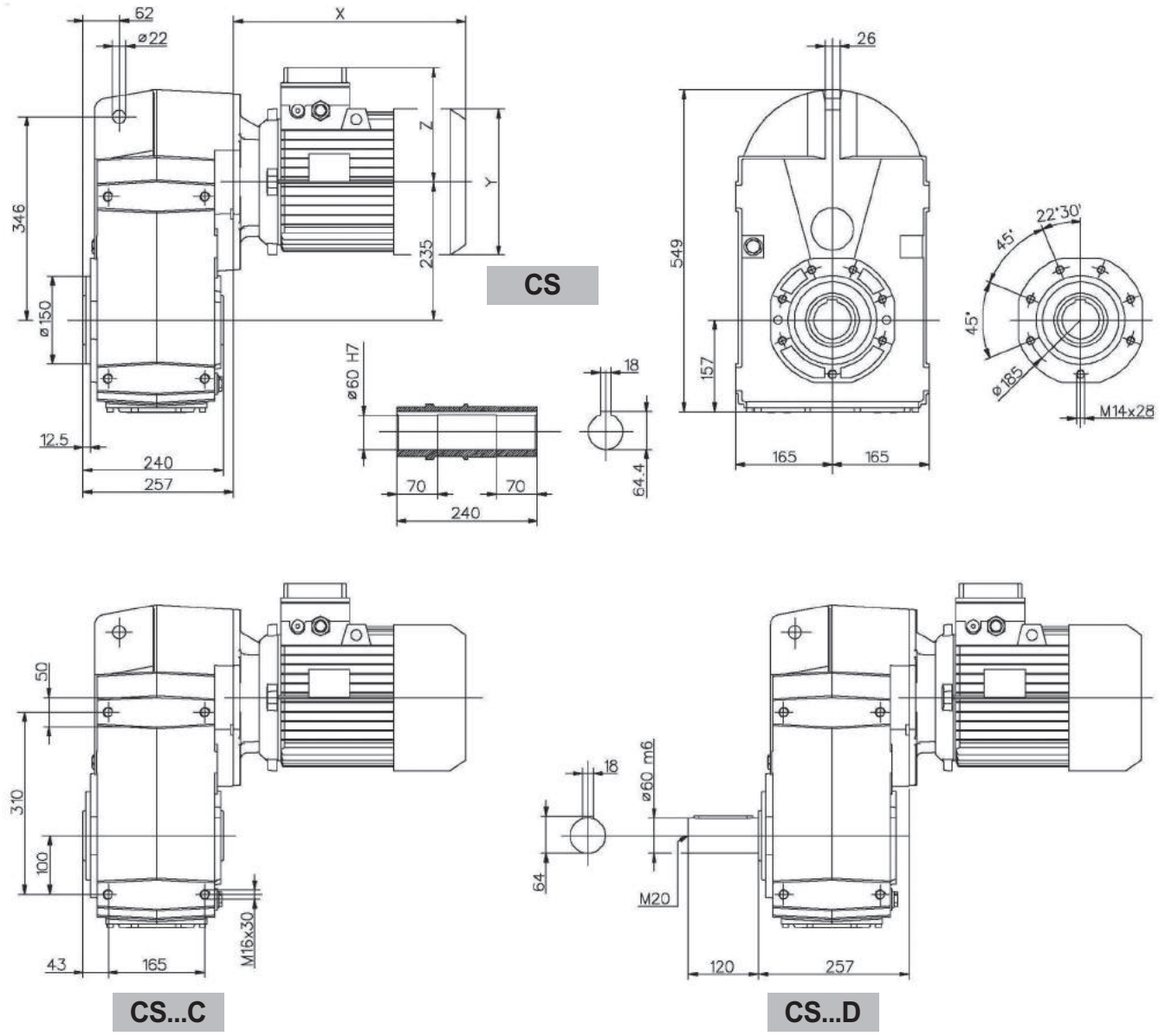
FA FB FC





S...C IS...C IS...FA - FB - FC

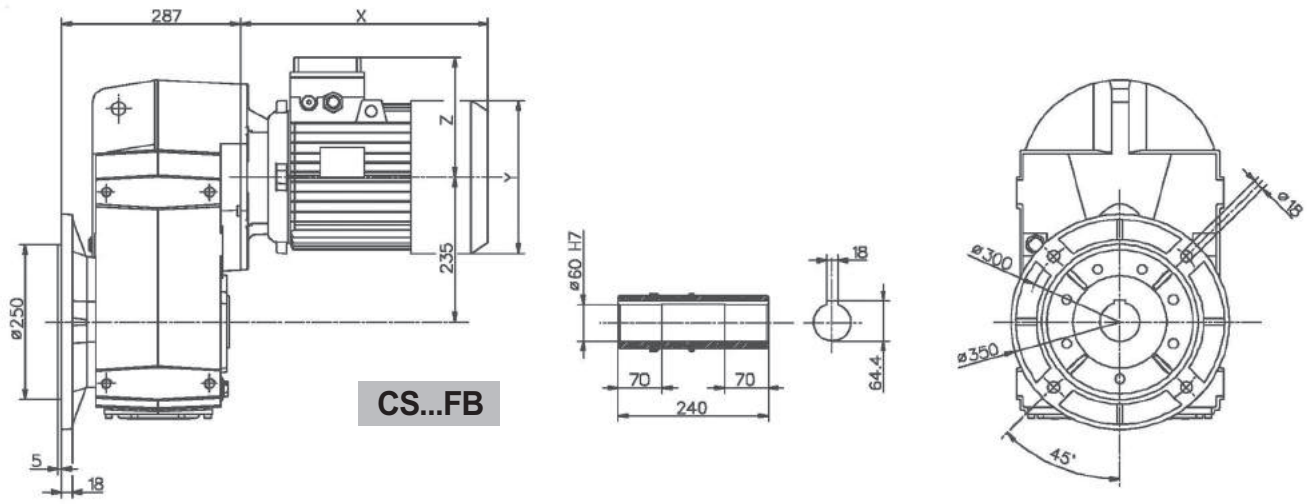
122/..3 치수 / Dimensions



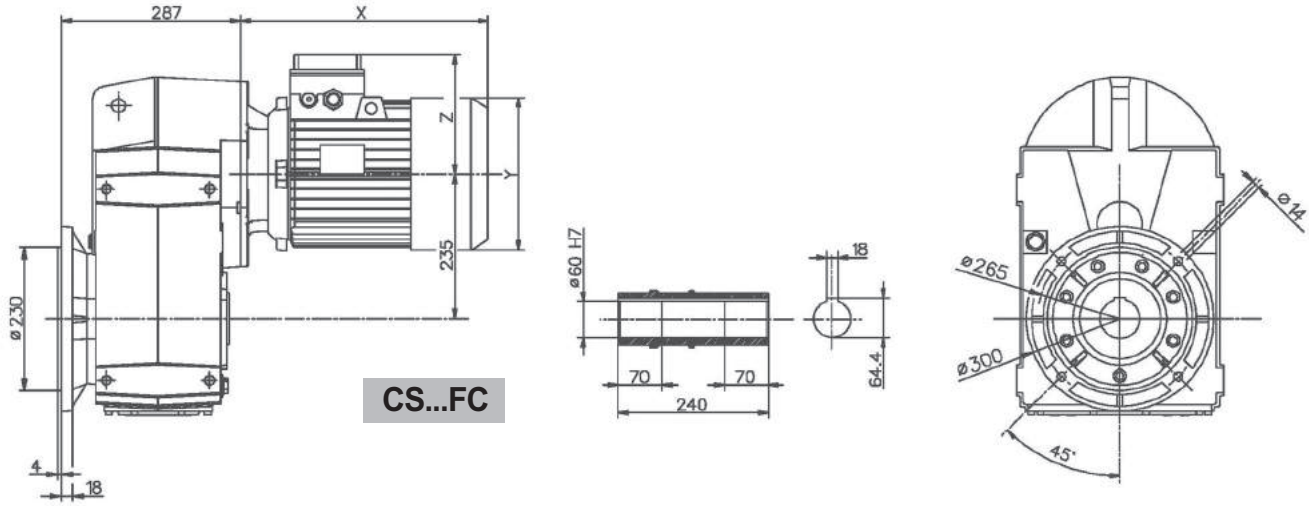
125	IS	PAM		표준모터 / Standard motor				브레이크 모터 / Brake motor			
	~ Kg	A	~ Kg	X	Y	Z	~ Kg	X	Y	Z	~ Kg
80	91,8	61	82	–	–	–	–	–	–	–	–
90s		61	82	267	173	130	91	343	173	130	96,5
90l		61	82	292	173	130	92	368	173	130	97,5
100		76	84,2	326	191	139	98	407	191	139	103,5
112		76	84,2	347	211	154	108	443	211	154	117,7
132s		101	87	386	249	194	123	485	249	194	133,3
132m		101	87	434	249	194	132	537	249	194	146,7
160s		148	93	540	310	244	–	–	–	–	–
160l		148	93	584	310	244	–	–	–	–	–
180		148	93	641	349	260	–	–	–	–	–
200		185	108	–	–	–	–	–	–	–	–

감속기에 취부할 모터의 dimensions (Pm,Dm,bm,tm)을 확인하려면 285페이지 참조
For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 285.

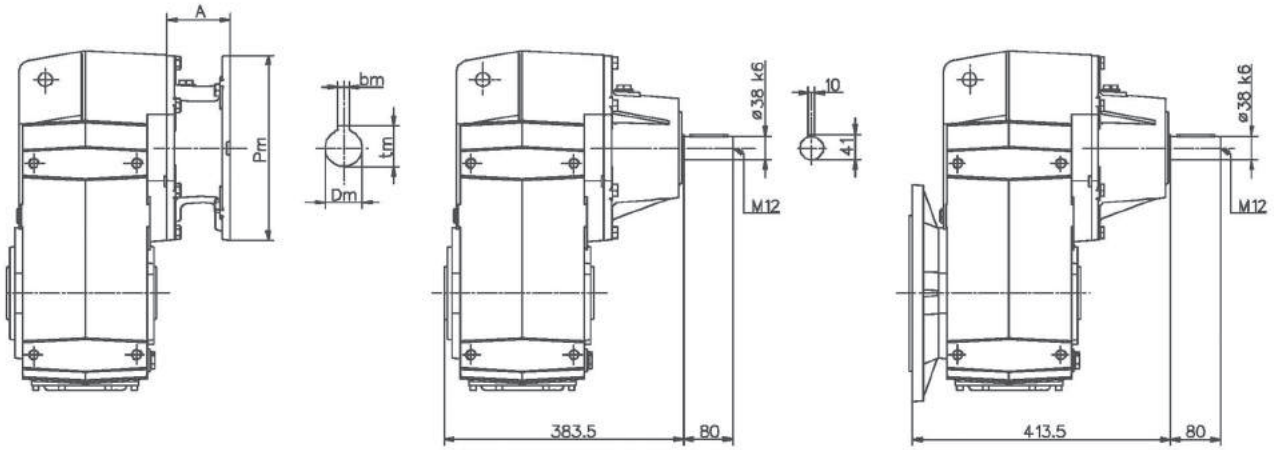
Dimensions / 치수 122/..3



CS...FB

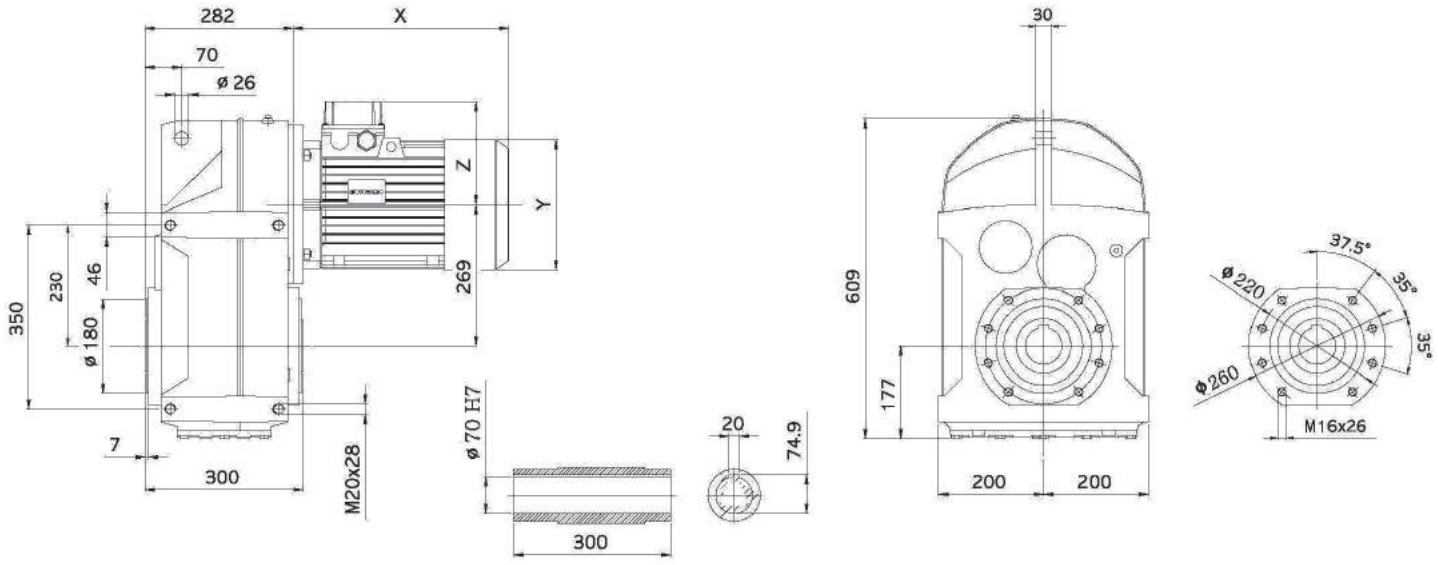


CS...FC

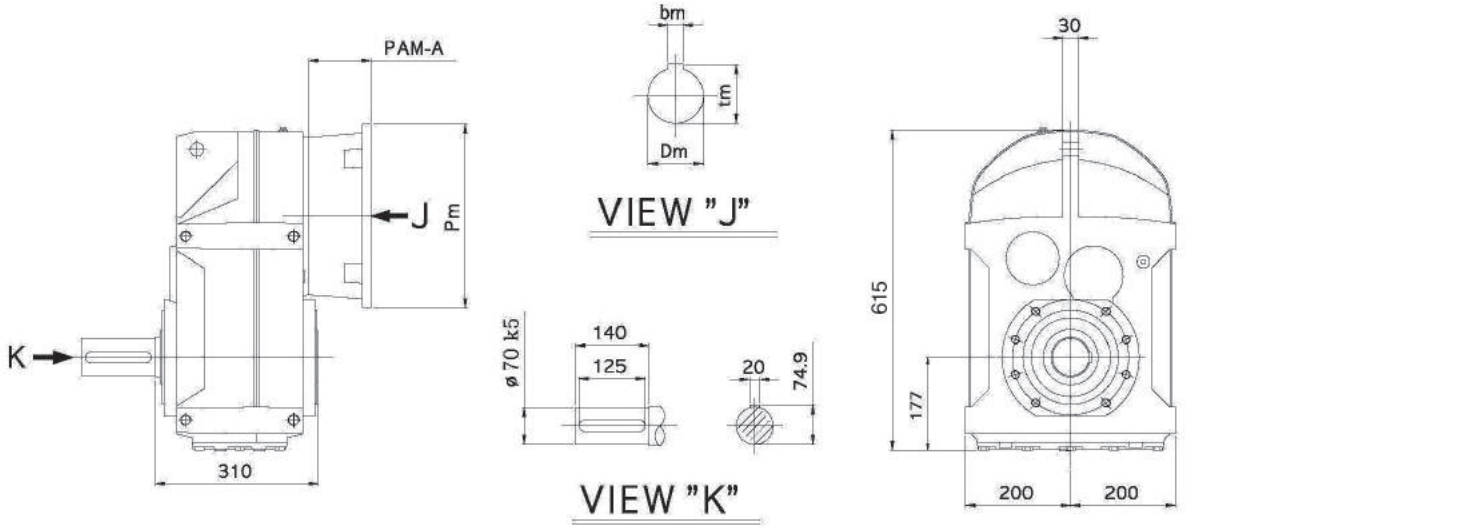


S...C IS...C IS...FB - FC

142/..3 치수 / Dimensions



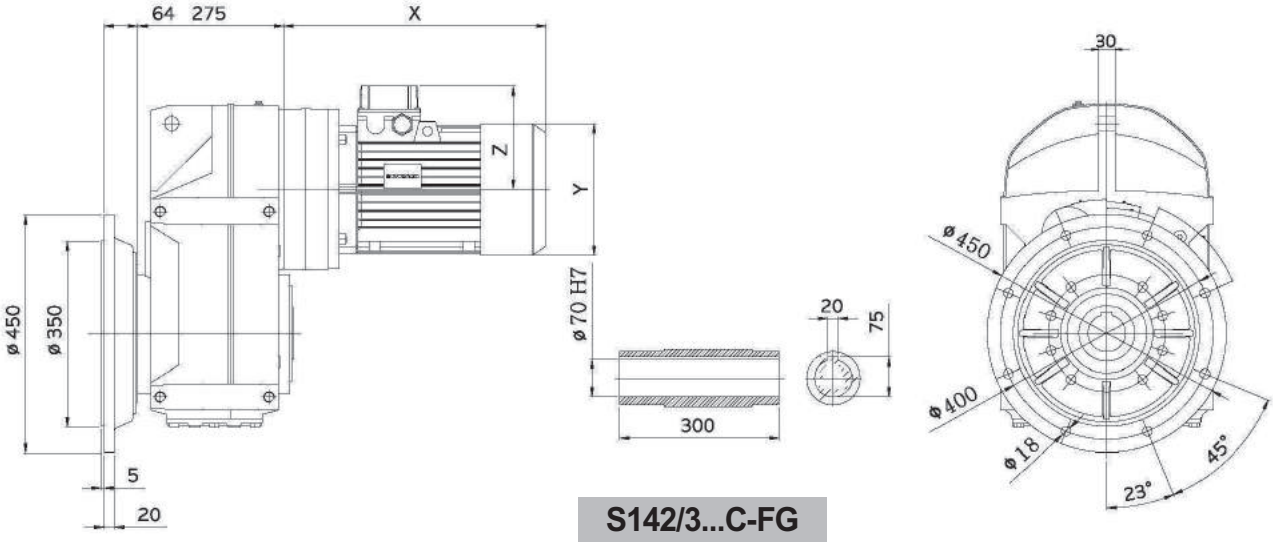
S142/3...C



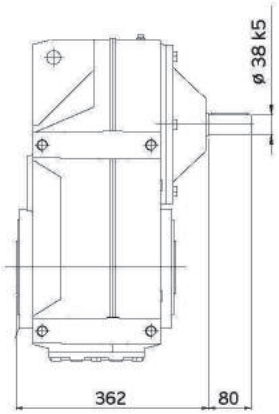
S142/3...D

140	PAM		VIEW "J"			표준모터 / Standard motor		
	A	Pm	Dm	bm	tm	X	T	Z
112	73.5	250	28	8	31.3	347	211	154
132	84	300	38	10	41.3	410	195	248.5
160	119.5	350	42	12	45.3	530		316
180	119.5	350	48	14	51.8	610		397
200	119.5	400	55	16	59.3	675		300

