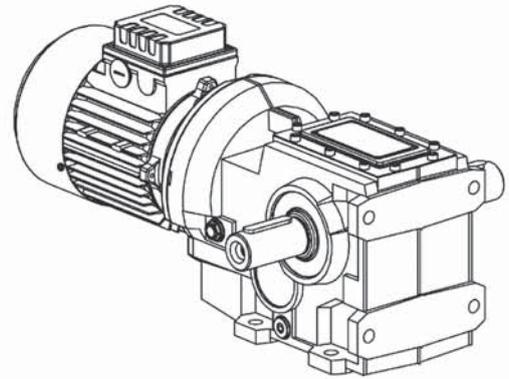
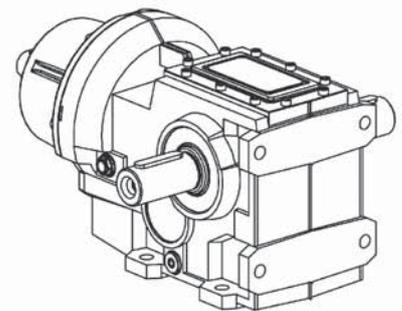


B型螺旋傘形齒輪減速機

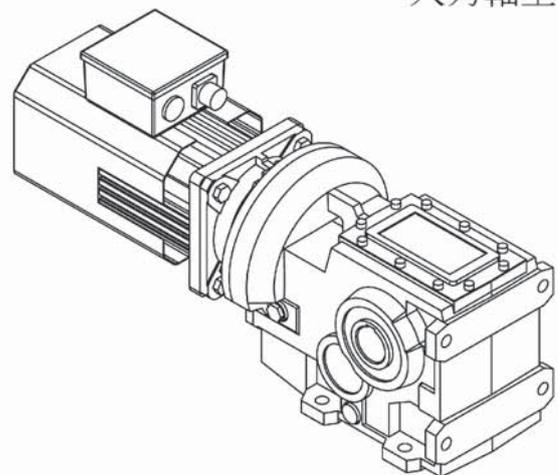
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標準馬達



入力軸型



伺服馬達

Symbols:代號說明

P = Power (Kw)	馬力
M = Torque (Nm)	扭力
n = Speed (Rpm)	轉速
i = Reduction ratio	減速比
F = Load (N)	負載
m = Weight (Kg)	重量
f.s. =Service factor	安全係數
1 = Input shaft	入力軸
2 = Outpur shaft	出力軸
r = Radial	徑向
a = Axial	軸向
s = Static	靜態
d = Dynamic	動態
max = Maximum	最大
min = Minimum	最小

Symbols / 代號說明
摩 托 迪 克

P = Power (kW)	馬力	max = Maximum	最大
M = Torque (Nm)	扭力	min = Minimum	最小
n = Speed (RPM)	轉速	1 = Input shaft	入力軸
i = Reduction ratio	減速比	2 = Output shaft	出力軸
F = Load (N)	負載	r = Radial	徑向
m = Weight (kg)	重量	a = Axial	軸向
f.s. = Service factor	安全係數	s = Static	靜態
		d = Dynamic	動態

Surface treatment specifications / 表面處理說明
摩 托 迪 克

Motovario 產品的表面處理技術如下：

鑄鋁合金齒輪箱體(外殼)

澆鑄材料經過以下幾項表面清理過程：

- 表面拋光去毛處理
- 精確噴砂處理
- 塗油漆處理
- 洗滌及鈍化處理

灰鑄鐵齒輪箱體(外殼)

- 鑄鐵原料全部塗油漆處理

注意: NMRV025型減速機從不塗油漆處理。

Motovario的減速機如果必要塗油漆處理時,其表面處理技術如下:

說明:

- 藍色環氧聚脂桔紋漆 RAL 5010.

使用產品:

- 使用熱硬化的聚脂樹脂粉末,再塗上環氧樹脂表漆。

機械性能

- 產品測試是在去脂 Unichim 白色錫板上(膜厚:60µm)根據 ISO2409 的粘附力標準, ISO152的 Erichsen圖說, Erichsen圖說, DIN53158的反向振盪標準, DIN53151, 的磨刮標準以及 ASTM D3363/74 的硬度要求來進行的。

抗熱能力

- 24 小時連續在 150°C。

耐腐蝕能力

根據ASTM B 117/97 要求能承受在鹽霧中逗留100到500小時,視不同底漆的規格而定。

性能

已按 DIN 3990, ISO 6336, AGMA 2101, ISO10300, DIN3991, ISO 281, DIN 743 對載荷能力進行驗證。

動態效率 η_d :

工作效率是指輸出功率 P2 和齒輪減速機的輸入功率 P1之間的比率:

$$\eta_d = P2/P1$$

H/HA 系列同軸螺旋齒輪減速機的平均值等於:

$$H..3 \text{ 級} = 0,97$$

$$H..2 \text{ 級} = 0,96$$

$$H..3 \text{ 級} = 0,94$$

B/BA 系列直角螺旋傘型齒輪減速機的平均值等於:

$$B..3 \text{ 級} = 0,9$$

$$BA..2 \text{ 級} = 0,95$$

$$BA..3 \text{ 級} = 0,9$$

S 系列平行軸螺旋齒輪減速機的平均值等於:

$$S..2 \text{ 級} = 0,96$$

$$S..3 \text{ 級} = 0,94$$



Service factor / 使用係數 (負載係數)

摩托迪克

The service factor (f.s.) depends on the operating conditions the reduction unit 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 operating time: hours/day (Δ)
- start-up frequency: starts/hour (*)

TYPE OF LOAD:	A - uniform	$f_a \leq 0.3$
	B - moderate shocks	$f_a \leq 3$
	C - heavy shocks	$f_a \leq 10$

fa = Je/Jm

- fa factor of inertia
- 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.

使用係數(負載係數) (service factor) (簡稱 f.s.)

視減速機的操作條件而定。

正確選擇最適當的使用係數需考慮的參數包括: 進行正確的組合, 必須考慮的參數如下:

- 運轉機器的負載類型: A - B - C
- 每天運轉時間的長短: 小時/日 (Δ)
- 啟動頻率: 啟動次數/小時(*)

負載類型:

- A - 穩定 $f_a \leq 0.3$
- B - 中等衝擊 $f_a \leq 3$
- C - 高等衝擊 $f_a \leq 10$

fa = Je/Jm

- fa 慣性因數
- Je (kgm²) 傳動軸上的減速外部惰性力距
- Jm (kgm²) 馬達的惰性力距 如果
- fa > 10 時, 請與本公司的技術服務人員聯繫。

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

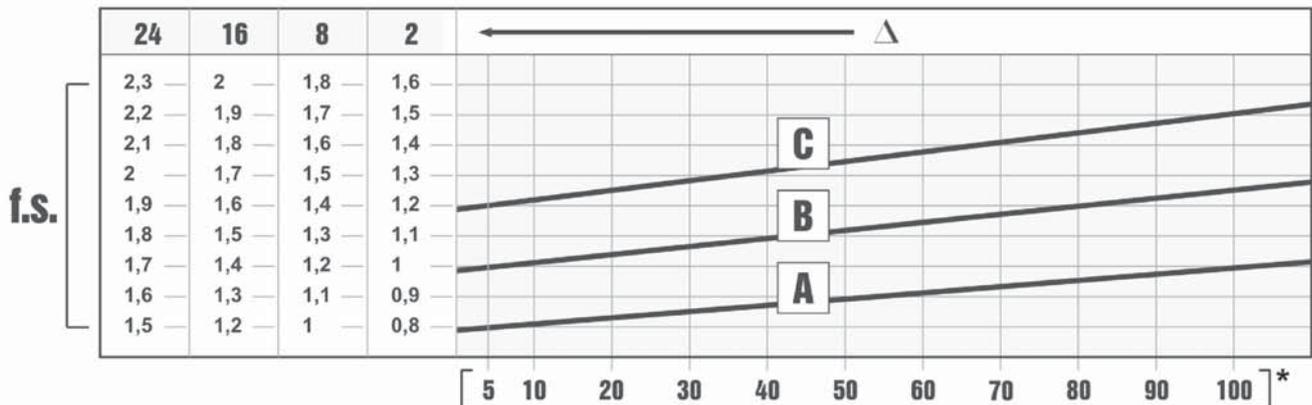
B -Winding devices, woodworking machine feeders, goods lifts, balancers, threading machines, medium mixers, conveyor belts for heavy materials, winches, sliding doors, fertilizer scrapers, packing machines, concrete mixers, crane mechanisms, milling cutters, folding machines, gear pumps.

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.

負載類型 A - 輕質材料螺旋給料機, 風扇, 組裝生產線, 輕質材料輸送機, 小型攪拌器, 升降機, 清洗機, 充填設備, 控制器等

負載類型 B- 捲繞裝置, 木工機械, 貨物升降機, 平衡器, 螺紋機, 介質攪拌機, 重型材料皮帶輸送機, 絞盤, 移動門, 刮板輸送機, 包裝機, 混凝土攪拌機, 起重機, 銑床, 卷板機, 齒輪泵等。

負載類型 C- 重型材料攪拌機, 剪切機, 壓力機, 離心機, 旋轉支撐, 重型材料, 絞盤和升降機, 磨床, 石材坊, 升降機, 鑽孔機, 錘式粉碎機, 凸輪壓力機, 折疊機, 運輸帶, 翻斗車, 振動器, 碎紙機等。



Critical applications / 特殊應用

摩托迪克

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 reduction unit.

It is also necessary to take due consideration of and carefully assess the following applications by calling our Technical Service:

- As a speed increasing.
- Use in services that could be hazardous for people if the reduction unit fails.
- Applications with especially high inertia.
- Use as a lifting winch.
- Applications with high dynamic strain on the case of the reduction unit.

本目錄所說明之性能係針對安裝位置 B3 或類似位置而言，換句話說，在初期運轉時並未完全浸入油。有關其他的安裝位置亦或特殊輸入速度，請參考各種尺寸的減速機於各種不同特殊用途的圖表說明。

在下述用途時，也請考慮與本公司的技術服務部門連絡，以審慎評估：

- 速度增加時；
- 萬一減速機操作故障時有可能傷害人員之危險作業環境；
- 特別高度惰性之用途；
- 充當絞車使用時；
- 減速機在高度動態應變用途；

- 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 reduction unit is required.

The maximum torque (*) that the gear 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.

- 在 -5°C 或超過 40°C 工作環境使用時；
- 在一鹽分很高的工作環境使用時；
- 在化學品腐蝕的工作環境使用時；
- 在本目錄中未曾設想的安裝位置情形；
- 在放射性的工作環境使用時；
- 在環境壓力大於大氣的環境下使用時；

甚至於減速機需部份浸沒的地方避免應用。

齒輪減速機能夠負荷的最大轉距(註*)不得超過性能表所規定的額定轉距(f.s.=1)的二倍。

(註*)由於以全負荷啓動，剎車，衝擊或其他原因而故意施加的暫時性過載，尤其是那些動態的暫時性過載。

H	A31		A30		A40		A50		A60		
V5 - V1: $1500 < n1 < 3000$	-		-		-		-		-		
$n1 > 3000$	B		B		B		B		B		
V3 - V6	B		B		B		B		B		
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			
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		
$2000 < n1 < 3000$	-		-		-		-		-		
V6	B		B		B		B		B		
$n1 > 3000$	B		B		B		B		B		
...L : V5 - V6	B		B		B		B		B		
SW / NMRV	025	030	040	050	063	075	090	105	110	130	150
V5: $1500 < n1 < 3000$	-	-	-	-	-	B	B	B	B	B	B
$n1 > 3000$	B	B	B	B	B	A	A	A	A	A	A
V6	B	B	B	B	B	B	B	B	B	B	B

A- Application not recommended / 建議不使用。

B- Check the application and/or call our technical service / 檢查使用對象或與本公司技術服務部聯絡。



Installation / 安裝

摩托迪克

To install the reduction unit it is necessary to note the following recommendations:

- The mounting on the machine must be stable to avoid any vibration.
- Check the correct direction of rotation of the reduction unit 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.
- For a shaft mounting, for reduction units with a hollow output shaft, use the torque arms Motovario can supply. If this is not possible, make sure that the constraint is axially free and with such play as to ensure free movement for the reduction unit.
- Whenever possible, protect the reduction unit against solar radiation and bad weather.
- Ensure the motor cools correctly by assuring good passage of air from the fan side.
- In the case of ambient temperatures $< -5^{\circ}\text{C}$ or $> +40^{\circ}\text{C}$ call the Technical Service.
- The various parts (pulleys, gear wheels, couplings, shafts, etc.) must be mounted on the solid or hollow shafts using special threaded holes or other systems that anyhow ensure correct operation without risking damage to the bearings or 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.

安裝減速機時必須注意以下幾點：

- 必須穩定地安裝在機器上，避免有任何鬆動或振動。
- 在減速機固定於機器上之前，檢查減速機輸出軸的正確旋轉方向。
- 在長期的儲存情況下（4/6 個月），一旦油封沒有浸沒在減速機的潤滑油中，橡膠可能會粘住主軸甚至失去彈性，由於適當的彈性是油封必須的工作條件，所以推薦更換油封。
- 安裝傳動軸時，具空心輸出軸之減速機需使用 Motovario 能夠供應的扭力臂。如果不可能，需確認強迫軸向能夠自由運轉以保證減速機能夠自由運轉。
- 盡可能避免減速機在陽光下直接照射或暴露於惡劣氣候下。
- 確保馬達風扇邊的空氣有良好的通風，以便有足夠的冷卻。
- 當使用時的絕對溫度 $< -5^{\circ}\text{C}$ 或 $> 40^{\circ}\text{C}$ 時，先與我們技術服務人員聯繫。
- 各種零件（滑輪、齒輪、聯軸器、軸等）必須安裝在實心或空心軸上，應該使用專用的螺紋孔或其他工具以確保正確安裝而不會損壞軸承或減速機外端的所有零件，並以潤滑油來潤滑接觸表面避免卡死或氧化。
- 橡膠零件以及透氣孔上不能沾有油漆。
- 當遇見配有油塞的減速機時，把運輸專用的塞子換掉。再裝上排氣塞。
- 通過視窗檢查潤滑油油位是否足夠。
- 使用新減速機時，應該逐漸載入，不要立即提升到最大的負載。
- 如有任何在減速機旁的零件、物體或材料會因漏出的油而遭受損壞時，應安裝特殊的保護或遮擋。

Motor mounting with PAM flange B5 / 馬達與 PAM 法蘭 B5 之連接
摩托迪克

When the unit is supplied without motor, it is necessary to follow these Recommendation to ensure the correct assembly of the electric motor. Assembly of flange mounting motors to the gear unit with the PAM flange uses a coupling.

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 half coupling/sleeve to the motor shaft

當只有購買減速機時，必須按照以下建議與已有的馬達來組合，以確保正常的的使用。

當法蘭式馬達跟減速機的 PAM 法蘭配套安裝時，需要使用連軸器。

參照相關標準來檢查馬達軸心和法蘭在安裝時是否有過大的誤差。

仔細清潔軸、連軸器和法蘭表面，擦除污垢和痕跡。

(see picture) taking care to ensure the motor shaft and bearings are not damaged by avoiding excessive force and where necessary using assembly equipment.

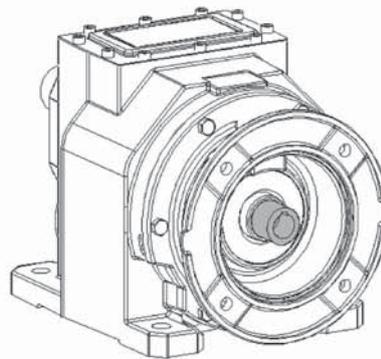
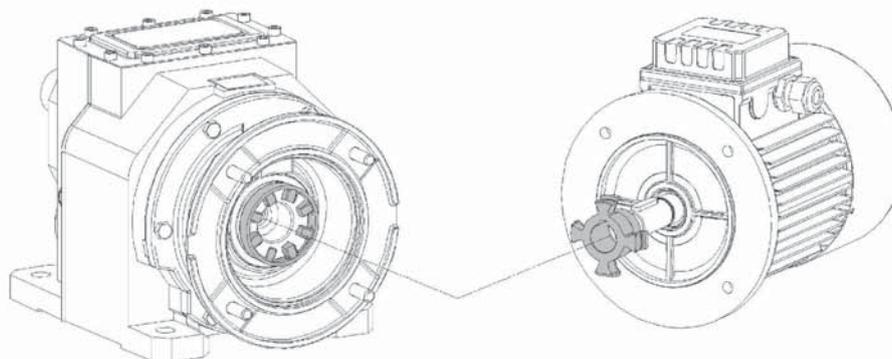
Place the couplings elastic element onto the motor half coupling and position the motor up to the gear unit ensuring the coupling element is aligned with the driven half coupling.

Complete the assembly using the fixing bolts. Key-ways with tightened tolerances.

按圖所示小心安裝軸（參照下圖），保證軸和軸承的嚙合，避免力量過大而導致損壞，必要時使用專用工具來進行。

把連軸器中的橡皮元件先放進馬達軸上的半個連接器中，再把馬達放到減速機上以確保連軸器跟減速機上另一半的連接器處在同一中心線上。

把固定螺栓鎖緊，根據誤差參數同時把軸固定好。

H / B / S / SW / NMRV 標準套筒式聯軸器型

PH / PB / PS / SW-P063-110 / NMRV-P063-110 撓性聯軸器型


Note: the motor coupling with the flexible joint is available only for the product ranges H-B-S series 馬達使用撓性聯軸器的連結方式只提供給 H.B.S 系列及 SW-P063~SW-P110 系列及 NMRV-P063~NMRV-P110 等系列.



Overhung load / 懸臂荷載

摩托迪克

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

$$F_{re} = \frac{2000 \cdot M \cdot f_z}{D} \leq Fr1 \text{ o } Fr2$$

- F_{re}** (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)

- f_z = 1,1** gear pinion
- 1,4** chain wheel
- 1,7** v-pulley
- 2,5** flat pulley

When the resulting radial load is not applied on the centre line of the shaft, it is necessary to adjust the admissible radial load $F_{r1,2}$ with the following formula:

$$F_{rx} = \frac{F_{r1,2} \cdot a}{(b + x)}$$

- a, b =** values given in the tables on page 18,19
- x =** distance from the point of application of the load to the shaft shoulder

通過下列公式可計算主軸上的徑向負荷承受重量：

$$F_{re} = \frac{2000 \cdot M \cdot f_z}{D} \leq Fr1 - Fr2$$

- F_{re} =** 軸所承受的徑向負荷 (N)
- M =** 扭矩 (Nm)
- D =** 在主軸上的傳動元件之直徑 (mm)
- Fr =** 最大徑向承受力 Fr1 - Fr2(參考有關圖表)(N)

- f_z = 1,1** 小齒輪
- 1,4** 鏈輪
- 1,7** 三角皮帶 v-滑輪
- 2,5** 平直滑輪

當軸的最終徑向負荷不在同一中心線時，
Fr1- Fr2 徑向負荷就需要用以下公式調整：

$$F_{rx} = \frac{Fr1-2 \cdot a}{(b + x)}$$

- a, b =**有關參數表見第 18,19 頁
- x =** 施加負荷點至軸肩之距離

Radial loads - Technical descriptions / 徑向負荷 – 技術說明

摩托迪克

The value of the admissible radial load (N) is given in the tables relating to the performance of the reduction unit 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.

軸所允許負載的負荷 (N) 可從相關的圖表中尋找或從已推出的減速機相關資料中尋找。

它包括了當負荷與主軸在同一中心線的計算，也有不在同心線的情況下的好幾種可能角度和轉向。

當徑向與軸向負載同時存在時，最大的允許軸向負載值只是徑向負載值的五分之一。圖表中所表示的是輸出軸的最大承載重量。

This value must never be exceeded since it relates to the strength of the case.

Particular conditions of radial load higher than the limits of the catalogue may occur. In this case, call our Technical Service 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.

在日常操作中，絕對不可以超過圖表的數值，因為關係到外殼的承受極限。在特殊情況下，如軸的負載重量必須要超過本目錄中的數值極限時，請與本公司技術人員聯繫並查閱使用說明書中有關的負載指示、軸的旋轉方向及應用種類等資料。如果是在雙延伸軸在兩端皆施加徑向負荷情形，其最大允許徑向負荷需依據特殊的操作條件來定義，在此情形，請與本公司技術人員聯繫。

Radial loads / (N) - Output Shaft / 出力軸徑向負荷

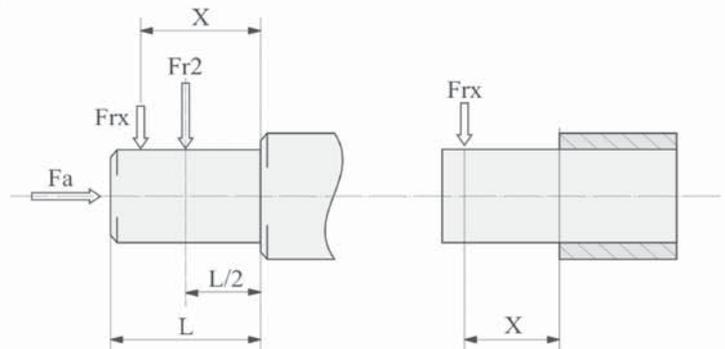
摩托迪克

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:

當軸的最終徑向負荷不在同一中心線時Fr2，徑向負荷就需要用以下公式調整：

$$Fr2 : Frx = \frac{Fr2 \cdot a}{(b + x)}$$

X=施加負荷點至軸肩之距離



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 (*)	5500	6500	7000	8500	11500	13500

H	A31	A41	A51	A61	A32 A33	A42 A43	A52 A53	A62 A63
a	78,5	81	83	103	105	115	135	155
b	58,5	61	58	73	85	90	105	115
Fr2 max(**)	1100	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
a	125	145	190	225	265
b	96	116	150	175	202
D-S-P (Fr2 max**)	6000	10000	18000	22000	30000
C (Fr2 max**)	6000	4000	7200	9000	11200

SW/NMRV/NMRV-P	025	030	040	050	063	075	090	110	130	150
a	50	65	84	101	120	131	162	176	188	215
b	38	50	64	76	95	101	122	136	148	174
Fr2 max(**)	1350	1830	3490	4840	6270	7380	8180	12000	13500	18000

SW/NMRV	J *1E-4 [kg*m2]
025	0,03
030	0,10
040	0,3
050	0,8
130	22,5
150	52,9

SW/NMRV-P	J *1E-4 [kg*m2]
063	2,2
075	4,4
090	8,2
110	19,9

H	J *1E-4 [kg*m2]
A31	1,0

(**Fr2) Max. admissible value of the reducer; verify max. admissible value on performances tables.

減速機的最大承載重量請核對馬力選擇表。

(*) Maximum axial load values admissible in only one direction with the use of a thrust bearing (on request).

最大軸向的承載重量在同一方向時可依要求使用推力軸承。



Radial loads / (N) - Input Shaft / 入力軸徑向負荷

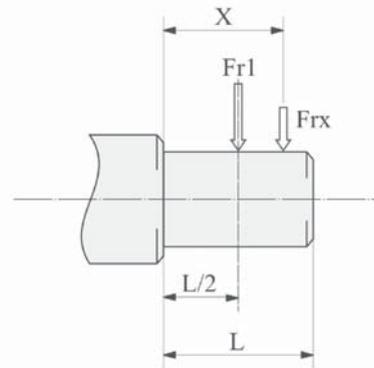
摩托迪克

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:

當產生的負荷沒有施加在軸的中心線上時，必須用以下的公式調整許可的徑向負荷值

$$Fr1 : Frx = \frac{Fr1 \cdot a}{(b + x)}$$

X=施加負荷點至軸肩之距離



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

IH	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

IB	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
a	105	105	137	137	175
b	80	80	108	108	135
Fr1 max(**)	1500	2500	3600	3600	7200

ISW/NRV/NRV-P	030	040	050	063	075	090	110	130	150	IHW040	090	110
a	86	106	129	159	192	227	266	314	350	a	71	
b	76	94,5	114	139	167	202	236	274	310	b	51	
Fr1 max(**)	210	350	490	700	980	1270	1700	2100	2800	Fr1 max(**)	400	500

(**Fr1) Max. admissible value of the reducer; verify max. admissible value on performances tables.
減速機的最大承載重量請核對馬力選擇表。

Lubrication 潤滑油

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 suitable 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/2 years of operations. This period depends on the type of service and the environment where the gear reducer works. For units supplied without oil plugs, lubrication is permanent and so they need no servicing.

如在圖表中不能查到對應的溫度，請與本公司技術服務人員聯繫。

如果溫度低於 -30°C 或高於 60°C 時，必須使用特殊油封。

如果在注油時的溫度低於 0°C 時，必須注意以下幾點：

1. (馬達)的選型必須符合周圍環境與工作條件。
2. (馬達)的功率選擇必須考慮到在寒冷天氣時較大的起動扭矩。
3. 鑄鐵外殼的減速機要避免忽然承受過重的衝擊負載，因為在攝氏 -15°C 以下時鑄鐵的物理性能可能會變得較脆。
4. 在使用新的電動機(馬達)時，可能會出現潤滑油的問題，因為新的潤滑油的粘度較高，因此推薦先讓減速箱在空載情況下運轉幾分鐘才開始載入。

潤滑油在使用約10,000時後必須更換，也要視減速機的具體工作環境而定。

對於沒有注油孔的減速箱來說，是永遠不需要更換潤滑油的。

Lubrication 推薦潤滑油

	T°C-ISO /VG/SAE...	ENI	AGIP	SHELL	ESSO	MOBIL	CASTROL	BP
H A30 ÷ A60 H 030 ÷ 140 B 060 ÷ 160	(-5) ÷ (+40) ISO VG 220	BLASIA 220	-	OMALA OIL 220	SPARTAN EP 220	MOBILGEAR 600 XP 220	ALPHA MAX 220	ENERGOL GR-XP 220
	(-15) ÷ (+25) ISO VG 150	BLASIA 150	-	OMALA OIL 150	SPARTAN EP 150	MOBILGEAR 600 XP 150	ALPHA MAX 150	ENERGOL GR-XP 150
B A40 ÷ A70	(-5) ÷ (+40) SAE 85W-140	ROTRA MP (85W-140)	-	SPIRAX ST (80W-140)	-	-	-	-
S 050 ÷ 125	(-5) ÷ (+40) ISO VG 220	BLASIA 220	-	OMALA OIL 220	SPARTAN EP 220	MOBILGEAR 630	ALPHA MAX 220	ENERGOL GR-XP 220
	(-15) ÷ (+25) ISO VG 150	BLASIA 150	-	OMALA OIL 150	SPARTAN EP 150	MOBILGEAR 629	ALPHA MAX 150	ENERGOL GR-XP 150
SW 030 ÷ 105 PC 063 ÷ 090	(-25) ÷ (+50) ISO VG 320	-	TELIUM VSP 320	TIVELA OIL SC 320	S 220	GLYGOYLE 30	ALPHASYN PG 320	ENERGOL SG-XP 320
SW 110 ÷ 150	(-5) ÷ (+40) ISO VG 460	-	BLASIA 460	OMALA OIL 460	SPARTAN EP 460	MOBILGEAR 634	ALPHA MAX 460	ENERGOL GR-XP 460
	(-15) ÷ (+25) ISO VG 220	-	BLASIA 220	OMALA OIL 220	SPARTAN EP 220	MOBILGEAR 630	ALPHA MAX 220	ENERGOL GR-XP 220
NMRV 025 ÷ 150 NMRV-P 063 ÷ 110 HW 030 ÷ 040	(-25) ÷ (+50) ISO VG 320	TELIUM VSP 320	-	TIVELA OIL SC 320	-	SHC 632	ALPHASYN PG 320	ENERGOL SG-XP 320
HA 31	(-5) ÷ (+40) ISO VG 220	BLASIA 220	-	OMALA OIL 220	SPARTAN EP 220	MOBILGEAR 600 XP 220	ALPHA MAX 220	ENERGOL GR-XP 220

- Specifications of lubricants recommended by Motovario S.p.A.

- 表內為MOTOVARIO 推薦使用的潤滑油。

- Lubricant quantities are only indicative. For correct filling always refer to the sight glass or the dipstick when this is supplied.

- 潤滑油的數量只表示加油時填充至視油鏡中心或油標尺位置。潤滑油的數量，請參考下一頁。

Lubrication / 潤滑油 - B型螺旋傘型齒輪減速機
摩 托 迪 克

- The reduction units BA.. series with 2,3 stages are supplied complete with lubricant, have no oil plugs and need no maintenance.
- The reduction units B series all sizes have no lubricant and are fitted with oil plugs to suit any mounting position included in the catalogue. The oil filling can be done on request, in this case it is recommended, after installation, to replace the closed plug used for transportation with the supplied breather plug. When the reduction unit is supplied without lubricant, it is provided with a label reporting the advised oil type.
- For the reduction units B series it is always necessary to specify the mounting position.

