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METRIC 公制尺寸

F

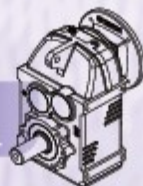
平行軸斜齒減速機

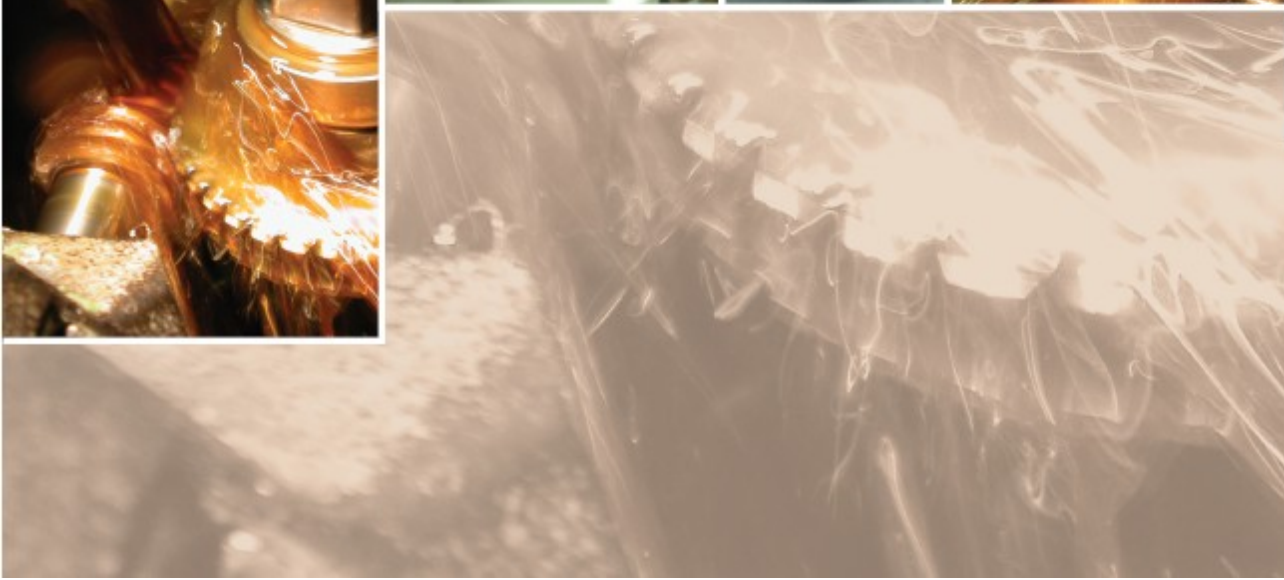
SERIES PARALLEL SHAFT HELICAL GEARMOTORS



外型安裝尺寸與德國領導品牌相容

INSTALLATION DIMENSION ARE CONSISTENT WITH GERMAN MODEL





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公司介紹

- 1.1960年本公司董事長陳茂正先生創設“成大機器廠”於高雄市自強二路，工廠取名“成大”乃本於其對母校成功大學機械系在機械專業知識教育養成之感恩及飲水思源之情。
- 2.成大機器廠成立後，專門從事汽車船舶引擎曲軸之研磨再生，汽缸搪缸及柴油引擎校正等機械加工工程，當時為南台灣之翹楚，由於技術精良服務親切，開業後旋即聞名遐邇，生意蓬勃。
- 3.1971年本於公司發展應有自主性產品，才能永續經營遂與日本減速機製造廠技術合作，開始生產製造自有品牌之成大齒輪減速機，發展至今，公司員工近90名，產品以自有之CHENTA品牌行銷全球。主要市場為台灣、亞洲、北美洲及中東，至今已執台灣業界之牛耳。並在海外設立美國分公司及中國上海分公司。
- 4.建廠以來，本公司即本著“結合一流人才，研發製造高品質的產品”為信念。
產品政策以“品質保證”“交貨準確”“價格競爭”“生產合理”及“行銷國際”為追求目標。
- 5.累積40多年之機械製造經驗及誠信經營精神，本公司已自然形成一種優良的公司文化，此精神文化乃是公司最寶貴之資源，表諸文字即是“新”“實”“勤”“效”，乃創新、信實、勤快、效益，之意也。
- 6.全體員工受此公司文化之薰陶，工作勤奮盡忠職守。在良好工作環境下，協力合作積極創新。使公司持續穩定發展，營造共同效益。
- 7.本公司將在現有資源文化基礎上，繼續秉持敬業精神，以客戶至上的服務態度，精益求精，生產高品質具競爭價位之齒輪減速機回饋國內外客戶，與客戶攜手成長，以臻永續經營之目標。

公司概要

公司名稱：成大精機工業股份有限公司
CHINTA PRECISION MACHINERY IND. INC.
成立：民國 60 年（1971 年）
職工人數：90 名
廠房面積：仁武廠 7000m²
上海廠 6800m²