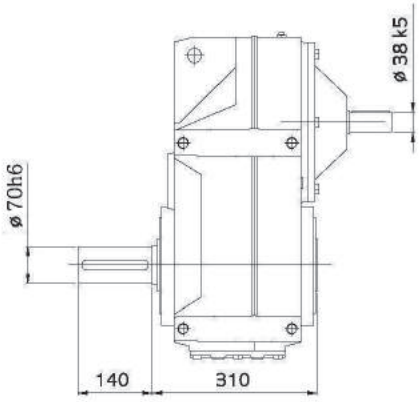
Dimensions / 치수 142/..3



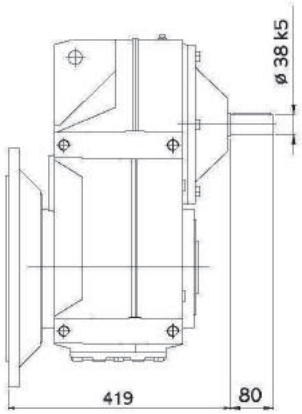
S142/3...C-FG



IS142/3 C

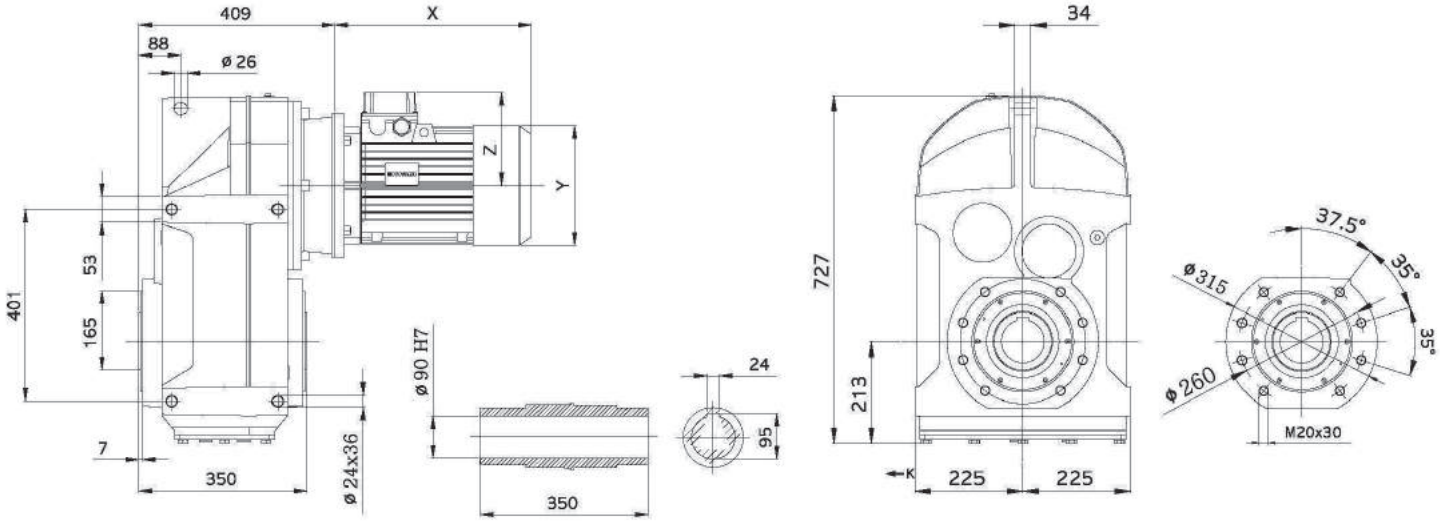


IS142/3 D

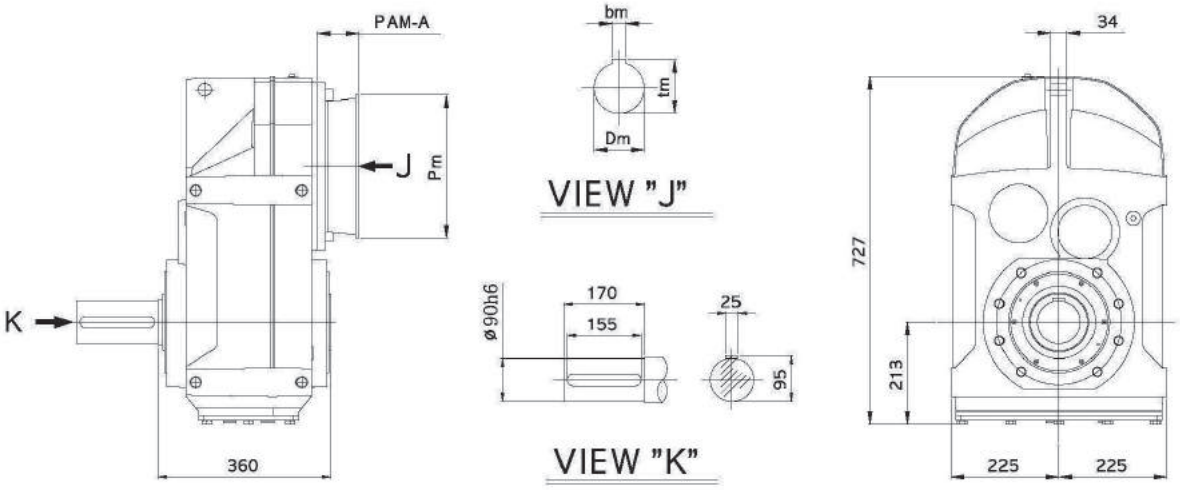


IS142/3 C-FG

152/..3 치수 / Dimensions



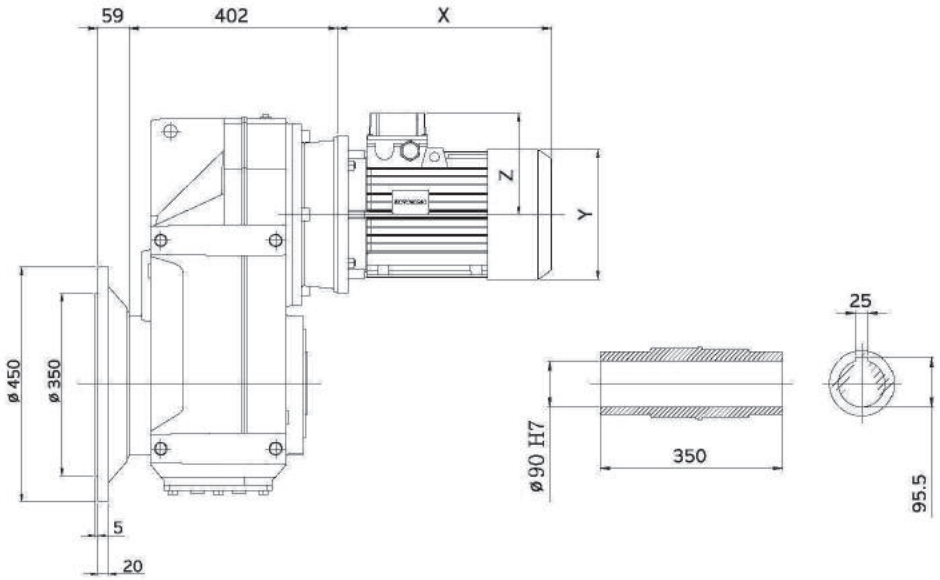
S152/3...C

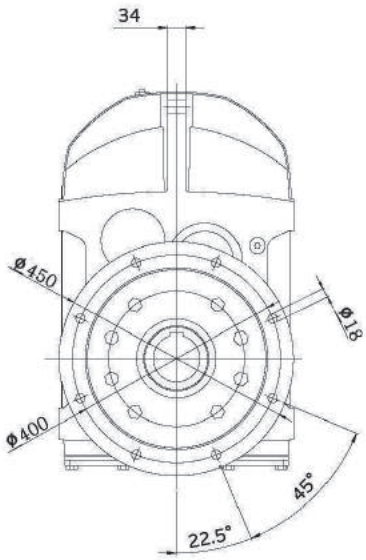


S152/3...D

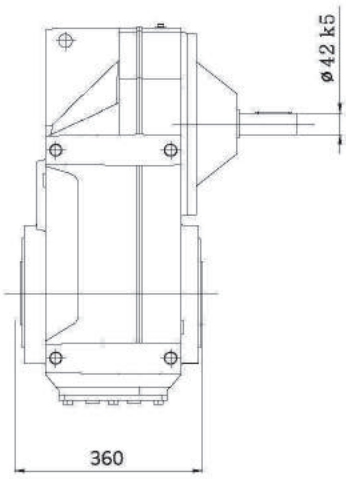
150	PAM		VIEW "J"			표준모터 / Standard motor		
	A	Pm	Dm	bm	tm	X	T	Z
132	87.5	300	38	10	41.3	410	195	248.5
160	112	350	42	12	45.3	530		316
180	112	350	48	14	51.8	610		397
200	122	400	55	16	59.3	675		300
225	144.5	450	60	18	54.4			

Dimensions / 치수 152/..3

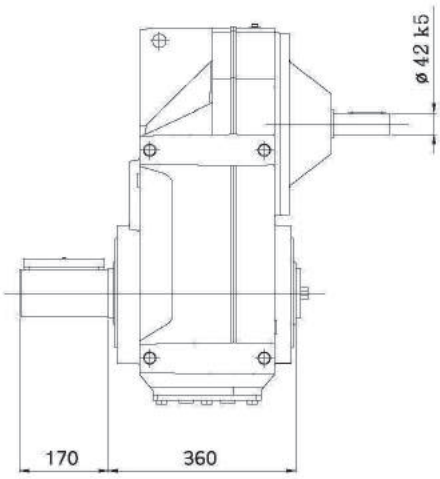




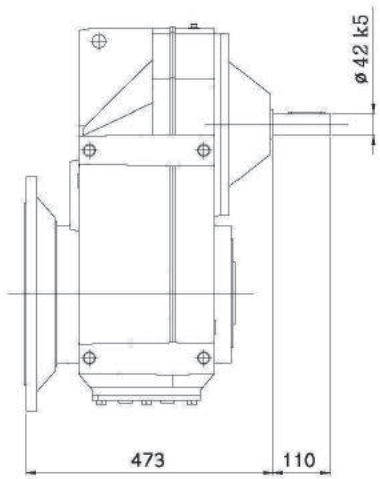
S152/3...C-FG



IS152/3 C

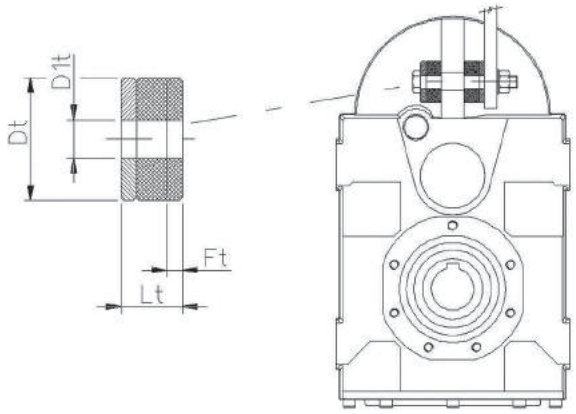


IS152/3 D



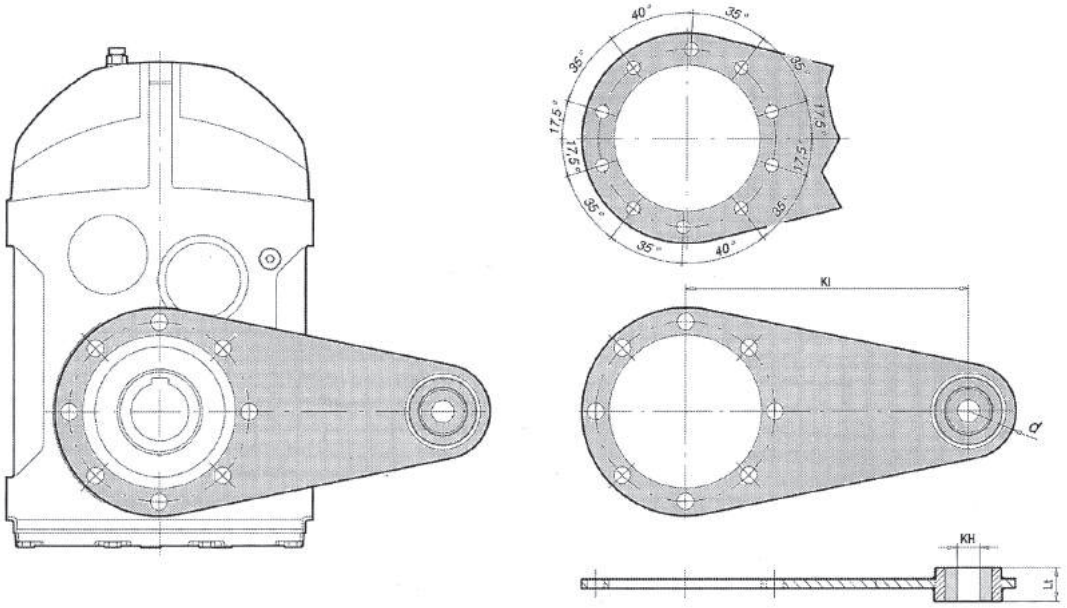
IS152/3 C-FG

토오크 암 / Torque arm



	Dt	D1t	Lt	Ft
050	40	12.5	20	~ 3
060	40	12.5	20	~ 3
080	40	12.5	20	~ 3
100	60	21	30	~ 5
125	60	21	30	~ 5

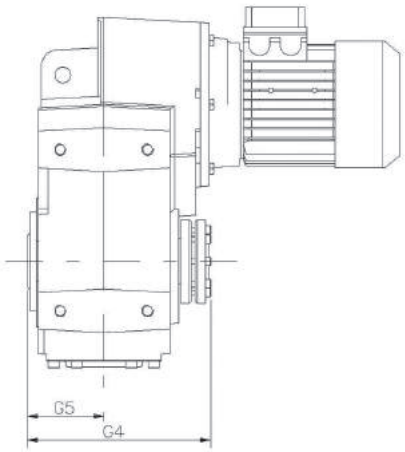
샤링크 디스크 / Shrink disc

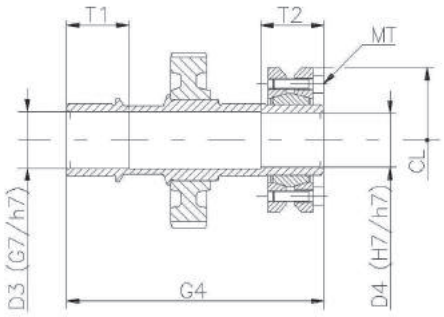


	D3	D4	G4	G5	T1	T2	CL	MT 12.9(Nm)
050	31	30	152	60	35	35	74	15
060	36	35	173	70	40	35	80	15
080	41	40	217	90	50	40	100	15
100	51	50	248	105	55	40	115	15
125	61	60	282	120	60	50	145	40

사용할 샤프트에 그리스가 묻어 있지 않도록 깨끗이 해야한다.(M.T) 상기표에 나타난 토오크로 스크류를 조여야 한다.
Clean and degrease the surfaces of the shaft to be fitted to. Comply with the indicated tightening torque of screws(MT).

샤링크 디스크 / Shrink disc

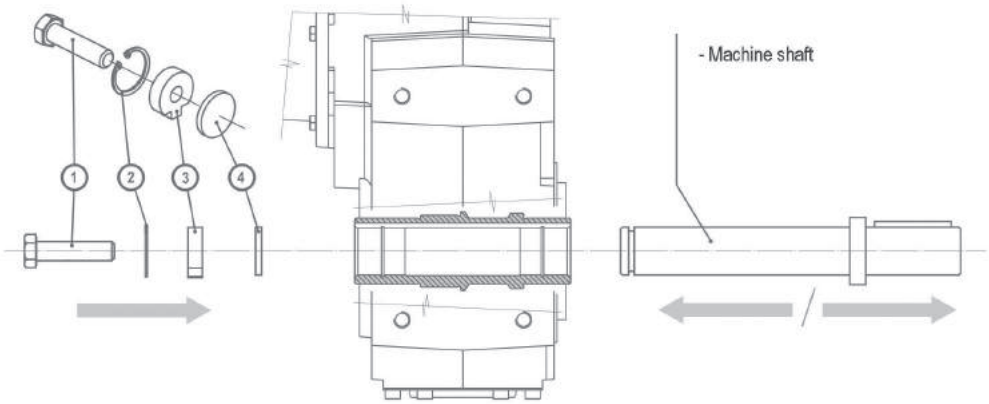




	D3	D4	G4	G5	T1	T2	CL	MT 12.9(Nm)
052/053	31	30	152	60	35	35	74	15
062/063	36	35	173	70	40	35	80	15
082/083	41	40	217	90	50	40	100	15
082/083	41	50	217	90	50	40	100	15
102/103	51	50	248	105	55	40	115	15
122/123	61	60	282	120	60	50	145	40
	D3 – D4 (H7/h6)		G4					
142/143	75		345	–	–	–	–	–
152/153	95		405	–	–	–	–	–
152/153	80		405	–	–	–	–	–

사용할 샤프트에 그리스가 묻어 있지 않도록 깨끗이 해야한다.(M.T) 상기표에 나타난 토오크로 스크류를 조여야 한다.
Clean and degrease the surfaces of the shaft to be fitted to. Comply with the indicated tightening torque of screws(MT).

조립부품 / Assembling/disassembling kit



조립부품 (Assembling/disassembling kit) KO

마운트/Key way와 중공축 감속기의 분리를 위한 키트. 옵션 사항으로 별도 주문 요청을 하여야 함.
1. Retaining bolt
2. Circlip
3. Fixed nut
4. Forcing washer

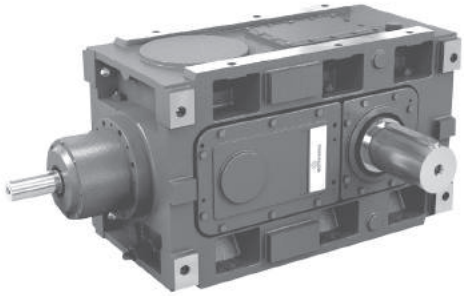
Assembling/disassembling kit UK

Mounting/dismounting kit for hollow shaft gear reducers with keyway.
On request delivery includes :
1. Retaining bolt
2. Circlip
3. Fixed nut
4. Forcing washer

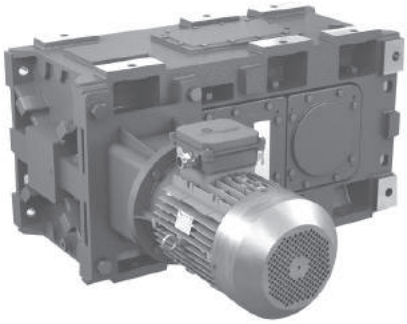
메모 / Notes

PBH SERIES

NEW



파라렐-헬리컬 과 베벨-헬리컬
Parallel Helical and Bevel Helical Gearboxes



MOTOVARIO®
HEART OF MOTION
a TECO Group company

1 PBH 신제품 소개

- 중공업 분야에 적용 하기 위한 제품.
- 파라렐-헬리컬, 베벨-헬리컬 2가지 타입.
- 총 4단 기어 조합으로 구성.
- 악조건에서도 신뢰할수 있는 디자인으로 설계.
- 고효율, 콤팩트 디자인, 견고성, 신뢰성이 높은 제품.
- 쉽게 응용 할수 있고, 낮은 유지보수 비용.
- 최신의 디자인 개념으로 제작.