- BA 減速系列中所有的 2、3 級型號都在出廠前全部已注入潤滑油，因此不帶油蓋，更永遠無需加油保養。

-減速機 B 系列的所有型號都不需預先注入潤滑油，因此帶有油蓋以適合的任何安裝方式（可參考目錄說明書）。

如客戶要求也可以提供潤滑油，安裝完畢後，換掉油塞並裝上排氣裝置。在沒有預先注入潤滑油的減速箱上請看清標籤上指示，一定要貼有標籤說明合適的潤滑油規格。

- B 系列減速機需要指定安裝位置。

B	A42	A52	A53	A72	A73
B3 - B8	0,33	0,42	0,63	1	1,21
B6 - B7					
V5 - V6					

CB	A42	A52	A53	A72	A73
B3 - B8	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	3,5	6	8,5	14,5	26	43
B7	1,5	2,8	3,9	7,3	11,8	19	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

-Quantity of oil in litres ~

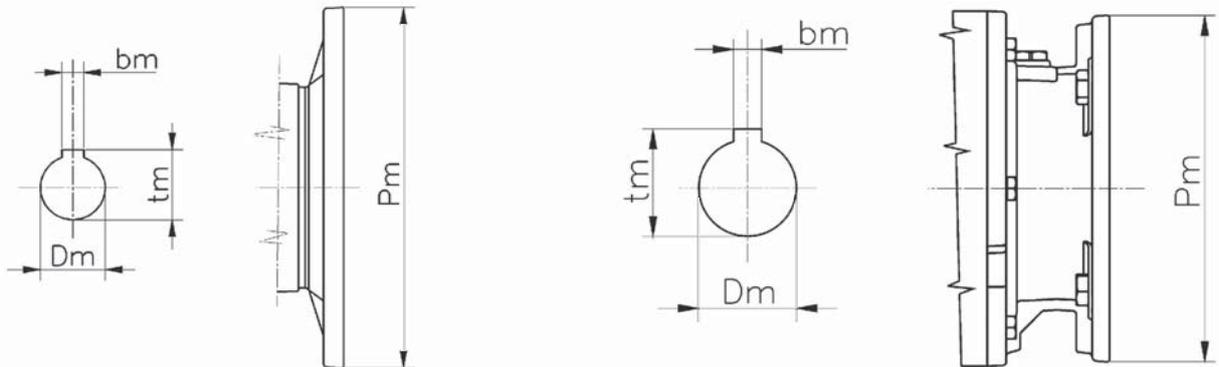
- 油品單位為公升 ~

潤滑油數量僅供參考，安裝位置或客戶組裝方式，均可能導致油位差，若要正確注油請務必參考視油鏡油量位置，必要時可以增加或減少油量。



PAM B5 - Dimensions / 標準入力法蘭-尺寸圖

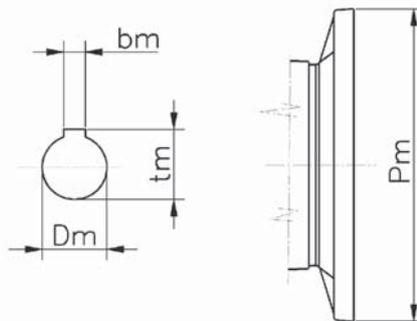
摩托迪克



B5	IEC B5										
	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

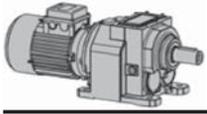
PAM B14 - Dimensions / 標準入力法蘭-尺寸圖

摩托迪克



B14	IEC B14							
	056	063	071	080	090	100	112	132
Pm	80	90	105	120	140	160	160	200
Dm	9	11	14	19	24	28	28	38
bm	3	4	5	6	8	8	8	10
tm	10,4	12,8	16,3	21,8	27,3	31,3	31,3	41,3

※特殊入力軸心與法蘭(如:伺服馬達或氣動馬達..)可依要求製作。



Helical bevel geared motors and gear units

B 型 直角軸螺旋傘型齒輪減速機

B

CB

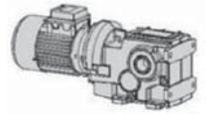


B - PB



IB

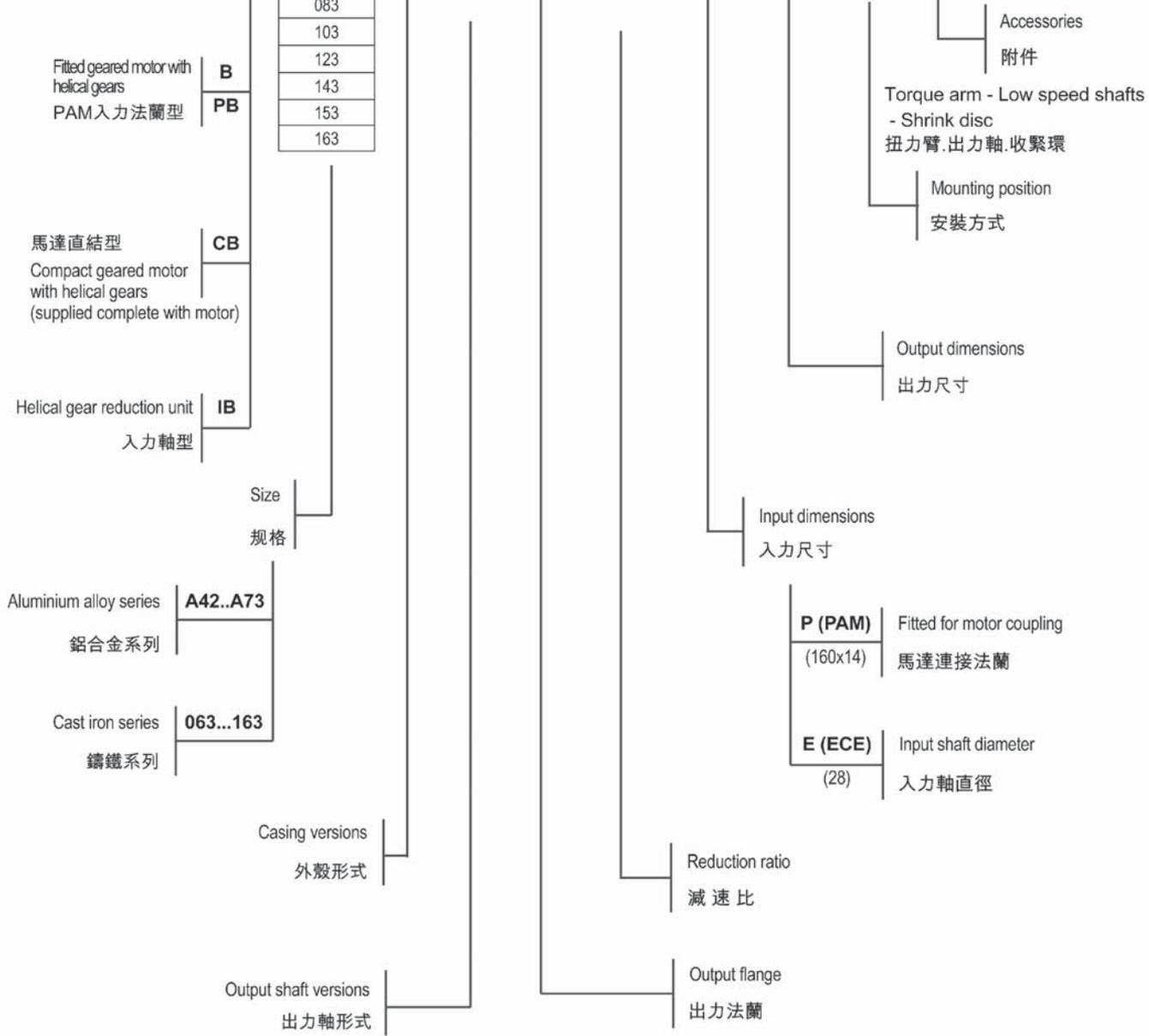


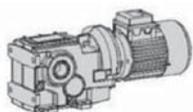


Designation / 規格型號說明

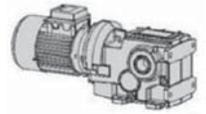
摩托迪克

B	083	F	C	FA	91, 3	160x14	250x28	B3	...
B	A42	F	C	FA	7,62	PAM		B3	
PB	A52	S	D	FB	ECE		B8	
CB	A53	U	S	FC			B6	
IB	A72		P				B7	
	A73		L				V5	
	063		M		442,76			V6	





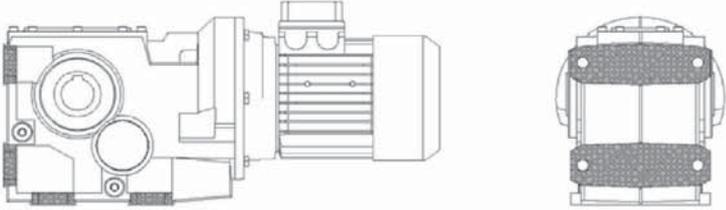
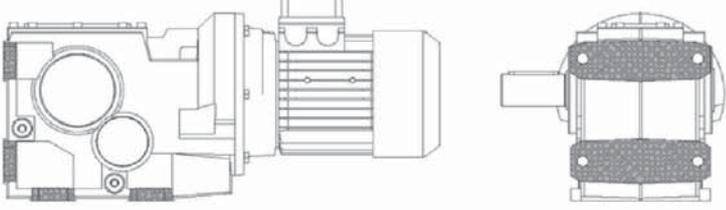
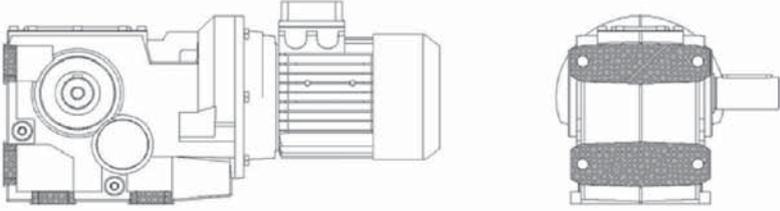
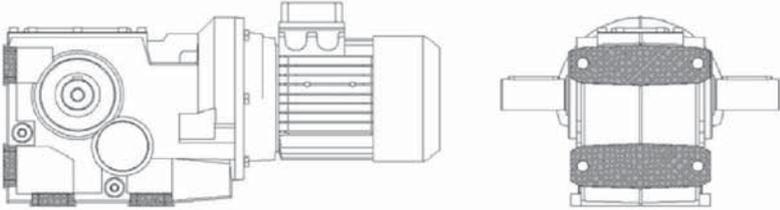
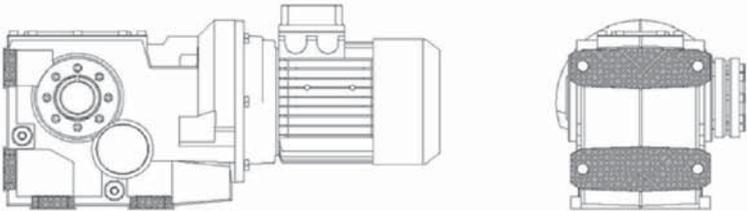
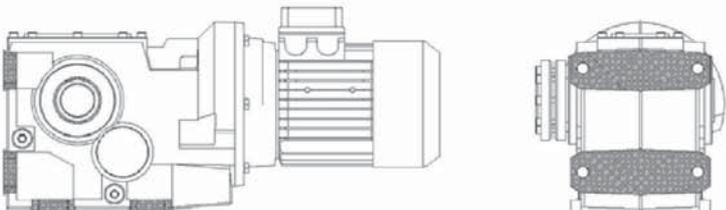
		<p>B ... C</p> <p>- Foot mounting / hollow shaft. 腳座安裝/中空軸</p>
		<p>B ... D</p> <p>- Foot mounting / D solid shaft. 腳座安裝/D側出力軸</p>
		<p>B ... S</p> <p>- Foot mounting / S solid shaft. 腳座安裝/S側出力軸</p>
		<p>B ... P</p> <p>- Foot mounting / double output shaft. 腳座安裝/雙出力軸</p>
		<p>B ... L</p> <p>- Foot mounting / shrink disc shaft. 腳座安裝/出力軸收緊環</p>

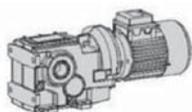


Versions / 變化形式

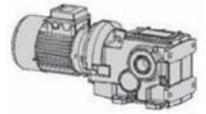
摩托迪克

083 - 103 - 123

	<p>B ... FC</p> <p>- Foot mounting / hollow shaft. 腳座安裝/中空軸</p>
	<p>B ... FD</p> <p>- Foot mounting / D solid shaft. 腳座安裝/D側出力軸</p>
	<p>B ... FS</p> <p>- Foot mounting / S solid shaft. 腳座安裝/S側出力軸</p>
	<p>B ... FP</p> <p>- Foot mounting / double output shaft. 腳座安裝/雙出力軸</p>
	<p>B ... FL</p> <p>- Foot mounting / shrink disc shaft. 腳座安裝/L側出力軸收緊環</p>
	<p>B ... FM</p> <p>- Foot mounting / shrink disc shaft. 腳座安裝/M側出力軸收緊環</p>



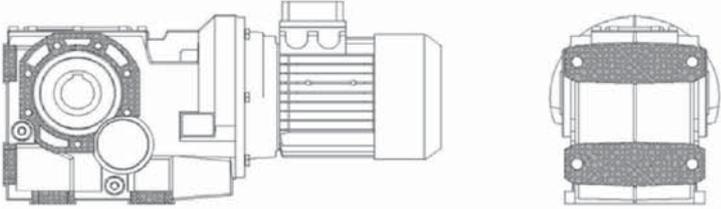
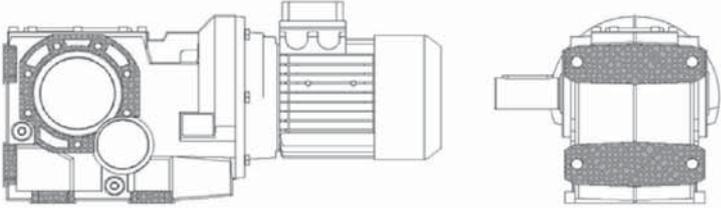
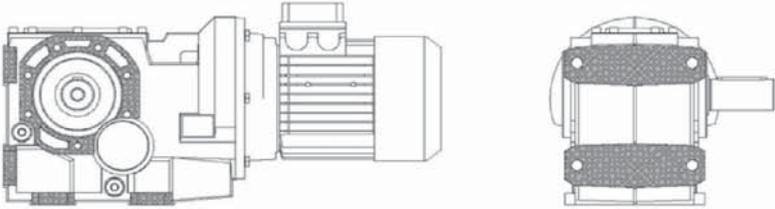
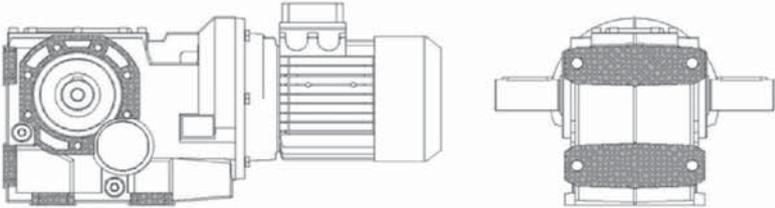
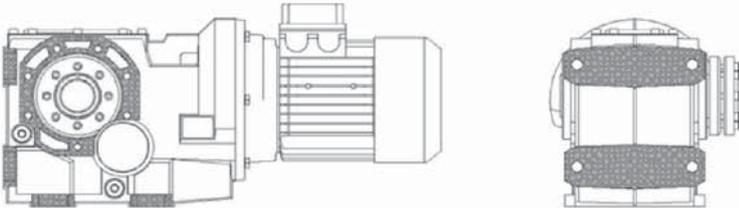
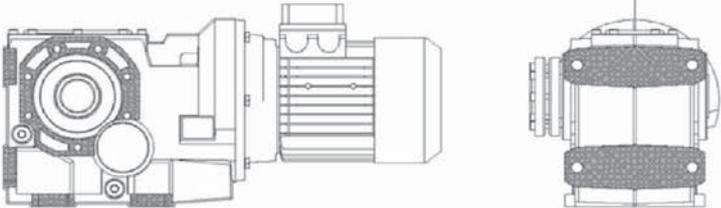
	<p>B ... SC</p> <p>- Flange mounting / hollow shaft. 法蘭安裝/中空軸</p>
	<p>B ... SD</p> <p>- Flange mounting / D solid shaft. 法蘭安裝/D側出力軸</p>
	<p>B ... SS</p> <p>- Flange mounting / S solid shaft. 法蘭安裝/S側出力軸</p>
	<p>B ... SP</p> <p>- Flange mounting / double output shaft. 法蘭安裝/雙出力軸</p>
	<p>B ... SL</p> <p>- Flange mounting / shrink disc shaft. 法蘭安裝/L側出力軸收縮盤</p>
	<p>B ... SM</p> <p>- Flange mounting / shrink disc shaft. 法蘭安裝/M側出力軸收縮盤</p>

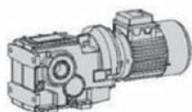


Versions / 變化形式

摩托迪克

083 - 103 - 123 - 143 - 153

	<p>B ... UC</p> <p>- Foot-flange mounting / hollow shaft. 腳座和法蘭安裝/中空軸</p>
	<p>B ... UD</p> <p>- Foot-flange mounting / D solid shaft. 腳座和法蘭安裝/D側出力軸</p>
	<p>B ... US</p> <p>- Foot-flange mounting / S solid shaft. 腳座和法蘭安裝/S側出力軸</p>
	<p>B ... UP</p> <p>- Foot-flange mounting / double output shaft. 腳座和法蘭安裝/雙出力軸</p>
	<p>B ... UL</p> <p>- Foot-flange mounting / shrink disc shaft. 腳座和法蘭安裝 /L側出力軸收緊環</p>
	<p>B ... UM</p> <p>- Foot-flange mounting / shrink disc shaft. 腳座和法蘭安裝 /M側出力軸收緊環</p>



Mounting positions / 安裝方式

摩托迪克

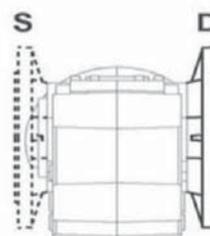
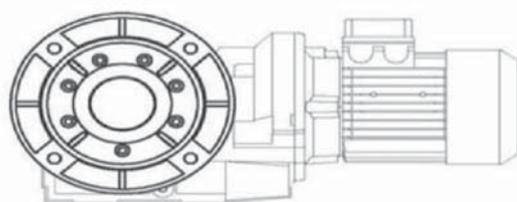
B3/B5	B6	V5/V1	V6/V3
B8	B7		

- For vertical positions, check with pages A8 .
垂直安裝請參考第 A8 頁

- Unless specified otherwise, the standard positions are B3.
除特別指定外,標準安裝位置為B3

- For positions not envisaged, it is necessary to call our Technical Service.
針對不設想的安裝位置,告知我們的技術服務部門是必要的

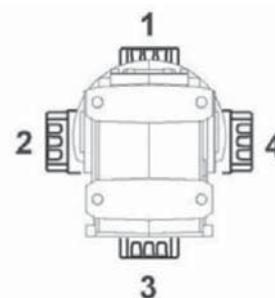
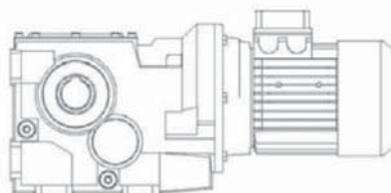
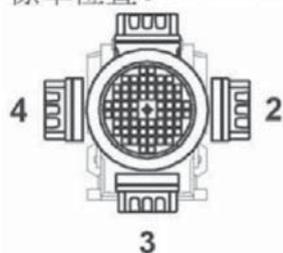
Output Flange / 出力法蘭

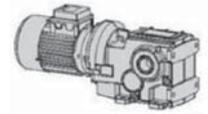


- For shrink disk version, it is always necessary to specify the mounting position.
For the other versions, unless specified otherwise, the reduction unit is supplied with the flange in pos. D referred to position B3.
附收緊環形式,指定安裝位置是必要的。
其他形式,除指定外否則依D側方向B3位置供貨。

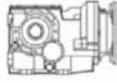
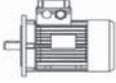
T.BOX / 馬達接線盒位置

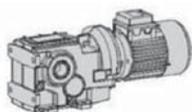
標準位置1 standard position



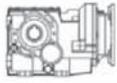
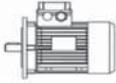


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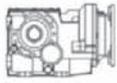
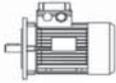
n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
367,5	4	>3	7,62	BA42	63A2	-	1440
263,7	6	>3	10,62	BA42	63A2	-	1609
216,2	7	>3	12,95	BA42	63A2	-	1719
193,6	8	>3	14,46	BA42	63A2	-	1783
170,0	9	>3	16,47	BA42	63A2	-	1862
121,9	13	>3	22,97	BA42	63A2	-	2081
100,0	15	>3	28	BA42	63A2	-	2222
89,5	17	>3	31,27	BA42	63A2	-	2306
82,9	19	>3	33,78	BA42	63A2	-	2366
59,4	27	>3	47,12	BA42	63A2	-	2643
48,8	32	2,8	57,43	BA42	63A2	-	2824
43,7	36	2,3	64,13	BA42	63A2	-	2929
35,8	44	1,9	78,17	BA42	63A2	-	3129
183,7	9	>3	7,62	BA42	63B4	-	1814
131,8	12	>3	10,62	BA42	63B4	-	2027
108,1	15	>3	12,95	BA42	63B4	-	2165
96,8	17	>3	14,46	BA42	63B4	-	2246
85,0	19	>3	16,47	BA42	63B4	-	2346
60,9	27	>3	22,97	BA42	63B4	-	2621
50,0	33	>3	28	BA42	63B4	-	2800
44,8	36	>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
55,9	29	>3	25,03	BA52	63B4	-	2890
44,3	37	>3	31,63	BA52	63B4	-	3124
39,9	41	>3	35,1	BA52	63B4	-	3235
33,4	49	>3	41,97	BA52	63B4	-	3433
27,3	60	>3	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
28,5	58	3,6	31,63	BA52	71A6	-	3620
25,6	64	3,3	35,10	BA52	71A6	-	3748
21,4	77	2,7	41,97	BA52	71A6	-	3978
17,5	94	2,5	51,34	BA52	71A6	-	4000
13,9	119	1,8	64,87	BA52	71A6	-	4000
11,4	145	1,4	79,07	BA52	71A6	-	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
12,2	128	1,8	73,70	BA53	71A6	-	4000
9,6	162	1,4	93,33	BA53	71A6	-	4000
8,1	194	1,2	111,61	BA53	71A6	-	4000
6,6	237	1,0	136,53	BA53	71A6	-	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

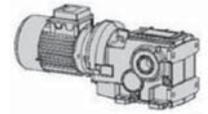


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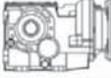
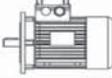
n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
5,4	288	1,6	260,20	BA73	63B4	10000	5500
4,3	356	1,3	321,85	BA73	63B4	10000	5500
3,9	396	1,1	357,95	BA73	63B4	10000	5500
3,2	489	0,9	442,76	BA73	63B4	10000	5500
11,1	140	3,4	80,83	BA73	71A6	10000	5500
9,3	169	2,8	97,29	BA73	71A6	10000	5500
7,5	209	2,3	120,34	BA73	71A6	10000	5500
6,0	260	1,8	149,73	BA73	71A6	10000	5500
5,0	313	1,5	180,23	BA73	71A6	10000	5500
4,0	387	1,2	222,93	BA73	71A6	10000	5500
3,5	452	1,0	260,20	BA73	71A6	10000	5500

0.25kW

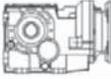
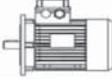
n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
367,5	6	>3	7,62	BA42	63B2	-	1440
263,7	8	>3	10,62	BA42	63B2	-	1609
216,2	10	>3	12,95	BA42	63B2	-	1719
193,6	11	>3	14,46	BA42	63B2	-	1783
170,0	13	>3	16,47	BA42	63B2	-	1862
121,9	18	>3	22,97	BA42	63B2	-	2081
100	22	>3	28,00	BA42	63B2	-	2222
89,6	24	>3	31,27	BA42	63B2	-	2306
82,9	26	>3	33,78	BA42	63B2	-	2366
59,4	37	2,4	47,12	BA42	63B2	-	2643
48,8	45	2,0	57,43	BA42	63B2	-	2824
43,7	50	1,6	64,13	BA42	63B2	-	2929
35,8	61	1,4	78,17	BA42	63B2	-	3129
183,7	12	>3	7,62	BA42	63D4/71A4	-	1814
131,8	17	>3	10,62	BA42	63D4/71A4	-	2027
108,1	21	>3	12,95	BA42	63D4/71A4	-	2165
96,8	23	>3	14,46	BA42	63D4/71A4	-	2246
85,0	27	>3	16,47	BA42	63D4/71A4	-	2346
60,9	37	>3	22,97	BA42	63D4/71A4	-	2621
50,0	45	2,6	28,00	BA42	63D4/71A4	-	2800
44,8	51	2,4	31,27	BA42	63D4/71A4	-	2905
41,4	55	2,2	33,78	BA42	63D4/71A4	-	2981
29,7	76	1,6	47,12	BA42	63D4/71A4	-	3331
24,4	93	1,3	57,43	BA42	63D4/71A4	-	3558
21,8	104	1,1	64,13	BA42	63D4/71A4	-	3691
44,3	51	3,9	31,63	BA52	63D4/71A4	-	3124
39,9	57	3,5	35,10	BA52	63D4/71A4	-	3235
33,4	68	2,9	41,97	BA52	63D4/71A4	-	3433
27,3	83	2,6	51,34	BA52	63D4/71A4	-	3672
21,6	105	1,9	64,87	BA52	63D4/71A4	-	3970
17,7	128	1,6	79,07	BA52	63D4/71A4	-	4000
36,0	64	3,3	25,03	BA52	71B6	-	3349
28,5	81	2,6	31,63	BA52	71B6	-	3620
25,6	89	2,4	35,10	BA52	71B6	-	3748

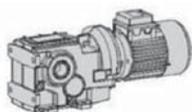


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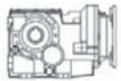
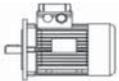
n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
21,4	107	2,0	41,97	BA52	71B6	-	3978
17,5	131	1,8	51,34	BA52	71B6	-	4000
13,9	165	1,3	64,87	BA52	71B6	-	4000
11,4	201	1,0	79,07	BA52	71B6	-	4000
19,0	113	1,9	73,70	BA53	63D4/71A4	-	4000
15,0	143	1,5	93,33	BA53	63D4/71A4	-	4000
12,5	171	1,3	111,61	BA53	63D4/71A4	-	4000
10,3	210	1,0	136,53	BA53	63D4/71A4	-	4000
17,3	124	3,6	80,83	BA73	63D4/71A4	10000	5411
14,4	149	3,0	97,29	BA73	63D4/71A4	10000	5500
11,6	185	2,4	120,34	BA73	63D4/71A4	10000	5500
9,4	230	2,0	149,73	BA73	63D4/71A4	10000	5500
7,8	277	1,6	180,23	BA73	63D4/71A4	10000	5500
6,3	342	1,3	222,93	BA73	63D4/71A4	10000	5500
5,4	399	1,1	260,20	BA73	63D4/71A4	10000	5500
4,3	494	0,9	321,85	BA73	63D4/71A4	10000	5500

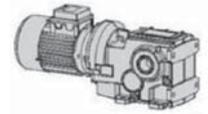
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n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
367,5	9	>3	7,62	BA42	63C2/71A2	-	1440
263,7	12	>3	10,62	BA42	63C2/71A2	-	1609
216,2	15	>3	12,95	BA42	63C2/71A2	-	1719
193,6	16	>3	14,46	BA42	63C2/71A2	-	1783
170,0	19	>3	16,47	BA42	63C2/71A2	-	1862
121,9	27	3,4	22,97	BA42	63C2/71A2	-	2081
100,0	32	2,8	28,00	BA42	63C2/71A2	-	2222
89,6	36	2,5	31,27	BA42	63C2/71A2	-	2306
82,9	39	2,3	33,78	BA42	63C2/71A2	-	2366
59,4	55	1,7	47,12	BA42	63C2/71A2	-	2643
48,8	66	1,4	57,43	BA42	63C2/71A2	-	2824
43,7	74	1,1	64,13	BA42	63C2/71A2	-	2929
183,7	18	>3	7,62	BA42	71B4	-	1814
131,8	25	>3	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
177,0	19	>3	7,91	BA52	71B4	-	1969
148,0	22	>3	9,46	BA52	71B4	-	2090
121,0	27	>3	11,57	BA52	71B4	-	2235
95,7	34	>3	14,63	BA52	71B4	-	2416
81,8	40	>3	17,11	BA52	71B4	-	2546
68,4	48	>3	20,46	BA52	71B4	-	2702
55,9	60	>3	25,03	BA52	71B4	-	2890

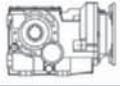
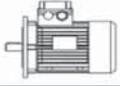


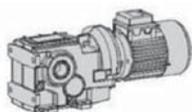
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n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
44,3	76	2,6	31,63	BA52	71B4	-	3124
39,9	84	2,4	35,10	BA52	71B4	-	3235
33,4	101	2,0	41,97	BA52	71B4	-	3433
27,3	123	1,8	51,34	BA52	71B4	-	3672
21,6	156	1,3	64,87	BA52	71B4	-	3970
17,7	190	1,1	79,07	BA52	71B4	-	4000
19,0	167	1,3	73,70	BA53	71B4	-	4000
15,0	212	1,0	93,33	BA53	71B4	-	4000
27,2	124	3,5	33,04	BA72	80A6	9306	4653
22,0	154	2,7	40,87	BA72	80A6	9989	4995
19,7	172	2,1	45,64	BA72	80A6	10000	5182
16,4	207	1,8	54,94	BA72	80A6	10000	5500
13,2	256	1,4	67,96	BA72	80A6	10000	5500
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
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
17,7	181	3,5	50,81	B063	71C6/80A6	12000	5456
15,8	203	3,1	56,93	B063	71C6/80A6	12000	5647
13,0	247	2,6	69,16	B063	71C6/80A6	12000	5987
11,6	277	2,3	77,48	B063	71C6/80A6	12000	6192
10	322	2,0	90,33	B063	71C6/80A6	12000	6477
8,9	361	1,7	101,20	B063	71C6/80A6	12000	6693
8,1	399	1,6	111,74	B063	71C6/80A6	12000	6885
7,2	443	1,4	124,20	B063	71C6/80A6	12000	7093
6,5	497	1,3	139,15	B063	71C6/80A6	12000	7320
5,7	562	1,1	157,42	B063	71C6/80A6	12000	7570
14,1	227	3,9	63,74	B083	80A6	18000	9031
13,0	247	3,6	69,14	B083	80A6	18000	9264
12,3	261	3,4	73,14	B083	80A6	18000	9428
11,1	288	3,1	80,76	B083	80A6	18000	9723
9,8	329	2,7	92,19	B083	80A6	18000	10130
8,9	359	2,5	100,57	B083	80A6	18000	10404
8,5	376	2,4	105,29	B083	80A6	18000	10551
7,7	415	2,2	116,25	B083	80A6	18000	10875
7,1	452	2,0	126,76	B083	80A6	18000	11164
6,2	517	1,7	144,77	B083	80A6	18000	11619
6,8	474	4,0	132,87	B103	80A6	22000	13970
6,2	516	3,7	144,69	B103	80A6	22000	14350
5,4	590	3,2	165,25	B103	80A6	22000	14958

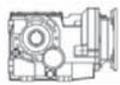
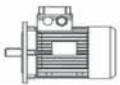


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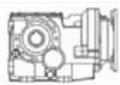
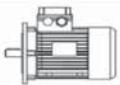
n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
108,1	46	2,0	12,95	BA42	71C4/80A4	-	2165
96,8	52	1,7	14,46	BA42	71C4/80A4	-	2246
85,0	59	2,0	16,47	BA42	71C4/80A4	-	2346
60,9	82	1,5	22,97	BA42	71C4/80A4	-	2621
50,0	100	1,2	28,00	BA42	71C4/80A4	-	2800
44,8	111	1,1	31,27	BA42	71C4/80A4	-	2905
41,4	120	1,0	33,78	BA42	71C4/80A4	-	2981
177,0	27	>3	7,91	BA52	71C4/80A4	-	1969
148,0	32	>3	9,46	BA52	71C4/80A4	-	2090
121,0	41	>3	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
56,6	85	>3	24,73	B083	71C4/80A4	18000	5390
48,6	98	>3	28,80	B083	71C4/80A4	18000	5585
44,8	107	>3	31,24	B083	71C4/80A4	18000	5913
38,1	126	>3	36,73	B083	71C4/80A4	18000	6105
34,1	140	>3	41,00	B083	71C4/80A4	18000	6462
30,8	155	>3	45,44	B083	71C4/80A4	18000	6788
25,6	187	>3	54,74	B083	71C4/80A4	18000	7126
24,4	196	>3	57,27	B083	71C4/80A4	18000	7403
22,0	215	>3	63,74	B083	71C4/80A4	18000	7772
20,2	233	>3	69,14	B083	71C4/80A4	18000	7971
19,1	247	>3	73,14	B083	71C4/80A4	18000	8112
17,3	273	>3	80,76	B083	71C4/80A4	18000	8364
15,2	311	2,7	92,19	B083	71C4/80A4	18000	8711
13,9	340	2,5	100,57	B083	80A4	18000	8945

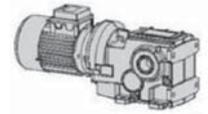


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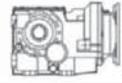
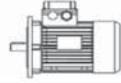
n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
13,3	356	2,4	105,29	B083	80A4	18000	9070
12,0	393	2,2	116,25	B083	80A4	18000	9346
11,0	428	2,0	126,76	B083	80A4	18000	9592
9,7	489	1,7	144,77	B083	80A4	18000	9978

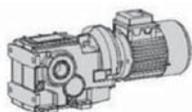
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n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
367,6	18	3,8	7,62	BA42	71C2/80A2	-	1440
263,6	25	2,7	10,62	BA42	71C2/80A2	-	1609
216,3	30	2,2	12,95	BA42	71C2/80A2	-	1719
193,7	34	2,0	14,46	BA42	71C2/80A2	-	1783
170,0	39	2,3	16,47	BA42	71C2/80A2	-	1862
121,9	54	1,7	22,97	BA42	71C2/80A2	-	2081
100,0	66	1,4	28,00	BA42	71C2/80A2	-	2222
89,6	73	1,2	31,27	BA42	71C2/80A2	-	2306
82,9	79	1,1	33,78	BA42	71C2/80A2	-	2366
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
177,0	36	3,8	7,91	BA52	80B4	-	1969
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

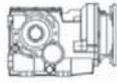
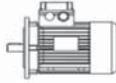


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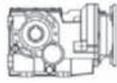
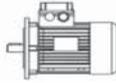
n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
20,2	318	1,9	69,16	B063	80B4	12000	5031
18,1	357	1,7	77,48	B063	80B4	12000	5192
15,5	416	1,4	90,33	B063	80B4	12000	5412
13,8	466	1,3	101,20	B063	80B4	12000	5577
12,5	515	1,2	111,74	B063	80B4	12000	5722
11,3	572	1,0	124,20	B063	80B4	12000	5877
10,1	641	0,9	139,15	B063	80B4	12000	6044
179,3	36	>3	7,81	B083	80B4	13361	3817
162,4	40	>3	8,62	B083	80B4	13769	3934
133,5	48	>3	10,49	B083	80B4	14604	4173
120,8	53	>3	11,59	B083	80B4	15039	4297
97,0	66	>3	14,43	B083	80B4	16034	4581
84,3	76	>3	16,60	B083	80B4	16689	4768
76,4	84	>3	18,32	B083	80B4	17162	4903
69,7	92	>3	20,08	B083	80B4	18000	5068
61,3	105	>3	22,82	B083	80B4	18000	5209
56,6	114	>3	24,73	B083	80B4	18000	5390
48,6	132	>3	28,80	B083	80B4	18000	5585
44,8	143	>3	31,24	B083	80B4	18000	5913
38,1	169	>3	36,73	B083	80B4	18000	6105
34,1	188	>3	41,00	B083	80B4	18000	6462
30,8	209	>3	45,44	B083	80B4	18000	6788
27,4	236	>3	51,19	B083	80B4	18000	7183
25,2	256	>3	55,52	B083	80B4	18000	7365
23,4	276	>3	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
11,0	584	1,5	126,76	B083	80B4	18000	9412
9,7	667	1,3	144,77	B083	80B4	18000	9773
12,0	535	1,6	116,25	B083	80B4	18000	9181
28,3	230	3,9	31,80	B083	80C6/90S6	18000	7105
26,1	250	3,6	34,49	B083	80C6/90S6	18000	7285
22,7	286	3,1	39,60	B083	80C6/90S6	18000	7599
21,0	311	2,9	42,95	B083	80C6/90S6	18000	7789
19,8	329	2,7	45,44	B083	80C6/90S6	18000	7922
17,6	370	2,4	51,19	B083	80C6/90S6	18000	8210
16,2	402	2,2	55,52	B083	80C6/90S6	18000	8411
15,0	434	2,1	59,96	B083	80C6/90S6	18000	8604
14,1	461	1,9	63,74	B083	80C6/90S6	18000	8761
13,0	500	1,8	69,14	B083	80C6/90S6	18000	8971
12,3	529	1,7	73,14	B083	80C6/90S6	18000	9118
11,1	584	1,5	80,76	B083	80C6/90S6	18000	9381
9,8	667	1,3	92,19	B083	80C6/90S6	18000	9739
8,9	728	1,2	100,57	B083	80C6/90S6	18000	9978
8,5	762	1,2	105,29	B083	80C6/90S6	18000	10105
7,7	841	1,1	116,25	B083	80C6/90S6	18000	10383
7,1	917	1,0	126,76	B083	80C6/90S6	18000	10627