COMPANY PROFILE

1. IN 1960, Mr. Mao Cheng Chen, president of the company, and two other colleagues in the department of Mechanical Engineering of the Tainan Engineering College (predecessor of Cheng Kung University) established a company called "Chen Ta Machinery Works". It was named "Chen Ta" in remembrance of, and also giving acknowledgement to, their alma mater, Cheng Kung University (called Chen Ta in short) from where Mr. Chen and his colleagues had received their specialized mechanical education.
2. Chen Ta Machinery Works specialized in machining jobs such as grinding/re-building of the crankshafts of automobile and vessel engines, cylinder overhaul, and diesel engine adjustment. Back then, she was the best of her field in southern Taiwan. Due to the excellent technique and the cordial service, the company name was soon well known and the business became prosperous.
3. In 1971, to support a long-term operation, the company needed her own products, so the technique cooperation between CHENTA and Japan reducer manufacturer began. From then on, CHENTA started manufacturing her own brand, "CHENTA GEAR RDUCCERS". Now the company has about 90 employees, and her products have been marketing to the world under the name of "CHENTA". The major markets are in Taiwan, Asia, and North America. In Taiwan, she remains at the top of the field and also established branch offices in America and in Shanghai (in China).
4. Since the beginning of the company, our conviction is to "Gather excellent human resource, and research and manufacture high quality products". Our product policy is targeting at "Guaranteed Quality", "On Time Delivery", "Competitive Prices", "Rational Production", and "International Marketing".
5. With more than 40 years of experience in mechanical manufacturing and honest operation, a fine culture has naturally grown inside the cooperation. This spirit is the most precious resource of our company. The motto of our company is based on "INNOVATION", "HONESTY", "DILIGENCE", and "EFFICIENCY".
6. Influenced gradually under such fine culture, all employees in CHENTA work hard and take responsibility. They cooperate with each other and innovate actively. With their efforts, CHENTA keep developing and growing up to fight for the mutual benefit.
7. To reach our long term operation goal, based on the company's existing cultural resources, we will: have high expertise in the field; serve our customers with respect; constantly improve ourselves; manufacture high quality and affordable speed reducers for customers throughout the world, all so that we can grow together with our customers.

COMPANY PROFILE

Company Name: CHNTA PRECISION MACHINERY IND. INC.
Established: 1971
Employee: 90 persons
Plant Sizes: Jen Wu Plant 7000m²
Shanghai Plant: 6800m²

平行軸斜齒輪速機產品特點說明

- 1> 設計理念：標準化設計與模組化設計相結合，達到與國際領導品牌具有互換性，且兼具結構緊湊，體積小等特點。
- 2> 高效率：高效斜齒輪組傳動，效率可以達到 90% 以上
- 3> 大速比：速比可以從 4:1 ~ 254:1 之間任意選擇。
- 4> 負載範圍：負載可根據不同需求從 1/4HP ~ 60HP 任意選擇，可滿足不同之需求。
- 5> 大承載能力：所有斜齒輪採用鉻鉬合金鋼經滲碳及研磨處理，具有更高的承載能力。
- 6> 結構緊湊性：平行軸的設計提高空間使用效率，適合空間受限情況使用。
- 7> 安裝靈活性：每種規格可以從 M1 到 M6 任意方向位置上安裝，安裝更靈活，更方便。
- 8> 結構外形美觀，堅固。

Parallel Shaft Helical Gear Reducers

Advantages 1>Design Concepts: The combination of standardization and modularization allowed interchangeability with international leading brands, while keeping structure rigidity and compactness.

2>Noise Level: Leveraging the advantage of high efficiency of helical gears, the reducers performs with higher stability and lower noise level.

3>Ratios Selections: The ratio ranges between 4:1 ~ 254:1, providing wide range of ratio accommodation.

4>Loading Capacity: Available with power ranges from 1/4HP up to 60HP, depending on different requirements and applications.

5>Tensile Strength: Pinion, gears and worm shafts are made with 20CrMo alloy steel plus carburized heat treatment.

6>Space Efficiency: The parallel shaft orientation is designed to minimize space needed for installation.

7>Installation Flexibility: All models are designed for various mounting position (M1~M6) specified by customers.

8>Appearance Aesthetics: The reducers are designed with modern exterior while maintaining high rigidity.

操作需知

- 此操作需知是為了幫助您正確安裝及使用本減速機，為了防止問題產生，適當的安裝與操作是很重要的，而這個需知也包含了重要的保養建議。
- 在出貨前每一台成大減速機都經過檢驗及測試後才妥善包裝，不過當您收到貨品時請立刻檢查是否有短少或運輸損壞情形，若有，請記錄損壞或短少情形以便日後與運輸廠商求償，同時也請您通知成大公司貨品受損情形。

OPERATION MANUAL

- This operation manual is trying to help you install and use speed reducer correctly. To prevent problem occurred, proper installation and operation is very crucial. Certainly, this operation manual will also suggest you how to maintain in order to extend the life of speed reducer.
- Every CHENTA speed reducer is passed strict inspection and testing and well packaged before shipping. However when you receive speed reducer, please check immediately if there is any shortage or damage of parts via transportation. This will be much helpful as evidence when you offer claim to the transportation carrier, meanwhile please also notice us for improving our transportation service with a qualified and responsible carrier. Also, we are eager to help to fix the problem for you and to reduce your inconvenience to minimum.