장점

- Universal mounting : 수직 및 수평 모두 적용 가능.
- Cast iron casing : 열용량을 높이기 위한 견고하고 최상의 윤활유 적용.
- 케이싱은 2개로 분리 되며, 유지보수를 직접가능 하고 비용이 절감.
- 일반적인 출력 단축 과 양축이 가능.
- 입력축이 양축으로 가능.
- 큰 용량의 모터도 적용 가능.
- I.E.C 모터, 커플링 NEMA 모터 적용 가능.
- 입력축, 출력축 모두 높은 레디얼 하중 적용 가능.
- 고성능, 신뢰성 있는 테스트를 거침.

2 특징

사이즈와 기어 단수
적용가능 프레임 : 180, 200, 225, 250, 280, 320, 355

파라렐-헬리컬 타입의 기어 단수는 1, 2, 3, 4 단형이며, 베벨-헬리컬 타입은 2, 3, 4단 형.

재질(케이싱, 기어, 샤프트)

케이싱 : 200UNI ISO 185 cast iron.
기어 & 피니언 : 16 CrMo4, 15NiCr13, 17CrNiMo6 강화 와 케이스강화 스틸.
출력 샤프트 : 42CrMo4 강화스틸.

외장 페인트

정전페인트 와 에폭시폴리에스터 파우더.
도장 두께 80 microns. Blue 색상 RAL 5010.

윤활제와 윤활

모토바리오 PBH 기어감속기 는 감속기 내부 오일이 기어에 의하여 오일이 튀어 순환 되는 방식으로 제작 됨. PBH 기어 감속기는 초기 공급 당시 오일을 제외 하고 공급 하며, 사용자가 적정량의 미네랄 오일을 보충 하여 사용 해야 한다. 오일 교환 주기를 연장 하기 위하여 사용 주변 온도 나 내부 오일 온도를 낮추워야 한다. 따라서 합성오일에 Polyglycol basis 또는 polyalphaolefine basis 제품을 사용 하도록 추천 한다.

미네랄 오일 추천 제품

ENI Blasia, ESSO Spartan EP, MOBIL Mobilgear, SHELL Omala, Kluberoil GEM1, TOTAL Carter EP.

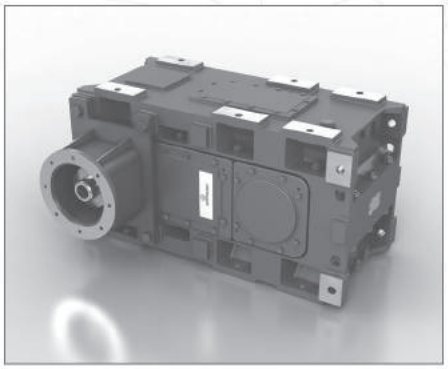
폴리글리콜을 재료로 만든 합성오일

KLUBER Klubersynth GH6, ENI Blasia S, MOBIL Glygoyle, SHELL Tivela S ;

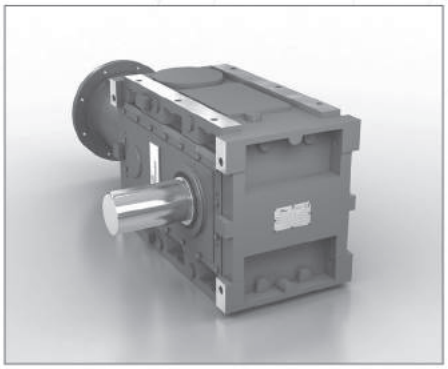
폴리알파올레핀을 재료로 만든 합성오일

SHELL Omala HD, AGIP Blasia SX, KLUBER Klubersynth EG4, CASTROL Tribol 1510,
ELF Reductelf SYNTHESE, ESSO Spartan SEP, KLUBER Klubersynth EG4,MOBIL SGC Molykote.

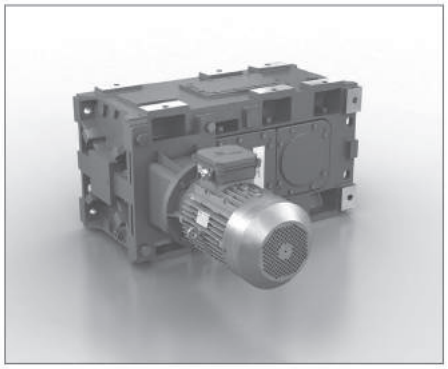
3 형상



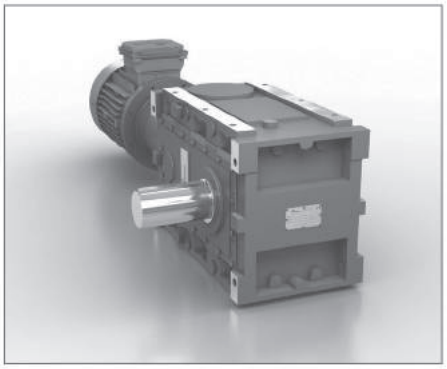
파라렐–헬리컬
벨–커플링 입력 모터 제외



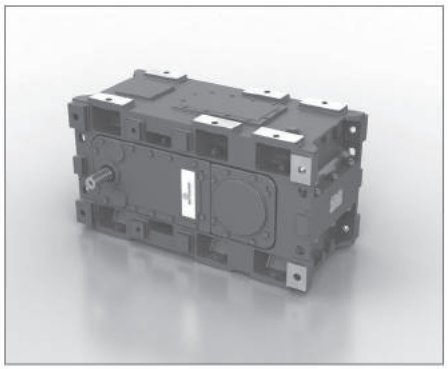
베벨–헬리컬
벨–커플링 입력 모터 제외



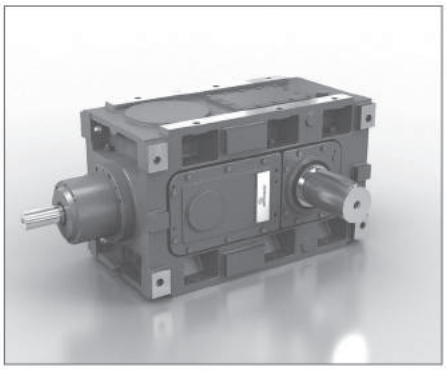
파라렐–헬리컬
벨–커플링 입력 모터 포함



베벨–헬리컬
벨–커플링 입력 모터 포함



파라렐–헬리컬
입력 축 타입



베벨–헬리컬
입력 축 타입

4 용량 과 형식

범위

Size	Output nominal torque M_{N2} [Nm]	Transmission ratio	
	Max	Min	Max
PH 180	12400	1,26	762
PH 200	16800	1,22	659
PH 225	24900	1,28	676
PH 250	31000	1,23	710
PH 280	40400	1,27	708
PH 320	50000	1,25	710
PH 355	78400	1,26	708

Size	Output nominal torque M_{N2} [Nm]	Transmission ratio	
	Max	Min	Max
BH 180	12200	5,81	727
BH 200	16900	5,81	660
BH 225	23000	5,20	669
BH 250	29000	5,31	710
BH 280	40000	5,81	676
BH 320	49000	5,60	710
BH 355	76600	5,60	685

5 부속품 과 옵션

출력축 옵션
중공축 + keyway
중공축 + 샤링크 디스크
중공축 + 홀
대형 및 소형크기 출력 샤프트
강화 중공 출력축
스플라인 중공축
양축 출력축
싱글/양축 스플라인 출력축

오일 / 유량계
베어링 윤활 펌프
베어일 윤활 모터 펌프
오일 온도센서 PT100
베어링 온도센서 PT100
바이메탈 타입 온도센서
압력스위치
필터 막힘방지 전자신호 장치
오일 레벨 스위치와 부유기
오일 레벨 샤프트
적외선 오일 레벨 센서

냉방/가열장치
냉각팬
코일 수냉 장치 / 온도 조절밸브 별도
오일/물 또는 오일/공기의 독립냉각 장치
오일 히터

부속품
역전방지 장치
출력축 보호
출력샤링크 디스크 보호
중공축용 워셔
출력 프렌지
풀림방지 볼트 및 스프링 디스크
풀림방지 Arm
특수 비부식용 페인트
출력과 입력축용, 라비린스 씰과 그리스
특수 rubber 씰
배출 플러그와 필터
자석 플러그
NEMA규격 입력 프렌지

명칭 / DESIGNATION

PBH	P	1H	180	AU	I	d1 x I1	HC	DxL	1,22	B3
	B	2H	200	AZ	P	d x P	HL		.	B6
		3H	225	DU			HS		.	B7
		4H	250	DZ			CS		.	B8
			280	LR			SS		762,36	V5
			320	LL			CD			V6
			355	SR			SD			
				SL						
				DR						
				DL						

시리즈

타입
P : 파라렐-헬리컬 helical reducer
B : 베벨-헬리컬 helical reducer

기어단수

형번

입력방식

I : 입력 축 타입
P : 입력 벨 커플링 타입

입력 치수

HC : 중공 출력축 + keyway
HL : 중공 출력축 + 샤링크디스크
HS : 스플라인 중공 출력축
CS : 중실축
SS : 스플라인 중실 출력축
CD : 양축 중실 출력축
SD : 스플라인 양축 중실축

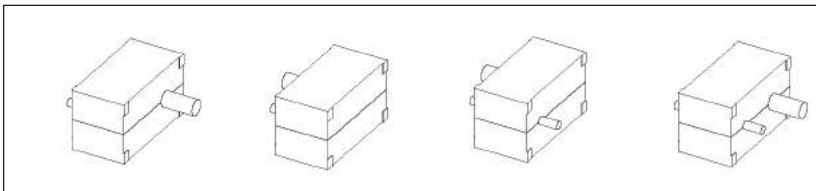
출력축 치수

감속비

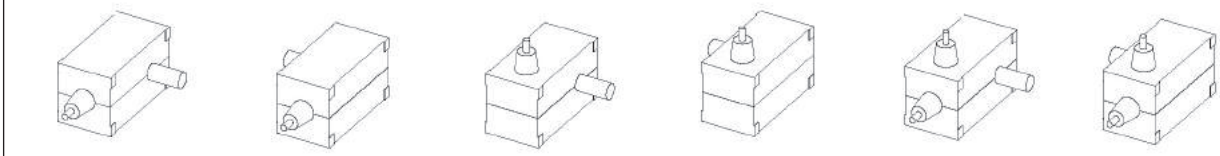
취부

6 형상

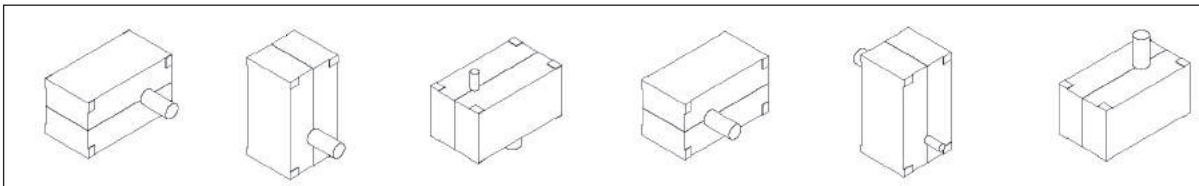
파라렐-헬리컬



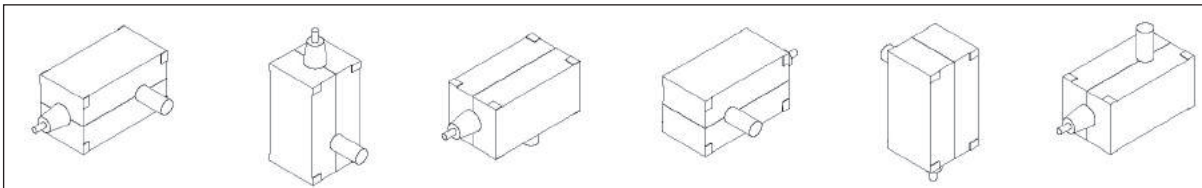
베벨-헬리컬



취부방식 = 파라렐-헬리컬



취부방식 = 베벨-헬리컬



7 선정방법

기호설명

i_N = 감속비

i = 정확한 감속비

n_1 = 입력 속도(rpm)

n_2 = 출력 속도(rpm)

fs = 응용 사례에 따른 안전율

fa = 매일 작업 시간과 부하에 따른 분류에 의한 안전율

fb = 매시 작동수에 따른 안전율

fc = 모터 설치에 따른 안전율

Pth = 일반 열용량(kW)

ta = 주변온도와 불규칙적인 부하에 따른 열요소

tb = 냉각팬에 의한 열요소(thermal factor)

Tamb = 주변온도(℃)

P_{N1} = 입력 정격 용량(kW)

M_{N2} = 출력 토오크(Nm)

P_1 = 입력 용량(kW)

M_1 = 출력 토오크(Nm)

M_{2max} = 출력 샤프트에 최대 토오크(Nm)

1 선정방법

1) 구하고자 하는 감속 비율을 계산 하시오.

2) 출력축의 적용 가능한 토오크 값을 계산 하시오.

3) 적용기구의 필요로 하는 최소 안전율을 확인 하시오.

* 부하의 종류

* 일일 작업시간

* 시작의 수 / 하루

* 모터 적용 타입

4) 다음 수식으로 최소 필요 토오크 값을 결정 $M_{N2} = M_2 * fa$ (Nm).

5) 감속기 사이즈, 기어조합을 선정하고 M_{N2} , n_2 와 n1에 따라 감속비를 선정 하시오.

Verifications

a) 5, 6, 7번 Table을 보고 열용량을 확인 하시오.

b) 높은관성부하, 브레이크, 최대용량에 과부하가 있을경우, 최대 토오크를 확인 하시오.

Note : 과부하는 순간 최대값(최대 허용시간 10초).

c) 입력축과 출력축의 radial, axial 하중은 본사로 연락 바람.

d) 아래 조건일 경우 기술 문의는 본사로 연락 바람.

*n1 〉 1000rpm for PH and B2H (입력속도가 1000rpm 이상 일 경우 PH, B2H 적용시).

*n1 〉 1750rpm P2H, P3H and B3H (입력속도가 1750rpm 이상 일 경우 P2H, P3H, B3H 적용시).

*n1 〉 2000rpm for P4H and B4H (입력속도가 2000rpm 이상 일 경우 P4H, B4H 적용시).

안전율

어플리케이션에 의한 최소 안전율은 다음과 같이 정의 된다.

$fs = fa * fb * fc$

Table 1 : 부하의 분류.

7 선정방식

부하의 분류

적용산업	부하 종류
콘베이어	
(중부하용) (for heavy and not uniform loads)	
Scraper or scoop	Moderate
Belt	Moderate
Buckets	Moderate
Elevators	Moderate
Rollers	Moderate
For furnaces	Moderate
Reciprocating	Heavy
Jerking	Heavy
Screws	Heavy
공작기계	
Punching presses	Heavy
Shears	Heavy
Planes	Heavy
Main movements Ancillary	Moderate
Movements (feeders, advances, etc.)	Uniform
펌프	
Centrifugal	Moderate
Rotating and geared	
(for heavy and not uniform loads)	Uniform
(variable density)	Moderate
Reciprocating with free unloading	Uniform
Reciprocating with multiple cylinders double-acting	Moderate
Reciprocating with single cylinder	Heavy
리프트	
Types similar to transporters	Moderate
Goods lifts-Freight	Moderate
Passenger	Heavy
제지산업	
Mixers (agitation)	Moderate
Conveyors	Moderate
Cylinders	Moderate
Felt tighteners	Moderate
Calenders	Heavy
Presses	Heavy
Winders	Heavy

적용산업	부하 종류
식품산업	
Mixers	Moderate
Kneading machines	Moderate
Beaters	Moderate
Meat choppers	Moderate
콤프레샤	
Centrifugal	Uniform
Lobulated	Moderate
Reciprocating with multiple cylinders with suitable flywheel	Moderate
Reciprocating with single cylinder	Heavy
고무산업	
Mixers	Heavy
Calenders for rubber	Heavy
Rolling mills	Heavy
Machinery for tyres	Moderate
스크린	
Rotary (sand or stone)	Moderate
Reciprocating	Moderate
교반기	
Semi-liquid	Moderate
Variable density	Moderate
직물산업 기계	
Washing mills	Moderate
Calenders	Moderate
Cards	Moderate
Machines for dyeing	Moderate
Looms	Moderate
Pickers	Moderate
Spinning machines	Moderate
준설기	
Cable drum	Moderate
Conveyors	Moderate
Pumps	Moderate
Stackers	Moderate
Goods lifts	Moderate
Sieves	Heavy
Buckets	Heavy

7 선정방식

부하의 분류

적용산업	부하 종류
팬	
(uniform speed and balanced)	
Centrífugal	Uniform
Ligth, with small diameter	Uniform
For cooling towers	Moderate
For forced air flow	Moderate
For mines	Moderate
크레인	
Derrick	Uniform
Slewing	Uniform
Transfer movement	Moderate
Drum movement	Heavy
금속산업	
Drawing benches	Heavy
Stamping presses	Heavy
Cutting machines	Heavy
Small rolling machines	Heavy
믹서	
Constant density	Uniform
Irregular density	Moderate
Concrete	Moderate

적용산업	부하 종류
동력전달	
For industrial equipment machines	Moderate
Subgroup movement	Moderate
Secondary transmissions	Uniform
파쇄기	
Mineral	Moderate
Stone	Moderate
분쇄기	
(rotary type)	
Ball	Heavy
Hammer	Heavy
Ring roll	Heavy
For cement	Moderate
포장기	Uniform
세척기와 펌프	Moderate

7 선정방식

부하의 분류

매일 작업 시간과 부하 분류에 따른 안전율

	2 h/d	4 h/d	8 h/d	16 h/d	24 h/d
Uniform	0,80	0,90	1,00	1,25	1,35
Moderate	1,00	1,15	1,25	1,50	1,75
Heavy	1,25	1,50	1,75	2,00	2,25

시간당 작동 회수에 따른 안전율

	< 8 starts/h	8..32 starts /h	32..64 starts /h	64 ..128 starts /h
Uniform	1,00	1,25	1,35	1,50
Moderate	1,00	1,15	1,25	1,35
Heavy	1,00	1,05	1,15	1,25

취부 모터의 종류에 따른 안전율

Electric motor	1,00
Explosion motor multiple cylinders	1,15
Explosion motor single cylinder	1,25

7.1 열용량

표 5의 정격 열용량 값은 아래에 표기한 표에 따라 오일의 온도가 95℃를 초과하지 않는 상태에서 감속기 입력축에 적용될 수 있는 모터 용량이다. 조건은 다음과 같다.