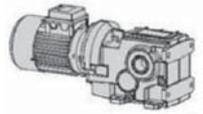


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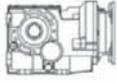
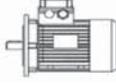
n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
13,3	486	3,7	105,44	B103	80B4	22000	11075
12,2	529	3,4	114,80	B103	80B4	22000	11370
11,6	554	3,2	120,42	B103	80B4	22000	11538
10,5	612	2,9	132,87	B103	80B4	22000	11891
9,7	666	2,7	144,69	B103	80B4	22000	12203
8,5	761	2,4	165,25	B103	80B4	22000	12703
13,9	469	3,8	64,89	B103	80C6/90S6	22000	10923
13,1	496	3,6	68,58	B103	80C6/90S6	22000	11111
12,4	526	3,4	72,76	B103	80C6/90S6	22000	11316
11,4	571	3,1	78,92	B103	80C6/90S6	22000	11602
10,8	605	3,1	83,66	B103	80C6/90S6	22000	11811
9,8	668	2,8	92,31	B103	80C6/90S6	22000	12169
8,5	763	2,5	105,44	B103	80C6/90S6	22000	12668
7,8	830	2,3	114,80	B103	80C6/90S6	22000	12995
7,5	871	2,2	120,42	B103	80C6/90S6	22000	13181
6,8	961	2,0	132,87	B103	80C6/90S6	22000	13570
6,2	1047	1,8	144,69	B103	80C6/90S6	22000	13914
5,4	1195	1,6	165,25	B103	80C6/90S6	22000	14460
6,9	940	3,9	129,96	B123	90S6	30000	18955
6,2	1045	3,5	144,43	B123	90S6	30000	19541
5,6	1159	3,2	160,23	B123	90S6	30000	20127
5,0	1305	2,8	180,40	B123	90S6	30000	20808

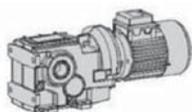
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n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
176,9	56	2,8	7,91	BA52	80D4/90S4	-	1969
148,0	67	2,4	9,46	BA52	80D4/90S4	-	2090
121,0	83	1,9	11,57	BA52	80D4/90S4	-	2235
95,7	104	1,5	14,63	BA52	80D4/90S4	-	2416
81,8	122	1,6	17,11	BA52	80D4/90S4	-	2546
68,4	146	1,4	20,46	BA52	80D4/90S4	-	2702
55,9	178	1,1	25,03	BA52	80D4/90S4	-	2890
112,5	89	3,9	12,44	BA72	80D4/90S4	5800	2900
93,9	106	4,0	14,91	BA72	80D4/90S4	6160	3080
78,0	128	3,3	17,94	BA72	80D4/90S4	6552	3276
63,1	158	2,7	22,19	BA72	80D4/90S4	7033	3517
51,0	196	2,1	27,45	BA72	80D4/90S4	7550	3775
42,4	236	1,8	33,04	BA72	80D4/90S4	8031	4016
34,3	291	1,4	40,87	BA72	80D4/90S4	8621	4311
30,7	325	1,1	45,64	BA72	80D4/90S4	8944	4472
31,9	296	1,5	43,89	BA73	80D4/90S4	8828	4414
26,5	357	1,3	52,83	BA73	80D4/90S4	9391	4696
21,4	441	1,0	65,35	BA73	80D4/90S4	10000	5041
245,2	39	>3	5,71	B063	80D4/90S4	7948	2271
203,5	46	>3	6,88	B063	80D4/90S4	8406	2402
191,3	49	>3	7,32	B063	80D4/90S4	8565	2447
152,8	62	>3	9,16	B063	80D4/90S4	9150	2615
136,5	69	>3	10,26	B063	80D4/90S4	9458	2702

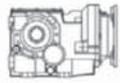
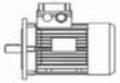


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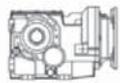
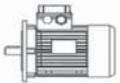
n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
126,9	74	>3	11,03	B063	80D4/90S4	9656	2759
113,4	83	>3	12,35	B063	80D4/90S4	9974	2850
106,5	89	>3	13,15	B063	80D4/90S4	10151	2900
92,2	102	>3	15,18	B063	80D4/90S4	10563	3018
82,4	115	>3	17,00	B063	80D4/90S4	11225	3207
62,5	151	>3	22,39	B063	80D4/90S4	12000	3542
53,7	176	>3	26,09	B063	80D4/90S4	12000	3705
49,9	189	>3	28,03	B063	80D4/90S4	12000	3783
41,9	226	2,7	33,43	B063	80D4/90S4	12000	3980
36,3	261	2,3	38,58	B063	80D4/90S4	12000	4144
32,4	292	2,1	43,22	B063	80D4/90S4	12000	4276
27,6	343	1,7	50,81	B063	80D4/90S4	12000	4468
24,6	384	1,6	56,93	B063	80D4/90S4	12000	4604
20,2	467	1,3	69,16	B063	80D4/90S4	12000	4840
18,1	523	1,1	77,48	B063	80D4/90S4	12000	4977
179,3	53	>3	7,81	B083	80D4/90S4	13361	3817
162,4	58	>3	8,62	B083	80D4/90S4	13769	3934
133,5	71	>3	10,49	B083	80D4/90S4	14604	4173
120,8	78	>3	11,59	B083	80D4/90S4	15039	4297
97,0	97	>3	14,43	B083	80D4/90S4	16034	4581
84,3	112	>3	16,60	B083	80D4/90S4	16689	4768
76,4	124	>3	18,32	B083	80D4/90S4	17162	4903
69,7	136	>3	20,08	B083	80D4/90S4	18000	5068
61,3	154	>3	22,82	B083	80D4/90S4	18000	5209
56,6	167	>3	24,73	B083	80D4/90S4	18000	5390
52,4	180	>3	26,71	B083	80D4/90S4	18000	5718
47,5	199	>3	29,50	B083	80D4/90S4	18000	5890
44,0	215	>3	31,80	B083	80D4/90S4	18000	6113
40,6	233	>3	34,49	B083	80D4/90S4	18000	6267
35,4	267	>3	39,60	B083	80D4/90S4	18000	6535
32,6	290	2,9	42,95	B083	80D4/90S4	18000	6697
30,8	307	2,8	45,44	B083	80D4/90S4	18000	6810
27,4	346	2,5	51,19	B083	80D4/90S4	18000	7056
25,2	375	2,3	55,52	B083	80D4/90S4	18000	7227
23,4	405	2,1	59,96	B083	80D4/90S4	18000	7391
22,0	430	2,0	63,74	B083	80D4/90S4	18000	7523
20,2	467	1,8	69,14	B083	80D4/90S4	18000	7702
19,1	494	1,7	73,14	B083	80D4/90S4	18000	7826
17,3	545	1,6	80,76	B083	80D4/90S4	18000	8049
15,2	623	1,4	92,19	B083	80D4/90S4	18000	8351
13,9	679	1,3	100,57	B083	80D4/90S4	18000	8553
13,3	711	1,2	105,29	B083	80D4/90S4	18000	8659
12,0	785	1,1	116,25	B083	80D4/90S4	18000	8892
11,0	856	1,0	126,76	B083	80D4/90S4	18000	9097
21,6	438	3,9	64,89	B103	8004/90S4	22000	9400
20,4	463	3,7	68,58	B103	80D4/90S4	22000	9561
19,2	491	3,5	72,76	B103	80D4/90S4	22000	9736
17,7	533	3,2	78,92	B103	80D4/90S4	22000	9980
16,7	565	3,2	83,66	B103	80D4/90S4	22000	10158
15,2	623	2,9	92,31	B103	80D4/90S4	22000	10464
13,3	712	2,5	105,44	B103	80D4/90S4	22000	10889
12,2	775	2,3	114,80	B103	80D4/90S4	22000	11167
11,6	813	2,2	120,42	B103	80D4/90S4	22000	11325

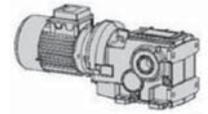


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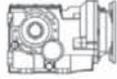
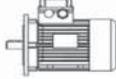
n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
10,5	897	2,0	132,87	B103	80D4/90S4	22000	11656
9,7	977	1,8	144,69	B103	80D4/90S4	22000	11948
8,5	1116	1,6	165,25	B103	80D4/90S4	22000	12411

1.50kW

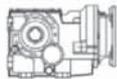
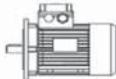
n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
245,2	52	>3	5,71	B063	90LA4	7948	2271
203,5	63	>3	6,88	B063	90LA4	8406	2402
191,3	67	>3	7,32	B063	90LA4	8565	2447
152,8	84	>3	9,16	B063	90LA4	9150	2615
136,5	94	>3	10,26	B063	90LA4	9458	2702
126,9	101	>3	11,03	B063	90LA4	9656	2759
113,4	113	>3	12,35	B063	90LA4	9974	2850
106,5	121	>3	13,15	B063	90LA4	10151	2900
92,2	139	>3	15,18	B063	90LA4	10563	3018
82,3	157	>3	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
179,3	81	>3	7,81	B083	90LA4	13361	3817
162,4	89	>3	8,62	B083	90LA4	13769	3934
133,5	108	>3	10,49	B083	90LA4	14604	4173
120,8	119	>3	11,59	B083	90LA4	15039	4297
97,0	148	>3	14,43	B083	90LA4	16034	4581
84,3	170	>3	16,60	B083	90LA4	16689	4768
76,4	188	>3	18,32	B083	90LA4	17162	4903
69,7	206	>3	20,08	B083	90LA4	18000	5068
61,3	234	>3	22,82	B083	90LA4	18000	5209
56,6	253	>3	24,73	B083	90LA4	18000	5390
52,4	246	>3	26,71	B083	90LA4	18000	5718
47,5	272	>3	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
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

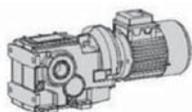


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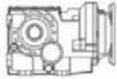
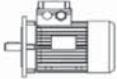
n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
17,3	744	1,1	80,76	B083	90LA4	18000	7820
15,2	849	1,0	92,19	B083	90LA4	18000	8089
13,9	926	0,9	100,57	B083	90LA4	18000	8267
29,6	435	3,9	47,28	B103	90LA4	22000	8425
27,9	463	3,7	50,24	B103	90LA4	22000	8582
26,4	488	3,5	53,02	B103	90LA4	22000	8723
23,9	539	3,2	58,50	B103	90 LM	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

1.85kW

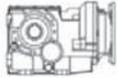
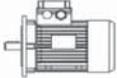
n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
191,3	83	>3	7,32	B063	90LB4	8565	2448
152,8	104	>3	9,16	B063	90LB4	9150	2615
136,5	116	>3	10,26	B063	90LB4	9458	2702
126,9	125	>3	11,03	B063	90LB4	9656	2759
113,4	140	>3	12,35	B063	90LB4	9974	2850
106,5	149	>3	13,15	B063	90LB4	10279	2937
92,3	172	>3	15,18	B063	90LB4	10710	3060
82,3	193	>3	17,00	B063	90LB4	11060	3160
62,5	254	2,4	22,39	B063	90LB4	11931	3409
53,7	296	2,0	26,09	B063	90LB4	12000	3550
49,9	318	1,9	28,03	B063	90LB4	12000	3617
41,9	380	1,6	33,43	B063	90LB4	12000	3781
36,3	438	1,4	38,58	B063	90LB4	12000	3915
32,4	491	1,2	43,22	B063	90LB4	12000	4020
27,6	577	1,0	50,81	B063	90LB4	12000	4166
24,6	647	0,9	56,93	B063	90LB4	12000	4266
179,3	89	>3	7,81	B083	90LB4	13361	3817
162,4	98	>3	8,62	B083	90LB4	13769	3935
133,5	119	>3	10,49	B083	90LB4	14605	4173
120,8	131	>3	11,59	B083	90LB4	15039	4297
97,0	164	>3	14,43	B083	90LB4	16035	4581
84,3	188	>3	16,60	B083	90LB4	16689	4768
76,4	208	>3	18,32	B083	90LB4	17162	4903
69,7	228	>3	20,08	B083	90LB4	17530	5130
61,4	259	>3	22,82	B083	90LB4	18000	5396
52,4	303	2,8	26,71	B083	90LB4	18000	5652
47,5	335	2,5	29,50	B083	90LB4	18000	5817
44,0	361	2,4	31,80	B083	90LB4	18000	5944
40,6	392	2,2	34,49	B083	90LB4	18000	6083
35,4	450	1,9	39,60	B083	90LB4	18000	6324
32,6	488	1,7	42,95	B083	90LB4	18000	6468

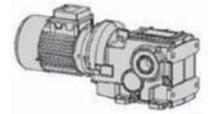


1.85kW

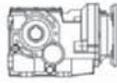
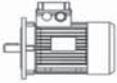
n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
30,8	516	1,6	45,44	B083	90LB4	18000	6568
27,4	581	1,5	51,19	B083	90LB4	18000	6783
25,2	631	1,3	55,52	B083	90LB4	18000	6931
23,4	681	1,2	59,96	B083	90LB4	18000	7072
22,0	724	1,2	63,74	B083	90LB4	18000	7184
20,2	785	1,1	69,14	B083	90LB4	18000	7334
19,1	831	1,0	73,14	B083	90LB4	18000	7437
17,3	917	0,9	80,76	B083	90LB4	18000	7619
34,0	467	3,6	41,12	B103	90LB4	22000	7999
31,4	507	3,4	44,61	B103	90LB4	22000	8197
29,6	537	3,2	47,28	B103	90LB4	22000	8341
27,9	571	3,0	50,24	B103	90LB4	22000	8493
26,4	602	2,8	53,02	B103	90LB4	22000	8630
23,9	664	2,6	58,50	B103	90LB4	22000	8883
21,6	737	2,3	64,89	B103	90LB4	22000	9154
20,4	779	2,2	68,58	B103	90LB4	22000	9301
19,2	826	2,1	72,76	B103	90LB4	22000	9460
17,7	896	1,9	78,92	B103	90LB4	22000	9682
16,7	950	1,9	83,66	B103	90LB4	22000	9842
15,2	1048	1,7	92,31	B103	90LB4	22000	10115
13,3	1198	1,5	105,44	B103	90LB4	22000	10490
12,2	1304	1,4	114,80	B103	90LB4	22000	10733
11,6	1368	1,3	120,42	B103	90LB4	22000	10870
10,5	1509	1,2	132,87	B103	90LB4	22000	11154
9,7	1643	1,1	144,69	B103	90LB4	22000	11400
8,5	1877	1,0	165,25	B103	90LB4	22000	11786
17,5	909	3,9	80,04	B123	90LB4	30000	13631
13,1	1211	2,9	106,65	B123	90LB4	30000	14723
11,7	1358	2,6	119,60	B123	90LB4	30000	15165
10,8	1476	2,4	129,96	B123	90LB4	30000	15486
9,7	1640	2,1	144,43	B123	90LB4	30000	15894
8,7	1820	1,9	160,23	B123	90LB4	30000	16294
7,8	2049	1,7	180,40	B123	90LB4	30000	16747

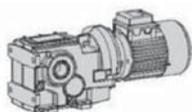
2.20kW

n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
245,0	77	>3	5,71	B063	90LB4/100LA4	7948	2271
203,5	93	>3	6,88	B063	90LB4/100LA4	8406	2402
191,2	99	>3	7,32	B063	90LB4/100LA4	8564	2447
152,8	124	>3	9,16	B063	90LB4/100LA4	9151	2614
136,4	139	>3	10,26	B063	90LB4/100LA4	9458	2702
127,0	149	>3	11,03	B063	90LB4/100LA4	9656	2759
113,3	167	>3	12,35	B063	90LB4/100LA4	9974	2850
106,5	178	>3	13,15	B063	90LB4/100LA4	10151	2900
92,3	205	2,9	15,18	B063	90LB4/100LA4	10563	3018
82,3	230	2,6	17,00	B063	90LB4/100LA4	10895	3113
62,5	302	2,0	22,39	B063	90LB4/100LA4	11714	3347
53,7	352	1,7	26,09	B063	90LB4/100LA4	12000	3478
49,9	379	1,6	28,03	B063	90LB4/100LA4	12000	3539

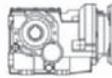
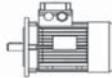


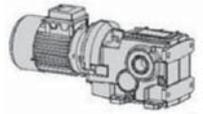
2.20kW

n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
41,9	452	1,3	33,43	B063	90LB4/100LA4	12000	3689
36,3	521	1,2	38,58	B063	90LB4/100LA4	12000	3808
32,4	584	1,0	43,22	B063	90LB4/100LA4	12000	3900
179,3	105	>3	7,81	B083	90LB4/100LA4	11980	3423
162,4	116	>3	8,62	B083	90LB4/100LA4	12040	3440
133,5	142	>3	10,49	B083	90LB4/100LA4	12807	3659
120,8	156	>3	11,59	B083	90LB4/100LA4	12915	3690
97,0	195	>3	14,43	B083	90LB4/100LA4	13870	3963
84,4	224	>3	16,60	B083	90LB4/100LA4	17019	4863
76,4	247	>3	18,32	B083	90LB4/100LA4	17526	5008
61,4	308	2,8	22,82	B083	90LB4/100LA4	18000	5339
52,4	361	2,4	26,71	B083	90LB4/100LA4	18000	5585
47,5	398	2,1	29,50	B083	90LB4/100LA4	18000	5743
44,0	429	2,0	31,80	B083	90LB4/100LA4	18000	5865
40,6	466	1,8	34,49	B083	90LB4/100LA4	18000	5998
35,4	535	1,6	39,60	B083	90LB4/100LA4	18000	6226
32,6	580	1,5	42,95	B083	90LB4/100LA4	18000	6361
30,8	614	1,4	45,44	B083	90LB4/100LA4	18000	6456
27,4	691	1,2	51,19	B083	90LB4/100LA4	18000	6656
25,2	750	1,1	55,52	B083	90LB4/100LA4	18000	6793
23,4	810	1,0	59,96	B083	90LB4/100LA4	18000	6923
22,0	861	1,0	63,74	B083	90LB4/100LA4	18000	7026
20,2	934	0,9	69,14	B083	90LB4/100LA4	18000	7162
45,8	413	3,9	30,55	B103	90LB4/100LA4	22000	7254
42,3	447	3,8	33,07	B103	90LB4/100LA4	22000	7429
39,0	484	3,5	35,87	B103	90LB4/100LA4	22000	7612
34,0	555	3,1	41,12	B103	90LB4/100LA4	22000	7927
31,4	603	2,8	44,61	B103	90LB4/100LA4	22000	8119
29,6	639	2,7	47,28	B103	90LB4/100LA4	22000	8258
27,9	679	2,5	50,24	B103	90LB4/100LA4	22000	8404
26,4	716	2,4	53,02	B103	90LB4/100LA4	22000	8536
23,9	790	2,2	58,50	B103	90LB4/100LA4	22000	8779
21,6	876	1,9	64,89	B103	90LB4/100LA4	22000	9040
20,4	926	1,8	68,58	B103	90LB4/100LA4	22000	9180
19,2	983	1,7	72,76	B103	90LB4/100LA4	22000	9332
17,7	1066	1,6	78,92	B103	90LB4/100LA4	22000	9542
16,7	1130	1,6	83,66	B103	90LB4/100LA4	22000	9694
15,2	1247	1,4	92,31	B103	90LB4/100LA4	22000	9952
13,3	1424	1,3	105,44	B103	90LB4/100LA4	22000	10304
12,2	1551	1,2	114,80	B103	90LB4/100LA4	22000	10530
11,6	1626	1,1	120,42	B103	90LB4/100LA4	22000	10657
10,5	1795	1,0	132,87	B103	90LB4/100LA4	22000	10919
9,7	1954	0,9	144,69	B103	90LB4/100LA4	22000	11145
23,6	802	4,0	59,36	B123	90LB4/100LA4	30000	12366
22,4	845	3,9	62,59	B123	90LB4/100LA4	30000	12548
20,2	938	3,5	69,43	B123	90LB4/100LA4	30000	12907
18,8	1005	3,5	74,42	B123	90LB4/100LA4	30000	13150
17,5	1081	3,2	80,04	B123	90LB4/100LA4	30000	13405
15,6	1214	2,9	89,87	B123	90LB4/100LA4	30000	13815
14,0	1347	2,6	99,70	B123	90LB4/100LA4	30000	14183
13,1	1441	2,4	106,65	B123	90LB4/100LA4	30000	14422
11,7	1615	2,2	119,60	B123	90LB4/100LA4	30000	14827
10,8	1755	2,0	129,96	B123	90LB4/100LA4	30000	15120

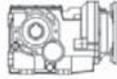
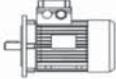


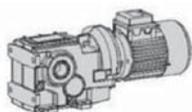
2.20kW

n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
9,7	1951	1,8	144,43	B123	90LB4/100LA4	30000	15487
8,7	2164	1,6	160,23	B123	90LB4/100LA4	30000	15842
7,8	2437	1,4	180,40	B123	90LB4/100LA4	30000	16238
25,9	736	4,0	34,68	B123	112MA6	30000	12032
22,2	860	3,4	40,53	B123	112MA6	30000	12562
20,0	953	3,3	44,89	B123	112MA6	30000	12915
18,1	1057	3,2	49,80	B123	112MA6	30000	13277
16,6	1152	2,9	54,30	B123	112MA6	30000	13580
15,2	1260	2,7	59,36	B123	112MA6	30000	13894
14,4	1328	2,6	62,59	B123	112MA6	30000	14081
13,0	1473	2,4	69,43	B123	112MA6	30000	14448
12,1	1579	2,3	74,42	B123	112MA6	30000	14692
11,2	1698	2,2	80,04	B123	112MA6	30000	14947
10,0	1907	1,9	89,87	B123	112MA6	30000	15349
9,0	2116	1,7	99,70	B123	112MA6	30000	15704
8,4	2263	1,6	106,65	B123	112MA6	30000	15930
7,5	2538	1,4	119,60	B123	112MA6	30000	16305
6,9	2758	1,3	129,96	B123	112MA6	30000	16568
6,2	3065	1,2	144,43	B123	112MA6	30000	16888
14,9	1271	3,9	94,13	B143	90LB4/100LA4	45000	45000
13,2	1429	3,5	105,83	B143	90LB4/100LA4	45000	45000
12,5	1512	3,3	111,94	B143	90LB4/100LA4	45000	45000
11,2	1683	3,0	124,62	B143	90LB4/100LA4	45000	45000
10,3	1843	2,7	136,44	B143	90LB4/100LA4	45000	45000
9,4	2020	2,5	149,59	B143	90LB4/100LA4	45000	45000
8,4	2249	2,2	166,53	B143	90LB4/100LA4	45000	45000
7,5	2529	2,0	187,24	B143	90LB4/100LA4	45000	45000
13,9	1377	3,8	64,88	B143	112MA6	45000	45000
12,8	1495	3,5	70,43	B143	112MA6	45000	45000
11,7	1636	3,2	77,12	B143	112MA6	45000	45000
10,5	1815	2,9	85,54	B143	112MA6	45000	45000
9,6	1997	2,6	94,13	B143	112MA6	45000	45000
8,5	2246	2,3	105,83	B143	112MA6	45000	45000
8,0	2375	2,2	111,94	B143	112MA6	45000	45000
7,2	2644	2,0	124,62	B143	112MA6	45000	45000
6,6	2895	1,8	136,44	B143	112MA6	45000	45000
6,0	3174	1,7	149,59	B143	112MA6	45000	45000
5,4	3534	1,5	166,53	B143	112MA6	45000	45000
4,8	3973	1,3	187,24	B143	112MA6	45000	45000

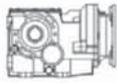
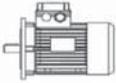


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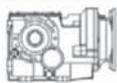
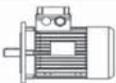
n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
245,0	105	2,8	5,71	B063	100LB4	7821	2235
203,5	127	2,7	6,88	B063	100LB4	8253	2358
191,2	135	2,6	7,32	B063	100LB4	8402	2401
152,8	169	2,7	9,16	B063	100LB4	8948	2556
136,4	189	2,8	10,26	B063	100LB4	9231	2637
127,0	203	2,7	11,03	B063	100LB4	9412	2689
113,3	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
25,8	1000	3,2	54,30	B123	100LB4	30000	11713

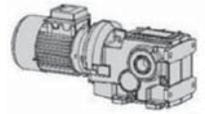


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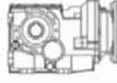
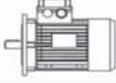
n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
23,6	1093	2,9	59,36	B123	100LB4	30000	11983
22,4	1153	2,9	62,59	B123	100LB4	30000	12144
20,2	1279	2,6	69,43	B123	100LB4	30000	12460
18,8	1371	2,6	74,42	B123	100LB4	30000	12670
17,5	1474	2,4	80,04	B123	100LB4	30000	12889
15,6	1655	2,1	89,87	B123	100LB4	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

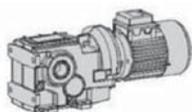
4.00kW

n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
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
127,0	271	2,0	11,03	B063	112MA4	9106	2602
113,3	303	1,9	12,35	B063	112MA4	9358	2674
106,5	323	1,8	13,15	B063	112MA4	9495	2713
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
266,8	124	3,9	10,49	B083	100LB2	11709	3345
194,0	171	3,6	14,43	B083	100LB2	12888	3682
168,7	197	3,2	16,60	B083	100LB2	13432	3838
152,8	217	2,9	18,32	B083	100LB2	13827	3951
122,7	270	2,4	22,82	B083	100LB2	14727	4208
104,8	317	2,0	26,71	B083	100LB2	15394	4398
94,9	350	1,8	29,50	B083	100LB2	15820	4520
88,1	377	1,7	31,80	B083	100LB2	16147	4613
81,2	409	1,6	34,49	B083	100LB2	16504	4715
70,7	469	1,4	39,60	B083	100LB2	17114	4890

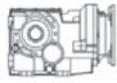
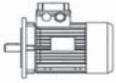


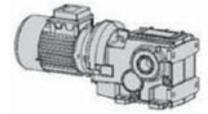
4.00kW

n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
65,2	509	1,3	42,95	B083	100LB2	17475	4993
61,6	538	1,2	45,44	B083	100LB2	17726	5065
54,7	606	1,1	51,19	B083	100LB2	18000	5216
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
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

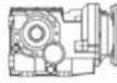
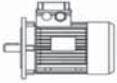


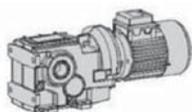
4.00kW

n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
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
27,3	1274	3,9	33,01	B143	132MA6	42480	42480
24,5	1415	3,6	36,67	B143	132MA6	43652	43652
22,3	1554	3,2	40,29	B143	132MA6	44704	44704
20,4	1704	3,0	44,16	B143	132MA6	45000	45000
18,6	1865	2,8	48,35	B143	132MA6	45000	45000
16,9	2051	2,6	53,16	B143	132MA6	45000	45000
16,5	2108	2,5	54,63	B143	132MA6	45000	45000
15,3	2277	2,3	59,02	B143	132MA6	45000	45000
13,9	2503	2,1	64,88	B143	132MA6	45000	45000
12,8	2718	1,9	70,43	B143	132MA6	45000	45000
11,7	2975	1,8	77,12	B143	132MA6	45000	45000
10,5	3300	1,6	85,54	B143	132MA6	45000	45000
9,6	3632	1,4	94,13	B143	132MA6	45000	45000
8,5	4083	1,3	105,83	B143	132MA6	45000	45000
8,0	4319	1,2	111,94	B143	132MA6	45000	45000
7,2	4808	1,1	124,62	B143	132MA6	45000	45000
6,6	5264	1,0	136,44	B143	132MA6	45000	45000
6,0	5771	0,9	149,59	B143	132MA6	45000	45000
16,5	2108	4,0	54,64	B153	132MA6	65000	65000
15,7	2210	3,8	57,27	B153	132MA6	65000	65000
14,8	2351	3,6	60,92	B153	132MA6	65000	65000
14,2	2449	3,4	63,47	B153	132MA6	65000	65000
12,7	2745	3,1	71,15	B153	132MA6	65000	65000
11,7	2979	2,8	77,22	B153	132MA6	65000	65000
10,7	3237	2,6	83,89	B153	132MA6	65000	65000
10,3	3382	2,5	87,65	B153	132MA6	65000	65000
9,7	3590	2,3	93,05	B153	132MA6	65000	65000
8,7	3978	2,1	103,12	B153	132MA6	65000	65000
7,3	4779	1,8	123,88	B153	132MA6	65000	65000
6,7	5180	1,6	134,27	B153	132MA6	65000	65000
6,0	5759	1,5	149,26	B153	132MA6	65000	65000
5,4	6382	1,3	165,42	B153	132MA6	65000	65000

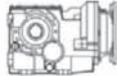
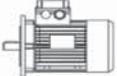


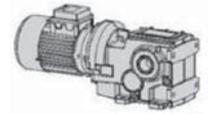
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n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
266,8	171	2,9	10,49	B083	112MB2/132SA2	11520	3291
241,6	189	3,0	11,59	B083	112MB2/132SA2	11858	3388
194	235	2,6	14,43	B083	112MB27132SA2	12628	3608
168,7	270	2,4	16,60	B083	112MB2/132SA2	13134	3752
152,8	299	2,1	18,32	B083	112MB2/132SA2	13498	3856
122,7	372	1,7	22,82	B083	112MB2/132SA2	14317	4091
104,8	435	1,5	26,71	B083	112MB2/132SA2	14914	4261
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

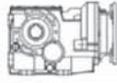
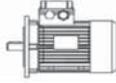


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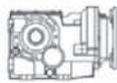
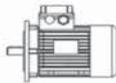
n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
113,0	423	3,7	7,97	B123	132MB6	25919	7405
93,6	510	3,7	9,62	B123	132MB6	27324	7807
87,1	548	3,8	10,33	B123	132MB6	27867	7962
72,1	662	3,2	12,48	B123	132MB6	29316	8376
65,0	734	3,0	13,84	B123	132MB6	30000	8606
58,5	816	2,7	15,38	B123	132MB6	30000	8841
48,5	985	2,3	18,58	B123	132MB6	30000	9262
43,7	1093	2,4	20,61	B123	132MB6	30000	9492
39,5	1209	2,4	22,78	B123	132MB6	30000	9712
34,8	1373	2,1	25,89	B123	132MB6	30000	9988
32,7	1459	2,0	27,51	B123	132MB6	30000	10116
29,2	1634	1,8	30,79	B123	132MB6	30000	10348
28,8	1659	1,8	31,26	B123	132MB6	30000	10378
25,9	1840	1,6	34,68	B123	132MB6	30000	10582
22,2	2150	1,4	40,53	B123	132MB6	30000	10868
20,0	2381	1,3	44,89	B123	132MB6	30000	11038
18,1	2642	1,3	49,80	B123	132MB6	30000	11195
16,6	2881	1,2	54,30	B123	132MB6	30000	11310
15,2	3149	1,1	59,36	B123	132MB6	30000	11413
14,4	3320	1,0	62,59	B123	132MB6	30000	11465
13,0	3683	0,9	69,43	B123	132MB6	30000	11545
12,1	3948	0,9	74,42	B123	132MB6	30000	11581
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
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
52,8	904	3,7	17,04	B143	132MB6	34499	34499
48,2	990	3,8	18,66	B143	132MB6	35349	35349
42,9	1114	3,8	21,00	B143	132MB6	36466	36466
39,5	1208	3,8	22,77	B143	132MB6	37238	37238
35,1	1360	3,6	25,63	B143	132MB6	38364	38364
32,8	1456	3,3	27,44	B143	132MB6	39016	39016
30,0	1594	3,1	30,05	B143	132MB6	39877	39877
27,3	1751	2,8	33,01	B143	132MB6	40766	40766
24,5	1945	2,6	36,67	B143	132MB6	41748	41748
22,3	2137	2,4	40,29	B143	132MB6	42612	42612
20,4	2343	2,2	44,16	B143	132MB6	43436	43436
18,6	2565	2,0	48,35	B143	132MB6	44229	44229
16,9	2820	1,9	53,16	B143	132MB6	45000	45000
16,5	2898	1,8	54,63	B143	132MB6	45000	45000