一、潤滑

- 除非客人有特殊指定，否則成大公司會在每一台減速機出廠前根據安裝方式填加適當及適量之潤滑油，若客人欲自行填加潤滑油也請根據潤滑油建議表適當填加。

I. Lubrication

- Unless it's a special request from customer, every CHENTA speed reducer will be supplied with proper quantity lubricant according to different installation position before shipping. If customer prefers to fill in the lubricant oil by himself, please follow the instruction of operation manual in latter pages in this catalog.

二、長期儲存

- 如果減速機沒有立即安裝使用，請將它保存在乾燥安全處所，而減速機經過長時間儲放後再使用，請您再聯絡成大公司，我們技術人員會告訴您使用前應該注意事項。

II.Storage

- If you won't install the speed reducer soon, please keep it out from humid place. And, please contact our service people if you want to install speed reducer for operation after storage. Our service people will inform you what should be noticed and checked in advance before operation.

三、安裝附件於減速機軸心上

1. 注意！不可重擊軸心！重擊軸心可能造成軸承傷害導致軸承壽命縮短，我們建議用加熱方式安裝，附件只要加熱到 80°C 就可滑入軸心，如此可以減少軸承損傷的可能性。軸心尺寸公差請參照產品型錄。
2. 安裝軸心聯軸器時應該正確的對心及校正以避免震動及聯軸器異常磨耗等情形發生，並且讓軸心上的軸承免於提早損壞。
3. 為避免出力軸上之軸承受極度的負載，請參照型錄上的可承受懸吊荷重表，請不可超出限制，如果必須超出建議荷重或是合併有額外軸向及徑向負載，請聯絡我們的工程師，因此時正確的使用應該同時考慮速度、旋轉方向、安裝位置、較大外來的軸向和徑向荷重等合併之因素。

III. Attachments the parts on reducer's shaft

1. Notice : Don't hit on shafts heavily. It will cause bearings damaged and shorten life of bearings. We prefer to suggest use heating method, to heat the parts up to 80°C , it could easily slip in on the shafts and reduce the possibility of bearings damaged. As to the tolerance of shaft's diameter, please refer to the specification in catalog.
2. While install the coupling, make sure to check the alignment of coupling and shaft of speed reducer properly to eliminate the damage on bearings and reduce to vibration frequency and abnormal wear.
3. To avoid over load on the bearings of output shaft, please refer to the OHL(over hung loading) in catalog and don't exceed. If exceed or extra axial loading, please contact our service engineer for consultation.
4. The actual application of following factors such as input and output speed, direction of rotation, installation site and over axial and radial loading should be careful to watch.

四、安裝與操作

1. 減速機安裝應考慮以下幾項因素：

- * 環境溫度應低於 40°C 。
- * 通暢的通風環境。
- * 適當位置的油位旋塞、透氣注油旋塞與洩油旋塞。
- * 保留適當的空間以便做設備上的檢修或更換。

2. 減速機應該安置在平坦防震且堅固的構造上，準確的對心是非常重要的，安裝在不平坦的平面上會造成減速機機殼的拉扯甚至破損。

3. 基座平坦度公差請勿超出以下建議：

- * 77型或更小---- 0.1mm
- * 87型或更大---- 0.2mm

- 運輸過程中為防止減速機內潤滑油從透氣旋塞滲漏出來，出廠前我們會將透氣孔以紅色插梢堵住，請記得當您安裝好減速機運轉之前，一定要把透氣旋塞上的紅色插拔掉。
- 安裝前請再次檢視其輸入馬力、減速比與銘牌相符，並檢查減速機輸出軸之旋轉方向與需求一致。

IV. Installation & Operation

1. The under lying factors should be taken into consideration:

*Ambient temperature below 40°C

*Location with food air ventilation

*Proper locations for oil plug and drain plug

*Sufficient space for periodical inspection or maintenance of replacement

2. To install necessarily on a flat, stable and solid base for accurate alignment to prevent form the breakage of reducer' s housing.

3. The suggested tolerance of flatness on base :

For size 77 or smaller, < 0.1mm/m

For size 87 or bigger, <0.2mm/m

4. To avoid the lubricant splash out during the transportation, breather plug with red pin inserted into air breathing hold. Please remove the red pin before start-up.

5. Before installation, double check the input horsepower and ratio is the same as the punched name plate of reducer.

五、保養

警告！在電源移除之前不可拆卸或更換設備。

- 潤滑油油位與品質應為平時保養重點，且根據使用頻率與環境狀況，潤滑油也必須依據建議表做換新動作。
- 檢查聯軸器的同心度，鍊條或皮帶的鬆緊度，基座固定螺絲之緊度等是否均適當，並保持設備的清潔。

V. Maintenance

Be aware ! The power should be off before removal or replacement of reducer.

- Oil level and quality lubricant is key point of daily maintenance. Please refer to our suggestion to change the lubricant periodically according to operation frequency site situation.
- Check the alignment of coupling, the tightness of chain, and nuts and keep clean of reducer.