- B3 형태의 취부 조건
- 지속 작동
- 입력 속도가 1500rpm 이하 조건
- 주변 온도 20℃ 조건
- 해수면 조건
- 감속기 주변 공기 속도 21m/s 인 조건
- 외부 Radial, Axial 하중이 없는 조건

2시간 이하의 연속운전과 1~2시간의 운전으로 감속기의 온도가 주변온도와 유사한 상황으로 되는 것을 제외하고, 각 응용에 대해 다음 식에 따라 기어 감속기의 열한계를 확인하는것이 좋습니다.

$$P_1 \langle Pth * ta * tb$$

Nominal thermal power Pth [kW] Reducer size							
Size / Type	180	200	225	250	280	320	355
P1H	155	188	230	294	360	440	552
P2H	96	116	142	184	228	268	344
P3H	73	89	109	141	170	207	272
P4H	56	68	83	108	130	158	208
B2H	92	110	135	175	217	250	327
B3H	70	85	103	134	162	190	259
B4H	53	65	79	103	124	145	198

7.1 열용량

부하의 분류

간헐적 부하와 주변 온도에 따른 열인자

	Intermittent duty [%]				
T_amb	100%	80%	60%	40%	20%
10°C	1,15	1,25	1,35	1,5	2
20°C	1	1,05	1,15	1,35	1,75
30°C	0,9	1,00	1,05	1,25	1,50
40°C	0,75	0,8	0,9	1	1,35
50°C	0,6	0,63	0,7	0,8	1

냉각팬에 따른 열인자

All sizes - Parallel helical		
Train of gears	Input speed [rpm]	tb
P1H P2H	n1= 1500	1,5
P3H P4H	n1= 1000	1,12

All sizes - Bevel helical		
Train of gears	Input speed [rpm]	tb
B2H B3H B4H	n1= 1500	1,75
	n1= 1000	1,35

8 선정표

성능

파라렐 – 헬리컬 감속기 P1H(1단)

			Gear reducer size i M_{N2} Nm P_{N1} kW						
P1H - n_1 = 1500 min^{-1}	n_{N2}	i_N	180	200	225	250	280	320*	355
	1200	1,25	1,26	1,22	1,28	1,23	1,27	1,25	1,26
			7300	10200	14200	16600	25000	31000	41600
			934	1337	1777	2158	3150	3900	5290
	1071	1,4	1,41	1,37	1,43	1,41	1,43	1,4	1,41
			7900	10700	15200	17500	26300	32000	45200
			903	1254	1708	1993	2946	3600	5134
	938	1,6	1,59	1,63	1,61	1,59	1,62	1,6	1,57
			8600	11500	16000	18400	27700	34000	48600
			870	1131	1596	1859	2740	3350	4964
	833	1,8	1,8	1,84	1,81	1,8	1,83	1,8	1,75
			9400	12000	16800	19400	28900	36000	52200
			835	1048	1485	1724	2533	3150	4784
	750	2	2,04	1,96	2,04	2,04	1,96	2	1,96
			10100	12300	17500	20200	29700	37000	56100
			796	1007	1372	1588	2430	2910	4591
	670	2,24	2,18	2,23	2,17	2,18	2,29	2,24	2,21
			10500	12900	17800	20700	32800	41000	60500
			771	924	1316	1521	2294	2890	4387
	600	2,5	2,55	2,55	2,48	2,52	2,55	2,5	2,5
			11400	13800	18600	22800	33900	42000	65000
			718	870	1203	1450	2131	2650	4168
	536	2,8	2,76	2,76	2,84	2,86	2,76	2,8	2,85
			11600	14100	19300	23700	34600	43000	67500
			671	822	1090	1326	2010	2430	3795
	476	3,15	3,11	3,11	3,06	3,1	3,11	3,15	3,14
			11100	14600	19700	24100	35800	44000	71800
			571	754	1033	1247	1844	2210	3663
	423	3,55	3,63	3,58	3,56	3,5	3,6	3,55	3,57
			10300	14100	19400	24800	36700	45000	72800
			454	629	872	1137	1635	2010	3270
	375	4	3,89	4,12	3,89	3,94	4,06	4	4
			9900	12900	18700	25300	34500	43000	67400
			406	501	772	1029	1362	1700	2699
	333	4,5	4,5	4,5	4,5	4,56	4,41	4,5	4,56
			8900	12200	16900	22800	32500	40000	63600
			316	435	602	800	1183	1410	2236
	300	5	4,94	5,12	5,13	5,13	5,07	5	4,88
			8400	11000	15400	21000	29100	36000	60100
			272	343	482	656	919	1150	1973
	268	5,6	5,73	5,53	5,53	5,53	5,67	5,6	5,67
			7300	11300	14400	19500	26700	33000	52800
			205	327	417	567	756	940	1494

* For this size please contact Technical Support

파라렐 – 헬리컬 감속기 P2H(2단)

			Gear reducer size i M_{N2} Nm P_{N1} kW						
	n_{N2}	i_N	180	200	225	250	280	320*	355
P2H - n_1 = 1500 min^{-1}	268	5,6	5,42	5,41	5,68	5,84	5,52	5,6	5,7
			11500	15900	22000	28900	38000	47000	62800
			348	481	634	810	1128	1330	1804
	238	6,3	6,09	6,09	6,11	6,34	6,21	6,3	6,29
			11200	15200	21300	29100	40100	50000	67300
			300	408	571	750	1057	1260	1751
	211	7,1	7,12	7,01	6,96	7,16	7,22	7,1	7,16
			10400	14200	19300	27200	37700	47000	70000
			240	332	454	623	854	1050	1608
	188	8	7,87	8,06	7,92	7,94	8,02	8	7,98
			11400	14000	22000	27100	40400	50000	68000
			237	284	454	558	825	1000	1399
	167	9	8,54	8,75	9,09	9	8,7	9	9,09
			12000	15200	22500	29500	40400	50000	72200
			230	284	405	537	760	890	1299
	150	10	9,6	9,83	9,78	9,77	9,78	10	10,0
			11500	15500	21800	29800	40400	50000	77600
			196	259	365	498	677	800	1266
	134	11,2	11,2	11,3	11,4	11,0	11,3	11,2	11,4
			10600	14600	20200	27900	38000	47000	75900
			155	211	289	414	549	670	1087
	120	12,5	12,0	13,0	12,4	12,4	12,8	12,5	12,8
			10200	13300	19500	26200	35700	44000	69900
			139	167	256	345	458	570	897
	107	14	14,2	13,5	14,1	13,9	13,6	14	14,3
			9300	13200	19500	25500	34100	42000	70500
			108	161	227	300	410	490	810
	94	16	15,9	15,2	15,1	15,1	15,3	16	15,7
			10500	14900	20900	27600	38400	48000	77700
			108	161	227	300	410	490	810
	83	18	18,6	17,5	17,6	17,0	17,7	18	17,9
			10900	14900	20600	28500	38900	48000	77500
			96	140	191	274	359	430	708
	75	20	19,9	20,1	19,2	19,2	20,0	20	20,0
			10500	13600	19900	26800	36600	45000	71500
			86	111	169	229	299	370	585
	67	22,4	23,1	22,0	22,3	22,2	21,7	22,4	22,8
			9500	13000	18000	24100	34500	43000	67500
			67	97	132	178	260	320	485
	60	25	25,32	25,01	25,36	24,89	24,97	25	24,41
			8900	11600	16400	22300	30700	38000	63800
			57	76	106	146	201	250	428
	54	28	29,38	27,02	27,38	26,88	27,93	28	28,33
			7900	10900	15300	20800	28400	35000	56000
			44	66	91	127	166	210	323

* For this size please contact Technical Support

파라렐 – 헬리컬 감속기 P3H(3단)

			Gear reducer size i M_{N2} Nm P_{N1} kW						
P3H - n_1 = 1500 min^{-1}	n_{N2}	i_N	180	200	225	250	280	320*	355
	60	25	24,0	25,0	24,8	24,6	24,8	25	25,5
			11700	14500	19700	28100	38400	48000	78300
			81	97	133	191	259	320	513
	54	28	29,3	27,16	28,94	27,82	26,93	28	29,1
			12000	15700	23400	30600	39700	49000	78300
			68	97	135	184	246	290	450
	48	31,5	32,5	30,5	31,1	30,2	30,3	31,5	32,1
			10700	16100	22700	30800	39700	49000	78400
			55	88	122	171	219	260	408
	42	35,5	34,3	34,2	35,9	34,1	35,1	35,5	36,5
			11100	15100	20800	28900	39500	49000	78200
			54	74	97	142	188	230	358
	38	40	38,0	39,4	38,9	38,4	39,5	40	40,8
			11000	13700	20200	27300	37700	47000	72600
			48	58	87	119	156	200	297
	33	45	43,2	47,1	44,7	46,1	43,0	45	44,9
			9700	15500	20300	28500	35100	43000	78300
			37	55	76	103	136	160	292
	30	50	48,6	49,2	48,1	50,1	48,3	50	49,5
			11800	16500	21800	31000	39800	49000	78200
			41	56	76	103	138	165	264
	27	56	56,8	54,3	56,1	56,5	54,9	56	56,4
			11200	15400	21400	29800	39800	49000	78300
			33	47	64	88	121	150	231
	24	63	60,8	62,4	61,2	63,7	61,9	63	63,0
			10800	14000	20600	28100	37900	47000	74100
			30	37	56	74	102	130	197
	21	71	70,4	68,2	70,8	71,1	67,3	71	70,4
			9700	13500	18700	27200	35900	44000	74600
			23	33	44	64	89	105	177
	19	80	80,6	75,8	75,6	77,2	75,6	80	77,6
			11100	16000	22400	29500	39800	49000	78100
			23	35	50	64	88	105	168
	17	90	94,2	87,4	88,1	87,1	87,7	90	88,4
			11800	16100	22000	30400	39800	49000	77900
			21	31	42	58	76	95	147
	15	100	101	101	96,2	98,1	98,8	100	98,8
			11300	14600	20900	28400	39000	48000	76100
			19	24	36	48	66	85	129
	13	112	117	110	111	114	107	112	112
			10000	13700	19100	25400	36800	46000	71800
			14	21	29	37	57	70	107
	12	125	128	125	127	128	123	125	121
			9300	12400	17500	23500	32500	40000	67400
			12	17	23	31	44	60	94
	11	140	149	135	137	138	138	140	140
			8300	11600	16200	21800	30000	37000	59900
			9,4	14	20	26	36	50	72

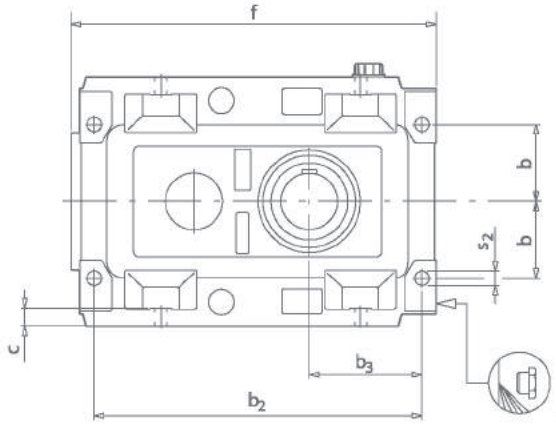
* For this size please contact Technical Support

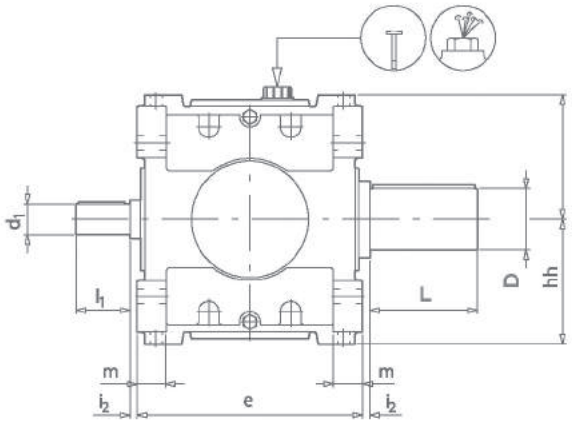
파라렐 – 헬리컬 감속기 P4H(4단)

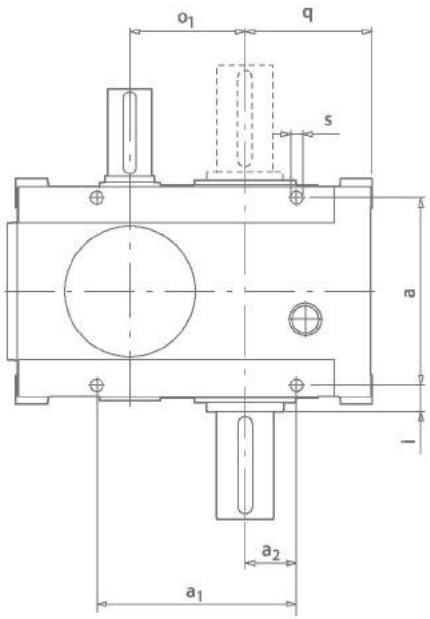
			Gear reducer size i M_{N2} Nm P_{N1} kW						
P4H - n_1 = 1500 min^{-1}	n_{N2}	i_N	180	200	225	250*	280	320*	355
	15	100	97	100	100	100	98	100	97
			11900	16800	23700	29000	39000	48000	76400
			21	29	417	50	68	85	134
	13	112	110	106	114	112	113	112	111
			11300	15700	21400	26000	38600	48000	76300
			18	25	32	40	58	70	118
	12	125	122	122	125	125	127	125	124
			11800	14200	21000	26000	38600	48000	75000
			17	20	29	35	52	65	103
	11	140	138	145	143	140	136	140	141
			9800	15900	24900	24900	36700	45000	76500
			12	19	30	33	46	58	92
	9,4	160	155	152	154	160	153	160	152
			12000	16700	23800	29000	38400	48000	76600
			13	19	26	33	43	52	86
	8,3	180	182	176	177	180	177	180	174
			11700	15800	21700	27000	38800	48000	76000
			11	15	21	27	37	45	75
	7,5	200	195	192	193	200	199	200	194
			11800	14800	21200	26000	38500	48000	75000
			10	13	19	25	33	42	66
	6,7	224	221	230	221	224	216	224	222
			10300	16300	21300	26000	37700	47000	75700
			7,9	12	17	21	30	36	58
	6,0	250	249	239	237	250	243	250	244
			11500	12500	23000	28000	39200	49000	75600
			7,9	8,9	17	21	28	35	53
	5,4	280	291	265	277	280	282	280	278
			12000	16400	23200	29000	38100	47000	75300
			7	11	14	19	23	30	46
	4,8	315	302	304	302	315	318	315	311
			12000	14900	21400	26000	38900	48000	76200
			6,8	8,4	12	15	21	27	42
	4,2	355	361	370	350	355	345	355	356
			10500	16700	19600	24000	37800	47000	75700
			5	7,7	9,6	14	19	24	36
	3,8	400	413	379	398	400	388	400	393
			12000	12700	18000	22000	40000	50000	75900
			5	5,7	7,7	10	18	23	33
	3,3	450	460	426	435	450	450	450	447
			8600	16700	23300	29000	37700	47000	74900
			3,2	6,7	9,1	12	14	20	29
	3,0	500	483	490	475	500	507	500	500
			12400	15200	22300	27000	39200	49000	74100
			4,4	5,3	8	10	13	18	25
	2,7	560	540	536	550	560	552	560	569
			11600	14500	20200	25000	39100	48000	77000
			3,5	4,6	6,3	9	12	16	23
	2,4	630	598	610	626	630	633	630	610
			10800	13000	18600	23000	34700	43000	70800
			3,1	3,6	5,1	7	9,4	13	20
	2,1	710	762	659	676	710	708	710	708
			8800	12300	17000	21000	31900	39000	63900
			2	3,2	4,3	5,5	7,7	11	15

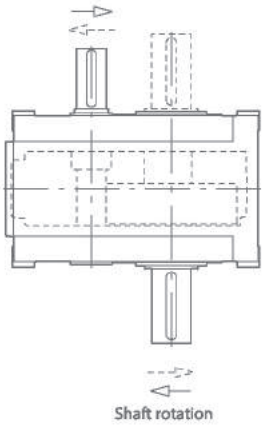
* For this size please contact Technical Support

P1H(1단) 치수







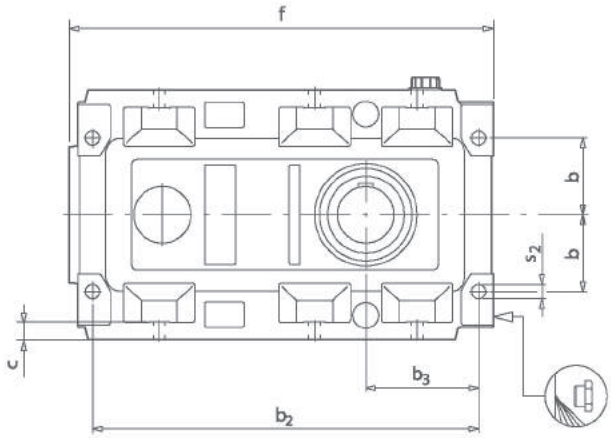


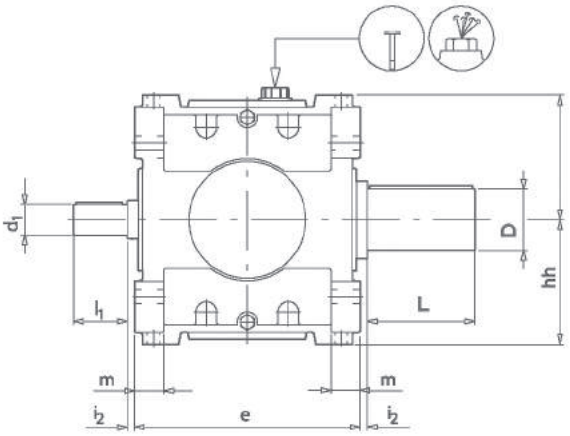
공기와 오일 배출 플러그는 취부위치에 따른다.

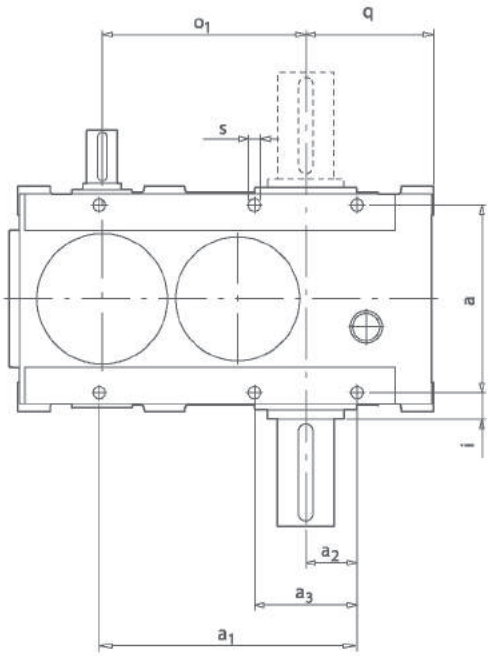
																					Nominal ratio i_n			
																					i ≤ 3,15		i>3,15	
Size	[kg]	a	a_1	a_2	b	b_2	b_3	c	e	f	h	i	i_2	m	o_1	q	s	s_2	D	L	d_1	l_1	d_1	l_1
180	365	306	306	85	130	530	190	30	360	591	198	32	5	48	180	210	22	22	100	210	70	140	65	140
200	370	335	353	95	145	577	200	32	400	643	220	37.5	5	53	200	223	22	26	110	210	85	170	70	140
225	585	366	390	100	150	640	220	35	440	713	243	42	5	57	225	248	24	28	120	210	90	170	75	140
250	750	386	450	125	210	720	255	32	480	821	300	52	5	56	250	285	24	28	130	250	110	210	90	170
280	950	430	520	135	230	805	270	34	530	895	320	55	5	60	280	308	26	30	140	250	115	210	95	170
320	1125	470	685	160	240	908	303	34	580	1015	340	60	5	80	320	348	26	32	160	300	120	210	100	210
355	1315	495		200	285		380	45	630		390	72.5	5	60	355	430	35	35	180	300				

제품 중량은 상기 Table에 나타난다.
제품치수는 예고없이 변경될 수 있다.
치수가 없는 부분은 본사로 확인 바람.