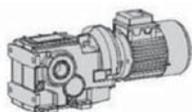


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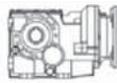
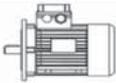
n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
15,3	3131	1,7	59,02	B143	132MB6	45000	45000
13,9	3442	1,5	64,88	B143	132MB6	45000	45000
12,8	3737	1,4	70,43	B143	132MB6	45000	45000
11,7	4091	1,3	77,12	B143	132MB6	45000	45000
10,5	4538	1,2	85,54	B143	132MB6	45000	45000
9,6	4993	1,1	94,13	B143	132MB6	45000	45000
8,5	5614	0,9	105,83	B143	132MB6	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
21,3	2244	3,7	42,30	B153	132MB6	65000	65000
18,9	2522	3,3	47,53	B153	132MB6	65000	65000
17,8	2682	3,1	50,56	B153	132MB6	65000	65000
16,5	2899	2,9	54,64	B153	132MB6	65000	65000
15,7	3038	2,8	57,27	B153	132MB6	65000	65000
14,8	3232	2,6	60,92	B153	132MB6	65000	65000
14,2	3367	2,5	63,47	B153	132MB6	65000	65000
12,7	3774	2,2	71,15	B153	132MB6	65000	65000
11,7	4097	2,1	77,22	B153	132MB6	65000	65000
10,7	4450	1,9	83,89	B153	132MB6	65000	65000
10,3	4650	1,8	87,65	B153	132MB6	65000	65000
9,7	4936	1,7	93,05	B153	132MB6	65000	65000
8,7	5470	1,5	103,12	B153	132MB6	65000	65000
7,3	6572	1,3	123,88	B153	132MB6	65000	65000
6,7	7123	1,2	134,27	B153	132MB6	65000	65000
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5,4	8775	1,0	165,42	B153	132MB6	65000	65000

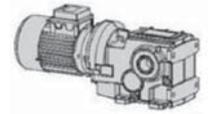
7.50kW

n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
266,8	233	2,1	10,49	B083	132SB2	11269	3220
241,6	261	1,9	11,59	B083	132SB2	11235	3240
194,1	325	1,7	14,43	B083	132SB2	11330	3470
168,7	369	1,7	16,60	B083	132SB2	12736	3639
152,8	407	1,6	18,32	B083	132SB2	13058	3731
139,5	452	1,5	20,08	B083	132SB2	13860	3910
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

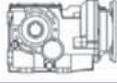
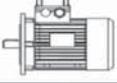


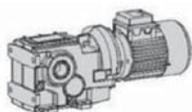
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n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
120,8	534	1,4	11,59	B083	132MA4	13744	3927
97,0	664	1,2	14,43	B083	132MA4	14421	4120
84,4	764	1,1	16,60	B083	132MA4	14834	4238
76,4	844	1,0	18,32	B083	132MA4	15114	4318
256,4	243	3,1	10,92	B103	132SB2	14271	4077
232,4	268	2,8	12,05	B103	132SB2	14698	4199
186,8	333	2,7	14,99	B103	132SB2	15677	4479
162,1	384	2,7	17,27	B103	132SB2	16336	4668
146,9	423	2,5	19,06	B103	132SB2	16804	4801
118,2	526	2,0	23,70	B103	132SB2	17866	5104
105,6	589	1,9	26,51	B103	132SB2	18425	5264
91,6	679	1,8	30,55	B103	132SB2	19141	5469
84,7	735	1,7	33,07	B103	132SB2	19543	5584
78,1	797	1,6	35,87	B103	132SB2	19959	5703
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
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
72,1	903	2,3	12,48	B123	160M6	28209	8060
65,0	1002	2,2	13,84	B123	160M6	28895	8256
58,5	1113	2,0	15,38	B123	160M6	29580	8451
48,5	1344	1,7	18,58	B123	160M6	30000	8791
43,7	1491	1,8	20,61	B123	160M6	30000	8970
39,5	1648	1,8	22,78	B123	160M6	30000	9135
34,8	1873	1,6	25,89	B123	160M6	30000	9332

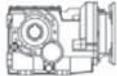
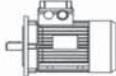


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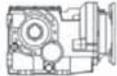
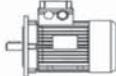
n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
32,7	1990	1,5	27,51	B123	160M6	30000	9419
29,2	2228	1,3	30,79	B123	160M6	30000	9568
28,8	2262	1,3	31,26	B123	160M6	30000	9586
25,9	2509	1,2	34,68	B123	160M6	30000	9704
22,2	2932	1,0	40,53	B123	160M6	30000	9841
20,0	3247	1,0	44,89	B123	160M6	30000	9901
18,1	3603	0,9	49,80	B123	160M6	30000	9933
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
75,8	859	3,8	11,87	B143	160M6	30375	30375
62,1	1048	3,1	14,49	B143	160M6	31993	31993
52,8	1233	2,7	17,04	B143	160M6	33320	33320
48,2	1350	2,8	18,66	B143	160M6	34058	34058
42,9	1519	2,8	21,00	B143	160M6	35013	35013
39,5	1647	2,8	22,77	B143	160M6	35662	35662
35,1	1854	2,6	25,63	B143	160M6	36590	36590
32,8	1985	2,4	27,44	B143	160M6	37116	37116
30,0	2174	2,3	30,05	B143	160M6	37797	37797
27,3	2388	2,1	33,01	B143	160M6	38480	38480
24,5	2653	1,9	36,67	B143	160M6	39209	39209
22,3	2915	1,7	40,29	B143	160M6	39822	39822
20,4	3195	1,6	44,16	B143	160M6	40379	40379
18,6	3498	1,5	48,35	B143	160M6	40881	40881
16,9	3845	1,4	53,16	B143	160M6	41348	41348
16,5	3952	1,3	54,63	B143	160M6	41470	41470
15,3	4269	1,2	59,02	B143	160M6	41783	41783
13,9	4694	1,1	64,88	B143	160M6	42093	42093
12,8	5095	1,0	70,43	B143	160M6	42286	42286
11,7	5579	0,9	77,12	B143	160M6	42410	42410
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

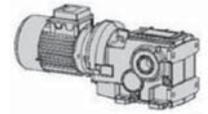


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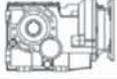
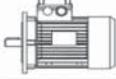
n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
16,7	3863	2,1	83,89	B153	132MA4	65000	65000
16,0	4036	2,0	87,65	B153	132MA4	65000	65000
15,0	4284	1,9	93,05	B153	132MA4	65000	65000
13,6	4748	1,7	103,12	B153	132MA4	65000	65000
11,3	5704	1,4	123,88	B153	132MA4	65000	65000
10,4	6182	1,3	134,27	B153	132MA4	65000	65000
9,4	6873	1,2	149,26	B153	132MA4	65000	65000
8,5	7616	1,1	165,42	B153	132MA4	65000	65000
35,7	1822	3,9	25,19	B153	160M6	57827	57827
29,7	2195	3,8	30,35	B153	160M6	61158	61158
26,8	2433	3,5	33,63	B153	160M6	63053	63053
25,7	2533	3,3	35,02	B153	160M6	63808	63808
23,2	2807	3,0	38,81	B153	160M6	65000	65000
21,3	3060	2,7	42,30	B153	160M6	65000	65000
18,9	3439	2,4	47,53	B153	160M6	65000	65000
17,8	3658	2,3	50,56	B153	160M6	65000	65000
16,5	3953	2,1	54,64	B153	160M6	65000	65000
15,7	4143	2,0	57,27	B153	160M6	65000	65000
14,8	4407	1,9	60,92	B153	160M6	65000	65000
14,2	4592	1,8	63,47	B153	160M6	65000	65000
12,7	5147	1,6	71,15	B153	160M6	65000	65000
11,7	5586	1,5	77,22	B153	160M6	65000	65000
10,7	6068	1,4	83,89	B153	160M6	65000	65000
10,3	6341	1,3	87,65	B153	160M6	65000	65000
9,7	6731	1,2	93,05	B153	160M6	65000	65000
8,7	7460	1,1	103,12	B153	160M6	65000	65000
7,3	8961	0,9	123,88	B153	160M6	65000	65000
20,0	3262	3,9	45,09	B163	160M6	80000	65000
17,6	3689	3,7	51,00	B163	160M6	80000	65000
16,8	3880	3,5	53,63	B163	160M6	80000	65000
15,3	4266	3,2	58,97	B163	160M6	80000	65000
12,9	5048	2,7	69,78	B163	160M6	80000	65000
11,7	5550	2,5	76,72	B163	160M6	80000	65000
10,3	6332	2,2	87,54	B163	160M6	80000	65000
9,4	6963	2,0	96,25	B163	160M6	80000	65000
8,7	7518	1,8	103,93	B163	160M6	80000	65000
7,9	8267	1,7	114,27	B163	160M6	80000	65000
7,1	9136	1,5	126,29	B163	160M6	80000	65000
6,5	1004b	1,4	138,85	B163	160M6	80000	65000
5,8	11201	1,2	154,83	B163	160M6	80000	65000

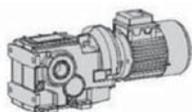
9.20kW

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

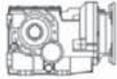
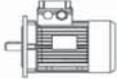


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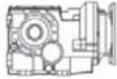
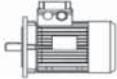
n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
172,3	459	1,7	8,13	B103	132MB4	15771	4506
156,1	506	1,8	8,97	B103	132MB4	16204	4630
128,2	617	1,6	10,92	B103	132MB4	17086	4882
116,2	681	1,5	12,05	B103	132MB4	17531	5009
93,4	846	1,4	14,99	B103	132MB4	18524	5293
81,1	975	1,4	17,27	B103	132MB4	19168	5476
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

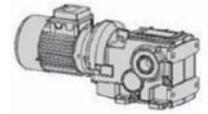


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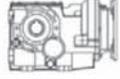
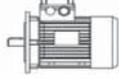
n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
33,1	2389	3,3	42,30	B153	132MB4	58558	58558
29,5	2685	3,0	47,53	B153	132MB4	60587	60587
27,7	2856	2,8	50,56	B153	132MB4	61679	61679
25,6	3086	2,6	54,64	B153	132MB4	63066	63066
24,4	3235	2,5	57,27	B153	132MB4	63917	63917
23,0	3441	2,3	60,92	B153	132MB4	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
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

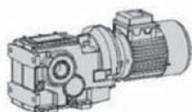
11.00kW

n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
256,4	350	>3	10,92	B103	132MC2/160M2	14271	4077
232,4	386	>3	12,05	B103	132MC2/160M2	14698	4199
186,8	480	>3	14,99	B103	132MC2/160M2	15677	4479
162,1	553	>3	17,27	B103	132MC2/160M2	16336	4668
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
113,0	845	1,9	7,97	B123	160L6	23977	6850
93,6	1021	1,9	9,62	B123	160L6	24978	7137

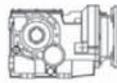
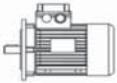


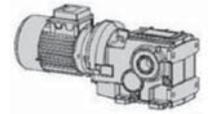
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n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
87,1	1096	1,9	10,33	B123	160L6	25347	7242
72,1	1324	1,6	12,48	B123	160L6	26273	7506
65,0	1469	1,5	13,84	B123	160L6	26746	7642
58,5	1632	1,4	15,38	B123	160L6	27193	7770
48,5	1971	1,2	18,58	B123	160L6	27888	7968
43,7	2187	1,2	20,61	B123	160L6	28197	8056
39,5	2417	1,2	22,78	B123	160L6	28437	8125
34,8	2747	1,1	25,89	B123	160L6	28644	8184
32,7	2919	1,0	27,51	B123	160L6	28697	8199
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
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
83,0	1150	2,7	10,84	B143	160L6	28333	28333
75,8	1259	2,6	11,87	B143	160L6	28937	28937
62,1	1537	2,1	14,49	B143	160L6	30238	30238
52,8	1808	1,9	17,04	B143	160L6	31255	31255
48,2	1980	1,9	18,66	B143	160L6	31797	31797
42,9	2228	1,9	21,00	B143	160L6	32469	32469
39,5	2416	1,9	22,77	B143	160L6	32903	32903
35,1	2719	1,8	25,63	B143	160L6	33485	33485
32,8	2912	1,7	27,44	B143	160L6	33791	33791
30,0	3188	1,5	30,05	B143	160L6	34157	34157
27,3	3502	1,4	33,01	B143	160L6	34481	34481
24,5	3891	1,3	36,67	B143	160L6	34766	34766
22,3	4275	1,2	40,29	B143	160L6	34941	34941
20,4	4686	1,1	44,16	B143	160L6	35028	35028
18,6	5130	1,0	48,35	B143	160L6	35023	35023
16,9	5640	0,9	53,16	B143	160L6	34908	34908
16,5	5796	0,9	54,63	B143	160L6	34852	34852
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
40,0	2365	3,4	35,02	B153	160S4	54808	54808
36,1	2621	3,1	38,81	B153	160S4	56463	56463
33,1	2856	2,8	42,30	B153	132MC4/160S4	57873	57873
29,5	3210	2,5	47,53	B153	132MC4/160S4	59817	59817

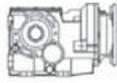
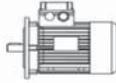


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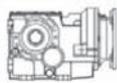
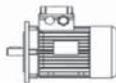
n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
27,7	3415	2,3	50,56	B153	132MC4/160S4	60859	60859
25,6	3690	2,2	54,64	B153	132MC4/160S4	62181	62181
24,4	3868	2,1	57,27	B153	132MC4/160S4	62988	62988
23,0	4114	1,9	60,92	B153	132MC4/160S4	64055	64055
22,1	4286	1,9	63,47	B153	132MC4/160S4	64767	64767
19,7	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
71,2	1341	3,5	12,64	B153	160L6	46113	46113
64,2	1487	3,5	14,01	B153	160L6	47575	47575
58,4	1634	3,2	15,40	B153	160L6	48952	48952
48,5	1969	3,2	18,56	B153	160L6	51753	51753
43,8	2182	3,1	20,56	B153	160L6	53345	53345
37,7	2531	2,8	23,86	B153	160L6	55703	55703
35,7	2672	2,7	25,19	B153	160L6	56580	56580
31,9	2995	2,8	28,23	B153	160L6	58451	58451
29,7	3220	2,6	30,35	B153	160L6	59655	59655
26,8	3568	2,4	33,63	B153	160L6	61387	61387
25,7	3715	2,3	35,02	B153	160L6	62074	62074
23,2	4117	2,0	38,81	B153	160L6	63837	63837
21,3	4488	1,9	42,30	B153	160L6	65000	65000
18,9	5043	1,7	47,53	B153	160L6	65000	65000
17,8	5365	1,6	50,56	B153	160L6	65000	65000
16,5	5797	1,4	54,64	B153	160L6	65000	65000
15,7	6077	1,4	57,27	B153	160L6	65000	65000
14,8	6464	1,3	60,92	B153	160L6	65000	65000
14,2	6734	1,2	63,47	B153	160L6	65000	65000
12,7	7549	1,1	71,15	B153	160L6	65000	65000
11,7	8193	1,0	77,22	B153	160L6	65000	65000
10,7	8900	0,9	83,89	B153	160L6	65000	65000
10,3	9300	0,9	87,65	B153	160L6	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
31,3	3056	3,5	28,80	B163	160L6	80000	65000
29,1	3281	3,7	30,92	B163	160L6	80000	65000
26,3	3634	3,4	34,25	B163	160L6	80000	65000

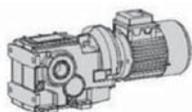


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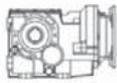
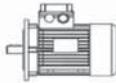
n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
23,9	3996	3,2	37,66	B163	160L6	80000	65000
22,1	4313	3,1	40,65	B163	160L6	80000	65000
20,0	4784	2,6	45,09	B163	160L6	80000	65000
17,6	5411	2,5	51,00	B163	160L6	80000	65000
16,8	5690	2,4	53,63	B163	160L6	80000	65000
15,3	6256	2,2	58,97	B163	160L6	80000	65000
12,9	7403	1,8	69,78	B163	160L6	80000	65000
11,7	8140	1,7	76,72	B163	160L6	80000	65000
10,3	9288	1,5	87,54	B163	160L6	80000	65000
9,4	10212	1,3	96,25	B163	160L6	80000	65000
8,7	11027	1,2	103,93	B163	160L6	80000	65000
7,9	12124	1,1	114,27	B163	160L6	80000	65000
7,1	13399	1,0	126,29	B163	160L6	80000	65000
6,5	14732	0,9	138,85	B163	160L6	80000	65000

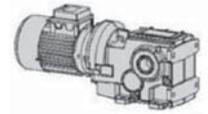
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n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
172,3	748	1,1	8,13	B103	160L4	14939	4268
156,1	826	1,1	8,97	B103	160L4	15286	4367
128,2	1006	1,0	10,92	B103	160L4	15968	4562
116,2	1110	0,9	12,05	B103	160L4	16298	4656
175,8	734	2,0	7,97	B123	160L4	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
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
113,0	1153	1,4	7,97	B123	180L6	22564	6447
93,6	1392	1,4	9,62	B123	180L6	23272	6649
87,1	1495	1,4	10,33	B123	180L6	23514	6718
72,1	1806	1,2	12,48	B123	180L6	24060	6874
65,0	2003	1,1	13,84	B123	180L6	24291	6940
58,5	2226	1,0	15,38	B123	180L6	24465	6990
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

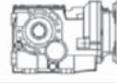
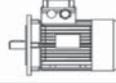


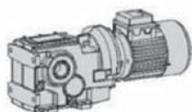
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n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
51,0	2527	1,8	27,44	B143	160L4	29113	29113
46,6	2767	1,7	30,05	B143	160L4	29423	29423
42,4	3040	1,5	33,01	B143	160L4	29697	29697
38,2	3377	1,4	36,67	B143	160L4	29937	29937
34,7	3710	1,3	40,29	B143	160L4	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
83,0	1568	2,0	10,84	B143	180L6	26832	26832
75,8	1717	1,9	11,87	B143	180L6	27294	27294
62,1	2096	1,6	14,49	B143	180L6	28233	28233
52,8	2465	1,4	17,04	B143	180L6	28895	28895
48,2	2699	1,4	18,66	B143	180L6	29214	29214
42,9	3038	1,4	21,00	B143	180L6	29561	29561
39,5	3295	1,4	22,77	B143	180L6	29749	29749
35,1	3708	1,3	25,63	B143	180L6	29936	29936
32,8	3970	1,2	27,44	B143	180L6	29992	29992
30,0	4347	1,1	30,05	B143	180L6	29997	29997
27,3	4776	1,0	33,01	B143	180L6	29910	29910
24,5	5306	0,9	36,67	B143	180L6	29688	29688
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
85,8	1518	3,1	10,49	B153	180L6	42957	42957
71,2	1829	2,6	12,64	B153	180L6	45397	45397
64,2	2027	2,6	14,01	B153	180L6	46782	46782
58,4	2228	2,4	15,40	B153	180L6	48081	48081
48,5	2685	2,3	18,56	B153	180L6	50703	50703
43,8	2975	2,3	20,56	B153	180L6	52181	52181
37,7	3452	2,0	23,86	B153	180L6	54353	54353

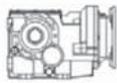
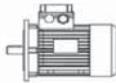


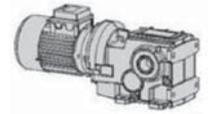
15.00kW

n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
35,7	3644	2,0	25,19	B153	180L6	55154	55154
31,9	4085	2,1	28,23	B153	180L6	56853	56853
29,7	4391	1,9	30,35	B153	180L6	57937	57937
26,8	4866	1,7	33,63	B153	180L6	59484	59484
25,7	5066	1,7	35,02	B153	180L6	60092	60092
23,2	5615	1,5	38,81	B153	180L6	61640	61640
21,3	6119	1,4	42,30	B153	180L6	62934	62934
18,9	6877	1,2	47,53	B153	180L6	64676	64676
17,8	7315	1,1	50,56	B153	180L6	65000	65000
16,5	7905	1,1	54,64	B153	180L6	65000	65000
15,7	8286	1,0	57,27	B153	180L6	65000	65000
14,8	8815	1,0	60,92	B153	180L6	65000	65000
14,2	9183	0,9	63,47	B153	180L6	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,(X)	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
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
45,1	2887	3,9	19,96	B163	180L6	80000	65000
41,0	3175	3,4	21,94	B163	180L6	80000	65000
37,2	3497	3,2	24,17	B163	180L6	80000	65000
33,9	3845	3,0	26,58	B163	180L6	80000	65000
31,3	4167	2,6	28,80	B163	180L6	80000	65000
29,1	4474	2,7	30,92	B163	180L6	80000	65000
26,3	4956	2,5	34,25	B163	180L6	80000	65000
23,9	5449	2,4	37,66	B163	180L6	80000	65000
22,1	5882	2,3	40,65	B163	180L6	80000	65000
20,0	6524	1,9	45,09	B163	180L6	80000	65000
17,6	7379	1,8	51,00	B163	180L6	80000	65000
16,8	7759	1,8	53,63	B163	180L6	80000	65000
15,3	8531	1,6	58,97	B163	180L6	80000	65000
12,9	10095	1,4	69,78	B163	180L6	80000	65000
11,7	11100	1,2	76,72	B163	180L6	80000	65000
10,3	12665	1,1	87,54	B163	180L6	80000	65000
9,4	13925	1,0	96,25	B163	180L6	80000	65000
8,7	15037	0,9	103,93	B163	180L6	80000	65000

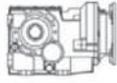
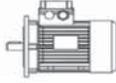


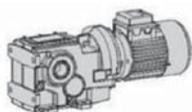
18.50kW

n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
175,8	905	1,7	7,97	B123	160LB4/180M4	19887	5682
145,5	1093	1,6	9,62	B123	160LB4/180M4	20585	5881
135,5	1174	1,7	10,33	B123	160LB4/180M4	20830	5952
112,2	1417	1,4	12,48	B123	160LB4/180M4	21412	6118
101,1	1572	1,3	13,84	B123	160LB4/180M4	21683	6195
91,0	1747	1,2	15,38	B123	160LB4/180M4	21913	6261
75,4	2110	1,0	18,58	B123	160LB4/180M4	22189	6340
67,9	2341	1,1	20,61	B123	160LB4/180M4	22251	6358
61,5	2587	1,1	22,78	B123	160LB4/180M4	22239	6354
54,1	2940	1,0	25,89	B123	160LB4/180M4	22103	6315
129,2	1231	2,4	10,84	B143	160LB4/180M4	23597	23597
118,0	1348	2,3	11,87	B143	160LB4/180M4	24037	24037
96,7	1645	1,9	14,49	B143	160LB4/180M4	24953	24953
82,2	1935	1,7	17,04	B143	160LB4/180M4	25629	25629
75,0	2119	1,7	18,66	B143	160LB4/180M4	25969	25969
66,7	2385	1,7	21,00	B143	160LB4/180M4	26364	26364
61,5	2586	1,7	22,77	B143	160LB4/180M4	26598	26598
54,6	2911	1,6	25,63	B143	160LB4/180M4	26875	26875
51,0	3117	1,5	27,44	B143	160LB4/180M4	26996	26996
46,6	3412	1,4	30,05	B143	160LB4/180M4	27106	27106
42,4	3749	1,3	33,01	B143	160LB4/180M4	27152	27152
38,2	4165	1,2	36,67	B143	160LB4/180M4	27108	27108
34,7	4576	1,0	40,29	B143	160LB4/180M4	26974	26974
31,7	5016	1,0	44,16	B143	160LB4/180M4	26743	26743
29,0	5492	0,9	48,35	B143	160LB4/180M4	26408	26408
83,0	1934	1,6	10,84	B143	200LA6	25519	25519
75,8	2118	1,5	11,87	B143	200LA6	25856	25856
62,1	2585	1,3	14,49	B143	200LA6	26478	26478
52,8	3041	1,1	17,04	B143	200LA6	26831	26831
48,2	3329	1,1	18,66	B143	200LA6	26953	26953
42,9	3747	1,1	21,00	B143	200LA6	27017	27017
39,5	4064	1,1	22,77	B143	200LA6	26990	26990
35,1	4573	1,1	25,63	B143	200LA6	26831	26831
32,8	4897	1,0	27,44	B143	200LA6	26667	26667
133,4	1192	3,8	10,49	B153	160LB4/180M4	37248	37248
110,7	1436	3,1	12,64	B153	160LB4/180M4	39390	39390
99,9	1591	3,1	14,01	B153	160LB4/180M4	40608	40608
90,9	1749	2,9	15,40	B153	160LB4/180M4	41751	41751
75,4	2107	2,8	18,56	B153	160LB4/180M4	44067	44067
68,1	2336	2,8	20,56	B153	160LB4/180M4	45375	45375
58,7	2710	2,5	23,86	B153	160LB4/180M4	47305	47305
55,6	2861	2,4	25,19	B153	160LB4/180M4	48018	48018
49,6	3206	2,5	28,23	B153	160LB4/180M4	49535	49535
46,1	3447	2,3	30,35	B153	160LB4/180M4	50506	50506
41,6	3820	2,1	33,63	B153	160LB4/180M4	51895	51895
40,0	3977	2,0	35,02	B153	160LB4/180M4	52442	52442
36,1	4408	1,8	38,81	B153	160LB4/180M4	53842	53842
33,1	4804	1,7	42,30	B153	160LB4/180M4	55016	55016
29,5	5399	1,5	47,53	B153	160LB4/180M4	56606	56606
27,7	5743	1,4	50,56	B153	160LB4/180M4	57444	57444
25,6	6206	1,3	54,64	B153	160LB4/180M4	58490	58490
24,4	6505	1,2	57,27	B153	160LB4/180M4	59120	59120
23,0	6919	1,2	60,92	B153	160LB4/180M4	59940	59940
22,1	7209	1,1	63,47	B153	160LB4/180M4	60480	60480

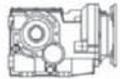
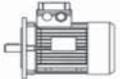


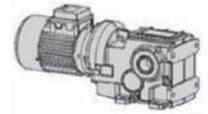
18.50kW

n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
19,7	8081	1,0	71,15	B153	180M4	61957	61957
18,1	8771	0,9	77,22	B153	180M4	62988	62988
85,8	1872	2,5	10,49	B153	200LA6	42437	42437
71,2	2256	2,1	12,64	B153	200LA6	44771	44771
64,2	2500	2,1	14,01	B153	200LA6	46089	46089
58,4	2748	1,9	15,40	B153	200LA6	47318	47318
48,5	3311	1,9	18,56	B153	200LA6	49784	49784
43,8	3669	1,9	20,56	B153	200LA6	51162	51162
37,7	4257	1,7	23,86	B153	200LA6	53171	53171
35,7	4494	1,6	25,19	B153	200LA6	53907	53907
31,9	5038	1,7	28,23	B153	200LA6	55455	55455
29,7	5415	1,6	30,35	B153	200LA6	56434	56434
26,8	6001	1,4	33,63	B153	200LA6	57818	57818
25,7	6249	1,3	35,02	B153	200LA6	58357	58357
23,2	6925	1,2	38,81	B153	200LA6	59718	59718
21,3	7547	1,1	42,30	B153	200LA6	60839	60839
18,9	8482	1,0	47,53	B153	200LA6	62322	62322
57,9	2745	3,8	24,17	B163	160LB4/180M4	75782	65000
52,7	3019	3,7	26,58	B163	160LB4/180M4	77894	65000
48,6	3271	3,1	28,80	B163	160LB4/180M4	79709	65000
45,3	3512	3,3	30,92	B163	160LB4/180M4	80000	65000
40,9	3890	3,1	34,25	B163	160LB4/180M4	80000	65000
37,2	4277	2,9	37,66	B163	160LB4/180M4	80000	65000
34,4	4617	2,8	40,65	B163	160LB4/180M4	80000	65000
31,0	5121	2,3	45,09	B163	160LB4/180M4	80000	65000
27,5	5792	2,2	51,00	B163	160LB4/180M4	80000	65000
26,1	6091	2,1	53,63	B163	160LB4/180M4	80000	65000
23,7	6697	1,9	58,97	B163	160LB4/180M4	80000	65000
20,1	7925	1,6	69,78	B163	160LB4/180M4	80000	65000
18,2	8713	1,5	76,72	B163	160LB4/180M4	80000	65000
16,0	9942	1,3	87,54	B163	160LB4/180M4	80000	65000
14,5	10931	1,2	96,25	B163	160LB4/180M4	80000	65000
13,5	11804	1,1	103,93	B163	160LB4/180M4	80000	65000
12,3	12979	1,0	114,27	B163	160LB4/180M4	80000	65000
11,1	14343	0,9	126,29	B163	160LB4/180M4	80000	65000
75,8	2118	3,8	11,87	B163	200LA6	69958	65000
58,0	2770	3,8	15,52	B163	200LA6	75709	65000
54,9	2924	3,6	16,39	B163	200LA6	76908	65000
50,0	3215	3,4	18,02	B163	200LA6	79034	65000
45,1	3561	3,2	19,96	B163	200LA6	80000	65000
41,0	3916	2,8	21,94	B163	200LA6	80000	65000
37,2	4313	2,6	24,17	B163	200LA6	80000	65000
33,9	4743	2,5	26,58	B163	200LA6	80000	65000
31,3	5139	2,1	28,80	B163	200LA6	80000	65000
29,1	5518	2,2	30,92	B163	200LA6	80000	65000
26,3	6112	2,0	34,25	B163	200LA6	80000	65000
23,9	6720	1,9	37,66	B163	200LA6	80000	65000
22,1	7254	1,8	40,65	B163	200LA6	80000	65000
20,0	8046	1,6	45,09	B163	200LA6	80000	65000
17,6	9101	1,5	51,00	B163	200LA6	80000	65000
16,8	9570	1,4	53,63	B163	200LA6	80000	65000
15,3	10522	1,3	58,97	B163	200LA6	80000	65000
12,9	12451	1,1	69,78	B163	200LA6	80000	65000
11,7	13690	1,0	76,72	B163	200LA6	80000	65000

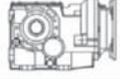
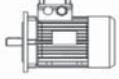


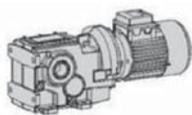
22.00kW

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
83,0	2300	1,4	10,84	B143	200LB6	24205	24205
75,8	2518	1,3	11,87	B143	200LB6	24418	24418
62,1	3074	1,1	14,49	B143	200LB6	24723	24723
52,8	3616	0,9	17,04	B143	200LB6	24766	24766
48,2	3959	1,0	18,66	B143	200LB6	24693	24693
42,9	4455	0,9	21,00	B143	200LB6	24474	24474
39,5	4832	1,0	22,77	B143	200LB6	24231	24231
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
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
85,8	2226	2,1	10,49	B153	200LB6	41918	41918
71,2	2683	1,8	12,64	B153	200LB6	44145	44145
64,2	2973	1,8	14,01	B153	200LB6	45395	45395
58,4	3268	1,6	15,40	B153	200LB6	46555	46555
48,5	3937	1,6	18,56	B153	200LB6	48865	48865
43,8	4364	1,6	20,56	B153	200LB6	50144	50144
37,7	5063	1,4	23,86	B153	200LB6	51990	51990

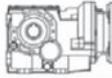
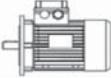


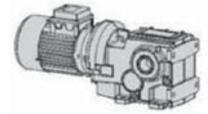
22.00kW

n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
35,7	5345	1,3	25,19	B153	200LB6	52659	52659
31,9	5991	1,4	28,23	B153	200LB6	54057	54057
29,7	6440	1,3	30,35	B153	200LB6	54931	54931
26,8	7137	1,2	33,63	B153	200LB6	56152	56152
25,7	7431	1,1	35,02	B153	200LB6	56623	56623
23,2	8235	1,0	38,81	B153	200LB6	57797	57797
21,3	8975	0,9	42,30	B153	200LB6	58745	58745
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
101,2	1887	3,8	8,89	B163	200LB6	63600	63600
85,1	2244	3,7	10,58	B163	200LB6	66957	65000
75,8	2519	3,2	11,87	B163	200LB6	69258	65000
70,3	2718	3,4	12,81	B163	200LB6	70803	65000
63,9	2989	3,4	14,08	8163	200LB6	72758	65000
58,0	3294	3,2	15,52	B163	200LB6	74794	65000
54,9	3477	3,0	16,39	B163	200LB6	75941	65000
50,0	3823	2,9	18,02	B163	200LB6	77971	65000
45,1	4235	2,7	19,96	B163	200LB6	80000	65000
41,0	4656	2,3	21,94	B163	200LB6	80000	65000
37,2	5129	2,1	24,17	B163	200LB6	80000	65000
33,9	5640	2,1	26,58	B163	200LB6	80000	65000
31,3	6111	1,8	28,80	B163	200LB6	80000	65000
29,1	6562	1,8	30,92	B163	200LB6	80000	65000
26,3	7269	1,7	34,25	B163	200LB6	80000	65000
23,9	7992	1,6	37,66	B163	200LB6	80000	65000
22,1	8626	1,5	40,65	B163	200LB6	80000	65000
20,0	9568	1,3	45,09	B163	200LB6	80000	65000
17,6	10822	1,3	51,00	B163	200LB6	80000	65000
16,8	11380	1,2	53,63	B163	200LB6	80000	65000
15,3	12512	1,1	58,97	B163	200LB6	80000	65000
12,9	14806	0,9	69,78	B163	200LB6	80000	65000