斜齒傘齒輪減速機可能發生之異常狀況及改善方法

以下所列為一般性故障，如有特殊異常情形發生時，請與本公司聯絡，我們將提供正確之服務。

異常情況	原因	改善方法
一、機體發熱	1. 超過標準負荷運轉 2. 潤滑油加入過多或過少 3. 加入潤滑油不適當或不良 4. 油封唇部潤滑不足	1. 調整至正常負荷 2. 潤滑油應加至油位指示處 3. 更換適當之齒輪潤滑油 4. 塗抹少許油脂於油封唇處
二、運轉有聲音	1. 有規律噪音 { 齒面接觸不良 { 軸承損壞 2. 尖銳的金屬聲音 { 軸承間隙太小 { 潤滑油不足 3. 不規律噪音 { 異物掉入 { 軸承受損	1. { 修整齒接觸面 { 更換軸承 2. { 更換軸承 { 補足潤滑油 3. { 除去異物，更換新潤滑油 { 更換軸承
三、運轉時振動	1. 齒輪磨損 2. 異物掉入 3. 軸承磨耗或受損 4. 螺絲鬆動	1. 更換齒輪 2. 除去異物，更換新潤滑油 3. 更換軸承 4. 鎖緊螺絲
四、漏油	1. 油封損傷 2. 墊片破損 3. 排油栓未鎖牢 4. 蓋類或法蘭螺絲鬆脫	1. 更換油封 2. 更換墊片 3. 鎖緊排油栓塞 4. 鎖緊螺絲
五、入力軸及出力軸無法轉動	1. 齒輪嚙合面因高熱而黏合 2. 軸承已損壞 3. 有固形物（硬物）嚙入齒輪接合面	1. 依程度而判斷可調整或更換齒輪 2. 更換軸承 3. 除去硬物，清洗內部後更新潤滑油
六、入力軸空轉而無法帶動出力軸轉動	1. 齒輪已磨耗 2. 齒輪與出力軸之配合鍵破損 3. 入力軸折斷 4. 出力軸折斷	1. 更換齒輪 2. 更換鍵 3. 更換入力軸 4. 更換出力軸
七、齒輪磨耗較大	1. 超正常負荷 2. 潤滑油不良或不適當 3. 潤滑油不足 4. 運轉環境溫度過高	1. 調整適當負荷 2. 更換適當之潤滑油 3. 補充潤滑油 4. 改善通風環境

Cause & Trouble shooting for the general problem and Improvement

The following lists are general problem situations. In case other problem happen, please contact directly with us to get more information.

CAUSE	REASON	IMPROVEMENT
一、Overheat	<ol style="list-style-type: none"> 1. overload 2. lubricant oil overfill or shortage 3. improper lubricant oil 4. over friction on oil seal(lack of lubricant) 	<ol style="list-style-type: none"> 1. adjust to proper loading 2. Add lubricant to the level of oil gauge 3. Chang proper lubricant oil 4. Lip lubricant at oil seal
二、Noise	<ol style="list-style-type: none"> 1. consistent noise { improper gears contact ; bearing damaged 2. screaming noise { bearing gap too small ; Lubricant oil shortage 3. consistent noise { some object insert ; bearing damaged 	<ol style="list-style-type: none"> 1. { repair gears ; replace bearing 2. { replace bearing ; fill in lubricant oil 3. { remove debris & replace lubricant oil ; replace bearing
三、Vibration	<ol style="list-style-type: none"> 1. gear over-fricative 2. Debris inside 3. bearing worn-out or damaged 4. blot loose 	<ol style="list-style-type: none"> 1. replace gear 2. remove debris & replace lubricant oil 3. replace bearing 4. tighten bolt
四、Oil Leakage	<ol style="list-style-type: none"> 1. oil seal damaged 2. gasket damaged 3. drain plug loose 4. covers or flange loose 	<ol style="list-style-type: none"> 1. replace oil seal 2. replace gasket 3. tighten drain plug 4. tighten the bolts
五、Input and Output Shaft Fail	<ol style="list-style-type: none"> 1. overheat cause gear-bound 2. bearing damaged 3. some debris between gears 	<ol style="list-style-type: none"> 1. adjust or replace gears 2. replace bearing 3. remove debris ; clean inside then replace lubricant oil
六、Input shaft fail to drive output shaft	<ol style="list-style-type: none"> 1. gear worn-out 2. the key connecting gear and output shaft damaged 3. input shaft broken 4.output shaft broken 	<ol style="list-style-type: none"> 1. replace gears 2. replace key 3. replace input shaft 4. replace output shaft
七、Gear Worn-out	<ol style="list-style-type: none"> 1. overload 2. improper lubricant oil 3. lubricant oil shortage 4. ambient temperature too high 	<ol style="list-style-type: none"> 1. adjust to proper loading 2. change proper lubricant oil 3. refill lubricant oil 4. ventilation improvement

使用說明書

感謝您選用本公司的產品。在使用之前，請詳細參閱以下說明，以確保正確使用。

一、安裝

1. 減速機入力軸直接與馬達聯結時，應採彈性聯軸器；出力軸直接與設備聯結時，宜採用齒輪聯軸器。
2. 減速機應安裝在穩固的基礎座，且須注意空氣流通及換油時，注油及洩油之方便性。
2. 減速機安裝後，用手轉動需靈活，不可有卡死現象。
4. 減速機安裝好，使用前應先進行空負荷運轉，確定機器各部份都無異狀後，方可正式使用，如有故障應先排除。