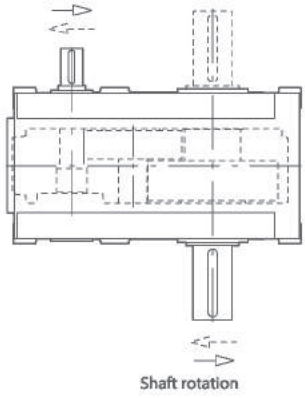
P2H(2단) 치수







공기와 오일 배출 플러그는 취부위치에 따른다.



																						Nominal ratio i_n			
																						i < 14		i ≥ 14	
Size	[kg]	a	a_1	a_2	a_3	b	b_2	b_3	c	e	f	h	i	i_2	m	o_1	q	s	s_2	D	L	d_1	l_1	d_1	l_1
180	385	306	410	85	-	130	634	190	30	360	695	198	32	5	48	317	210	22	22	100	210	50	110	45	110
200	500	335	450	95	190	145	674	200	32	400	740	220	37.5	5	53	352	223	22	26	110	210	55	110	50	110
225	665	366	503	100	200	150	753	220	35	440	827	243	42	5	57	397	248	24	28	120	210	65	140	60	140
250	855	386	570	125	250	210	830	255	32	480	910	300	52	5	67	440	285	24	28	130	250	70	140	65	140
280	970	430	635	135	270	230	966	270	34	530	1050	320	55	5	80	493	308	26	30	140	250	75	140	70	140
320	1350	470	725	160	320	240	1048	303	34	580	1155	340	60	5	80	554	348	26	32	160	300	80	170	75	140
355	1865	495	825	200	400	285	1220	380	45	630	1335	390	72.5	5	60	625	430	35	35	180	300	90	170	80	170

제품 중량은 상기 Table에 나타난다.
제품치수는 예고없이 변경될 수 있다.
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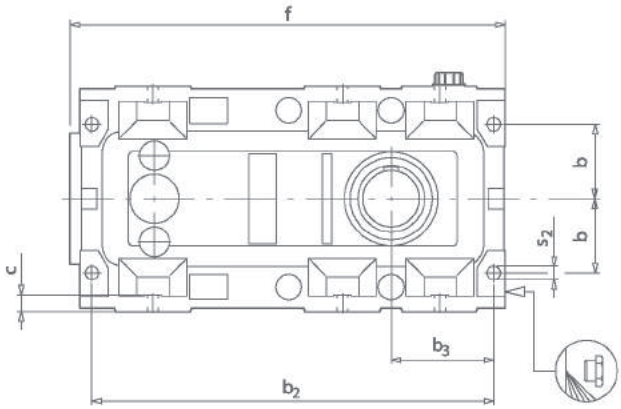
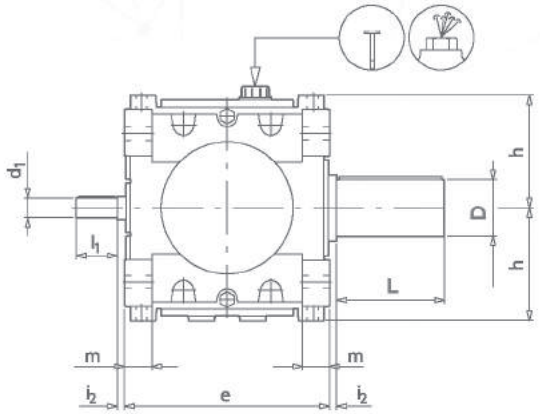
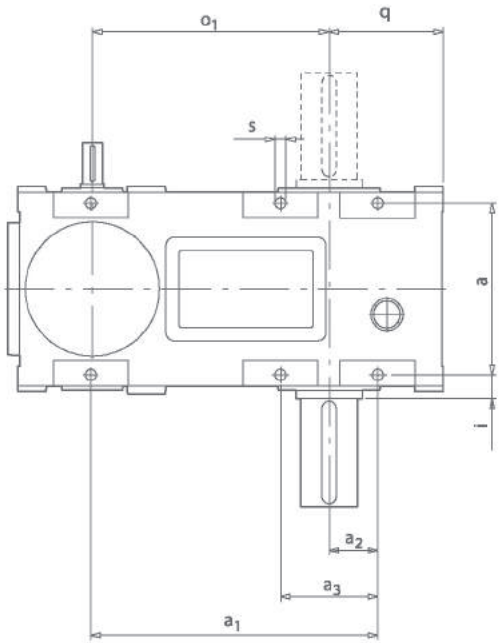
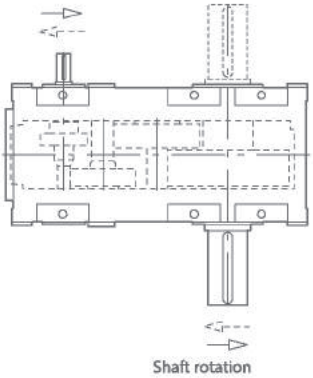
P3H(3단) 치수







공기와 오일 배출 플러그는 취부위치에 따른다.



Size	[kg]	a	a_1	a_2	a_3	b	b_2	b_3	c	e	f	h	i	i_2	m	o_1	q	s	s_2	D	L	d_1	l_1
180	412	306	497	90	180	130	716	190	30	360	777	198	32	5	48	416	210	22	22	100	210	32	80
200	475	335	560	95	190	145	785	200	32	400	845	220	37.5	5	53	462	223	22	26	110	210	38	80
225	715	366	618	100	200	150	868	220	35	440	941	243	42	5	57	527	248	24	28	120	210	42	110
250	1050	386	710	125	270	210	970	255	32	480	1048	300	52	5	67	577	285	24	28	130	250	45	110
280	1320	430	790	135	270	230	1070	270	34	530	1160	320	55	5	60	647	308	26	30	140	250	50	110
320	1650	470	900	160	320	240	1223	303	34	580	1330	340	60	5	80	727	348	26	32	160	300	55	110
355	2090	495	1030	200	400	285	1395	380	45	630	1510	390	72.5	5	60	820	430	35	35	180	300	65	140

제품 중량은 상기 Table에 나타난다.
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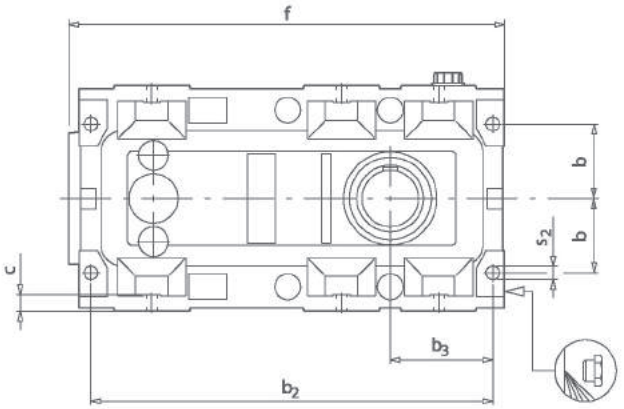
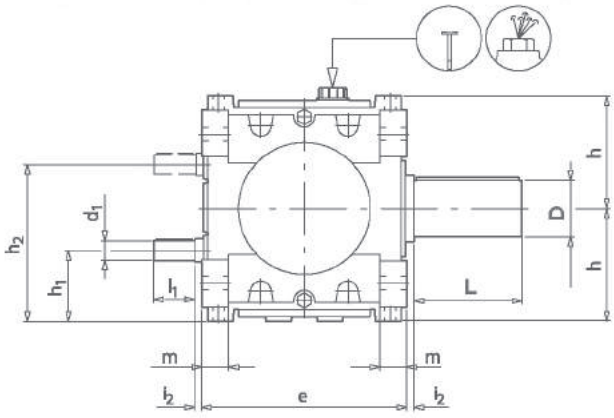
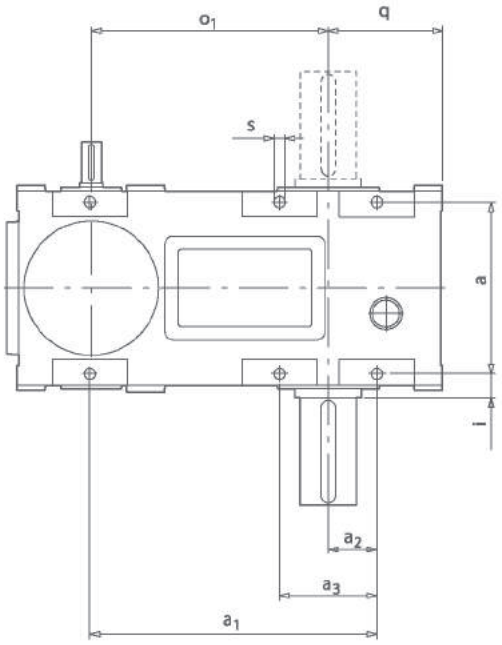
치수가 없는 부분은 본사로 확인 바람.

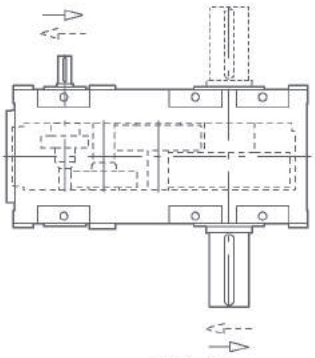
P4H(4단) 치수







공기와 오일 배출 플러그는 취부위치에 따른다.



Size	[kg]	a	a_1	a_2	a_3	b	b_2	b_3	c	e	f	h	h_1	h_2	i	i_2	m	o_1	q	s	s_2	D	L	d_1	l_1
180	475	306	497	90	180	130	716	190	30	360	777	198	123	273	32	5	48	416	210	22	22	100	210	28	60
200	540	335	560	95	190	145	785	200	32	400	845	220	136	304	37.5	5	53	462	223	22	26	110	210	28	60
225	800	366	618	100	200	150	868	220	35	440	941	243	164	340	42	5	57	527	248	24	28	120	210	32	80
250	1170	386	710	125	270	210	970	255	32	480	1048	300	200	400	52	5	67	577	285	24	28	130	250	35	80
280	1455	430	790	135	270	230	1070	270	34	530	1160	320	212	428	55	5	60	599.5	308	26	30	140	250	38	80
320	1845	470	900	160	320	240	1223	303	34	580	1330	340	208	472	60	5	80	727	348	26	32	160	300	45	110
355	2335	495	1030	200	400	285	1395	380	45	630	1510	390	254	526	72.5	5	60	759.1	430	35	35	180	300	48	110

제품 중량은 상기 Table에 나타난다.
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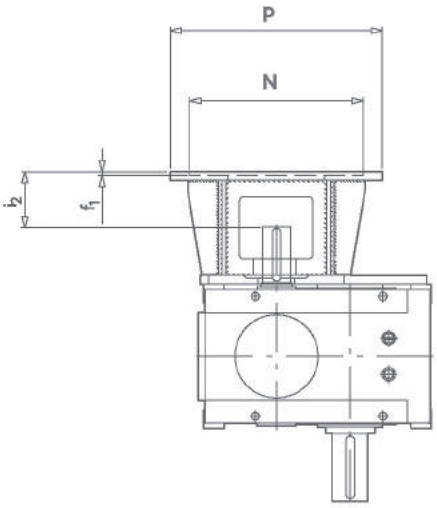
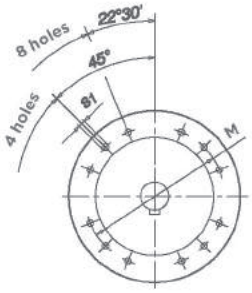
치수가 없는 부분은 본사로 확인 바람.

벨 커플링 입력

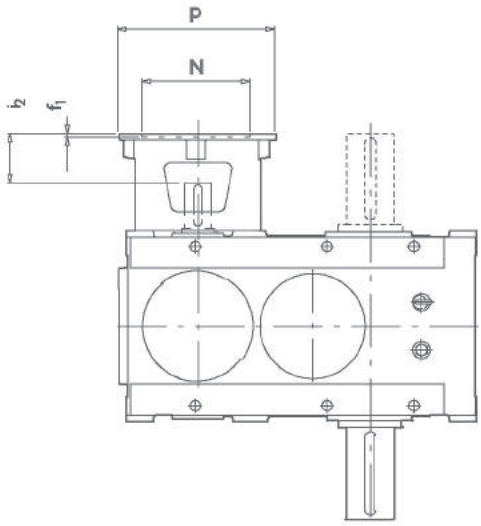
P1H(1단) 치수

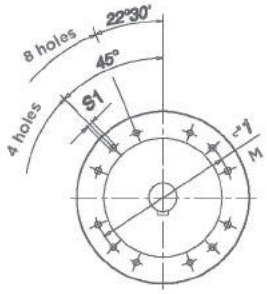




Size	d_{max}	P	N	M	f1	i2	s1	Nr. holes
180	75	550	450	500	10	147	M16	8

P2H(2단) 치수



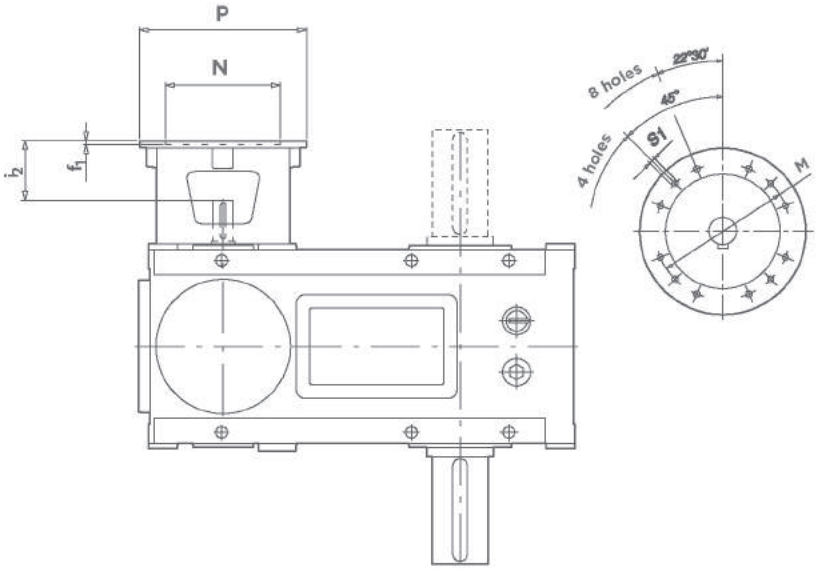


Size	d_{max}	P	N	M	f1	i2	s1	Nr. holes
180	75	350	250	300	8	115	M16	4
		*400	300	350	6	141	M16	4
		*450	350	400	6	144	M16	8
		*550	450	500	7	157	M16	8
200	75	350	250	300	6	122	M16	4
		*400	300	350	7	151	M16	4
		*450	350	400	6	151	M16	8
		*550	450	500	7	155	M16	8
225	75	350	250	300	6	117	M16	4
		*400	300	350	6	121	M16	4
		*450	350	400	6	144	M16	8
		*550	450	500	7	147	M16	8
250	75	350	250	300	8	117	M16	4
		*400	300	350	7	146	M16	4
		*450	350	400	6	147	M16	8
		*550	450	500	7	150	M16	8
280	60	450	350	400	6	126	M16	8

* With adaptation supplement

벨 커플링 입력

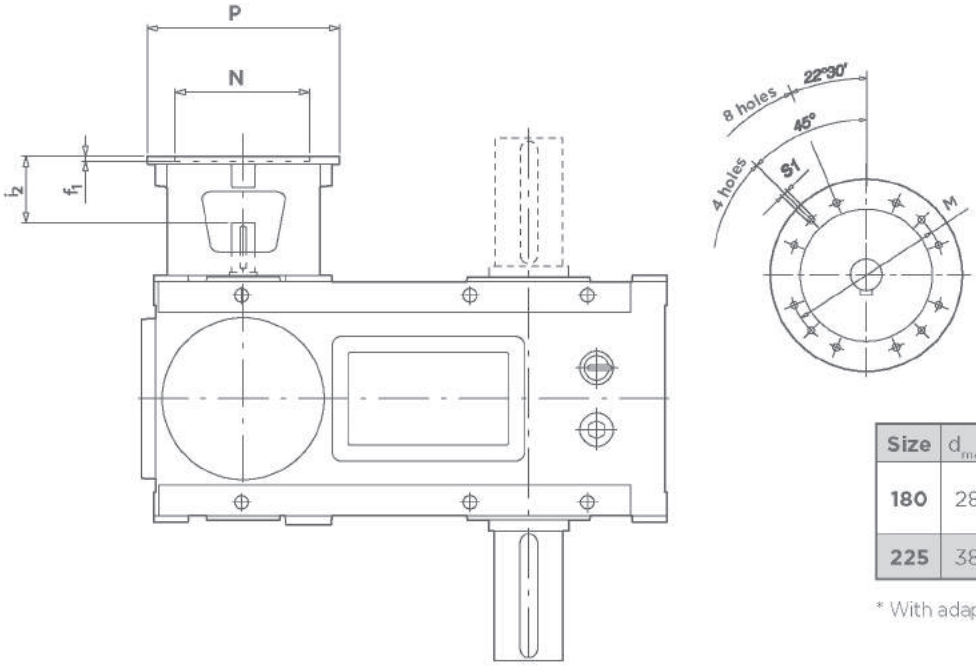
P3H(3단) 치수



Size	d_{max}	P	N	M	f1	i2	s1	Nr. holes
180	48	250	180	215	7	92	M12	4
		300	230	265	7	96	M12	4
		*350	250	300	6	126	M16	4
200	48	300	230	265	5	84	M12	8
		*350	250	300	6	114	M16	4
225	75	350	250	300	16	122	M16	4
		*400	300	350	7	148	M16	4
		*450	350	400	7	151	M16	8
		*550	450	500	7	155	M16	8
250	75	350	250	300	8	117	M16	8
		*400	300	350	7	146	M16	4
		*450	350	400	6	147	M16	8
		*550	450	500	7	172	M16	8
280	60	350	250	300	8	118	M16	8
		*450	350	400	6	148	M16	8

* With adaptation supplement

P4H(4단) 치수



Size	d_{max}	P	N	M	f1	i2	s1	Nr. holes
180	28	200	130	165	16	74	M10	4
		*250	180	215	6	97	M12	4
225	38	300	230	265	7	118	M12	4

* With adaptation supplement

베벨 헬리컬 감속기 – B2H(2단)