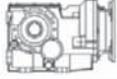
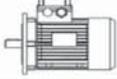


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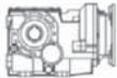
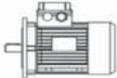
n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
129,2	1996	1,5	10,84	B143	200L4	20850	20850
118,0	2186	1,4	11,87	B143	200L4	21030	21030
96,7	2668	1,2	14,49	B143	200L4	21283	21283
82,2	3139	1,0	17,04	B143	200L4	21311	21311
75,0	3436	1,0	18,66	B143	200L4	21242	21242
66,7	3867	1,0	21,00	B143	200L4	21044	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
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

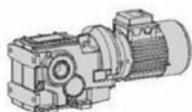


37.00kW

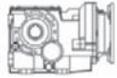
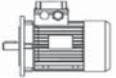
n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
133,4	2383	1,9	10,49	B153	225S4	35500	35500
110,7	2872	1,6	12,64	B153	225S4	37283	37283
99,9	3182	1,6	14,01	B153	225S4	38274	38274
90,9	3498	1,4	15,40	B153	225S4	39186	39186
75,4	4215	1,4	18,56	B153	225S4	40975	40975
68,1	4671	1,4	20,56	B153	225S4	41949	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
26,1	12182	1,1	53,63	B163	225S4	80000	65000
23,7	13394	1,0	58,97	B163	225S4	80000	65000

45.00kW

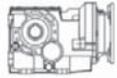
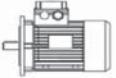
n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
133,4	2899	1,6	10,49	B153	225M4	34744	34744
110,7	3493	1,3	12,64	B153	225M4	36373	36373
99,9	3871	1,3	14,01	B153	225M4	37264	37264
90,9	4254	1,2	15,40	B153	225M4	38076	38076
75,4	5126	1,2	18,56	B153	225M4	39638	39638
68,1	5681	1,1	20,56	B153	225M4	40468	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

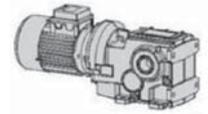


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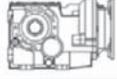
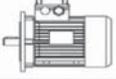
n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
117,9	3279	2,3	11,87	B163	225M4	57842	57842
109,3	3539	2,5	12,81	B163	225M4	59023	59023
99,4	3891	2,5	14,08	B163	225M4	60502	60502
90,2	4288	2,3	15,52	B163	225M4	62025	62025
85,4	4527	2,2	16,39	B163	225M4	62875	62875
77,7	4977	2,1	18,02	B163	225M4	64362	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

55.00kW

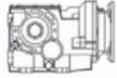
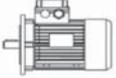
n2 [1/min]	M2 [Nm]	f.S.	i			Fr2(a) [N]	Fr2(b) [N]
157,4	3002	2,3	8,89	B163	250M4	52490	52490
132,4	3571	2,2	10,58	B163	250M4	54932	54932
117,9	4008	1,9	11,87	B163	250M4	56568	56568
109,3	4325	2,0	12,81	B163	250M4	57649	57649
99,4	4755	2,0	14,08	B163	250M4	58992	58992
90,2	5241	1,9	15,52	B163	250M4	60360	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
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

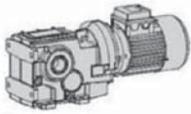


75.00kW

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

90.00kW

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



Performance / 馬力選擇表 - B型直角軸螺旋傘型齒輪減速機

摩托迪克

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	-	2185
90	14,46	0,96	96,8	443	-	2246
120	16,47	1,12	85,0	521	-	2346
120	22,97	0,81	60,9	355	-	2621
120	28,00	0,66	50,0	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	148,0	414	-	2090
160	11,57	2,13	121,0	405	-	2235
160	14,63	1,69	95,7	392	-	2416
200	17,11	1,80	81,8	494	-	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	373	-	3124
200	35,10	0,88	39,9	424	-	3235
200	41,97	0,74	33,4	436	-	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	19,0	472	-	4000
220	93,33	0,38	15,0	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	0,10	4,1	472	-	4000

IBA72

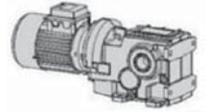
M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 (a) [N]	Fr2 (b) [N]
350	8,36	6,46	167,5	664	5079	2540
350	10,06	5,37	139,2	685	5403	2701
350	12,44	4,34	112,5	667	5800	2900
420	14,91	4,35	93,9	826	6160	3080
420	17,94	3,61	78,0	685	6552	3276
420	22,19	2,92	63,1	667	7033	3517
420	27,45	2,36	51,0	667	7550	3775
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	0,20	3,9	445	10000	5500
450	442,76	0,17	3,2	400	10000	5500

IBO63

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 (a) [N]	Fr2 (b) [N]
290	5,71	8,27	245,0	316	7638	1848
340	6,88	8,05	203,5	233	7876	1757
350	7,32	7,79	191,2	232	8003	1775
460	9,16	8,18	152,8	328	8302	1645
520	10,26	8,25	136,4	318	8403	1511
540	11,03	7,98	127,0	266	8541	1505
580	12,35	7,65	113,3	390	8989	1744
590	13,15	7,31	106,5	361	9052	1670
590	15,18	6,33	92,3	292	9363	1671
600	17,00	5,75	82,3	396	9803	1878
600	22,39	4,36	62,5	488	10923	2400
600	26,09	3,75	53,7	920	11585	2711
600	28,03	3,49	49,9	907	11847	2797
600	33,43	2,92	41,9	975	12000	3250
600	38,58	2,53	36,3	970	12000	3516
600	43,22	2,26	32,4	1018	12000	3857
600	50,81	1,92	27,6	1010	12000	4202


IB063

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 (a) [N]	Fr2 (b) [N]
600	56,93	1,72	24,6	1054	12000	4569
600	69,16	1,41	20,2	1043	12000	5048
600	77,48	1,26	18,1	1084	12000	5448
600	90,33	1,08	15,5	1065	12000	5854
600	101,20	0,97	13,8	1103	12000	6286
600	111,74	0,87	12,5	1109	12000	6616
600	124,20	0,79	11,3	1085	12000	6915
600	139,15	0,70	10,1	1121	12000	7387
600	157,42	0,62	8,9	1126	12000	7846

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	97,0	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	44,0	2451	18000	5376
850	34,49	4,01	40,6	2494	18000	5549
850	39,60	3,50	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	2,70	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	22,0	2500	18000	7016
850	69,14	2,00	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	1,50	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	12,0	2500	18000	8771
850	126,76	1,09	11,0	2500	18000	9053
850	144,77	0,96	9,7	2500	18000	9503

IB103

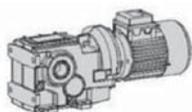
M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 (a) [N]	Fr2 (b) [N]
800	8,13	16,03	172,3	1078	14868	4248
900	8,97	16,35	156,1	1041	15147	4328
1000	10,92	14,92	128,2	1211	16052	4586
1000	12,05	13,52	116,2	1377	16676	4765
1200	14,99	13,04	93,4	1433	17560	5017
1400	17,27	13,20	81,1	1414	17992	5141
1400	19,06	11,97	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	39,0	2065	22000	6610
1700	41,12	6,73	34,0	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	3,50	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	26,10	112,2	2775	18875	5393
2100	13,84	24,71	101,1	2841	19393	5541
2100	15,38	22,24	91,0	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	9,60	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	14,0	3733	30000	11324
3500	106,65	5,35	13,1	3750	30000	11682
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	118,0	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	75,0	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	27,30	51,0	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	17,70	31,7	3334	27663	27663
5000	48,35	16,84	29,0	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	13,80	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	7,70	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	4000	32657	32657
4500	12,64	57,98	110,7	4000	35147	35147
5000	14,01	58,13	99,9	4000	35854	35854
5000	15,40	52,89	90,9	5000	37223	37223
6000	18,56	52,67	75,4	5000	38583	38583
6500	20,56	51,49	68,1	6000	39484	39484
6700	23,86	45,74	58,7	8000	41654	41654
6800	25,19	43,98	55,6	8000	42437	42437
8000	28,23	46,16	49,6	8001	42687	42687
8000	30,35	42,94	46,1	8002	44001	44001
8000	33,63	38,74	41,6	8003	45923	45923
8000	35,02	37,21	40,0	8004	46696	46696
8000	38,81	33,58	36,1	8005	48711	48711
8000	42,30	30,81	33,1	8006	50452	50452
8000	47,53	27,41	29,5	8007	52894	52894
8000	50,56	25,77	27,7	8008	54224	54224
8000	54,64	23,85	25,6	8009	55934	55934
8000	57,27	22,75	24,4	8010	56993	56993
8000	60,92	21,39	23,0	8011	58408	58408
8000	63,47	20,53	22,1	8012	59362	59362
8000	71,10	18,30	19,7	8012	62092	62092
8000	77,22	16,87	18,1	8014	64114	64114

IB153

M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 (a) [N]	Fr2 (b) [N]
8000	83,90	15,50	16,7	8017	65000	65000
8000	87,70	14,90	16,0	8018	65000	65000
8000	93,05	14,00	15,0	8017	65000	65000
8000	103,12	12,64	13,6	8018	65000	65000
8000	123,88	10,50	11,3	8017	65000	65000
8000	134,27	9,70	10,4	8018	65000	65000
8000	149,26	8,70	9,4	8017	65000	65000
8000	165,42	7,90	8,5	8018	65000	65000

IB163

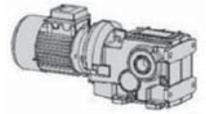
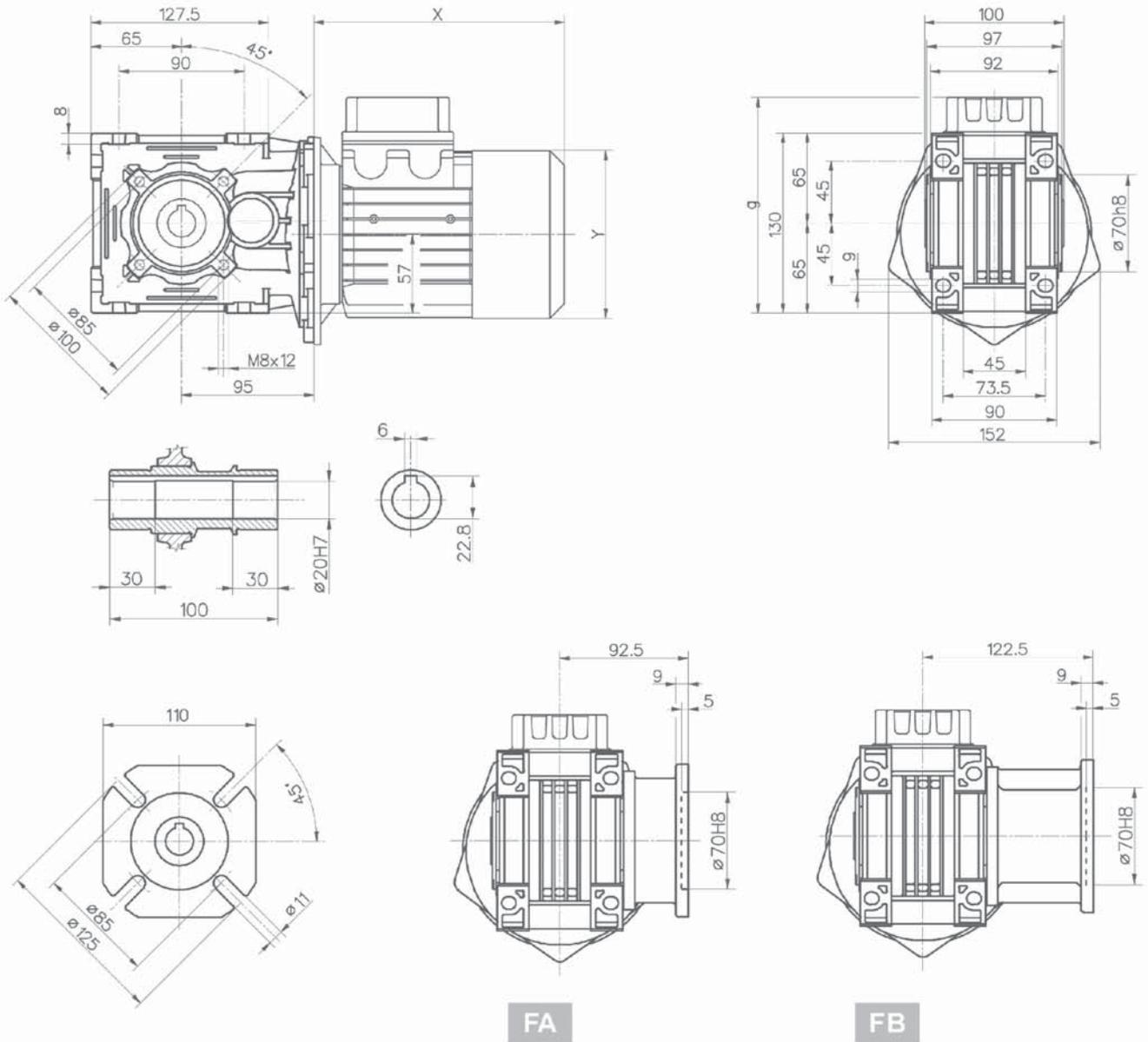
M2 [Nm]	i	P1 [kW]	n2 [1/min]	Fr1 [N]	Fr2 (a) [N]	Fr2 (b) [N]
6800	8,89	124,58	157,4	8030	47199	47199
7900	10,58	121,69	132,4	8111	48279	48279
7700	11,87	105,68	117,9	8052	50654	50654
8800	12,81	111,92	109,3	8046	49930	49930
9600	14,08	111,04	99,4	8073	50243	50243
10000	15,52	104,95	90,2	8076	51412	51412
9900	16,39	98,42	85,4	7987	52573	52573
10400	18,02	94,04	77,7	8145	53920	53920
10700	19,96	87,34	70,2	8177	55666	55666
10400	21,94	77,21	63,8	9366	58947	58947
10500	24,17	70,76	57,9	9332	60819	60819
11100	26,58	68,03	52,7	9417	62202	62202
10200	28,80	57,69	48,6	9320	65000	65641
11500	30,92	60,58	45,3	9354	64939	64939
11900	34,25	56,59	40,9	9362	65000	66847
12300	37,66	53,20	37,2	9493	65000	69123
12700	40,65	50,89	34,4	8274	65000	70411
12000	45,09	43,35	31,0	9265	65000	74137
13000	51,00	41,52	27,5	8342	65000	76999
13000	53,63	39,49	26,1	9468	65000	78179
13000	58,97	35,92	23,7	9656	65000	80000
13000	69,78	30,35	20,1	9594	65000	80000
13000	76,72	27,60	18,2	9770	65000	80000
13000	87,54	24,19	16,0	9679	65000	80000
13000	96,25	22,00	14,5	9847	65000	80000
13000	103,93	20,38	13,5	9731	65000	80000
13000	114,27	18,53	12,3	9895	65000	80000
13000	126,29	16,77	11,1	9781	65000	80000
13000	138,85	15,25	10,1	9940	65000	80000
13000	154,83	13,68	9,0	9962	65000	80000

Fr2(a)-Fr2(b)數值有效形式:

Fr2(a) = FD, FS, FP, SD, SS, SP, UC, UD, US, UP

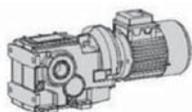
Fr2(b) = FC, FL, FM, SC, SL, SM, UL, UM + B083UC 045

表列減速比與庫存有時未能完全相同,請在訂貨前洽詢公司業務部.

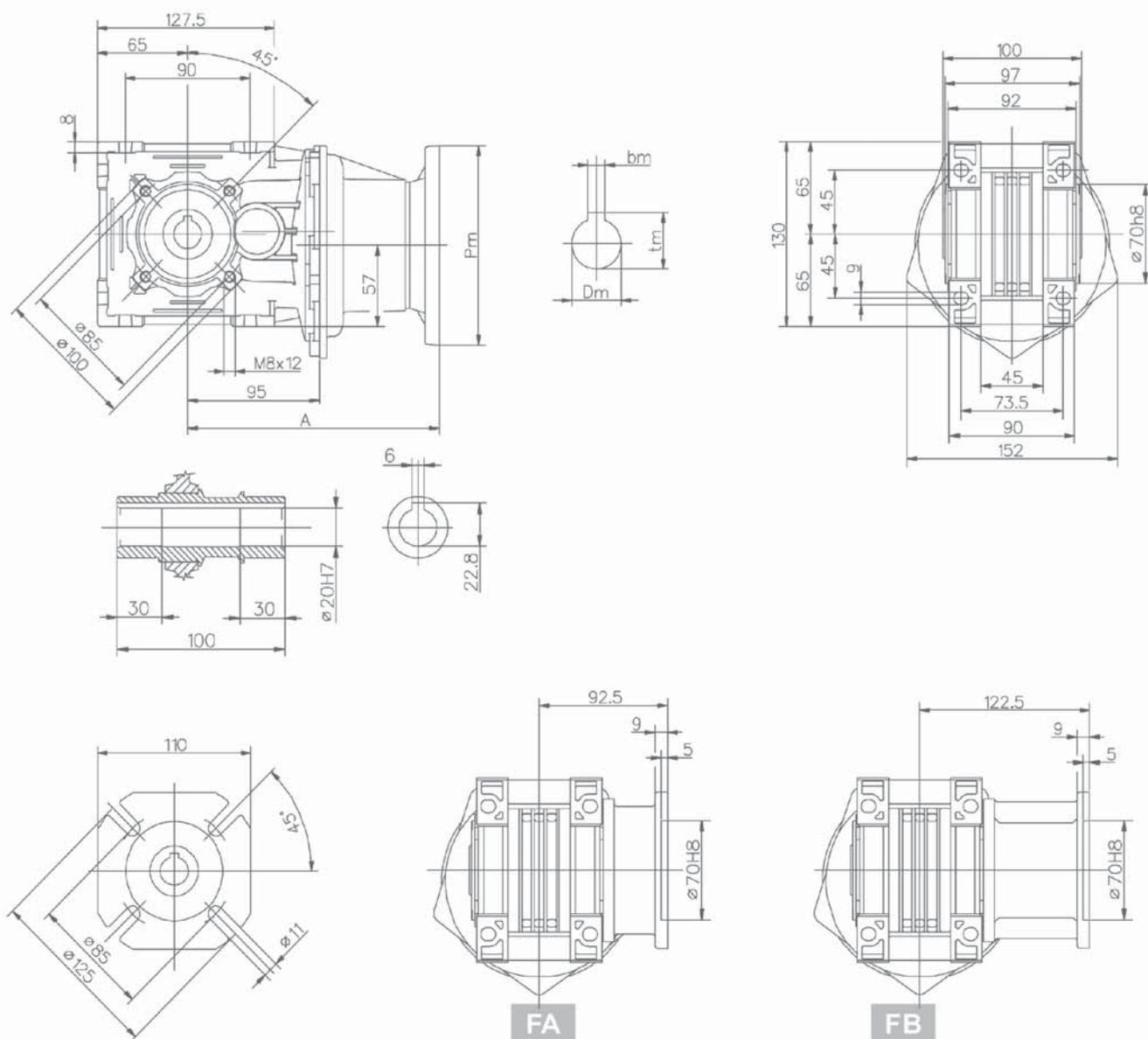

CB


042	Standard motor / 標準馬達				Brake motor / 剎車馬達			
	g	X	Y	~Kg	g	X	Y	~Kg
63	161	180	121	7,6	176	238	121	9
71	169	205	139	11,5	185	269	139	11,5
80	179	223	158	13,5	194	294	158	16,6

(..)Only on request - Weight with motor
 ()括弧內尺寸依要求 - 重量包含馬達



B

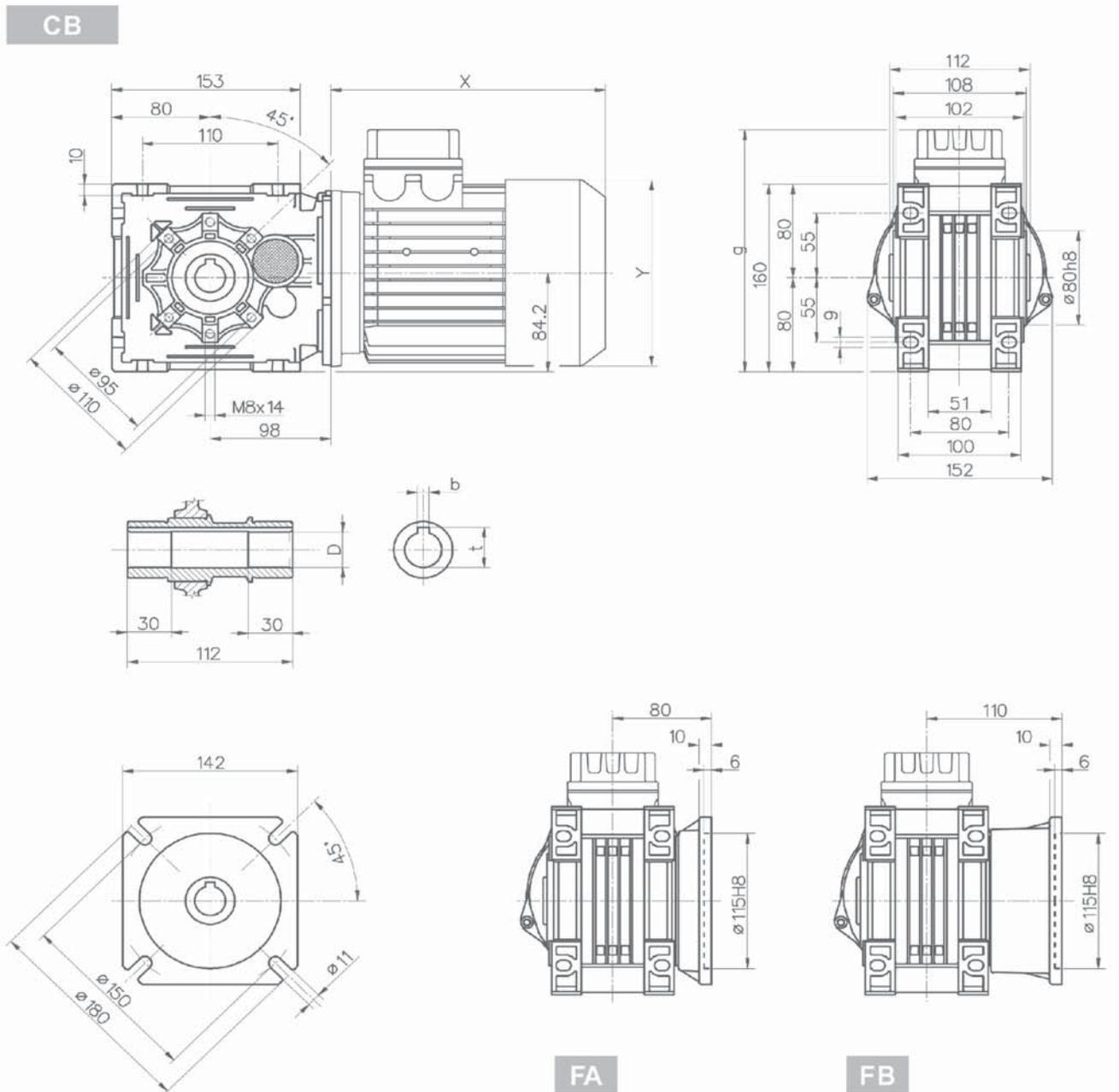
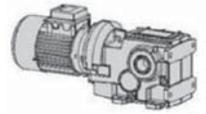


PAM	A	kg
063	150	5
071	150	5.1
080	181	5.3

- Weight without motor (..) Only on request
- 重量不含馬達 () 括弧內尺寸依要求

For the dimensions concerning the motor connection area (Pm,Dm,bm,tm) please refer to the table shown at page A19.

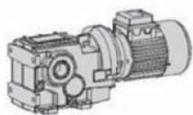
關於馬達連結法蘭尺寸 (Pm,Dm,bm,tm) 請參考第A19頁。



052	Standard motor / 標準馬達				Brake motor / 剎車馬達			
	g	X	Y	~Kg	g	X	Y	~Kg
63	188	180	121	8,5	204	238	121	9,9
71	197	205	139	10,5	213	269	139	12,4
80	206	223	158	14,5	222	294	158	17,6
90S	214	237	173	16,4	214	313	173	21,2
90L	214	262	173	18,9	214	338	173	23,8

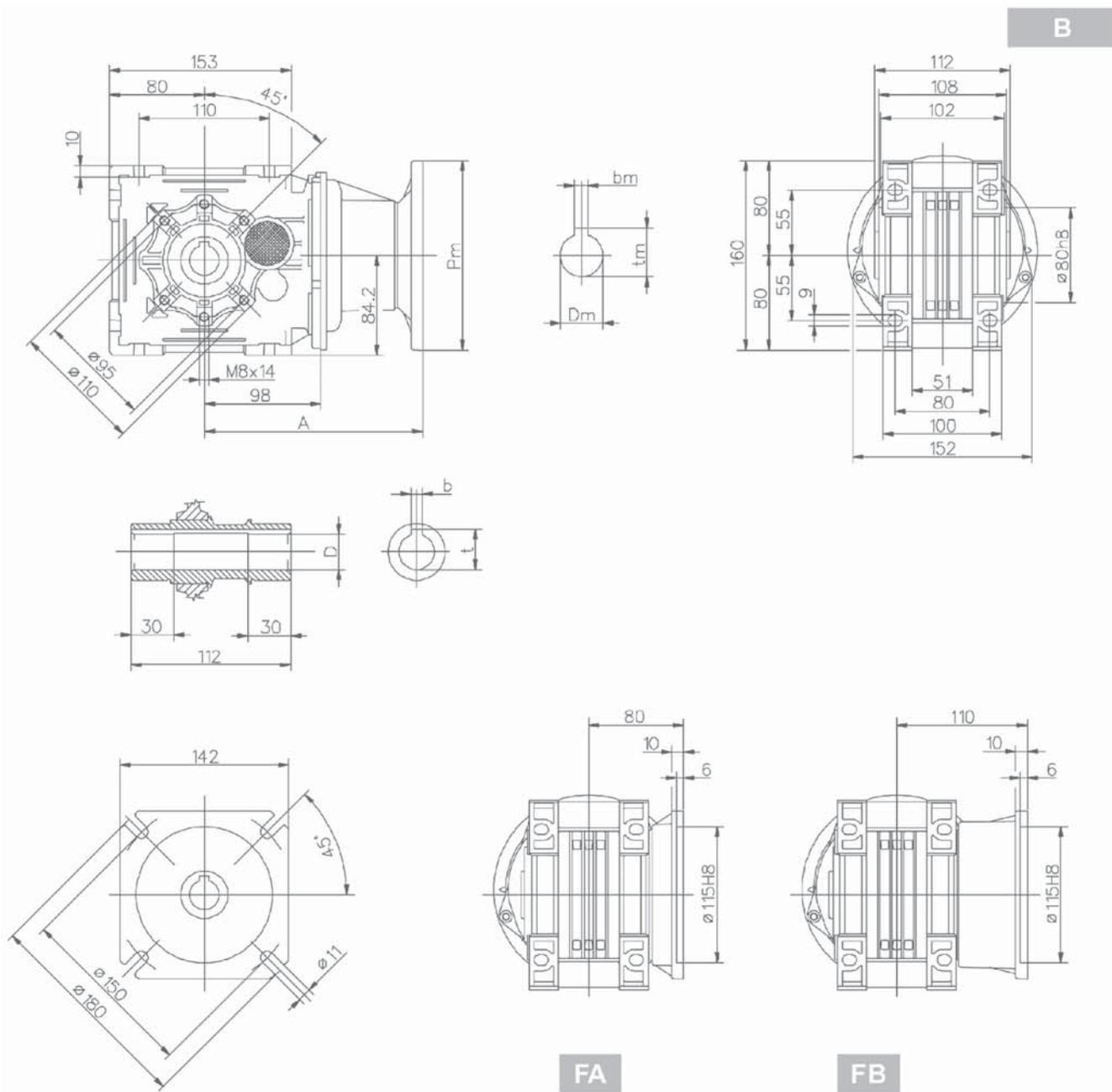
Uscita / Output / Abtrieb / Sortie / Salida		
D H7	b	t
25	8	28,3
(28)	(8)	(31,1)

(..)Only on request - Weight with motor
 ()括弧內尺寸依要求 - 重量包含馬達



052 Dimensions / 尺寸圖

摩托迪克



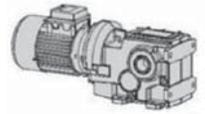
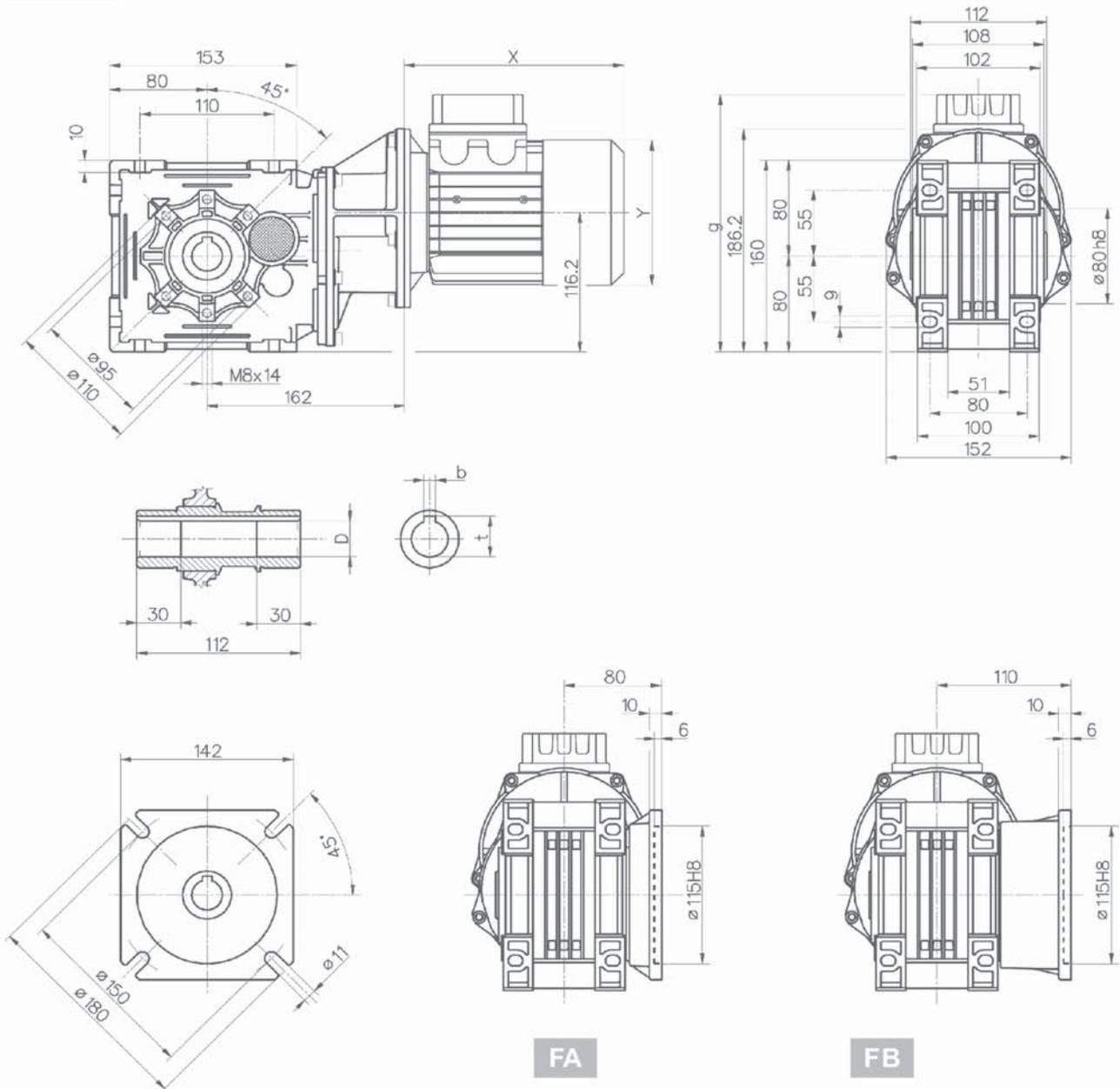
Uscita / Output / Abtrieb / Sortie / Salida		
D H7	b	t
25	8	28,3
(28)	(8)	(31,1)

PAM	A	kg
063	153	5.7
071	153	5.8
080 - 090	184	6

- Weight without motor (..) Only on request
- 重量不含馬達 () 括弧內尺寸依要求

For the dimensions concerning the motor connection area (Pm,Dm,bm,tm) please refer to the table shown at page A19.