二、潤滑

1. 新減速機使用時，於運轉 500 小時後，需更換新油，其後每使用 2500 小時需換油；但在使用過程中仍應定期檢查油的質、量，若油有雜質、老化、變質情況，必須隨時更換。
2. 減速機應使用固定品牌、規格之齒輪油，不應將不同品牌、規格或不同類型的油箱混合使用。
3. 在換油過程中，應先將減速機內部清除乾淨，再注入新油。
4. 在使用期間，當發現油溫過高（超過 80°C 以上）時，以及有不正常的噪音等現象，應立即停止使用、檢查原因，等排除故障或更換潤滑油後，才可繼續使用。
5. 推薦用油：中國石油 HD-320 之極壓機油，或中國石油 # 90 多效齒輪油。

三、維護

1. 減速機應定期檢修，發現異狀或有顯著磨損，必須立即採取有效措施制止，備用零件之材質精度、亦須照標準製造。更新零件後，應先進行空負荷運轉，確定正常後再正式使用。
2. 使用單位應建立合理的維護制度，對減速機的使用狀況及檢修中發現的問題，做仔細記錄。

Operation Instruction

I . INSTALLATION

1. Input shaft connects to motor directly, a flexible coupling prefer to apply according ; output shaft connects to machine, it is better to use a gear coupling.
2. Install on a stable foundation and good air ventilation and the convenience of oil filling /draining should be considered.
3. The input shaft of the reducer and the motor shaft should be in alignment and the tolerance should fit the allowance.
4. After installation, please check input shaft by hand first to check whether running smoothly of nut.
5. Before start-up, no-load running test should be proceeded and any abnormal status occurred should be corrected immediately.

II . LUBRICATION

1. A new reducer needs replace oil in the beginning of 500 hrs operation ; and then, each 2,500 hrs change again. Mover, a regular oil checking is required and change necessarily.
2. Please change by equivalent specification of oil and don't mix with other brand of specification of oil.
3. Before changing oil, the inside of reducer should be flushed and drain out, then fill in new oil.
4. During operation, if the heat is over 80°C or any abnormal noise occurred , please shut down the reducer for checking immediately and start running only after the cause is resolved.
5. Lubricant recommendation: MOBILE gear 632,SHELL omala 320 or MOBIL mobilube HD80W-90,SHELL spirax E.P 90.

III . MAINTENANCE

1. A regular maintenance is required and if found any worn out, corrective action should be taken. The accuracy of spare parts replaced should be exactly the same as the original standard and no-load running test in advance is required.
2. Build maintenance system and data collection of failure carefully for all problems been met.

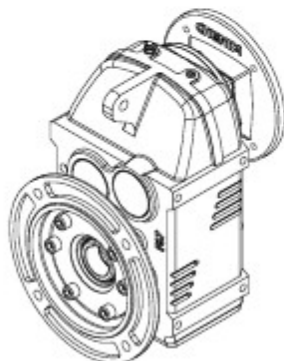


Parallel shaft helical Gear Units Type Introduction

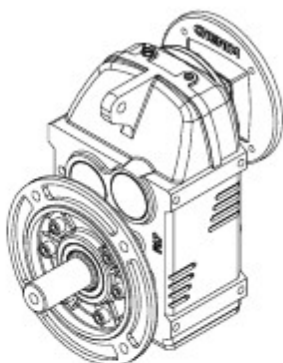
FHF...



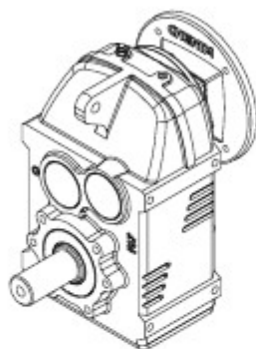
FMF...

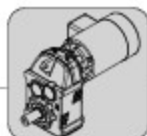


FNF...

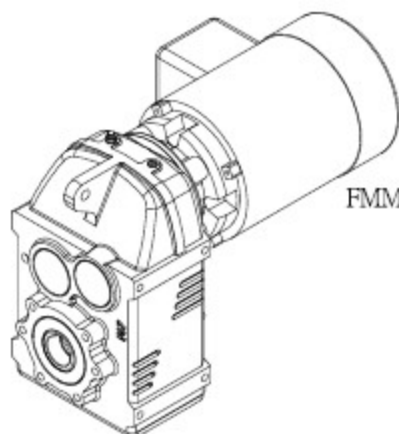


FSF...

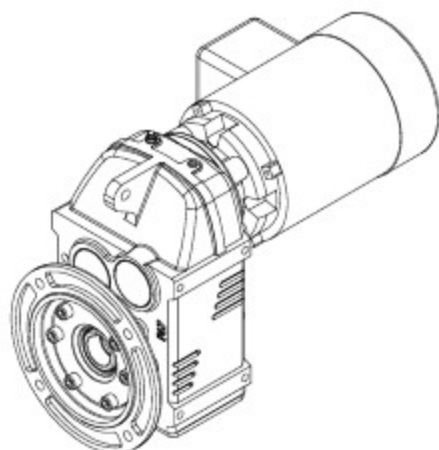




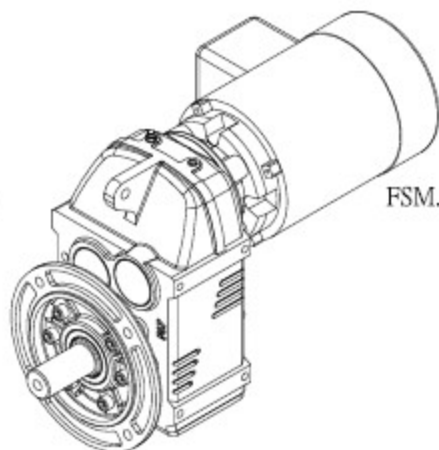
FHM...