			Gear reducer size i M_{N2} Nm P_{N1} kW						
B2H - n_1 = 1500 min^{-1}	n_{N2}	i_N	180	200	225	250	280	320*	355*
	268	5,6	5,81	5,81	5,2	5,31	5,81	5,6	5,6
			7300	9300	11700	16400	22100	27000	34000
			207	262	369	504	622	800	900
	238	6,3	6,54	6,54	6,43	6,53	6,54	6,3	6,3
			8300	10500	14500	20100	24800	30000	38000
			207	262	369	504	622	800	1000
	211	7,1	7,65	7,53	7,5	7,37	7,58	7,1	7,1
			9700	12000	16900	22400	28800	35000	44000
			207	262	369	498	622	820	1020
	188	8	8,19	8,67	8,19	8,3	8,54	8	8
			10000	13100	18400	24400	32400	40000	50000
			200	246	369	482	622	830	1030
	167	9	9,47	9,21	9,47	8,81	9,29	9	9
			9000	10500	17200	19900	33100	40500	50500
			156	210	297	370	583	760	930
	150	10	10,4	9,76	9,60	9,60	9,54	10	10
			8500	8700	12400	23200	26000	31500	39500
			134	146	211	395	447	540	660
	134	11,2	11,4	10,8	11,2	10,8	11,1	11,2	11,2
			8100	11200	14500	21300	30200	36500	46000
			117	169	211	323	447	540	690
	120	12,5	12,2	12,9	12,2	12,2	12,5	12,5	12,5
			8700	11600	15800	24600	34000	41500	52000
			117	146	211	331	447	550	690
	107	14	14,1	14,1	14,1	14,1	13,6	14	14
			9200	12600	17500	23600	33700	41000	51500
			107	146	202	275	407	490	610
	94	16	15,5	16,1	16,1	15,8	15,6	16	16
			8700	11400	16000	21700	30000	36500	45500
			91	116	163	225	316	385	490
	83	18	18,0	17,4	17,4	17,1	17,4	18	18
			7600	10600	15000	20300	27600	33500	42000
			69	100	141	194	260	315	390
	75	20	19,0	20,1	19,0	18,8	19,9	20	20
			6000	7700	9500	16800	27800	33500	42500
			52	63	81	146	229	280	355
	67	22,4	22,0	22,0	22,0	21,8	21,6	22,4	22,4
			7000	8400	10900	19400	30200	36500	46000
			52	63	81	146	229	275	345
	60	25	24,2	25,1	25,1	24,5	24,8	25	25
			7600	9600	12500	21800	30700	37000	46500
			52	63	81	146	202	250	310
	54	28	28,0	27,1	27,1	26,4	27,8	28	28
			7700	10400	13500	20700	28400	34500	43000
			45	63	81	128	167	210	260

* For this size please contact Technical Support

베벨 헬리컬 감속기 – B3H(3단)

			Gear reducer size i M_{N2} Nm P_{N1} kW						
B3H - n_1 = 1500 min^{-1}	n_{N2}	i_N	180	200	225	250	280	320*	355*
	60	25	25,3	23,9	24,0	26,2	23,9	25	25
			9400	12000	16300	26000	36500	44500	56000
			62	85	113	168	255	300	375
	54	28	27,5	27,5	29,6	29,2	26,9	28	28
			8700	13600	19700	25800	36000	44000	55000
			53	83	111	147	226	270	330
	48	31,5	29,8	31,9	31,8	31,7	32,2	31,5	31,5
			9400	15100	21200	28000	39000	47500	59500
			53	79	111	147	202	260	320
	42	35,5	33,5	36,8	37,1	35,8	37,4	35,5	35,5
			10600	15300	21000	29000	40000	49000	61500
			53	69	95	135	177	230	290
	38	40	39,2	42,3	40,5	40,3	39,2	40	40
			11100	13900	20300	27300	35600	43500	54500
			47	55	84	113	152	190	230
	33	45	44,5	46,3	44,2	47,3	47,0	45	45
			9100	13100	16900	25500	40000	49000	61500
			34	47	64	90	141	175	230
	30	50	50,0	47,7	47,5	50,7	49,0	50	50
			10200	12900	18100	22700	31300	38000	47500
			34	45	64	75	107	130	170
	27	56	58,5	54,9	55,4	53,4	54,5	56	56
			11200	14800	21100	28800	39500	48500	60500
			32	45	64	90	121	150	190
	24	63	62,6	63,2	60,5	60,2	61,4	63	63
			10700	14100	20700	27700	38000	46500	58000
			29	37	57	77	103	130	160
	21	71	72,5	69,1	70,0	69,7	66,8	71	71
			9500	13600	18400	25200	35600	43500	54500
			22	33	44	61	89	105	130
	19	80	79,6	78,6	79,7	78,2	76,7	80	80
			9400	11900	16800	23200	31800	38500	48500
			20	25	35	50	69	85	105
	17	90	91,0	85,4	86,2	85,2	86,7	90	90
			10200	12400	16000	21300	39400	48000	60500
			19	24	32	42	76	95	120
	15	100	97,4	98,3	100	93,7	97,7	100	100
			10900	14200	17000	24000	38600	47000	59000
			19	24	30	43	66	80	105
	13	112	113	107	109	108	106	112	112
			9600	13400	19300	25700	36400	44500	55500
			14	21	30	40	57	70	90
	12	125	124	122	124	122	122	125	125
			9800	12000	17100	23200	33000	40000	50500
			13	17	23	32	45	55	70
	11	140	144	132	134	131	137	140	140
			8200	11300	15900	21600	30000	36500	45500
			9,6	14	20	28	36	45	60

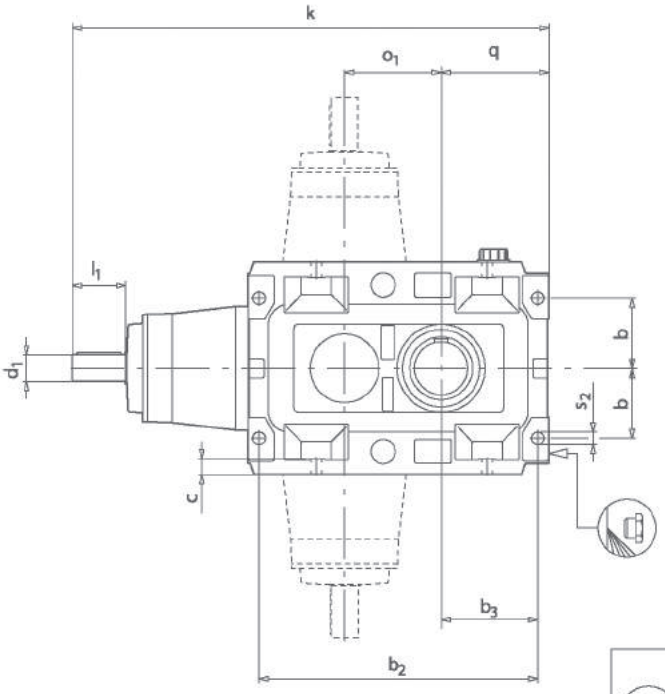
* For this size please contact Technical Support

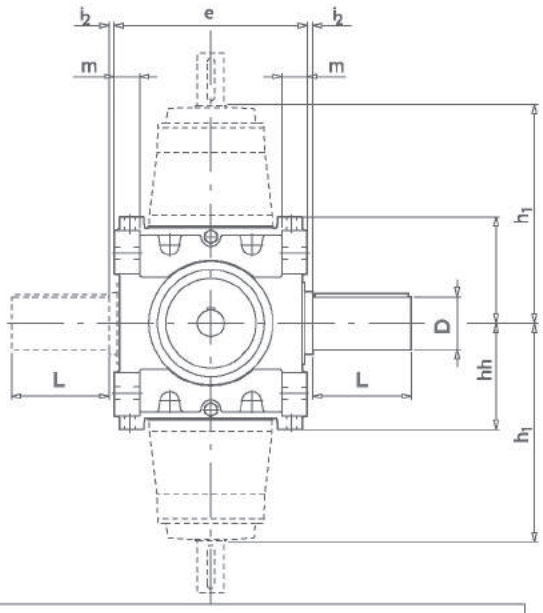
베벨 헬리컬 감속기 – B4H(4단)

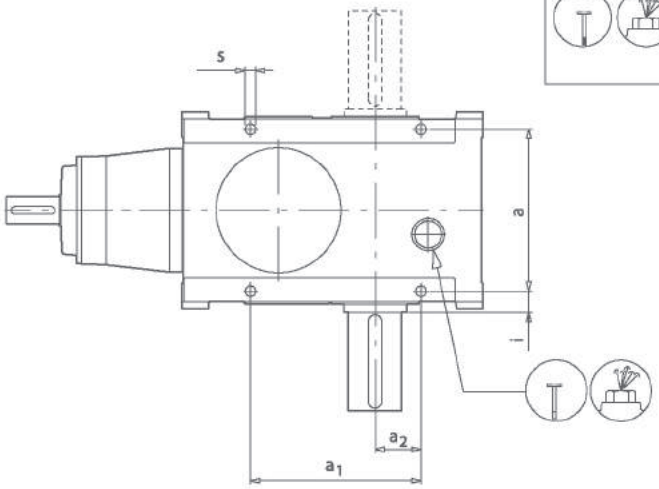
			Gear reducer size i M_{N2} Nm P_{N1} kW						
B4H - n_1 = 1500 min^{-1}	n_{N2}	i_N	180	200	225	250*	280	320*	355
	15	100	102	104	97,8	100	102	100	104
			11900	16700	21400	25500	37900	46000	76400
			20	28	37	44	64	80	125
	13	112	115	114	113	112	109	112	112
			9700	15000	21800	26000	28800	35000	76600
			14	23	33	40	45	52	117
	12	125	120	119	120	125	121	125	118
			11600	16100	21600	26000	32100	39000	76300
			17	23	31	40	45	54	110
	11	140	136	148	141	140	133	140	138
			10500	16200	20800	25000	38400	47000	76400
			13	19	25	32	50	60	95
	9,4	160	153	155	151	160	159	160	152
			11800	16900	22400	27000	38900	47500	76400
			13	19	25	30	42	50	86
	8,3	180	170	171	176	180	172	180	173
			10900	16000	22700	27000	38800	47500	76000
			11	17	22	25	39	45	75
	7,5	200	198	196	191	200	190	200	194
			11800	15200	21000	25000	39200	48000	76100
			10	13	19	22	35	40	67
	6,7	224	212	212	235	224	232	224	220
			11400	15000	22700	27000	38900	47500	76500
			9,1	12	17	22	29	35	59
	6,0	250	253	238	252	250	237	250	243
			11600	16900	17900	21500	38100	46500	76600
			7,8	12	12	15	28	32	54
	5,4	280	278	265	274	280	269	280	271
			12000	116400	23000	27500	38100	46500	75200
			7,4	11	14	18	24	29	47
	4,8	315	297	305	299	315	303	315	303
			11500	14900	21200	25500	39100	47500	76200
			6,6	8,4	12	15	22	26	43
	4,2	355	344	371	346	355	371	355	345
			10400	12700	18000	21500	38200	46500	75500
			5,2	7,7	9,7	12	18	22	37
	3,8	400	394	380	394	400	379	400	380
			11900	12700	18000	21500	34200	41500	76000
			5,2	5,7	7,8	9,7	15	18	34
	3,3	450	461	427	431	450	430	450	433
			12200	16800	23000	27500	38700	47500	75300
			4,5	6,7	9,1	12	15	18	30
	3,0	500	493	491	470	500	484	500	484
			11800	15200	22400	27000	37000	45000	75000
			4,1	5,3	8,1	9,7	13	18	26
	2,7	560	571	537	544	560	545	560	551
			10700	14500	20300	24000	31000	39000	74600
			3,2	4,6	6,4	8,1	9,7	13	23
	2,4	630	627	612	620	630	605	630	620
			10100	13000	18400	22000	34700	42000	54000
			2,8	3,6	5,1	6,4	9,8	12	15
	2,1	710	727	660	669	710	676	710	685
			8900	12300	17200	20500	31800	39000	61800
			2,1	3,2	4,4	5,1	8	9,7	15

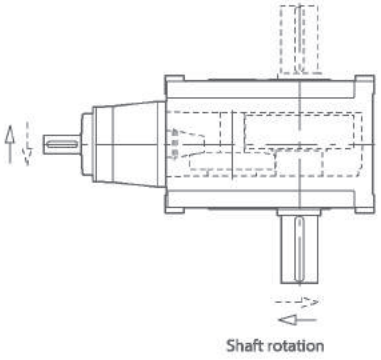
* For this size please contact Technical Support

B2H(2단) 치수







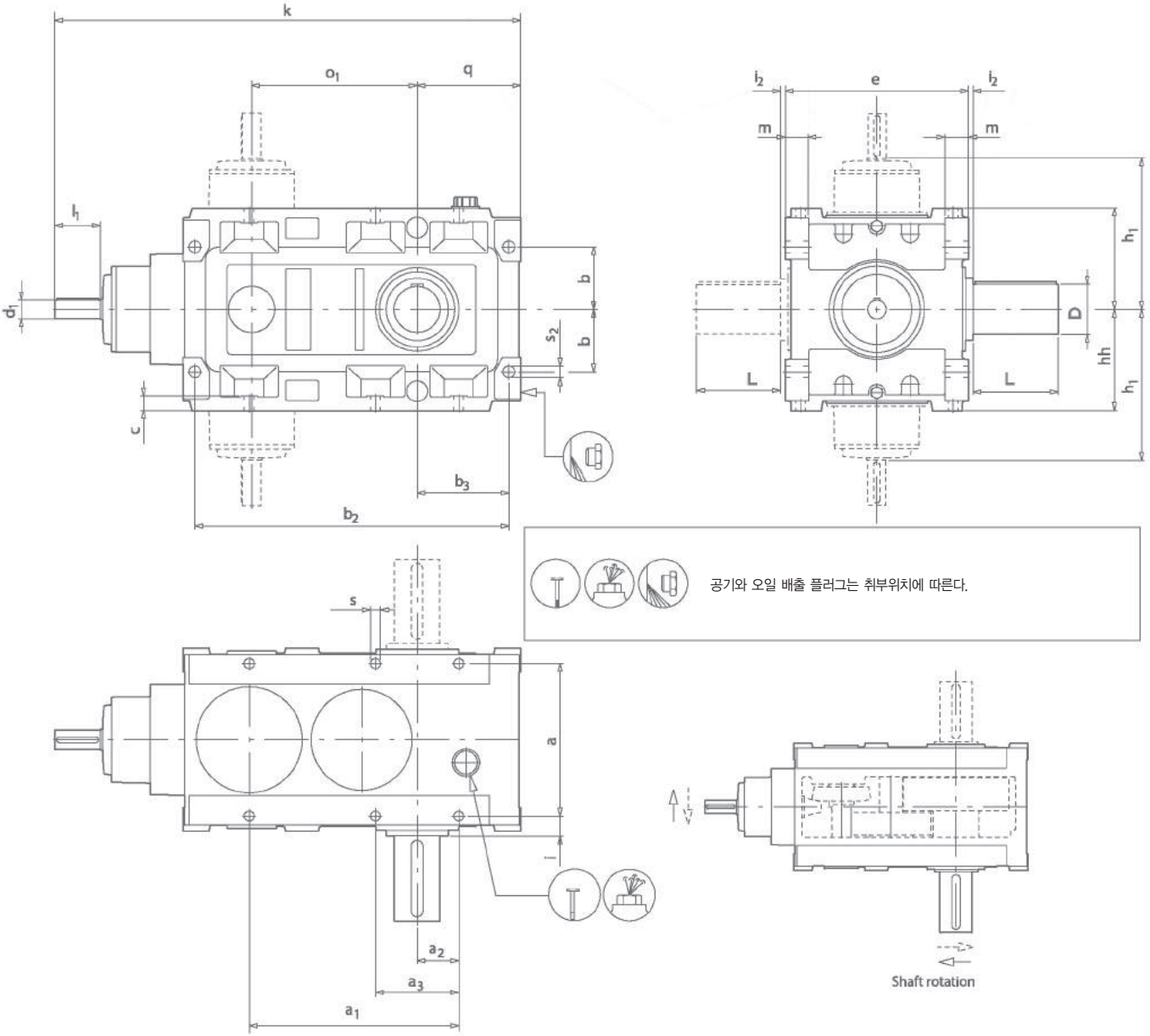


공기와 오일 배출 플러그는 취부위치에 따른다.

Size	[kg]	a	a_1	a_2	b	b_2	b_3	c	e	h	h_1	i	i_2	k	m	o_1	q	s	s_2	D	L	d_1	l_1
180	375	306	306	85	130	530	190	30	360	198	420	32	5	920	48	180	210	22	22	100	210	48	110
200	490	335	353	95	145	577	200	32	400	220	453	37.5	5	986	53	200	223	22	26	110	210	55	110
225	660	366	390	100	150	640	220	35	440	243	486	42	5	1099	57	225	248	24	28	120	210	60	140
250	810	386	450	125	210	720	255	32	480	300	522	52	5	1195	67	250	285	24	28	130	250	65	140
280	990	430	520	135	230	805	270	34	530	320	587	55	5	1315	60	280	308	26	30	140	250	70	140
320	1230	470	685	160	240	908	303	34	580	340	590	60	5	1410	80	315	348	26	32	160	300	80	170
355	1510																						

제품 중량은 상기 Table에 나타난다.
제품치수는 예고없이 변경될 수 있다.
치수가 없는 부분은 본사로 확인 바람.

B3H(3단) 치수



공기와 오일 배출 플러그는 취부위치에 따른다.