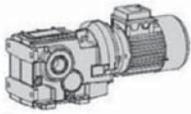
關於馬達連結法蘭尺寸 (Pm,Dm,bm,tm) 請參考第A19頁。


CB


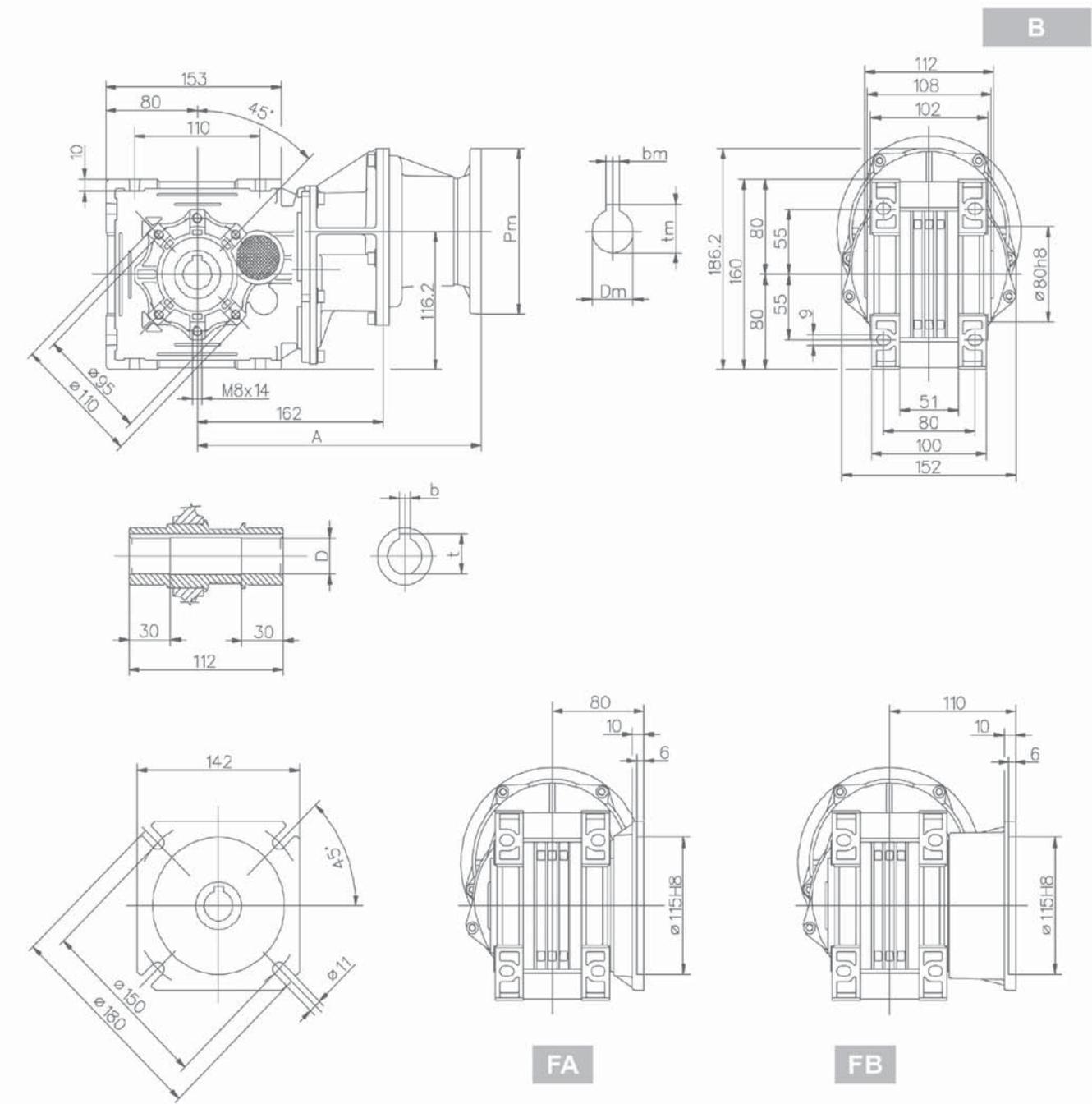
053	Standard motor / 標準馬達				Brake motor / 剎車馬達			
	g	X	Y	~Kg	g	X	Y	~Kg
63	220	180	121	10,2	236	238	121	11,6
71	229	205	139	12,2	245	269	139	14,1
80	238	223	158	16,2	254	294	158	19,3
90S	246	237	173	18,1	246	313	173	22,9
90L	246	262	173	20,6	246	338	173	25,5

Uscita / Output / Abtrieb / Sortie / Salida		
D H7	b	t
25	8	28,3
(28)	(8)	(31,1)

(..)Only on request - Weight with motor
 ()括弧內尺寸依要求 - 重量包含馬達



053 **Dimensions / 尺寸圖** **摩托迪克**



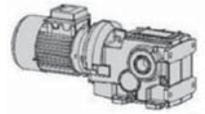
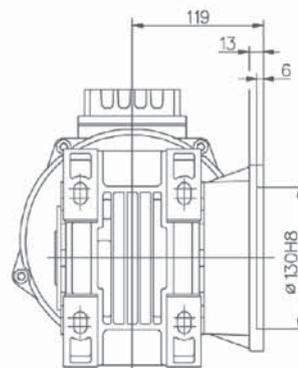
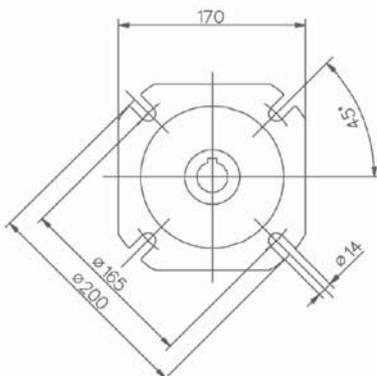
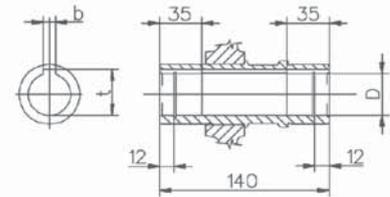
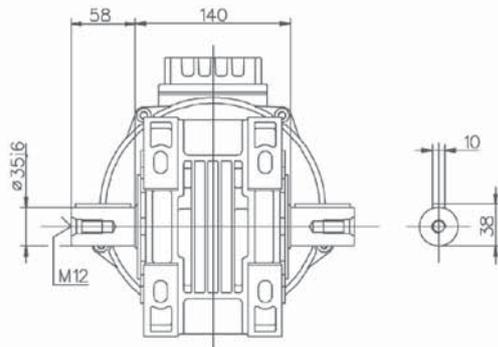
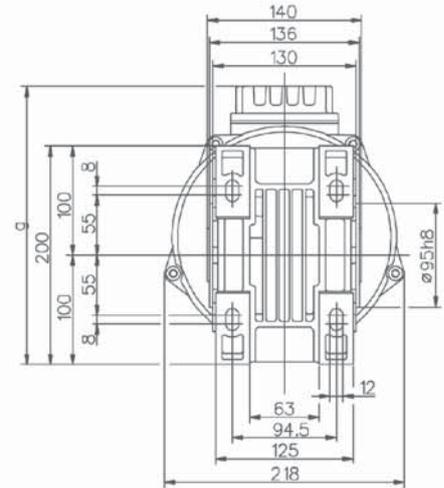
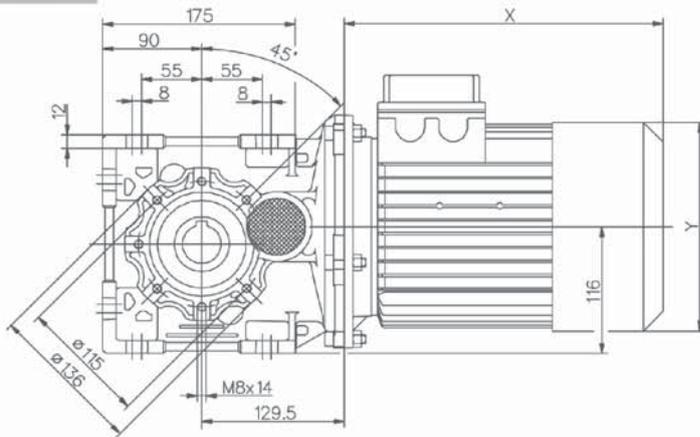
Uscita / Output / Abtrieb / Sortie / Salida		
D H7	b	t
25	8	28,3
(28)	(8)	(31,1)

PAM	A	kg
063	217	7.5
071	217	7.6
080	248	9

- Weight without motor (..) Only on request
- 重量不含馬達 () 括弧內尺寸依要求

For the dimensions concerning the motor connection area (Pm,Dm,bm,tm) please refer to the table shown at page A19.

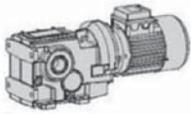
關於馬達連結法蘭尺寸 (Pm,Dm,bm,tm) 請參考第A19頁.


CB

FA

072	Standard motor / 標準馬達				Brake motor / 剎車馬達			
	g	X	Y	~Kg	g	X	Y	~Kg
80	238	218	158	22,4	253	290	158	26,4
90S	246	232	173	24,4	246	309	173	27,9
90L	246	257	173	26,9	246	334	173	32,4
100	255	291	191	35,4	255	372	191	42,4
112	270	305	211	42,4	270	400	211	52,4

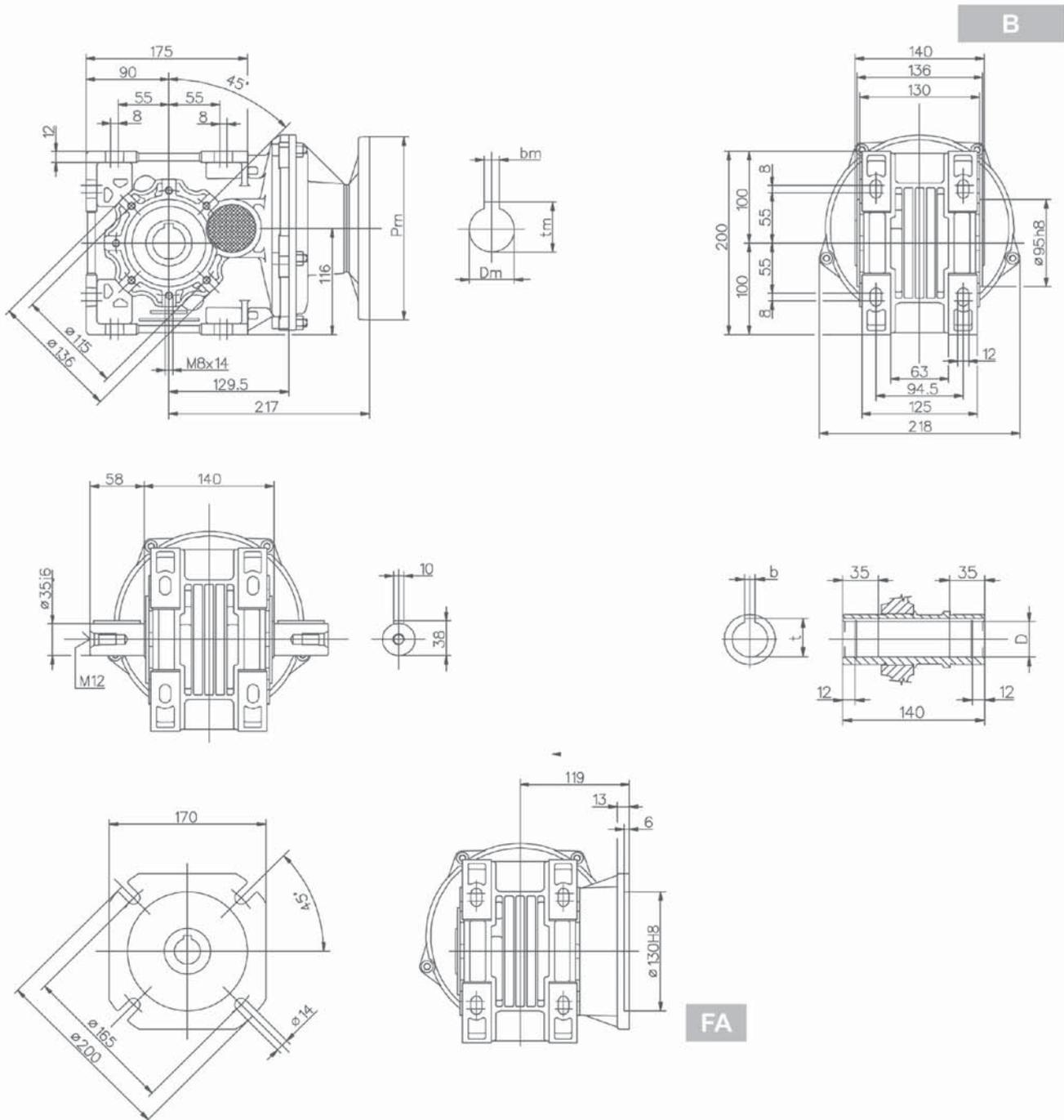
Uscita / Output / Abtrieb / Sortie / Salida		
D H7	b	t
35	10	38,3
(30)	(8)	(33,3)

(..)Only on request - Weight with motor
 ()括弧內尺寸依要求 - 重量包含馬達



072 Dimensions / 尺寸圖

摩托迪克



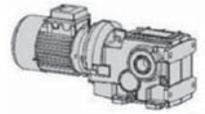
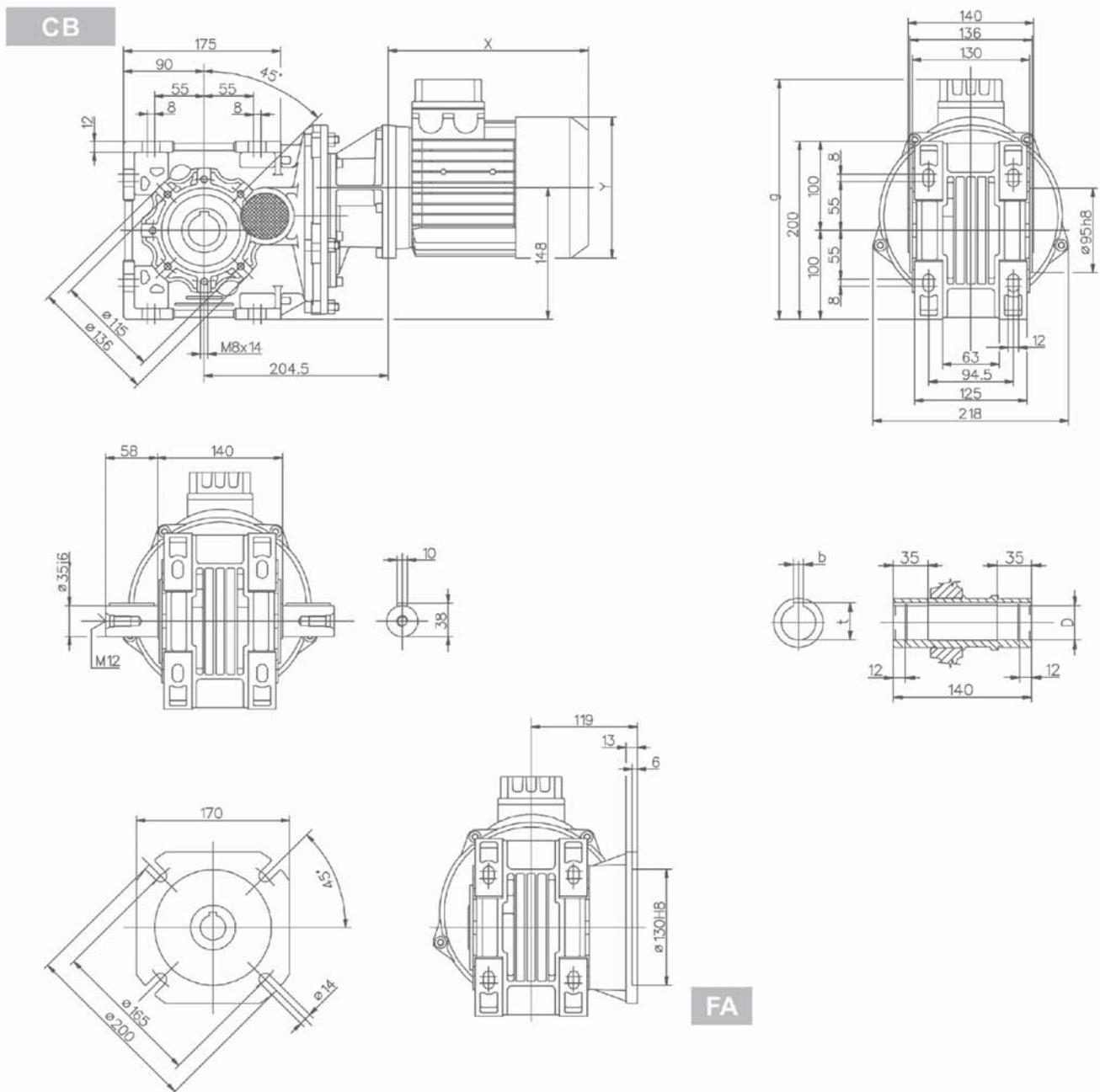
Uscita / Output / Abtrieb / Sortie / Salida		
DH7	b	t
35	10	38,3
(30)	(8)	(33,3)

PAM	~kg
080-090	16.1
100 - 112	16.3

- Weight without motor (..) Only on request
- 重量不含馬達 () 括弧內尺寸依要求

For the dimensions concerning the motor connection area (Pm,Dm,bm,tm) please refer to the table shown at page A19.

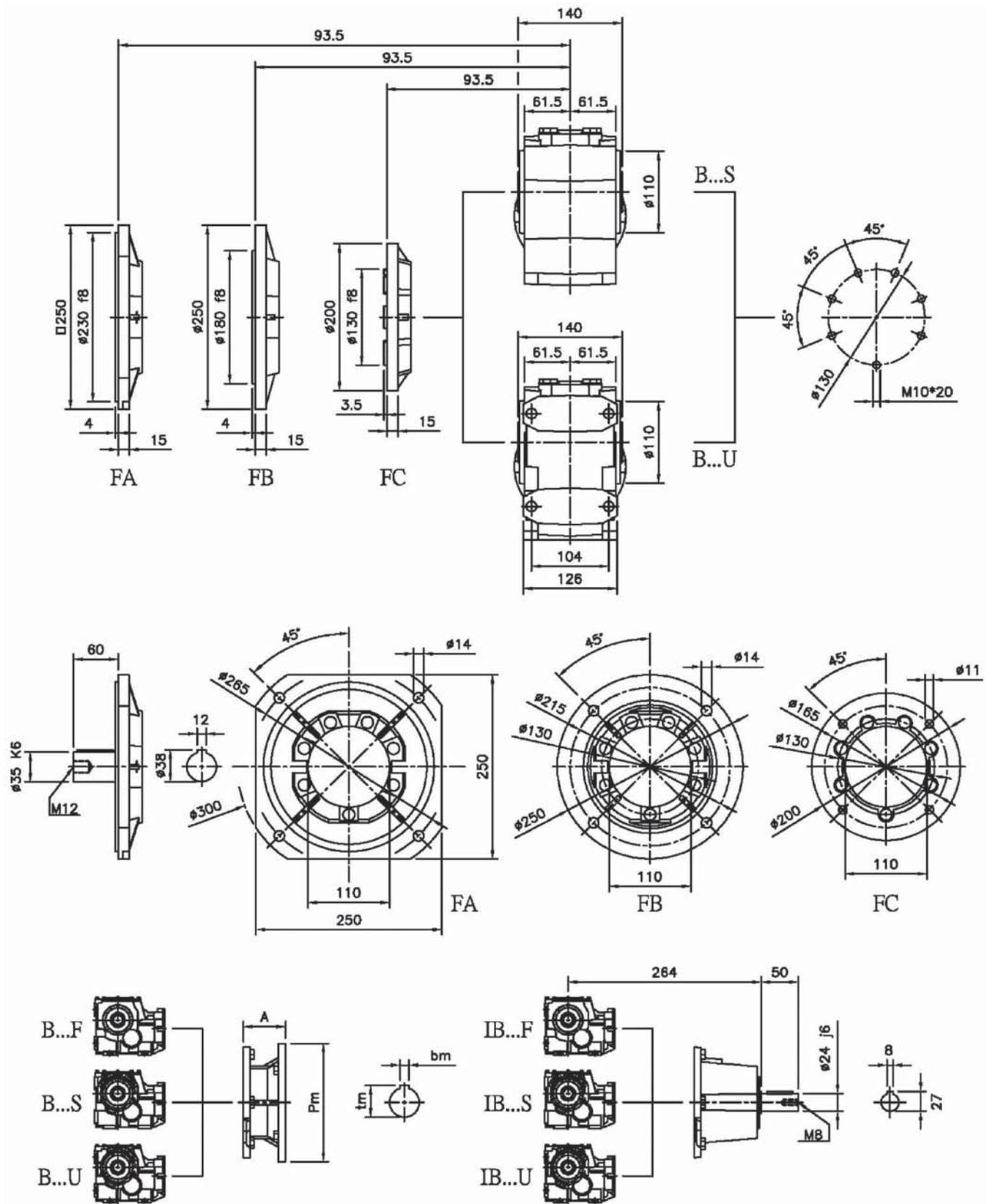
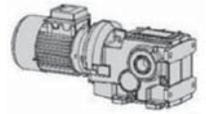
關於馬達連結法蘭尺寸 (Pm,Dm,bm,tm) 請參考第A19頁。

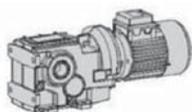

073 Dimensions / 尺寸圖
摩托迪克


073	Standard motor / 標準馬達				Brake motor / 剎車馬達			
	g	X	Y	~Kg	g	X	Y	~Kg
63	252	180	121	17,9	267	238	121	19,4
71	260	205	139	19,9	276	269	139	21,9
80	270	223	158	23,9	285	294	158	27,9
90S	278	237	173	25,9	278	313	173	29,4
90L	278	262	173	28,4	278	338	173	33,9

Uscita / Output / Abtrieb / Sortie / Salida		
DH7	b	t
35	10	38,3
(30)	(8)	(33,3)

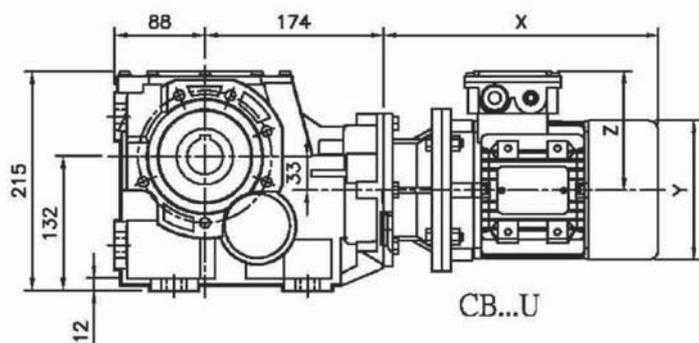
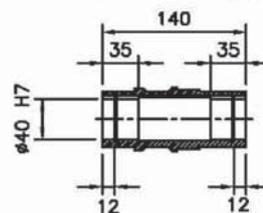
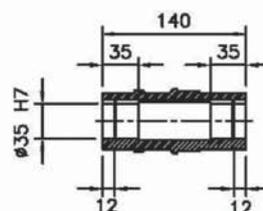
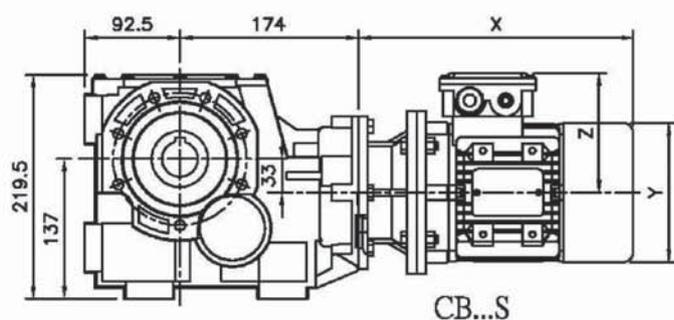
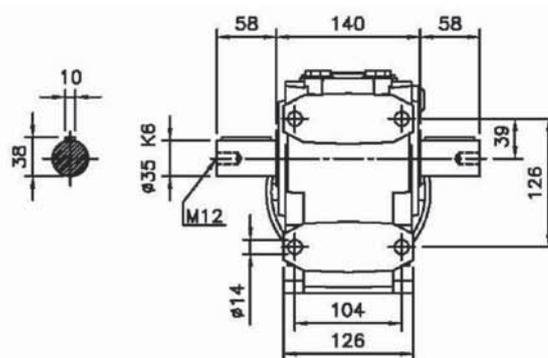
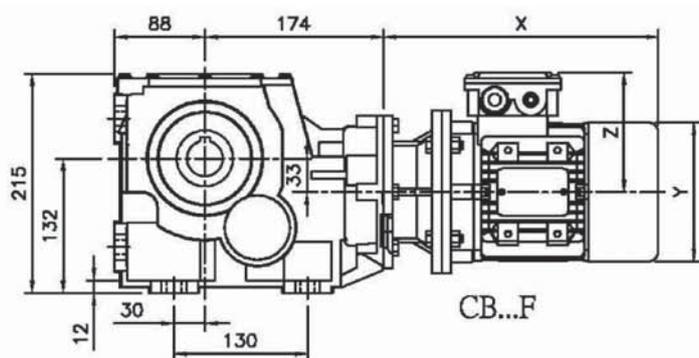
(..)Only on request - Weight with motor
 ()括弧內尺寸依要求 - 重量包含馬達





063 Dimensions / 尺寸圖

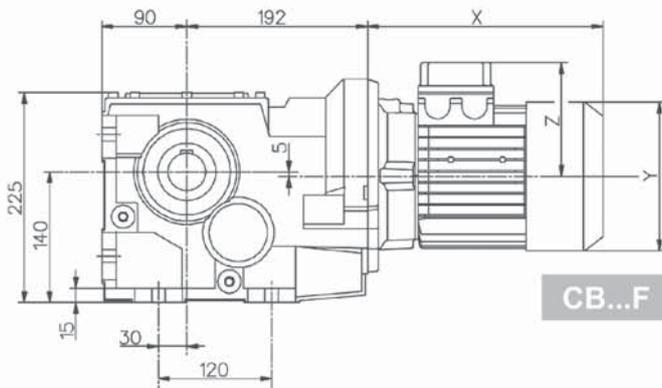
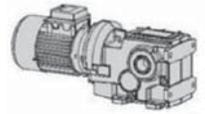
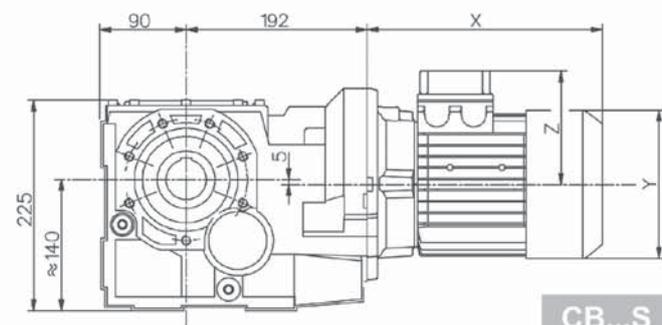
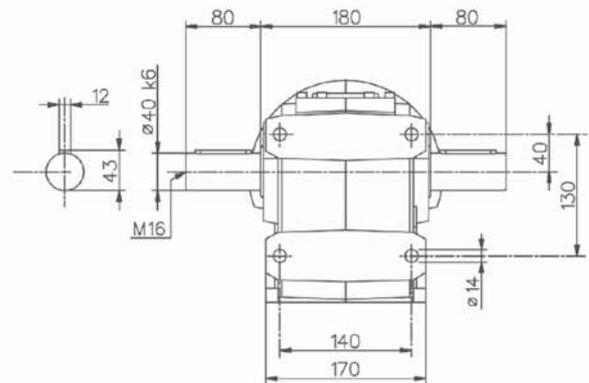
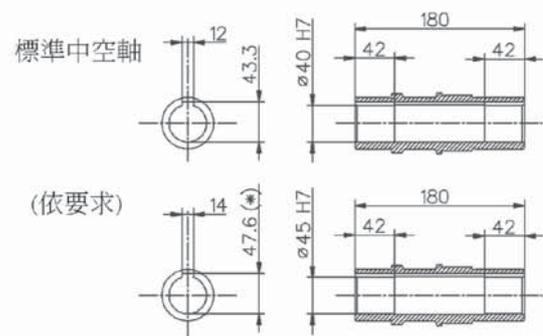
摩托迪克



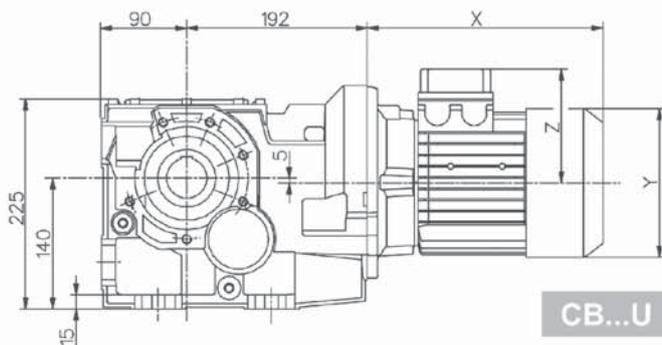
063	IB	PAM		Standard motor / 標準馬達				Brake motor / 剎車馬達			
	~Kg	A	~Kg	X	Y	Z	~Kg	X	Y	Z	~Kg
63	20,4	57	17,3	215	121	104	20,8	273	121	119	22,3
71		69	17,7	241	139	112	21,7	305	139	128	23,9
80		90	18,3	268	158	122	26,4	341	158	137	29,9
90s		90	18,3	296	173	130	30,3	373	173	130	35,8
90l		90	18,3	321	173	130	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

For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page A19.

關於馬達連結法蘭尺寸 (Pm,Dm,bm,tm) 請參考第A19頁.