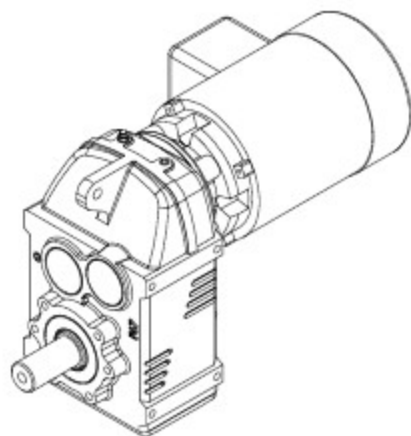
FMM...



FNM...



FSM...





Parallel shaft helical Gear Units Type Introduction

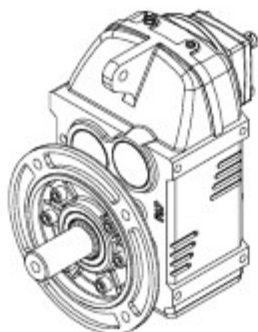
FHS...



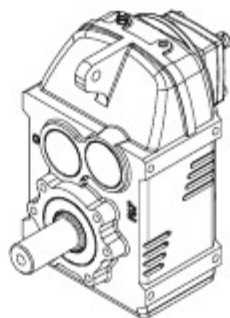
FMS...



FNS...

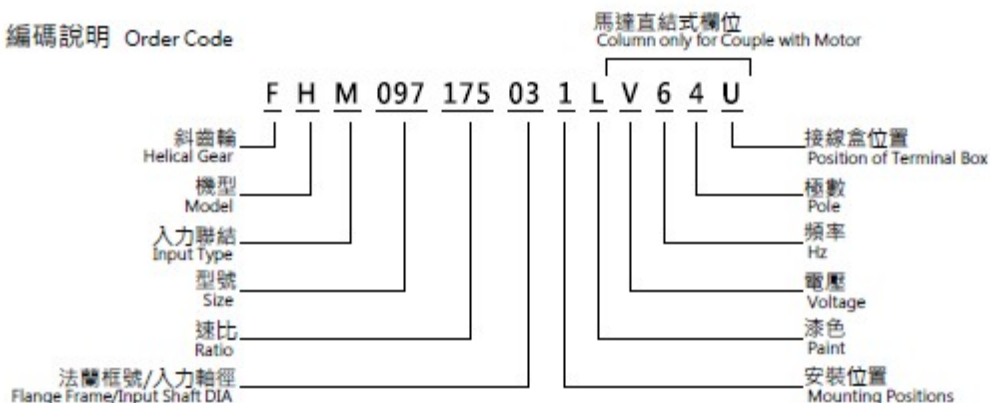


FSS...





編碼說明 Order Code



機型 Model

- S** 出力實心
Solid Output Shaft
- H** 出力中空
Hollow Output Shaft
- N** 出力實心法蘭
Solid Output Shaft With Mounting Flange
- M** 出力中空法蘭
Hollow Output Shaft With Mounting Flange

入力聯結 Input Type

- F** 法蘭入力 IEC B5
Input Flange IEC B5
- B** 法蘭入力 IEC B14
Input Flange IEC B14
- N** 法蘭入力 NEMA
Input Flange NEMA
- S** 實心入力
Solid Input Shaft
- M** 馬達直結
Couple With Motor

型號 Size

- 037 : 37
- 047 : 47
- 057 : 57
- 067 : 67
- 077 : 77
- 087 : 87
- 097 : 97

速比 Ratio

- 004 : 1/4
- ?
- 187 : 1/187

法蘭框號/入力軸徑 Flange Frame/ Input Shaft DIA

公制框號 IEC Standard 4-Pole	英制框號 NEMA Standard	入力軸徑 Input Shaft DIA
QQ : 1/4HP	01 : 56C	16 : φ16
HH : 1/2HP	02 : 143T	19 : φ24
01 : 1HP	04 : 182/184T	24 : φ24
02 : 2HP	06 : 213/215T	28 : φ28
03 : 3HP	08 : 254/256T	38 : φ38
05 : 5HP	10 : 284/286T	42 : φ42
07 : 7.5HP	12 : 324/326T	48 : φ48
10 : 10HP	14 : 364/365T	55 : φ55
15 : 15HP	16 : 404/405T	70 : φ70
20 : 20HP		

安裝位置 Mounting Positions

M1、M2、M3、M4、M5、M6

漆色 Paint

L : 灰漆 Gray

電壓 Voltage

2 : 220/380	C : 220/400	H : 200/346
4 : 240/415	D : 230/400	K : 208/220
5 : 220/440	E : 230/440	M : 208/240
A : 220/230	F : 240/480	N : 380/660
B : 220/240	G : 120/208	V : 208-480