Size	[kg]	a	a_1	a_2	a_3	b	b_2	b_3	c	e	h	h_1	i	i_2	k	m	o_1	q	s	s_2	D	L	d_1	l_1
180	435	306	410	85	-	130	634	190	30	360	198	319	32	5	925	48	317	210	22	22	100	210	38	80
200	530	335	450	95	190	145	674	200	32	400	220	348	37.5	5	1033	53	352	223	22	26	110	210	42	110
225	680	366	503	100	200	150	753	220	35	440	243	373	42	5	1128	57	397	248	24	28	120	210	48	110
250	980	386	570	125	250	210	830	255	32	480	300	390	52	5	1225	67	440	285	24	28	130	250	55	110
280	1110	430	635	135	270	230	966	270	34	530	320	450	55	5	1391	80	493	308	26	30	140	250	60	140
320	1470																							
355	1970	495	825	200	400	285	1220	380	45	630	390	550	72.5	5	1765	60	625	430	35	35	180	300	75	140

제품 중량은 상기 Table에 나타난다.
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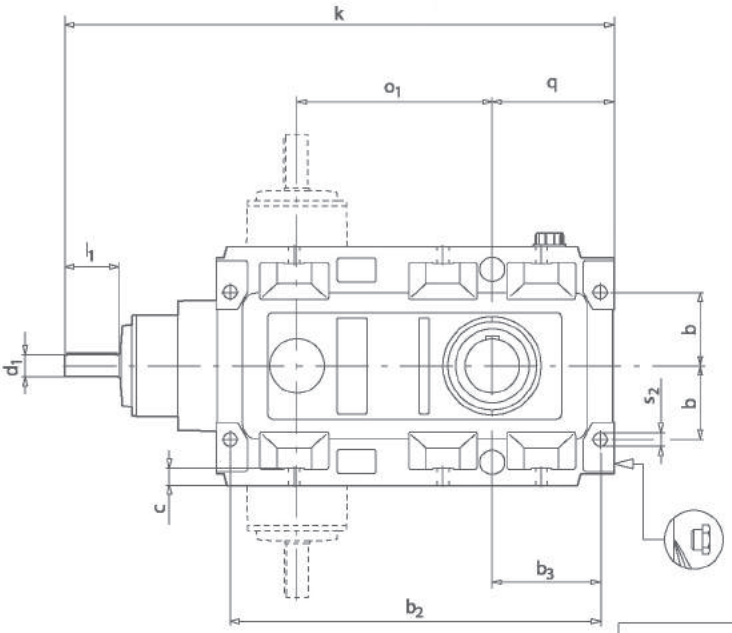
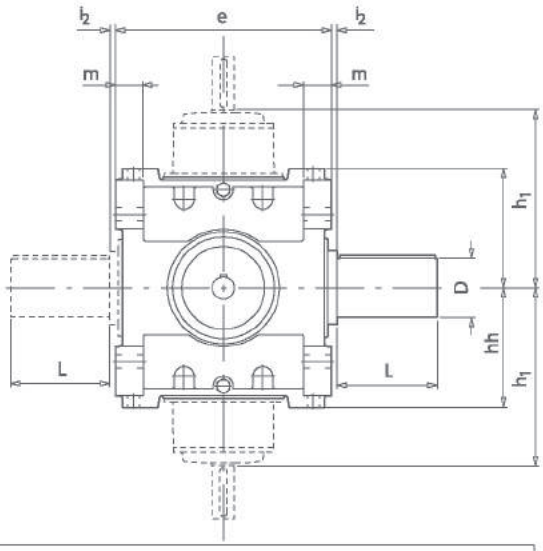
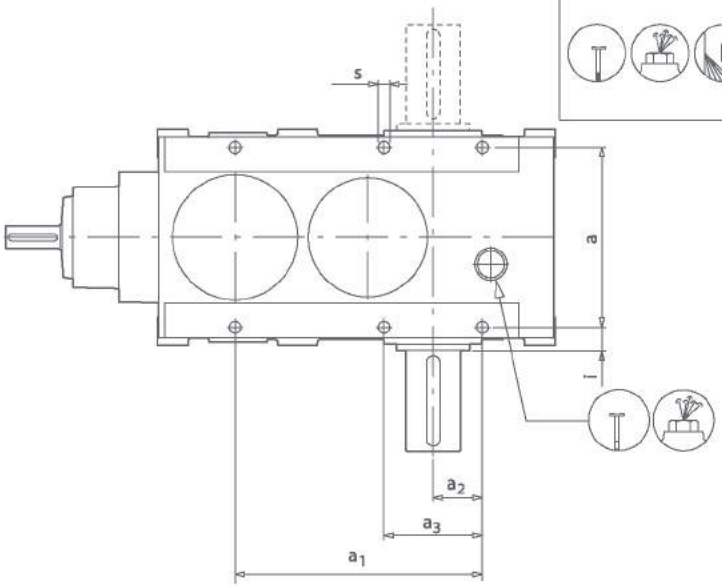
치수가 없는 부분은 본사로 확인 바람.

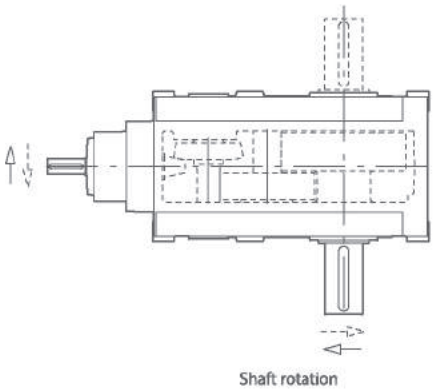
B4H(4단) 치수





공기와 오일 배출 플러그는 취부위치에 따른다.



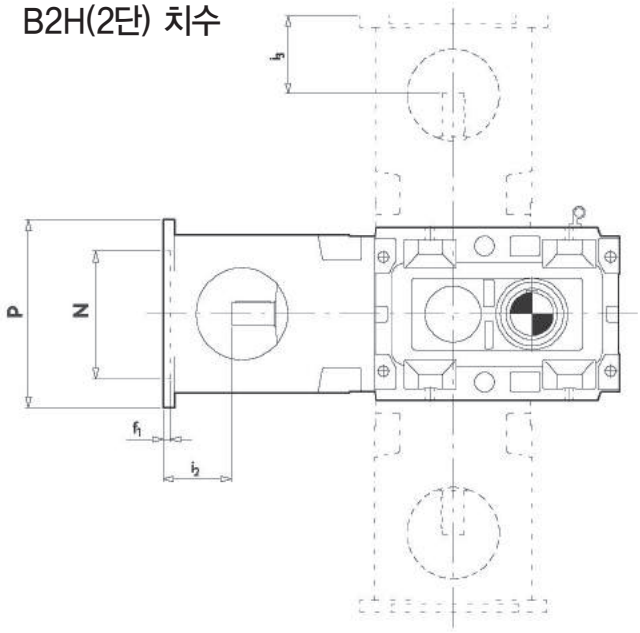


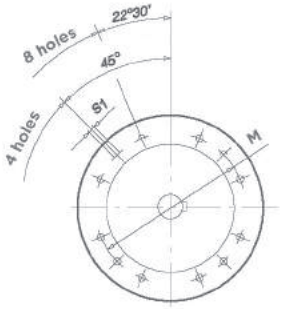
Size	[kg]	a	a_1	a_2	a_3	b	b_2	b_3	c	e	h	h_1	i	i_2	k	m	o_1	q	s	s_2	D	L	d_1	l_1
180	475	306	497	90	180	130	716	190	30	360	198	270	32	5	956	48	416	210	22	22	100	210	28	60
200	545	335	560	95	190	145	785	200	32	400	220	335	37.5	5	1068	53	457.2	223	22	26	110	210	32	80
225	810	366	618	100	200	150	868	220	35	440	243	348	42	5	1203	57	527	248	24	28	120	210	38	80
250	1190																							
280	1470	430	790	135	270	230	1070	270	34	530	320	493	55	5	1478	60	624.6	308	26	30	140	250	42	110
320	1870																							
355	2360	495	1030	200	400	285	1395	380	45	630	390	575	72.5	5	1830	60	789.3	430	35	35	180	300	50	110

제품 중량은 상기 Table에 나타난다.
제품치수는 예고없이 변경될 수 있다.
치수가 없는 부분은 본사로 확인 바람.

벨 커플링 입력

B2H(2단) 치수

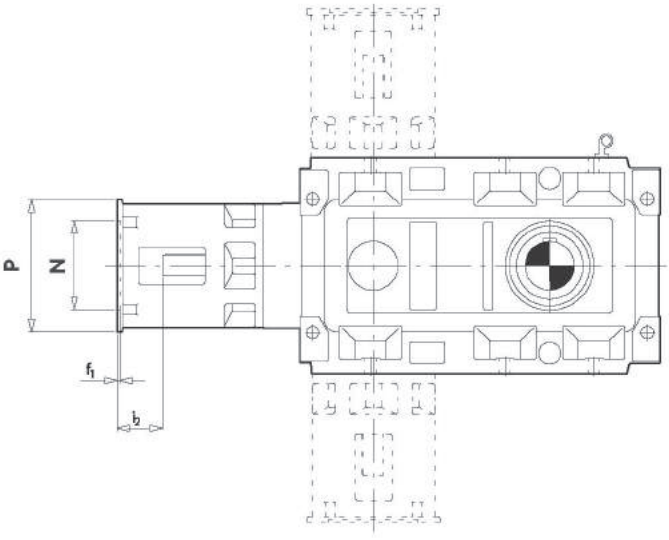




Size	d_{max}	P	N	M	f1	i2	i3	s1	Nr. holes
180	60	350 *400 *450	250 300 350	300 350 400	6 7 6	114 143 144	132 162	M16 M16 M16	8 4 8
200	55	400	300	350	6	116		M16	8
225	60	450	350	400	6	129	149	M16	8

* With adaptation supplement

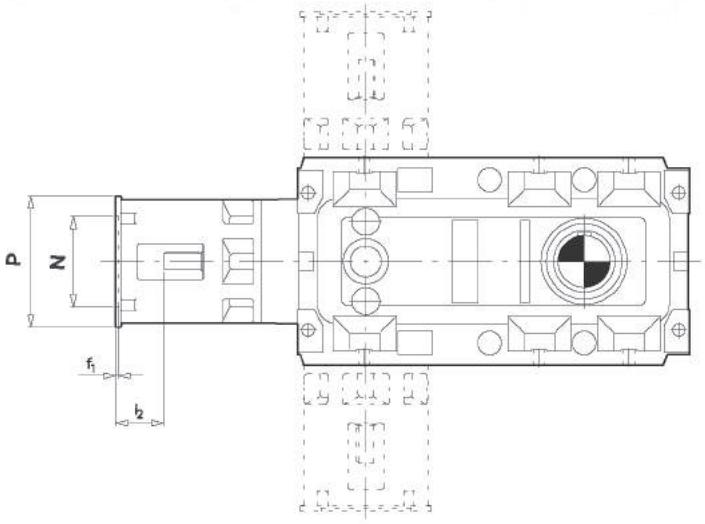
B3H(3단) 치수

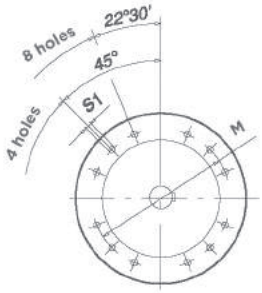


Size	d_{max}	P	N	M	f1	i2	s1	Nr. holes
180	48	250 300 350	180 230 250	215 265 300	5 5 6	62 84 114	M12 M12 M16	4
200	60	*350 *400 450	250 300 350	300 350 400	6 6 6	114 124 147	M16 M16 M16	4 4 8
225	55	350 *400	250 300	300 350	6 7	115 143	M16 M16	4 4
250	60	350 *400 *450	250 300 350	300 350 400	7 7 7	144 173 173	M16 M16 M16	8 8 8
280	75	350 *450 *550	250 350 450	300 400 500	7 6 7	114 149 147	M16 M16 M16	8 8 8

* With adaptation supplement

B4H(4단) 치수



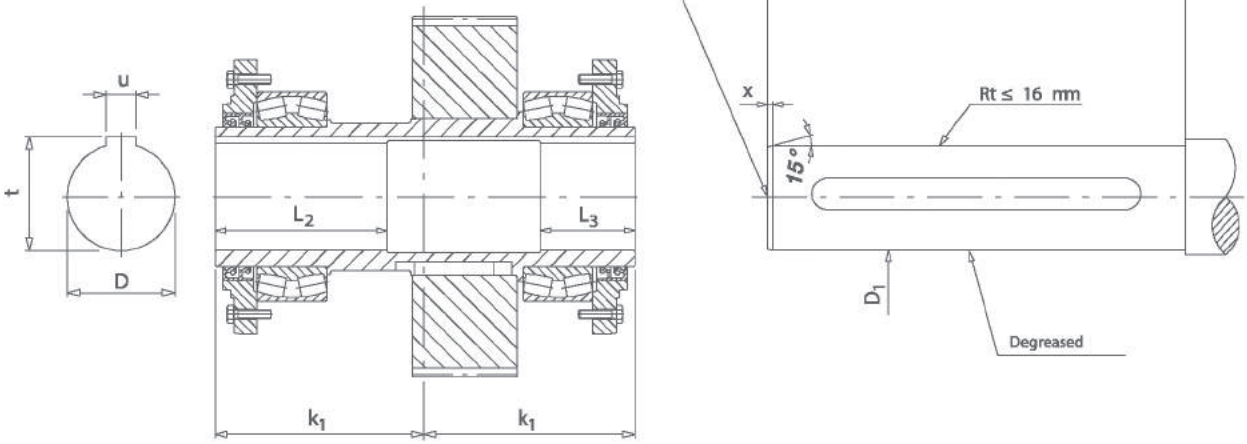


Size	d_{max}	P	N	M	f1	i2	s1	Nr. holes
180	28	200 *250	130 180	165 215	18 8	74 97	M10 M12	4 4
280	48	300 *350	230 250	265 300	5 6	84 114	M12 M16	8 4

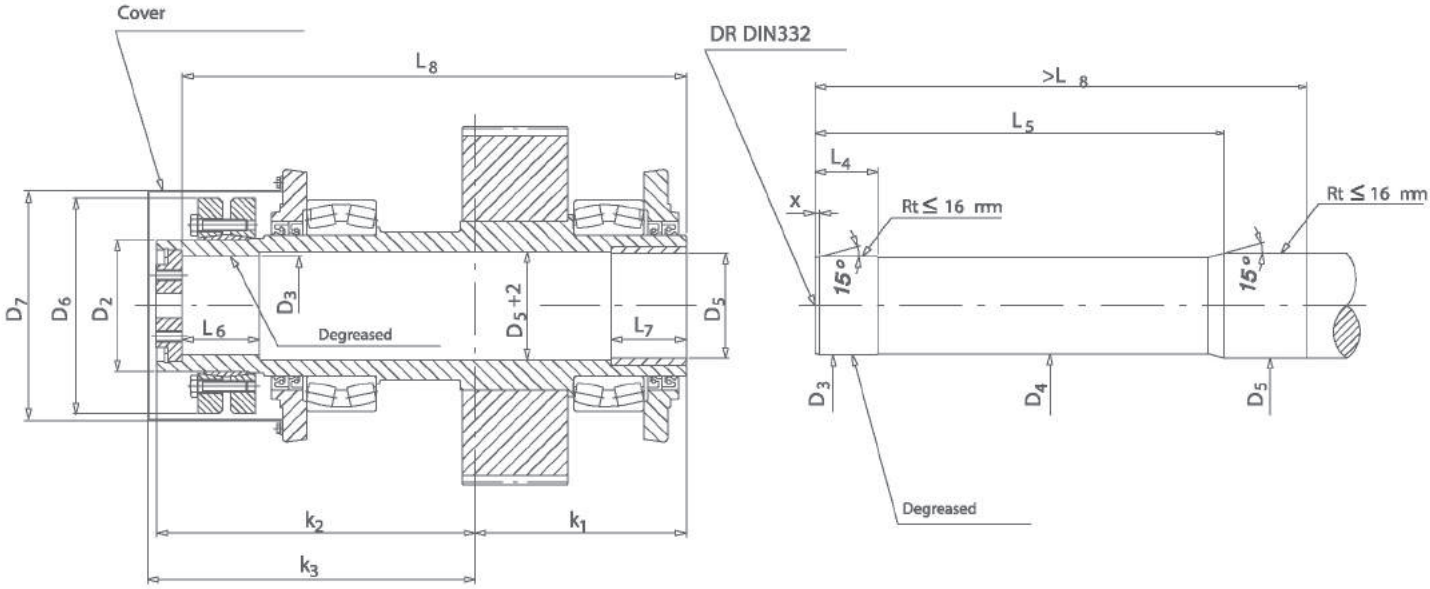
* With adaptation supplement

출력 중공 샤프트

중공 출력 샤프트 + Keyway



중공 출력 샤프트 + 샤링크 디스크

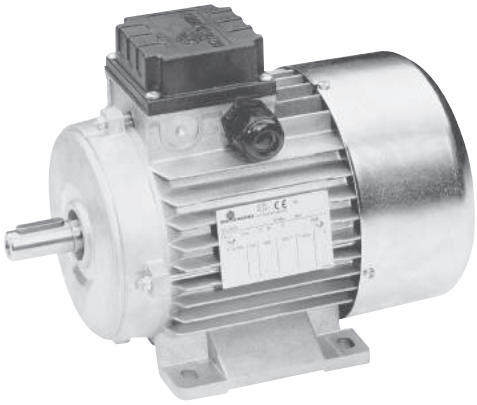


Size	D (H7)	D_1 (h6)	D_2 (h6)	D_3 (H7/g7)	D_4	D_5 (H7/f7)	D_6	D_7	k_1	k_2	k_3	L_1	L_2	L_3	L_4	L_5	L_6	L_7	L_8	t	u (H8)	x
180	90	90	115	90	88	95	188	226	185	273	285	368	145	80	80	372	78	60	434	95.4	25	5
200	100	100	125	105	103	106	215	232	205	289	298	408	160	95	80	389	76	75	469	106.4	28	5
225	115	115	140	110	108	112	230	246	225	339	355	448	184	102	85	452	82	80	537	122,4	32	5
250	125	125	155	120	118	122	265	300	245	377	387	488	185	105	120	492	110	80	592	132,4	32	5
280	140	140	165	130	128	132	290	305	270	390	400	538	223	122	120	530	110	80	630	148.4	36	5
320																						
355	170	170	195	155	152	158	350	370	320	460	470	638	260	150	160	640	140	90	750	179.4	40	5

For missing values please contact Technical Support.