CB...F

CB...S


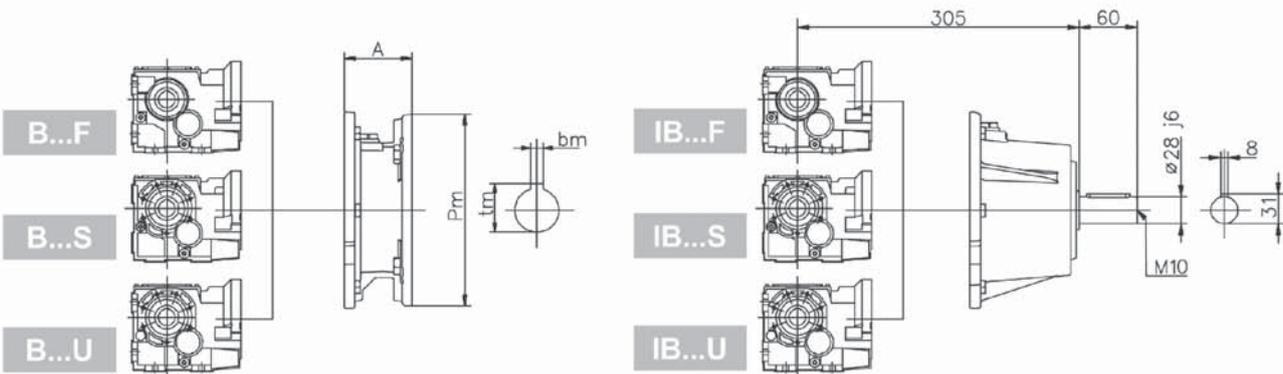
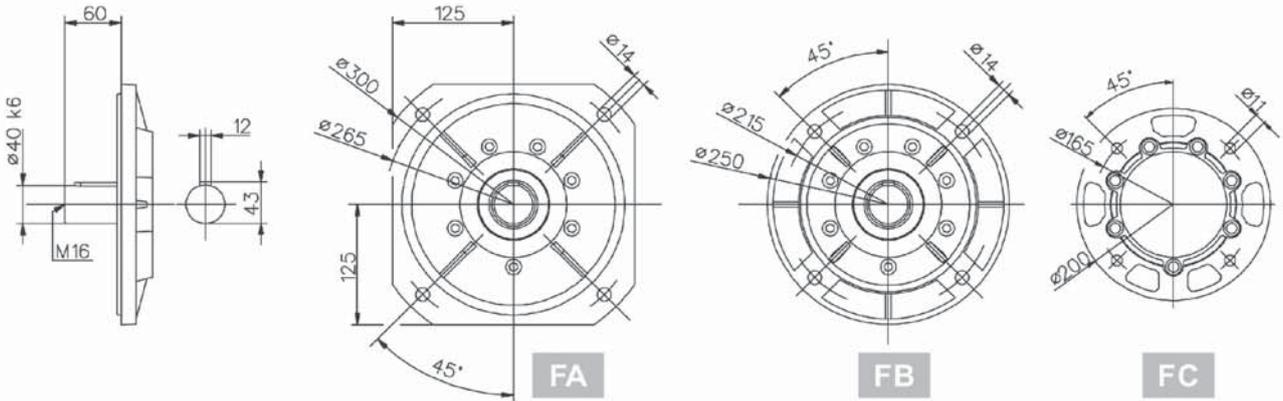
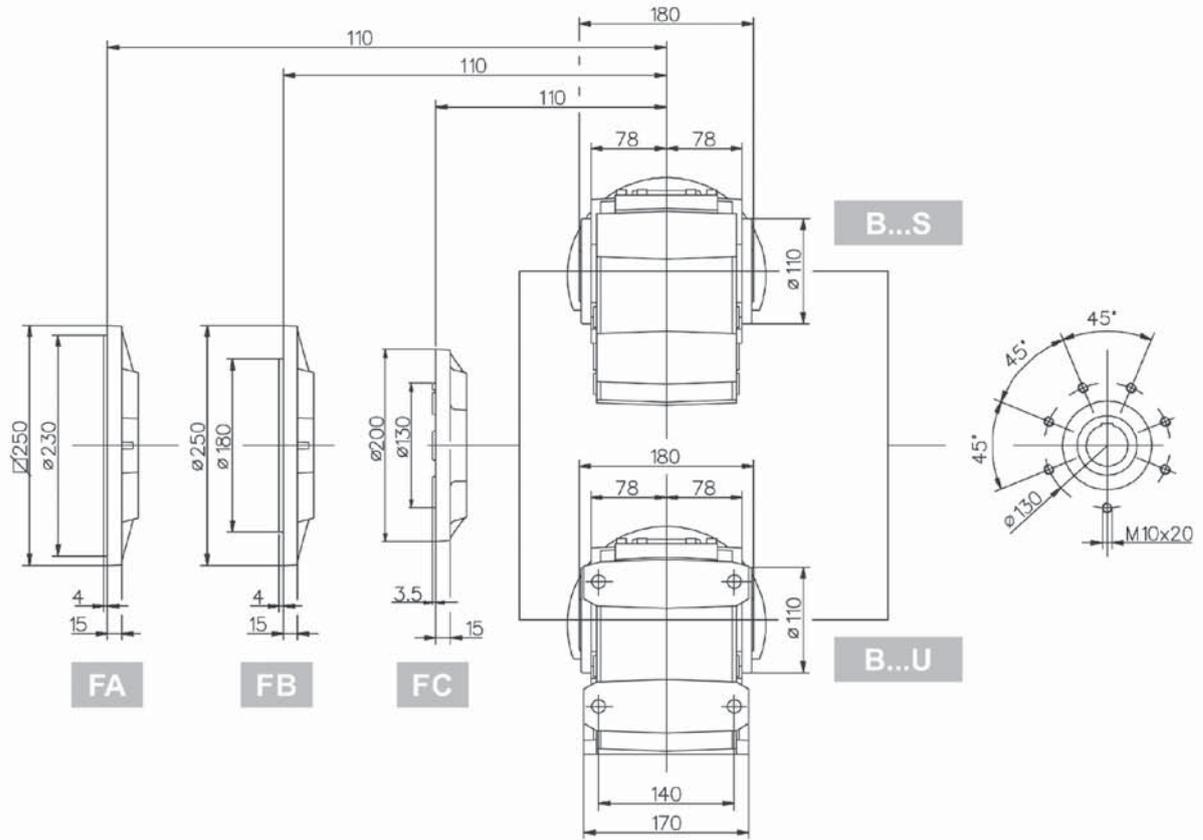
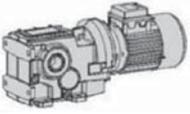
(*) Low profile key-way 鍵槽特殊

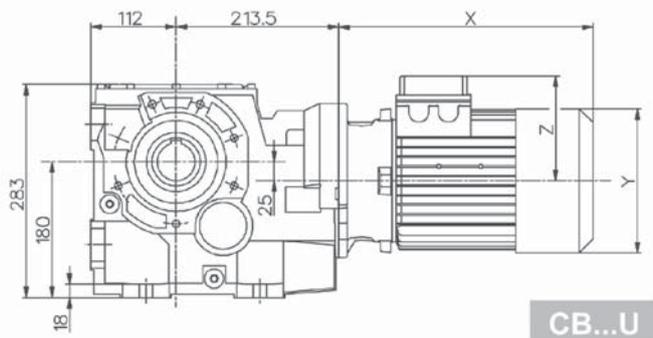
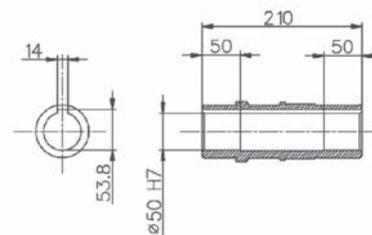
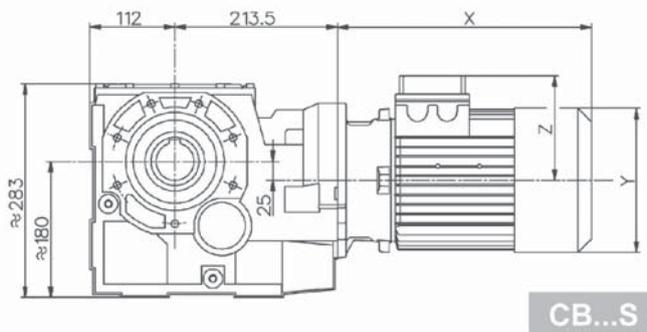
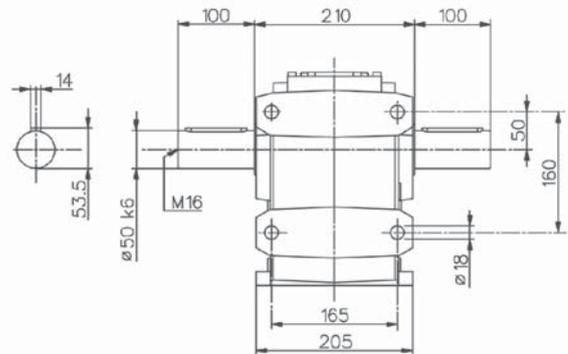
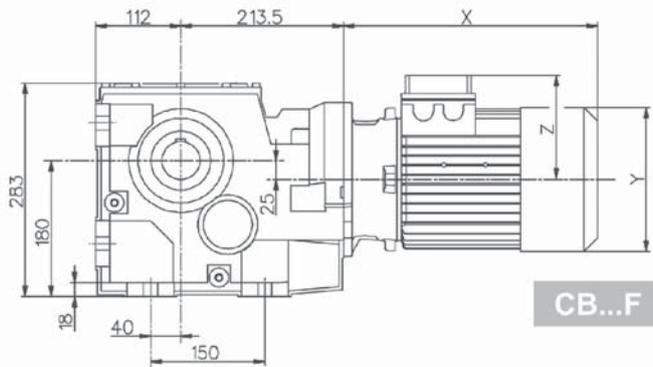
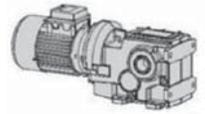

CB...U

083	IB	PAM		Standard motor / 標準馬達				Brake motor / 剎車馬達			
	~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

For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page A19.

關於馬達連結法蘭尺寸 (Pm,Dm,bm,tm) 請參考第A19頁。

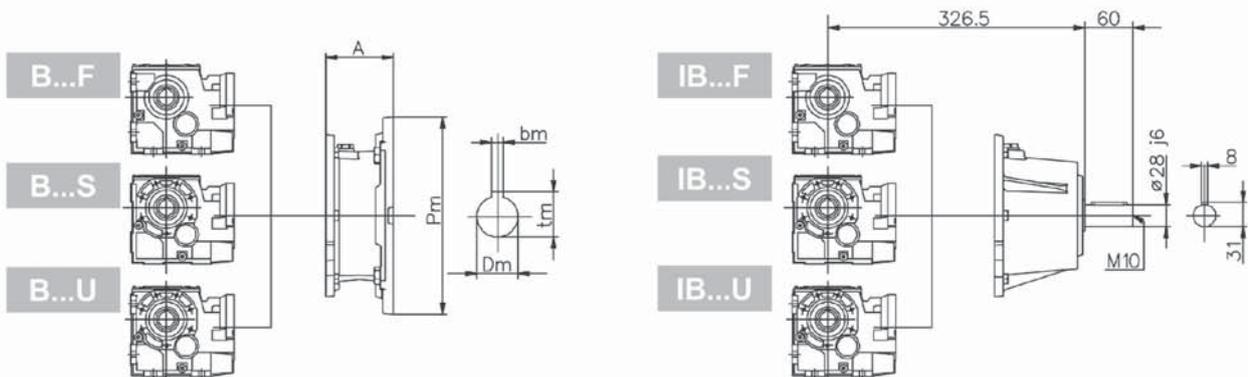
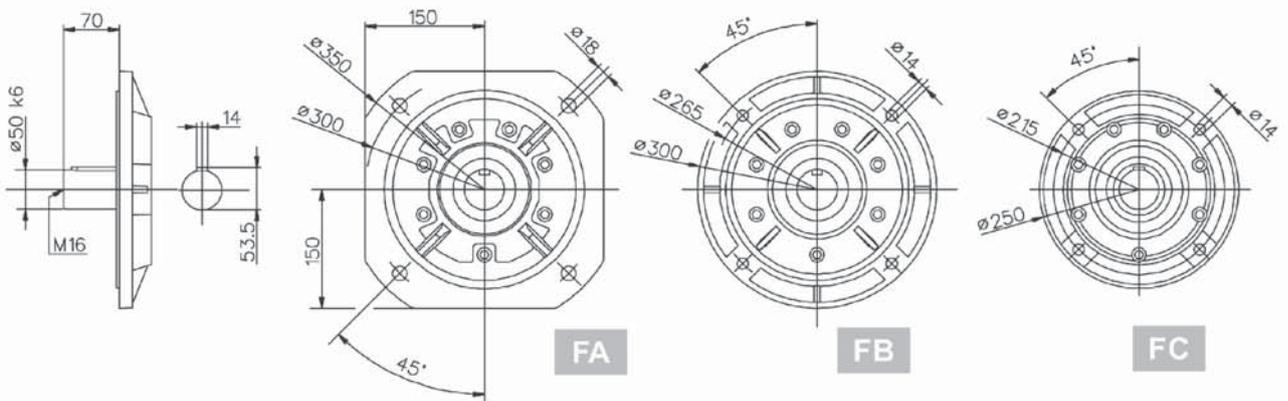
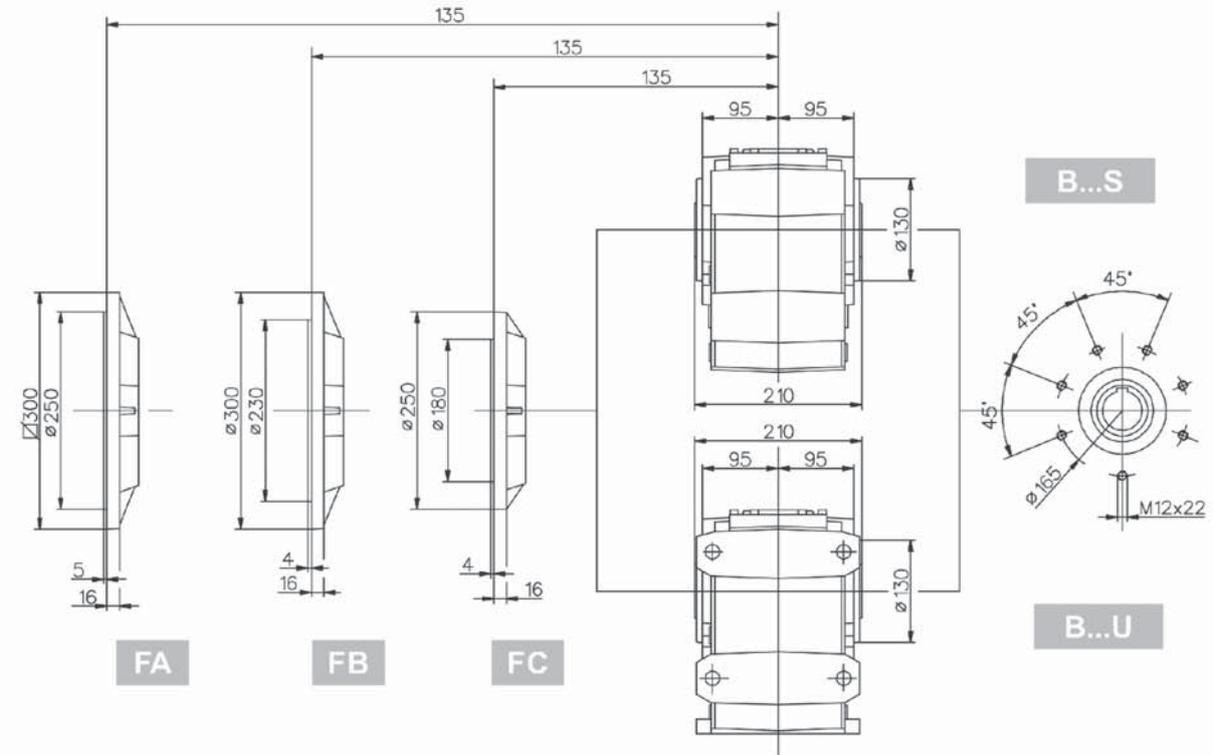
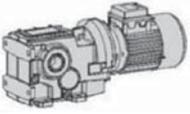


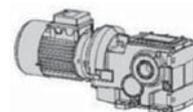


103	IB	PAM		Standard motor / 標準馬達			Brake motor / 剎車馬達				
	~Kg	A	~Kg	X	Y	Z	~Kg	X	Y	Z	~Kg
80	58,8	70	54,8	248	158	122	61,4	321	158	137	64,8
90s		70	54,8	276	173	130	63,8	353	173	130	69,3
90l		70	54,8	301	173	130	65,3	378	173	130	70,8
100		85	56,8	335	191	139	70,4	417	191	139	75,8
112		85	56,8	356	211	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	-	-	-	-	-

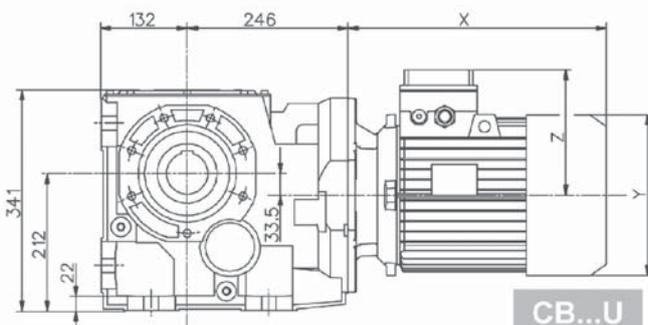
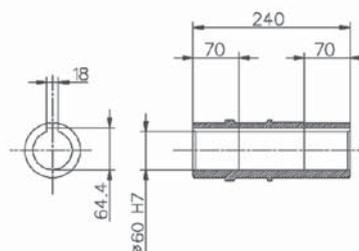
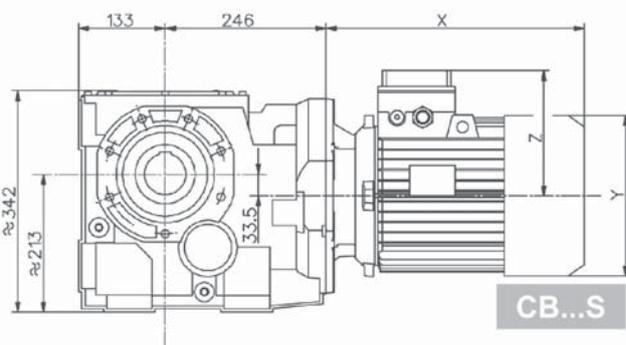
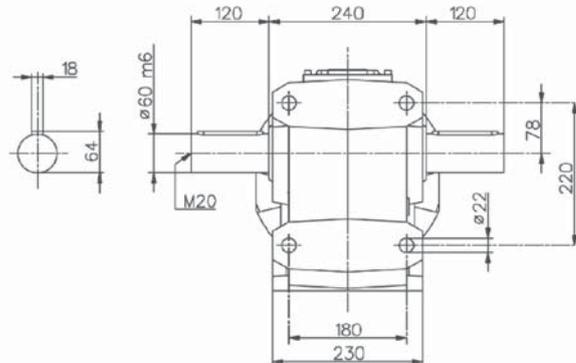
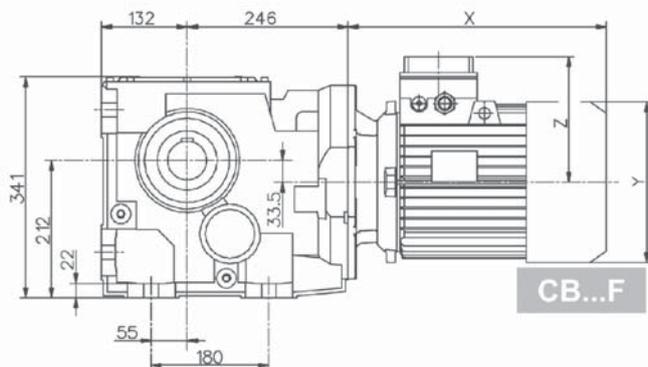
For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page A19.

關於馬達連結法蘭尺寸 (Pm,Dm,bm,tm) 請參考第A19頁.





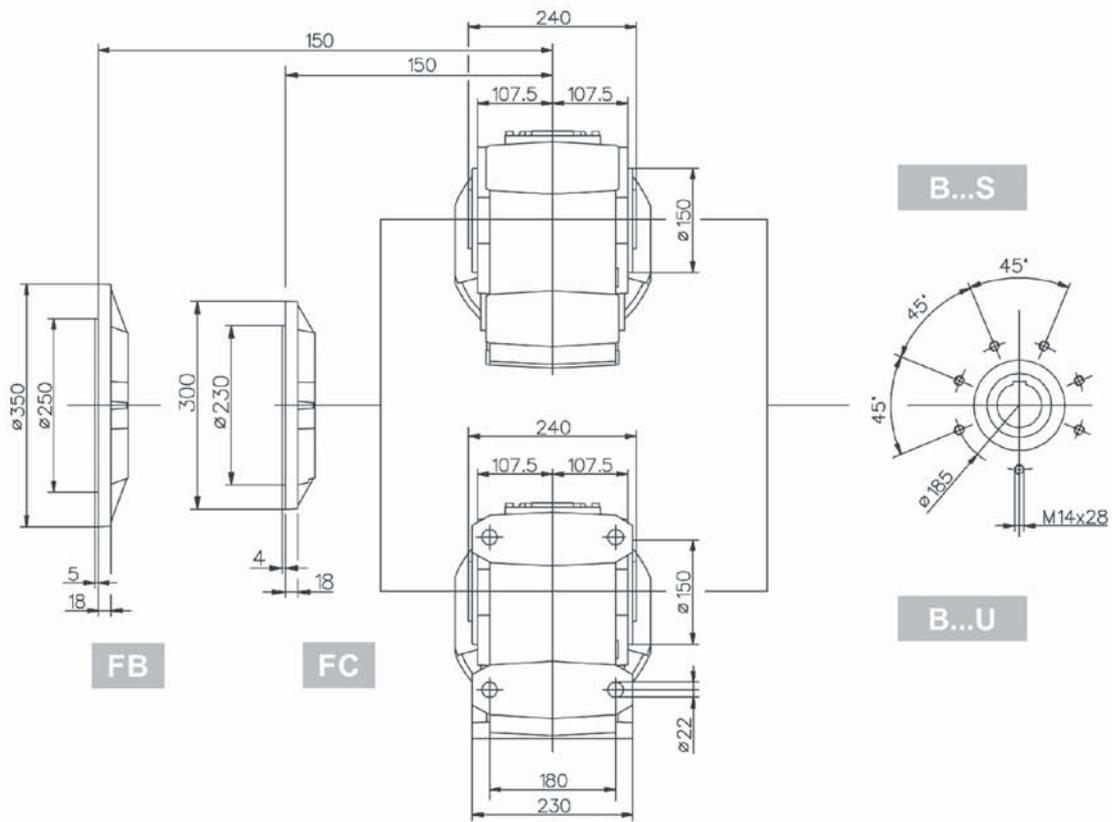
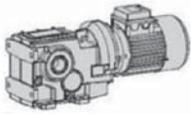
123 Dimensions / 尺寸圖 摩托迪克



123	IB	PAM		Standard motor / 標準馬達			Brake motor / 剎車馬達				
	~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	-	-	-	-	-

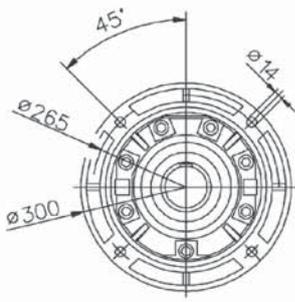
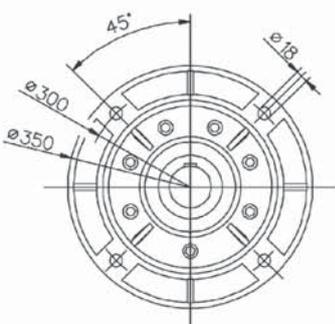
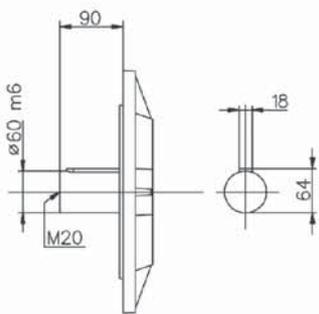
For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page A19.

關於馬達連結法蘭尺寸 (Pm,Dm,bm,tm) 請參考第A19頁.



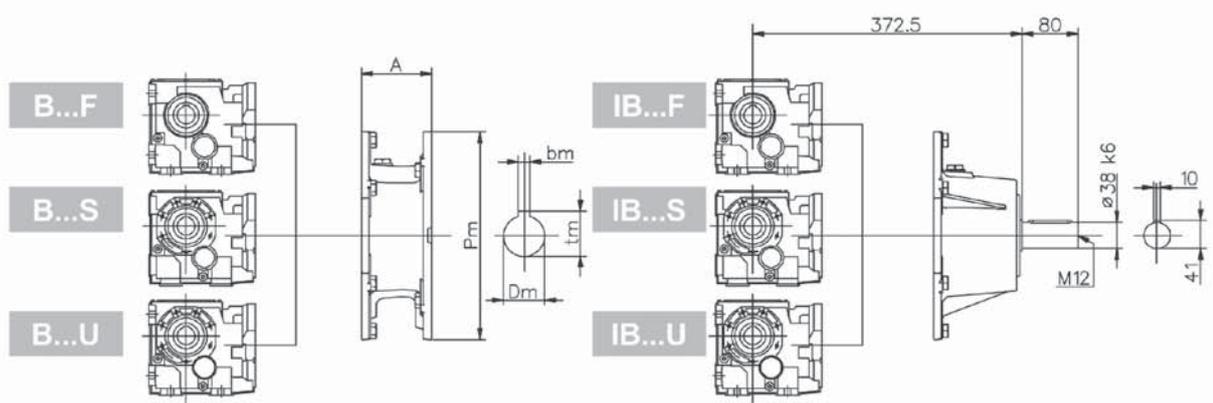
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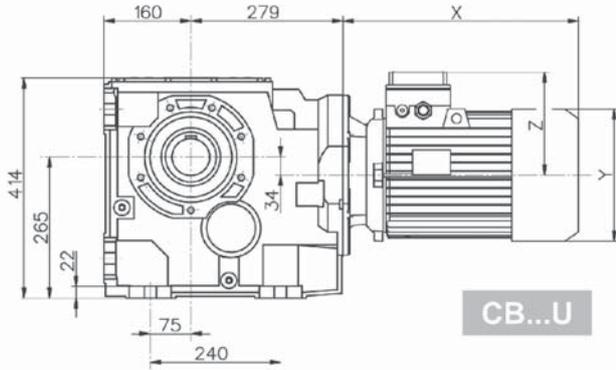
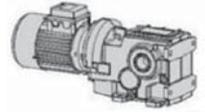
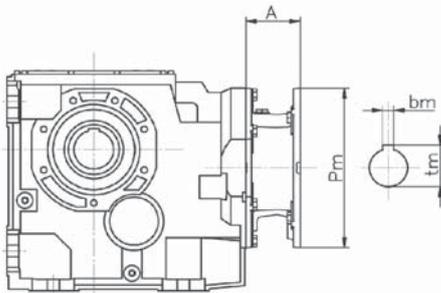
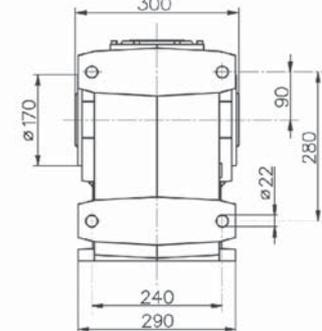
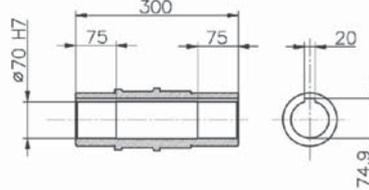
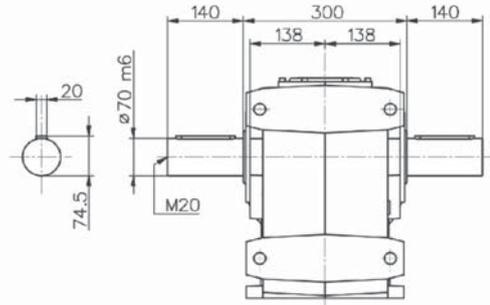
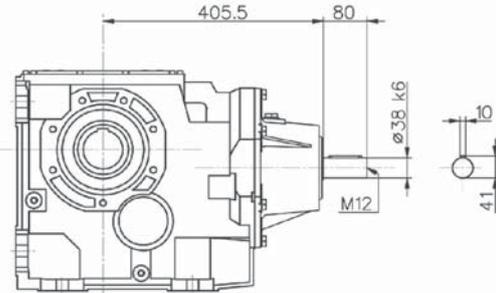
B...U



FB

FC

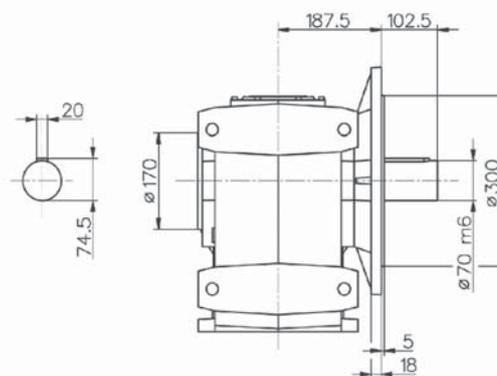
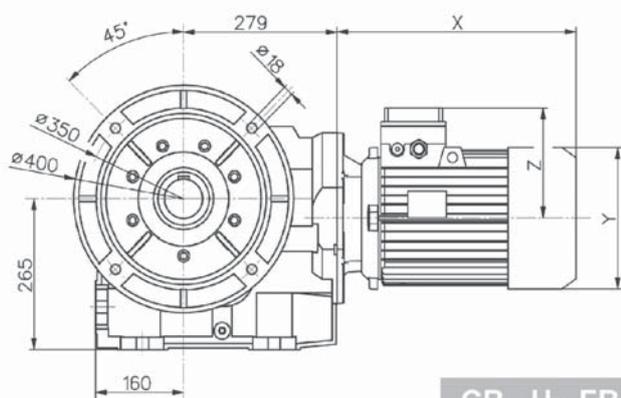
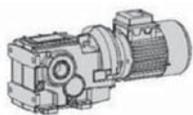


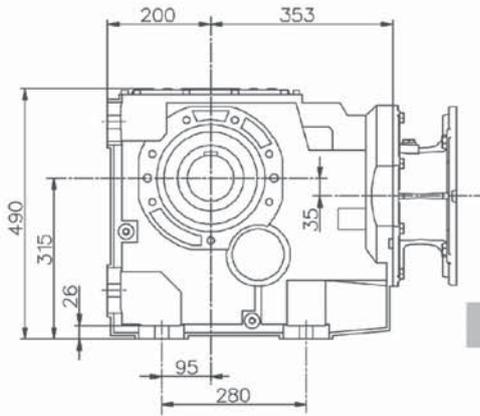
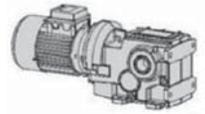
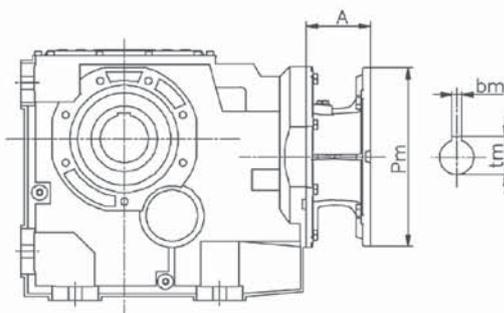
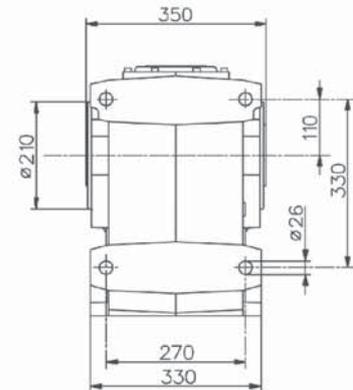
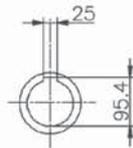
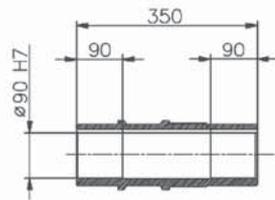
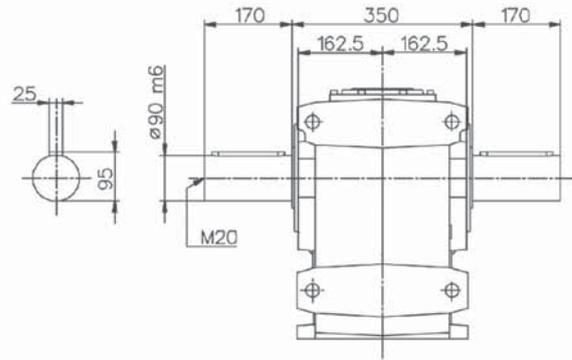
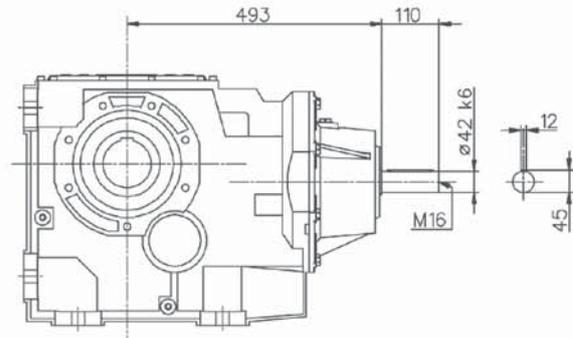

CB...U

B...U

IB...U

143	IB	PAM		Standard motor / 標準馬達				Brake motor / 剎車馬達			
	~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	-	-	-	-	-	-	-	-

For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page A19.

關於馬達連結法蘭尺寸 (Pm,Dm,bm,tm) 請參考第A19頁.