頻率 Hz

- 5 : 50Hz
- 6 : 60Hz

極數 Pole

- 2 : 2P
- 4 : 4P
- 6 : 6P
- 8 : 8P


接線盒位置 Position of Terminal Box

U、D、L、R



Parallel shaft helical Gear Units Information on Selection Tables

許可配接表 Permitted Combinations

F57, ne=1400 1/min				600 Nm						實心入力軸徑
na [1/min]	Mamax [Nm]	FRa [N]	i	63	71	80	90L	100L	112M	Input shaft mm
 3										
8	600	9200	175							Ø19
10	600	9200	139							
11	600	9200	122							
12	600	9200	115							
15	600	9200	95							
16	600	9200	85.5							
19	600	9200	73.4							


減速機-減速比
Gear unit reduction ratio

最大輸出扭矩·許可的徑向負載 (OHL)
Permitted overhung load at maximum output torque

最大輸出扭矩
Maximum output torque

輸出轉速
Output speed

 標準配接
Standard

 法蘭/實心入力-標準配接
Input Flange / Solid Input Shaft - Standard

馬達直結-接受客製·請洽公司客服
Couple with motor - Customization accepted

Please contact our customer service



選型表 Selection Tables

F../.M

Pm [kW]	na [1/min]	Ma [Nm]	i	FRa [N]	fs			m [kg]
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]
[1] 馬達額定功率 Rated power driving motor	[2] 輸出轉速 Output speed	[3] 輸出扭矩 Output torque	[4] 減速機-減速比 Gear unit reduction ratio	[5] 出力端許可的徑向負載 (OHL) Permissible overhung load output side	[6] 操作係數 Service factor	[7] 減速機規格 Gear unit size	[8] 馬達型號 Motor type	[9] 重量 Weight

選型表 Selection Tables

F..S

i	na [1/min]	Mamax [Nm]	Pe [kW]	FRa [N]	FRe [N]			m [kg]
K37								200Nm
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]
[1] 減速機-減速比 Gear unit reduction ratio	[2] 輸出轉速 Output speed	[3] 最大許可輸出扭矩 Maximum permitted output torque	[4] 減速機許可入力功率 Calculated drive power of the gear unit	[5] 最大輸出扭矩時，許可的徑向負載 (OHL) Permitted overhung load at maximum output torque	[6] 入力端許可的徑向負載 (OHL) Permitted overhung load on the input side	[7] 減速機規格 Gear unit size	[8] 入力軸軸徑 Input shaft diameter	[9] 重量 Weight



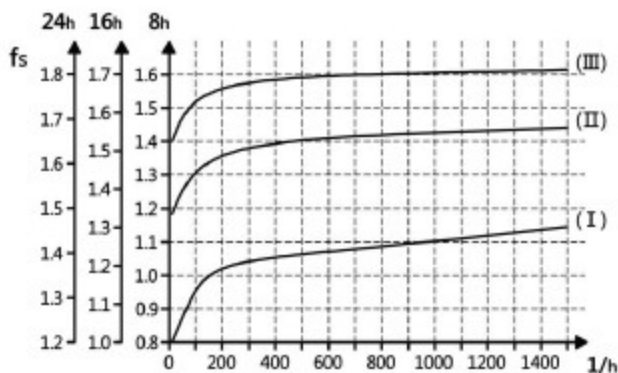
Parallel shaft helical Gear Units Information on Selection Tables

操作系數選用 Determining the service factor

為確保減速機在不同環境與使用條件下可正常運作，可由[操作系數表]選用合適型號來使用，決定操作系數前必須先確定減速機一天運轉時數、每小時起停次數和負載類型。

The service factor is determined along with the daily operating time (hours/day), operating condition (continuous or intermittent) and level of load; for a proper gear selection, please determine the service factor accordingly.

$$M_a \times f_s \leq M_{amax}$$



操作系數表
Service Factor

負載類型

I 平均負載：慣性加速系數 ≤ 0.2

Load

Light shocks : mass acceleration factor

Classification

II 中級衝擊負載：慣性加速系數 ≤ 3

Moderate shocks : mass acceleration factor

III 重級衝擊負載：慣性加速系數 ≤ 10

Heavy shocks : mass acceleration factor

$$\text{慣性加速系數} = \frac{\text{所有外部的慣性矩}}{\text{馬達的慣性矩}}$$

Mass acceleration factor = $\frac{\text{all exterior moments of inertia}}{\text{moments of inertia drive motors}}$