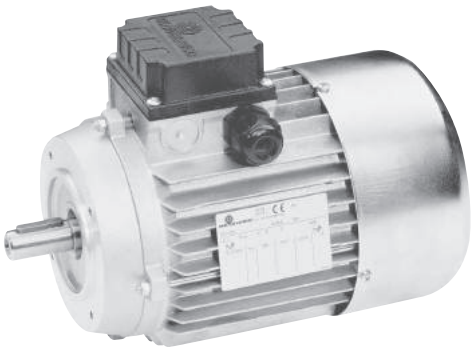
메모 / Notes

ELECTRIC MOTOR SERIES

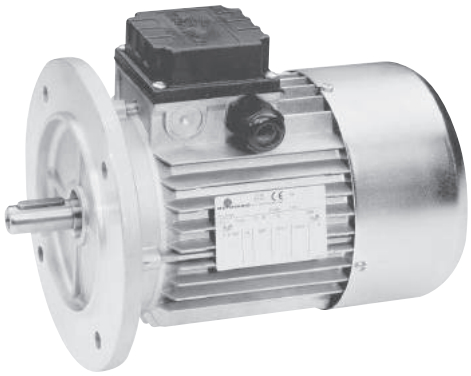


B3

모터
Electric motors



B14

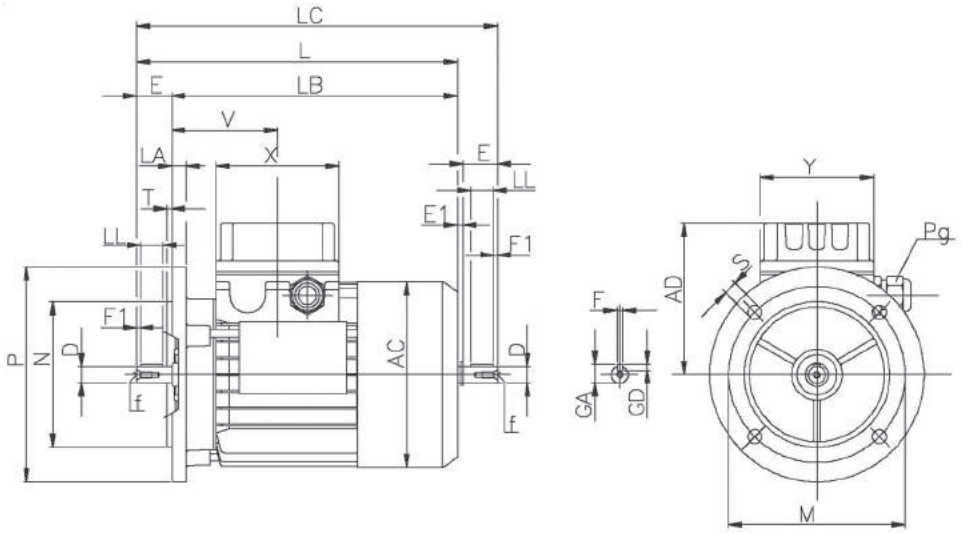


B5

MOTOVARIO
HEART OF MOTION
a TECO Group company

T - D 치수 / Dimensions

B5



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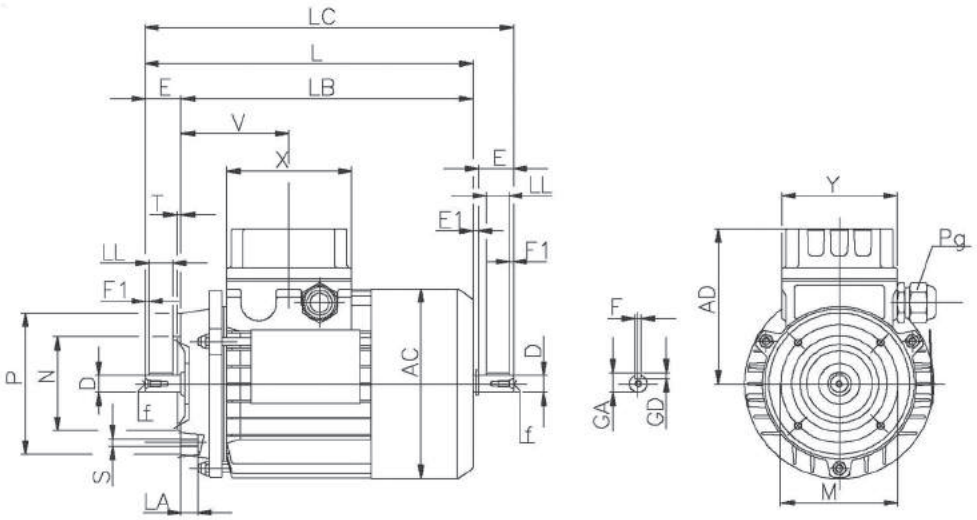
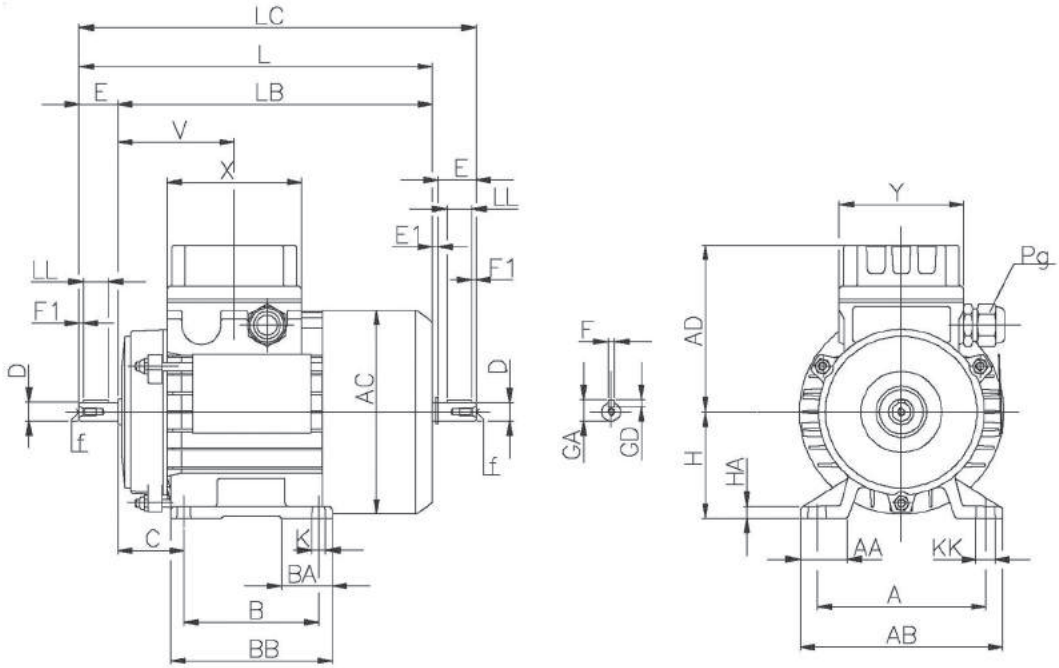
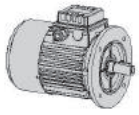


B3





	AC	AD	L	LB	LC	X	Y	V	D	E	E1	f	F1	GA	F	GD	LL	Pg	ø min	ø max
63	121	103,5	211	188	235,5	80	74	69	11 j6	23	1,5	M4x10	2,5	12,5	4	4	15	M16x1,5	5	10
71	139	112	238,5	208,5	271	80	74	74.5	14 j6	30	2,5	M5x12,5	3	16	5	5	20	M20x1,5	6	12
80	158	121,5	272,5	232,5	314	80	74	78	19 j6	40	1,5	M6x16	5	21,5	6	6	30	M20x1,5	6	12
90S	173	129,5	298	248	349,5	98	98	89,5	24 j6	50	1,5	M8x19	5	27	8	7	35	M25x1,5	9	17
90L	173	129,5	323	273	374,5	98	98	89,5	24 j6	50	1,5	M8x19	5	27	8	7	35	M25x1,5	9	17
100	191	138,5	368	308	431,5	98	98	97,5	28 j6	60	2,5	M10x22	7,5	31	8	7	45	M25x1,5	9	17
112	210,5	153,5	382,5	322,5	447	98	98	100	28 j6	60	1,5	M10x22	7,5	31	8	7	45	M25x1,5	9	17
132S	248,4	194	452	372	536,5	118	118	115,5	38 k6	80	4	M12x28	10	41	10	8	60	M32x1,5	11	21
132M/L	248,4	194	490	410	574,5	118	118	115,5	38 k6	80	4	M12x28	10	41	10	8	60	M32x1,5	11	21

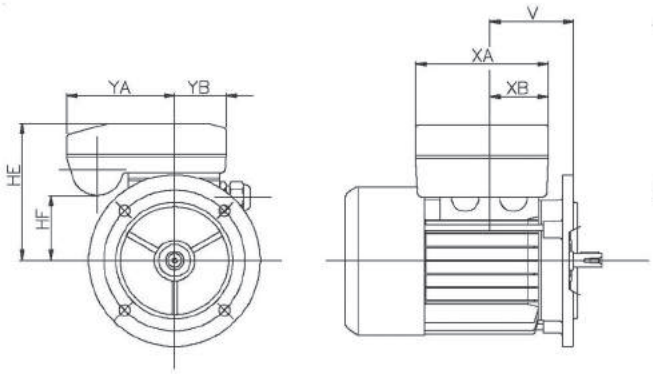
B5	M	N	P	LA	S	T
63	115	95 j6	140	9.5	9	3
71	130	110 j6	160	10	9.5	3.5
80	165	130 j6	200	12	11	3.5
90	165	130 j6	200	12	11	3.5
100	215	180 j6	250	15	14	4
112	215	180 j6	250	14.5	14	4
132	265	230 j6	300	20	14	3.5

B14	M	N	P	LA	S	T
63	75	60 j6	90	10.5	M5	2.5
71	85	70 j6	105	10.5	M6	2.5
80	100	80 j6	120	10.5	M6	3
90	115	95 j6	140	11.5	M8	3
100	130	110 j6	160	15	M8	3.5
112	130	110 j6	160	11.5	M8	3.5
132	165	130 j6	200	20.5	M10	3.5

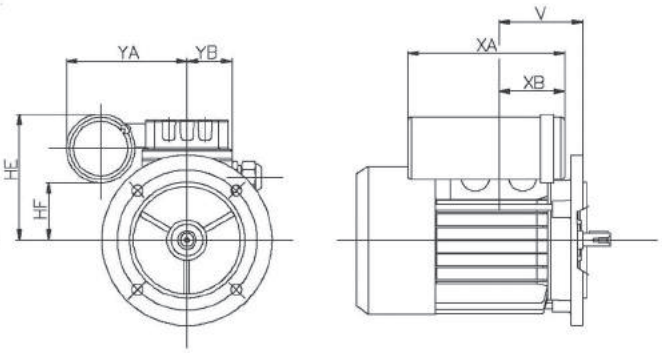
B3	A	AA	AB	KK	B	BB	BA	K	C	H	HA
63	100	28	120	10.5	80	96	30	7.5	39	63	7
71	112	30.5	135	12.5	90	112	31	7.5	44	71	8
80	125	33.5	153	13.5	100	124	32	9.5	49	80	9.5
90S	140	42	172	13.5	100	127	33.5	10	54	90	10.5
90L	140	42	172	13	125	152	38.5	10	54	90	10.5
100	160	45	192	15.5	140	167	38.5	11.5	62	100	12.5
112	190	48	221	16	140	175	44	12.5	69	112	13.5
132S	216	54	260	21	140	182	46	12	87	132	16
132M/L	216	54	260	21	178	220	46	12	87	132	16

S 치수 / Dimensions

S-063 / 071 / 080



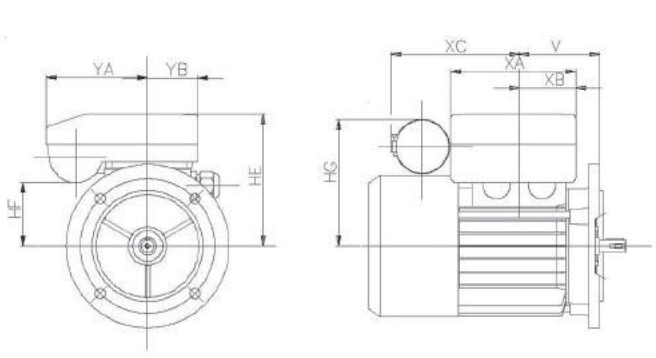
S-093 / 100



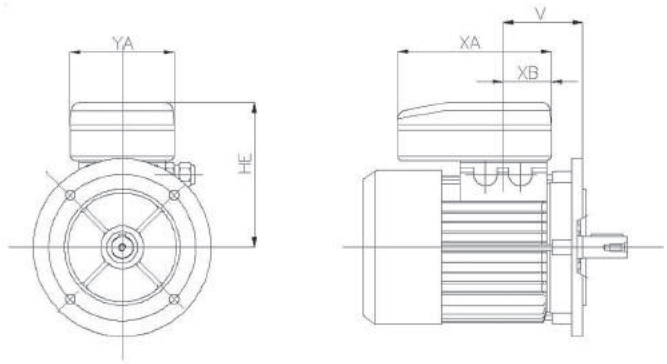
	V	YA	YB	HE	HF	XA	XB
63	69	88	43	118	58	108	48
71	74.5	88	43	127	67	108	48
80	78	88	43	136	76	108	48
90 S/L	89.5	110.5	49	135	78.5	129	54
100	97.5	110.5	49	144	87.5	129	54

HSE 치수 / Dimensions

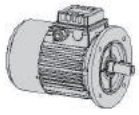
HSE-063 / 071



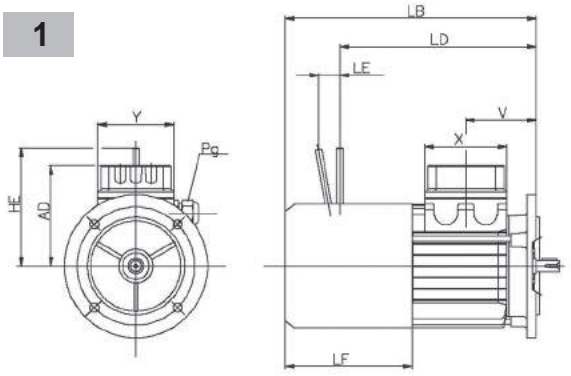
HSE-080 / 090 / 100



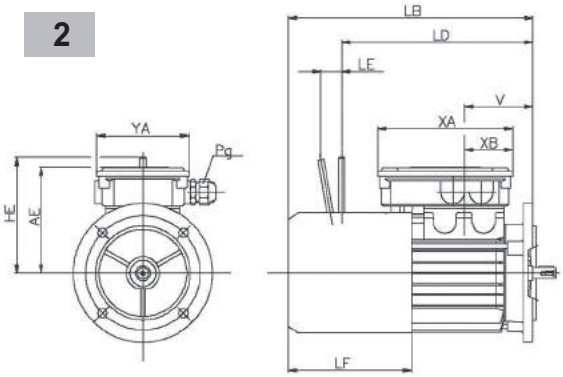
	V	YA	YB	HE	HF	XA	XB	XC
63	69	88	43	118	58	108	48	112
71	74.5	88	43	127	67	108	48	112
80	78	117	-	155	-	173	55	112
90S	89.5	117	-	163	-	173	55	-
90L	89.5	117	-	163	-	173	55	-
100	97.5	117	-	172	-	173	55	-



1



2

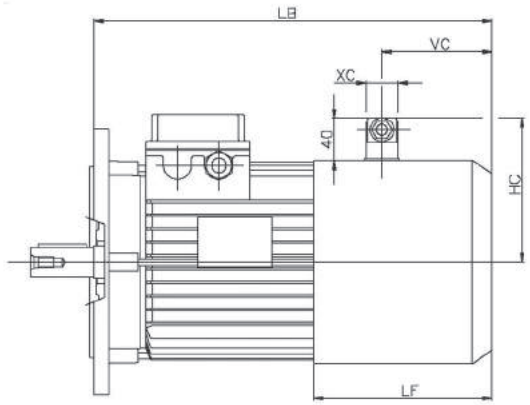


A = Alimentazione diretta / Direct supply / Direkte einspeisung / Alimentation directe / Alimentaciòn directa
B = Alimentazione separata / Separate power supply / Getrennter einspeisung / Alimentation séparée /Alimentacion separada

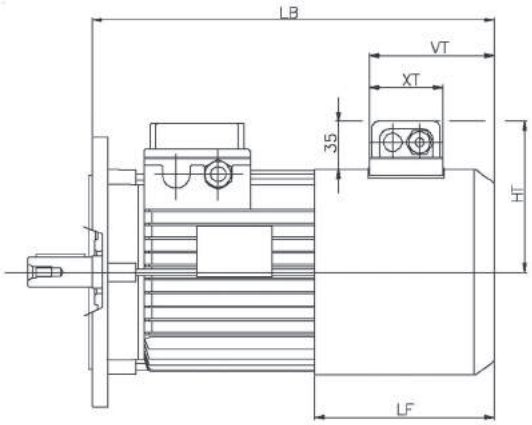
	alimentazione freno brake power supply bremmspannung alimentation du frein alimentacion del freno			Pg	Ø min	Ø max	esecuzione execution hinrichtung exècution ejecuciòn	X	Y	XA	XB	YA
63	a.c.	A	-	-	-	-	1	80	74	-	-	-
		B	M4	M16x1,5	5	10	2	-	-	150	50	100
71	d.c.	A	RV6	-	-	-	1	80	74	-	-	-
			NBR/DBR/SBR	-	-	-	2	-	-	150	50	100
80		B	RV6	M16x1,5	5	10	1	80	74	-	-	-
			NBR/DBR/SBR	M16x1,5	5	10	2	-	-	150	50	100
90	a.c.	A	-	-	-	-	1	98	98	-	-	-
		B	M5	M20x1,5	6	12						
100	d.c.	A	RV6	-	-	-						
			NBR/DBR/SBR	-	-	-						
112		B	RV6	M20x1,5	6	12						
			NBR/DBR/SBR	M20x1,5	6	12						
132	a.c.	A	-	-	-	-	1	118	118	-	-	-
		B	M5	M20x1,5	6	12						
	d.c.	A	RV6	-	-	-						
			NBR/DBR/SBR	-	-	-						
		B	RV6	M20x1,5	6	12						
			NBR/DBR/SBR	M20x1,5	6	12						

		LD	LE	HE	LB	LF	AD	AE	V
63	MS	192	21	116	246	124.5	103.5	119	69
	FM	192	17.5	96					
71	MS	211.5	23	124	273	137	112	128	74.5
	FM	214	19	101.5					
80	MS	238	23	134	304	152	121.5	137	78
	FM	237	22.5	129					
90S	MS	252.5	27.5	160	324.5	166	129.5	_	89.5
	FM	255	28	159.5					
90L	MS	279	28	160	349.5	166	129.5	_	89.5
	FM	279	27.5	159.5					
100	MS	307	28	160	389.5	183	138.5	_	97.5
	FM	307	27.5	159.5					
112	MS	330	34.5	198	419	201	153.5	_	100
	FM	326	35	199					
132S	MS	364	34.5	200	461.5	212	194	_	115.5
	FM	359	35.5	204					
132L 132M	MS	404.5	37.5	217	513.5	212	194	_	115.5
	FM	403.5	39	226					

치수 / Force - ventilated motors



~ 1 (63/90)



~ 1 (100/132)

~ 3 (100/132)

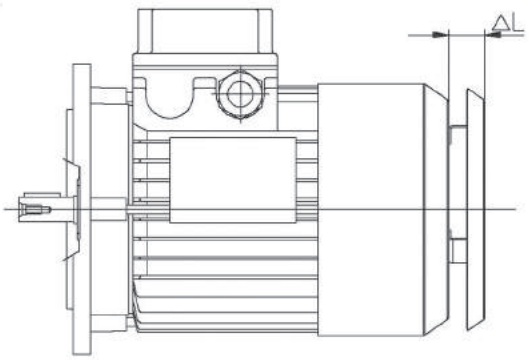
1 = 표준모터(T, D, S)
Standard (T, D, S)

2 = 브레이크 모터(TB, DB, SB)
Brake motors (TB, DB, SB)

		LB	LF
63	1	239	117
	2	311.5	190
71	1	254.5	118
	2	331	195
80	1	295.5	143
	2	382	230
90S	1	308	149
	2	398.5	240
90L	1	333	149
	2	423.5	240
100	1	382	175
	2	473.5	267
112	1	395.5	178
	2	509	290
132S	1	439	190
	2	539.5	290
132M/L	1	477	190
	2	591.5	290

		HC	VC	XC	HT	VT	XT
63	~1	100.5	66	30	-	-	-
71		109.5	59.5	30	-	-	-
80		119	80.5	30	-	-	-
90		126.5	75	30	-	-	-
100		-	-	-	130	132.5	75
112		-	-	-	140	134	75
132		-	-	-	159	135.5	75
100	~3	-	-	-	130	132.5	75
112		-	-	-	140	134	75
132		-	-	-	159	135.5	75

치수 / Rain cover



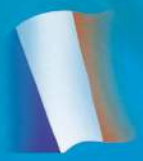
	ΔL
63	20
71	20
80	22
90	25
100	25
112	30
132	35

메모 / Notes

메모 / Notes

미래가 있는 기업, 꿈이 담긴 기업

현대는 급격히 변하고 있는 고객의 요구에 날로 다양해져 가고 있습니다.
미래의 변화를 정확히 예측하고 남보다 한발 앞서나가기 위해 (주)국제산업기계는 세계적인 업체로 성장하고 있습니다.



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