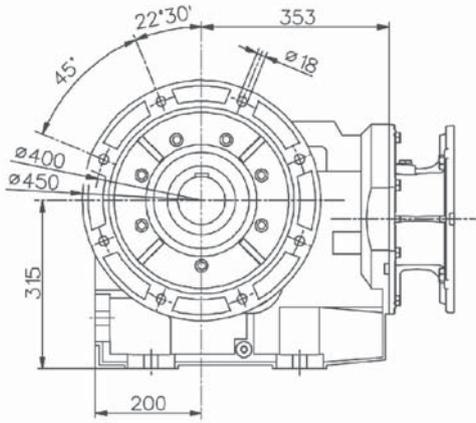
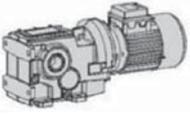



B..U

B..U

IB..U

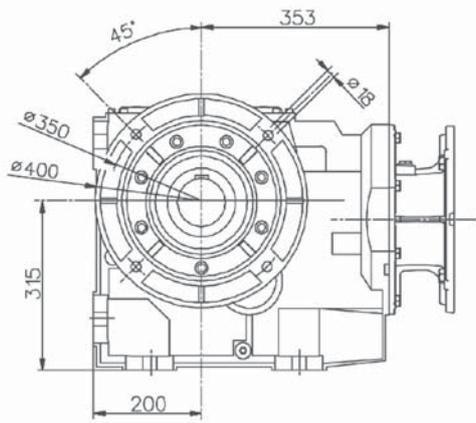
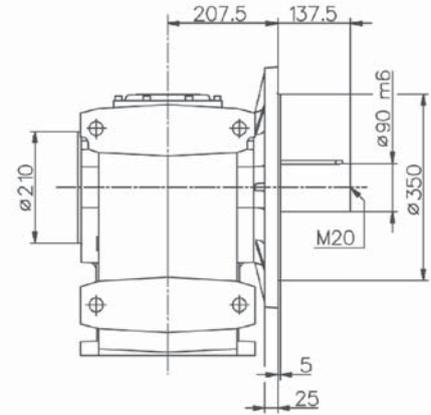
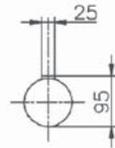
153	IB	PAM	Standard motor / 標準馬達				Brake motor / 剎車馬達				
	~Kg	A	~Kg	X	Y	Z	~Kg	X	Y	Z	~Kg
132s	213	76	199	-	-	-	-	-	-	-	-
132m		76	199	-	-	-	-	-	-	-	-
160s		124	206,5	-	-	-	-	-	-	-	-
160l		124	206,5	-	-	-	-	-	-	-	-
180		124	206,5	-	-	-	-	-	-	-	-
200		161	221	-	-	-	-	-	-	-	-
225		161	223	-	-	-	-	-	-	-	-

For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page A19.

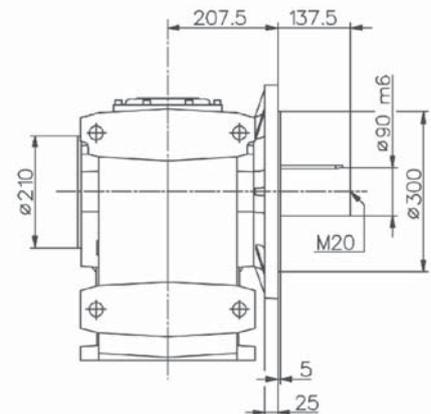
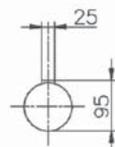
關於馬達連結法蘭尺寸 (Pm,Dm,bm,tm) 請參考第A19頁.

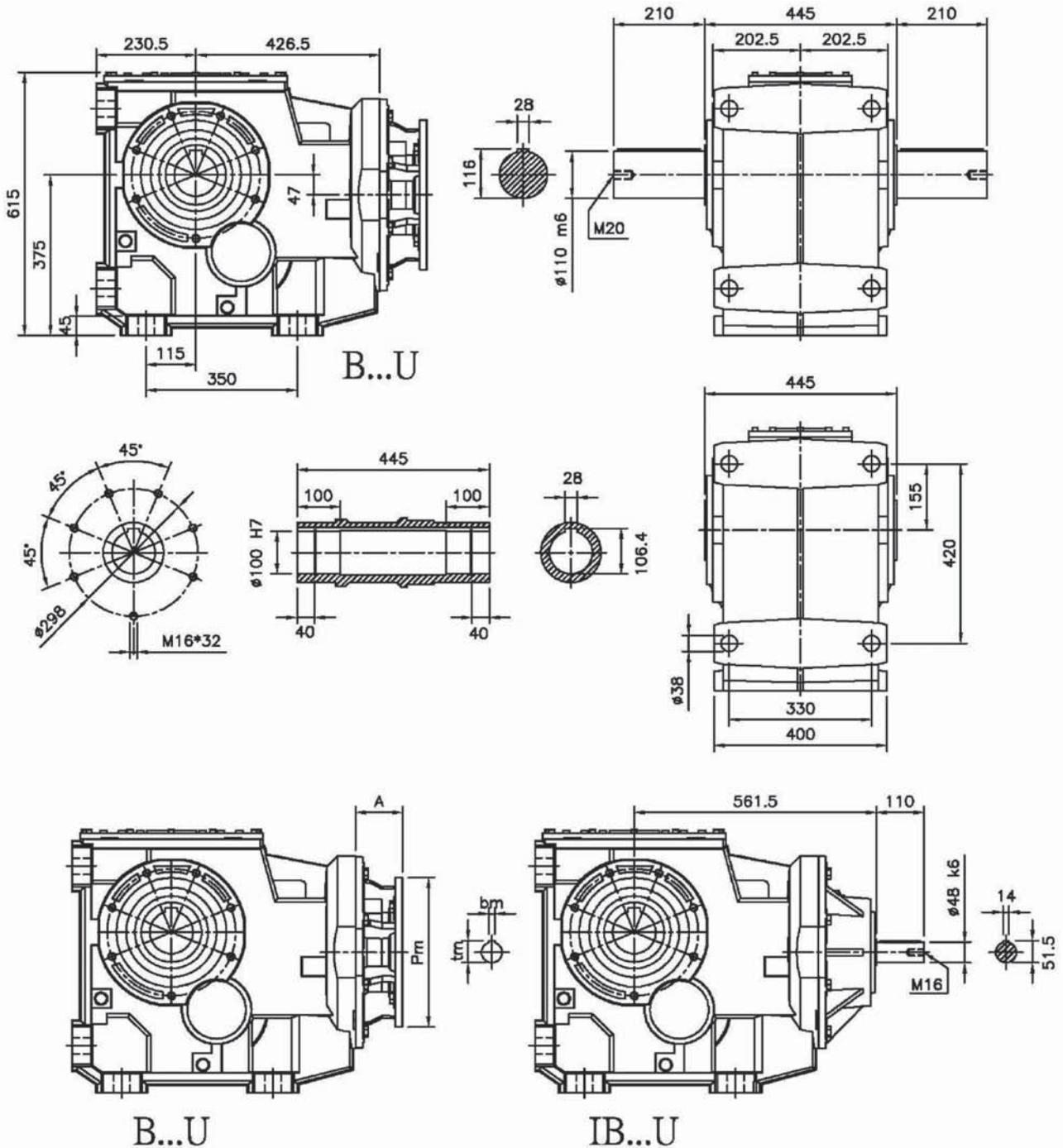
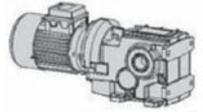


B...U - FB



B...U - FC

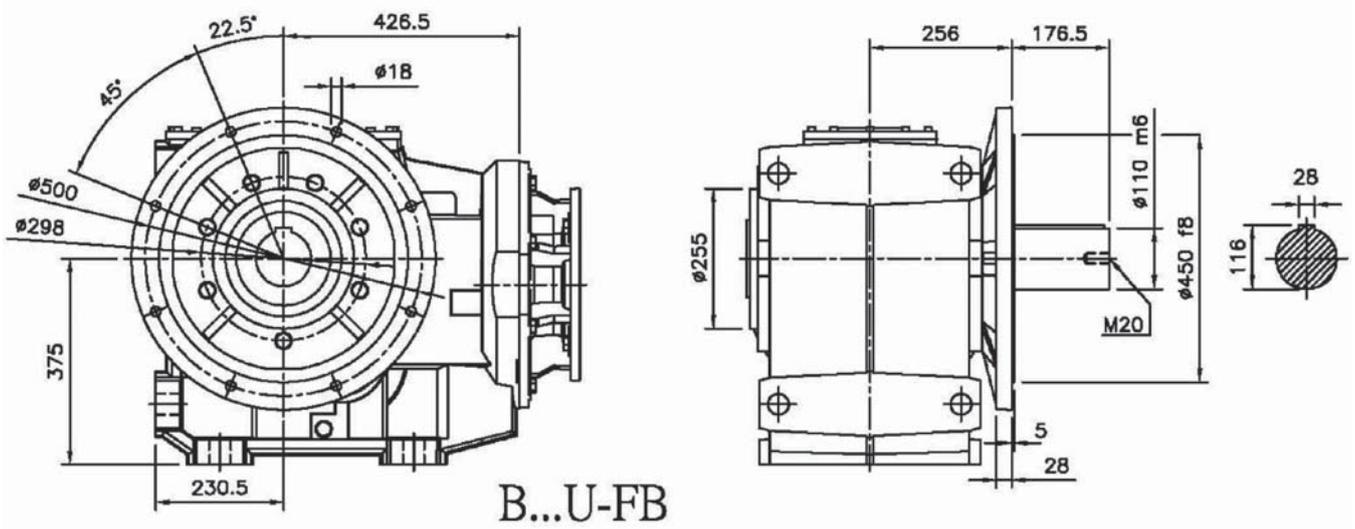
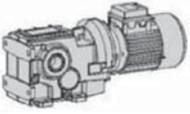


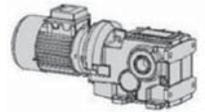
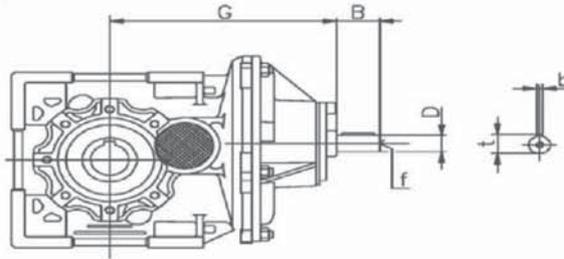


163	IB	PAM		Standard motor / 標準馬達				Brake motor / 剎車馬達			
	~kg	A	~kg	X	Y	Z	~kg	X	Y	Z	~kg
160	455.6	109	385.3	-	-	-	-	-	-	-	-
180		109	385.3	-	-	-	-	-	-	-	-
200		146	449.8	-	-	-	-	-	-	-	-
225		146	457.1	-	-	-	-	-	-	-	-
250		175	473.5	-	-	-	-	-	-	-	-
280		175	473.5	-	-	-	-	-	-	-	-

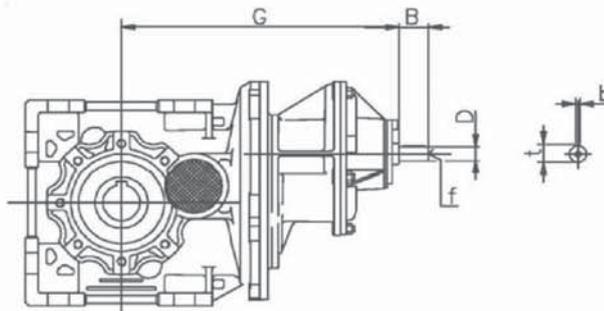
For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page A19.

關於馬達連結法蘭尺寸 (Pm, Dm, bm, tm) 請參考第A19頁。




IB... Dimensions / 入力軸尺寸圖 摩托迪克
A42 - A52 - A72


	G	Dj6	B	b	t	f
A42	175.5	16	40	5	18	M6
A52	179	16	40	5	18	M6
A72	210	19	40	6	21.5	M6

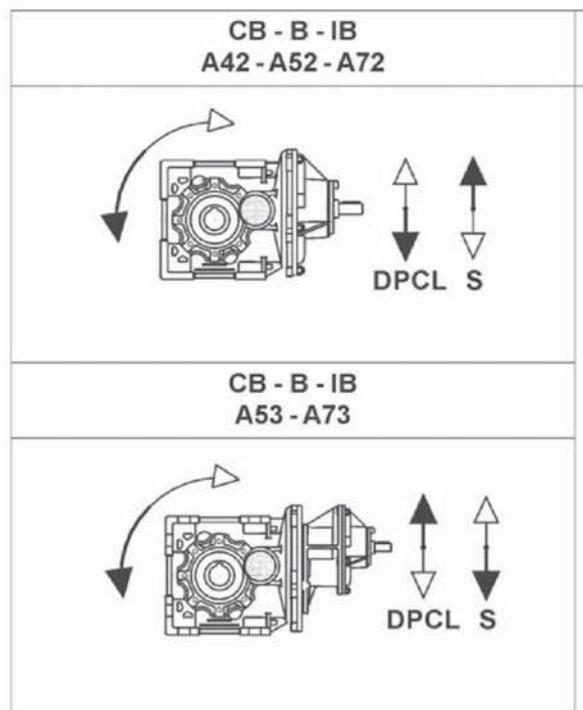
A53 - A73


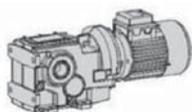
	G	Dj6	B	b	t	f
A53	242.5	16	40	5	18	M6
A73	285	16	40	5	18	M6

旋轉的方向 (Direction of rotation)

Helical bevel reduction units are supplied as "standard" with rotation as shown in the below 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 042-052-053.

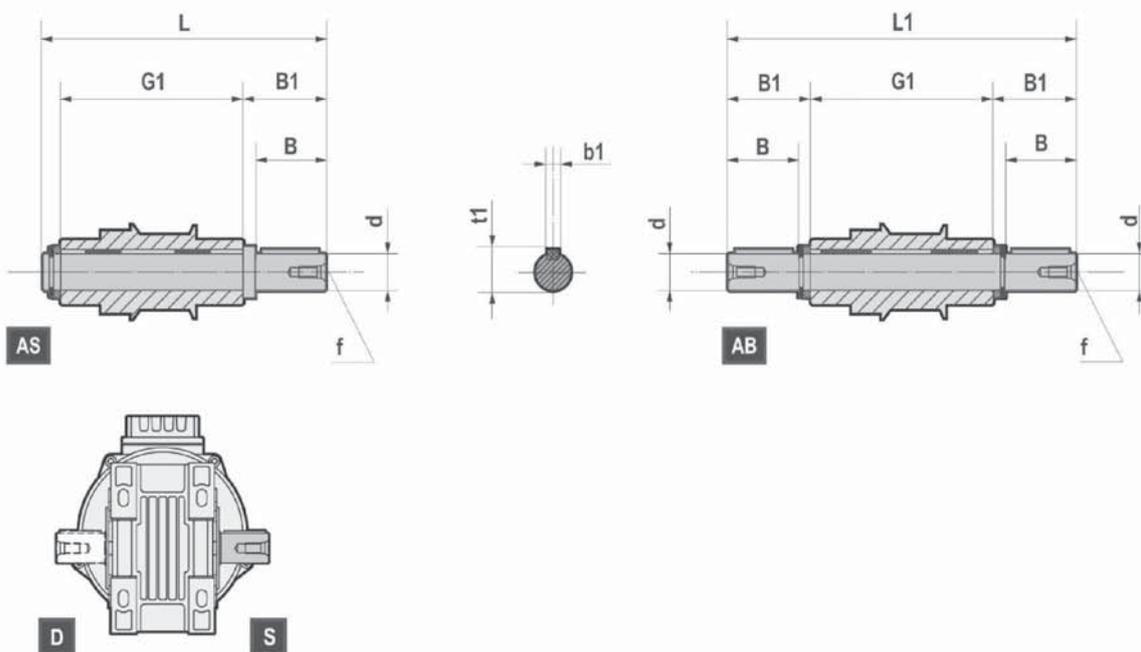
螺旋錐齒輪減速機『標準的』供應規格其旋轉的方向如下圖所示。應客戶要求，其旋轉的方向可以是反方向的設計。在此情形，客戶在下訂單時需特別註明『與目錄不同的反方向旋轉規格』。注意，042-052-053 的規格無法供應『與目錄不同的反方向旋轉規格』。





Low speed shafts / 出力軸

摩托迪克

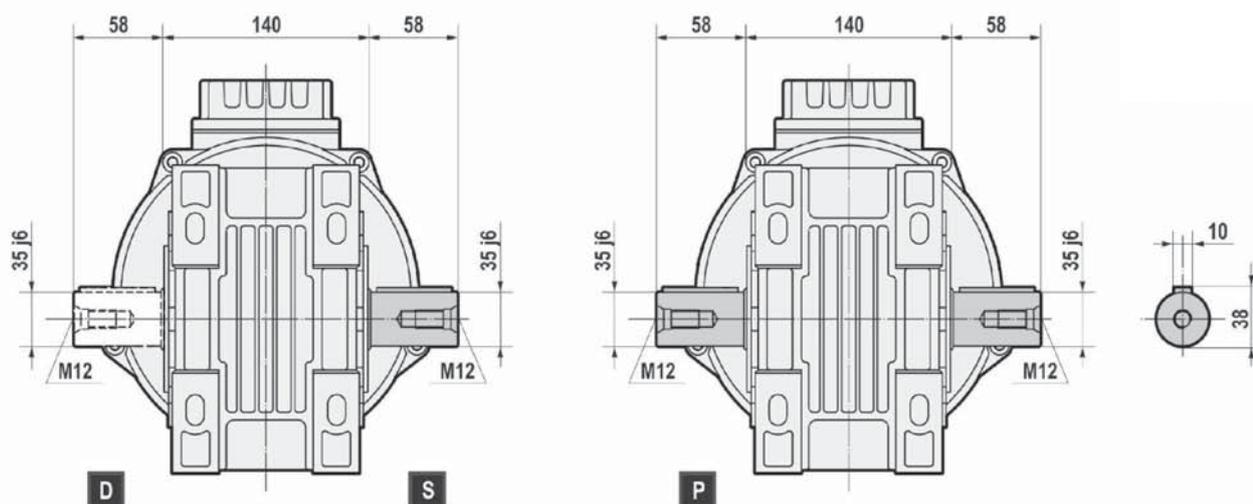


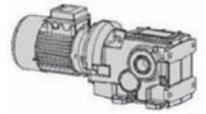
	d h6	B	B1	G1	L	L1	f	b1	t1
A40	20	40	43,5	100	151	187	M6	6	22,5
A50	25	50	53,5	112	173	219	M10	8	58
060	35	58	62	140	210,5	264	M12	10	38
080	40	80	84,25	180	273	348,5	M16	12	43
100	50	100	105	210	325	420	M16	14	53,5
125	60	120	125	240	375	490	M20	18	64
140	70	140	146	300	458	592	M20	20	74,5
150	90	170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

Low speed shafts / 出力軸

BA70 (*)

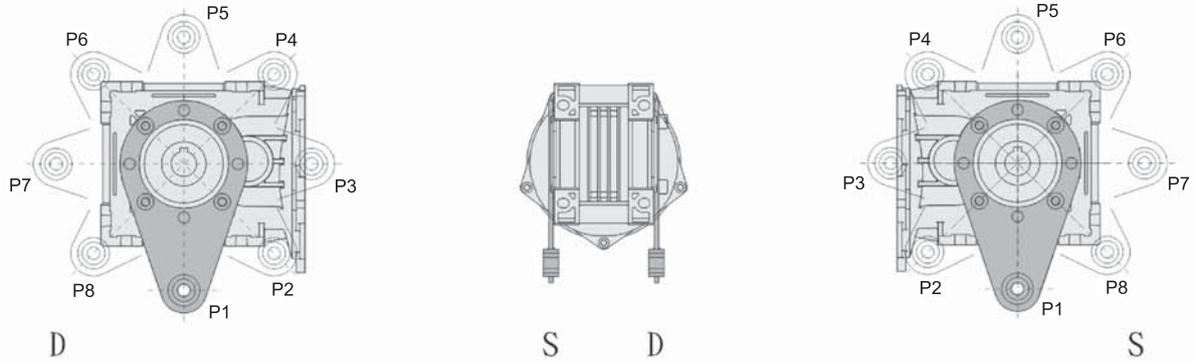
(*)實心軸





Torque arm / 扭力臂安裝方向

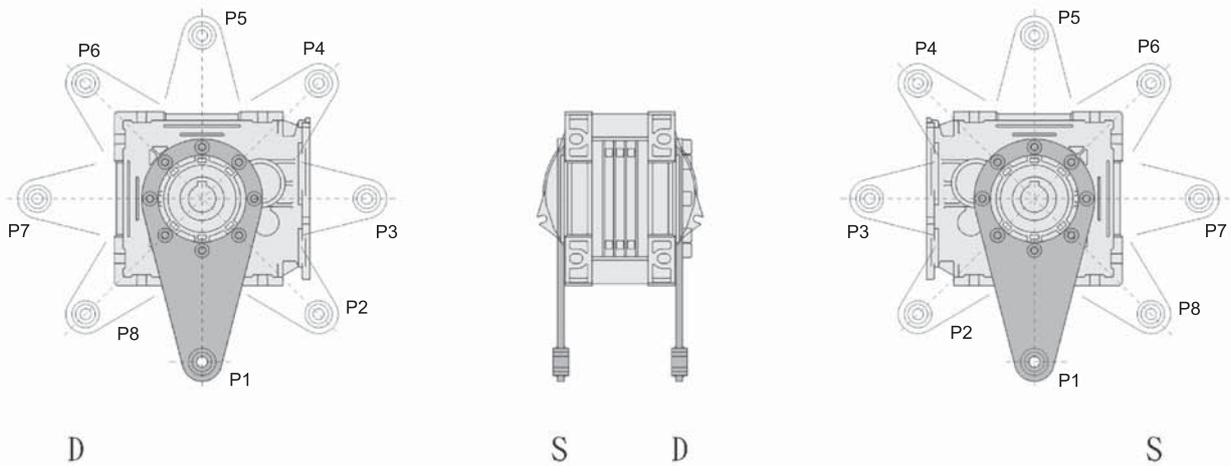
摩托迪克



BA 42	P1		P2		P3		P4		P5		P6		P7		P8	
	D	S	D	S	D	S	D	S	D	S	D	S	D	S	D	S
		*	/	/	/	/	/	/			/	/			/	/

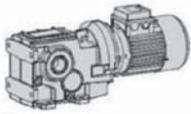
(*不可用收緊盤)

(/)不可用



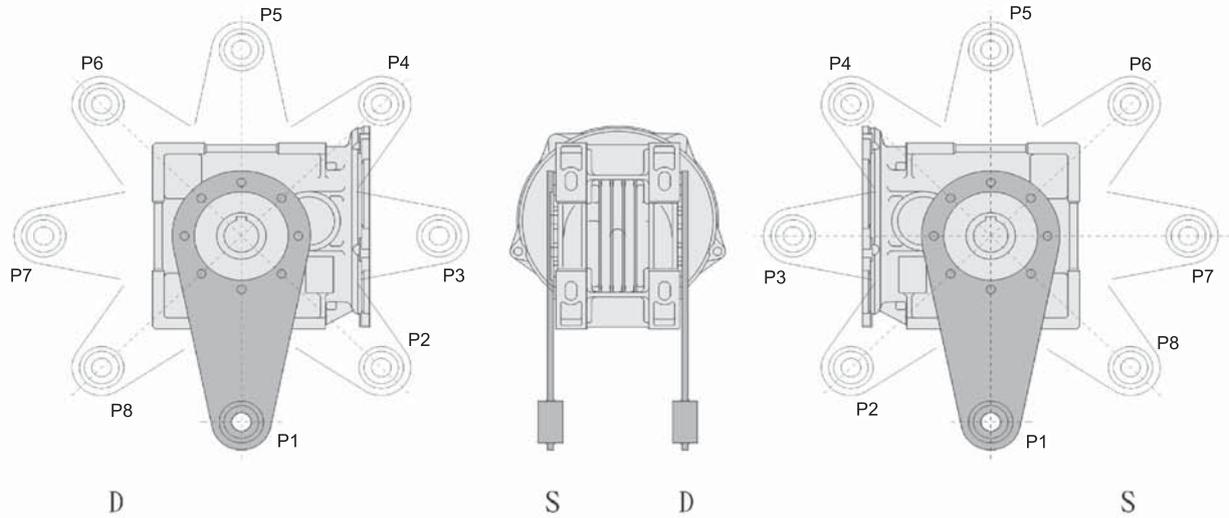
BA 52/53	P1		P2		P3		P4		P5		P6		P7		P8	
	D	S	D	S	D	S	D	S	D	S	D	S	D	S	D	S
			/	/	/	/	/	/								

(/) Not available / 不可用



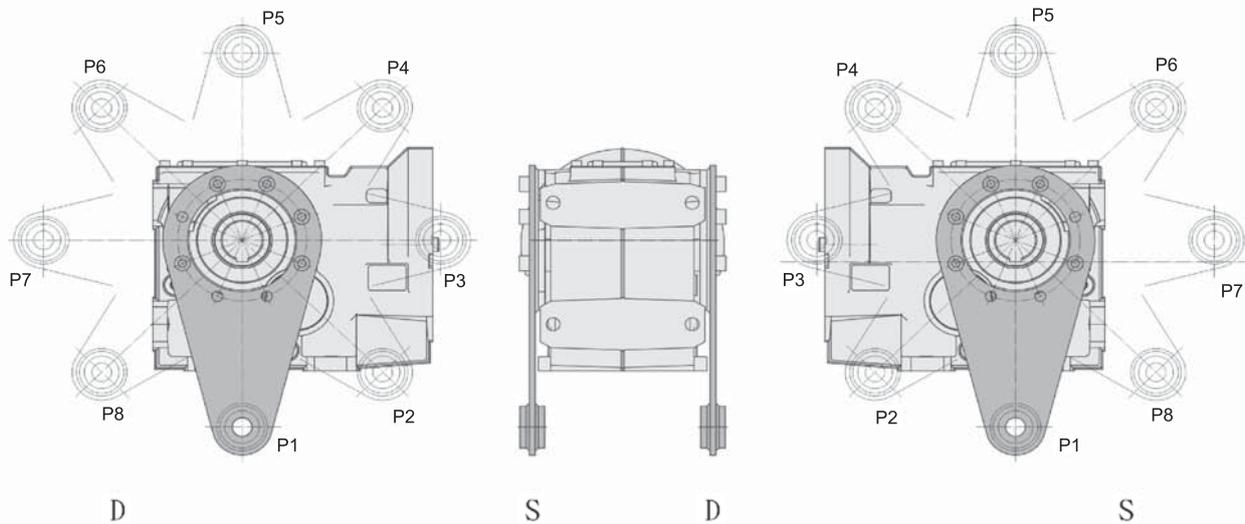
Torque arm / 扭力臂安裝方向

摩托迪克



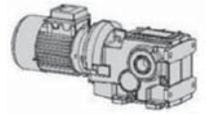
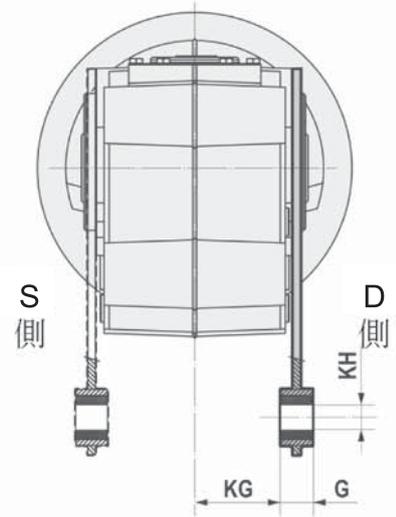
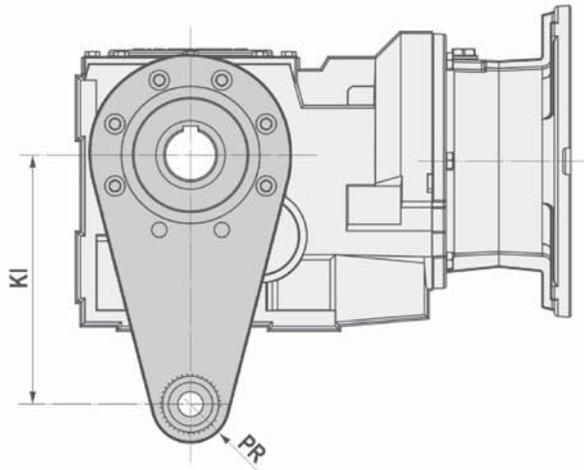
BA 72/73	P1		P2		P3		P4		P5		P6		P7		P8		
	D	S	D	S	D	S	D	S	D	S	D	S	D	S	D	S	
			/	/	/	/	/	/									

(/) Not available / 不可用

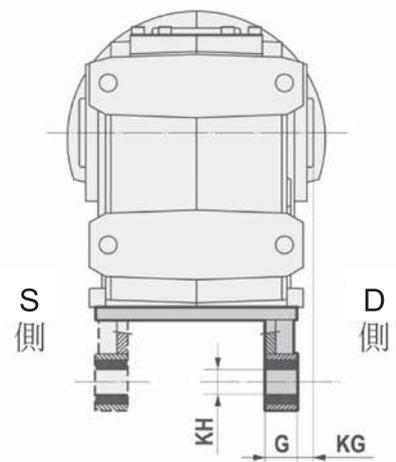
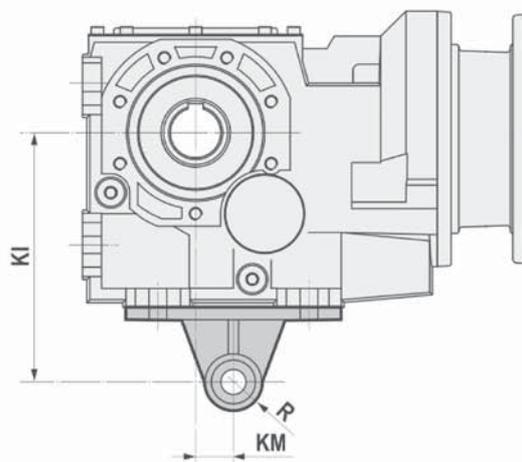


B...	P1		P2		P3		P4		P5		P6		P7		P8		
	D	S	D	S	D	S	D	S	D	S	D	S	D	S	D	S	
063					/	/											
083			/	/	/	/											
103			/	/	/	/											
123			/	/	/	/											

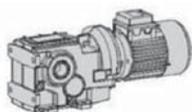
(/) Not available / 不可用


Torque arm / 扭力臂
摩托迪克


	KI	KG	KH	G	R
A40	100	41	10	14	18
A50	150	47	10	14	18
A70	200	55,5	20	25	30
063S	200	62	20	25	30
083S	200	68,5	20	25	30
103S	250	83	25	30	35
123S	300	91,5	25	40	40
063U	200	62	20	25	30
083U	200	78,5	20	25	30
103U	250	95	25	30	35
123U	300	103,5	25	40	40

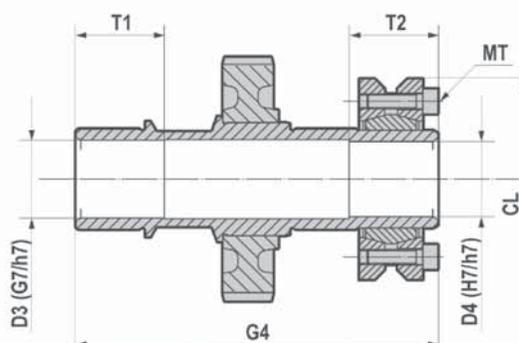
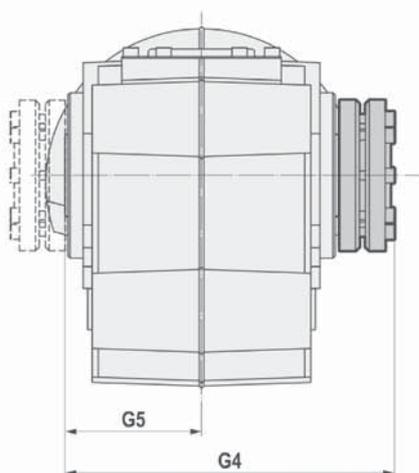


	KM	KI	KG	KH	G	R
143	45	350	40	30	60	45
153	45	450	45	30	60	45
163	60	550	7,5	40	110	65



Shrink disc / 收緊盤

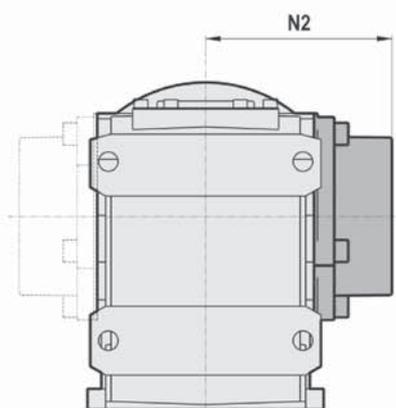
摩托迪克



	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
083	41	40	217	90	50	40	100	15
103	51	50	248	105	55	40	115	15
123	61	60	282	120	60	50	145	40
143	72	70	355	150	70	65	170	50
153	92	90	415	175	80	75	184	70
163	102	100	512	222,5	100	100	215	70

Protection cover / 軸端保護蓋

摩托迪克



	N2
B063	117,5
B083	134
B103	150
B123	174
B143	217
B153	256,5
B163	301,5