[所有外部的慣性矩] - 減速機與驅動設備所產生的慣性矩，需要轉換成等效馬轉速下之慣性矩，公式如下：

[All exterior moments of inertia] - recalculated to motor speed, formula

$$J_x = J \times \left(\frac{n}{n_M} \right)^2$$

J_x : 馬達軸心等效慣性矩

mass moment of inertia scaled down to the motor shaft

J : 減速機輸出轉速下的慣性矩

mass moment of inertia with reference to the output speed of the gear unit

n : 減速機輸出轉速

output speed of the gear unit

n_M : 馬達轉速

motor speed

操作系數計算
Calculation of
service factor

$$f_s = \frac{M_{max}}{M_a}$$

M_{max} : 減速機最大輸出扭矩

the maximum permitted continuous torque

M_a : 減速機輸出扭矩

output torque of the gear unit

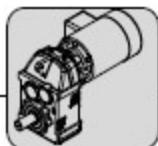
例

慣性加速系數 2.5(負載類型 II)，一天運轉 14 小時(週 16h/天)，每小時起停次數為 300 次。... 查表可得 $f_s=1.51$ 。

根據選型表所選擇減速機的 f_s 則需 ≥ 1.51 。

EX

If the mass acceleration factor is 2.5 (Moderate shocks II), the operating time is 14 hours per day in an intermittent condition by 300 times per hour. We can acquire $f_s=1.51$ from the f_s chart; according to selection tables, we will know to select the gear unit with $f_s \geq 1.51$.



Parallel shaft helical Gear Units Information on Selection Tables

公差 Tolerances

軸高

Shaft heights

下列公差適用於外型圖標註之尺寸：

The following tolerances apply to the indicated dimensions:

$h \leq 250 \text{ mm} \rightarrow -0.5 \text{ mm}$

$h > 250 \text{ mm} \rightarrow -1 \text{ mm}$

底座安裝減速機：需檢查所使用的馬達，因為它有可能會超出安裝面的下方。

Foot-mounted gear units: Check the mounted motor because it may project below the mounting surface.

軸端

Shaft ends

直徑公差：

Diameter tolerance:

$\emptyset \leq 50 \text{ mm} \rightarrow k6$

$\emptyset > 50 \text{ mm} \rightarrow m6$

中心孔：

Center bores

$\emptyset > 24...30 \text{ mm} \rightarrow M10$

$\emptyset > 30...38 \text{ mm} \rightarrow M12$

$\emptyset > 38...50 \text{ mm} \rightarrow M16$

$\emptyset > 50...85 \text{ mm} \rightarrow M20$

$\emptyset > 85...130 \text{ mm} \rightarrow M24$

中空軸

Hollow shafts

直徑公差：

Diameter tolerance:

$\emptyset H7$

出力法蘭

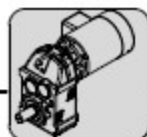
Output Flanges

定位肩公差：

Centering shoulder tolerance:

$\emptyset \leq 230 \text{ mm} \rightarrow j6$

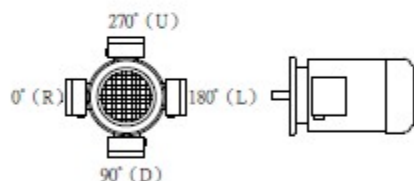
$\emptyset > 230 \text{ mm} \rightarrow h6$



安裝位置 MOUNTING POSITION (FS/FH37-97)

接線盒位置 Position of Terminal Box

若未特別指示,標準安裝位置為"U"
Standard position "U", unless specific requirements



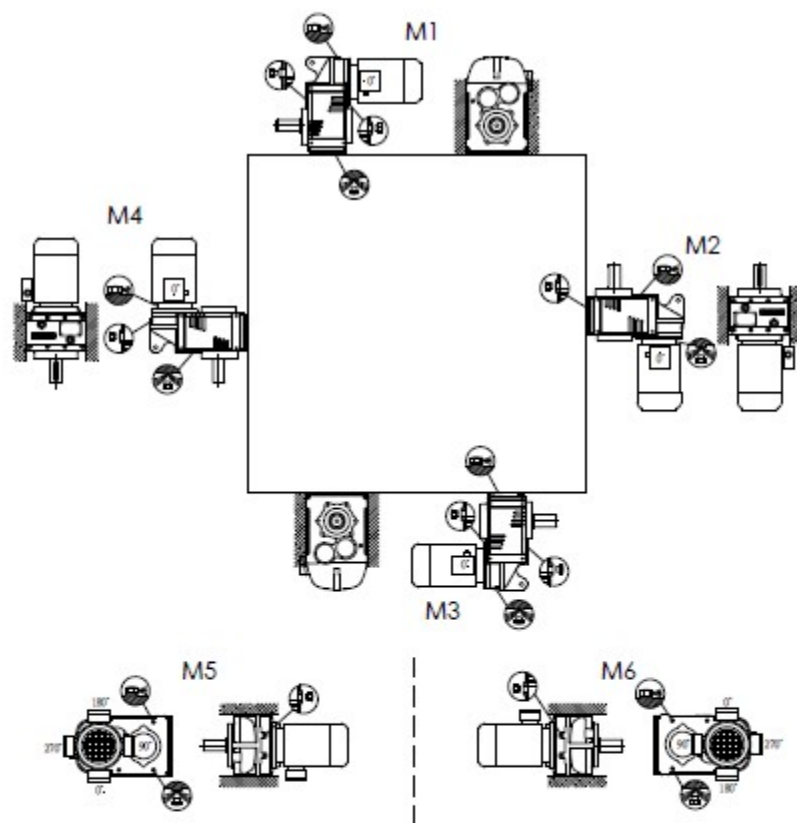
透氣孔 Breather

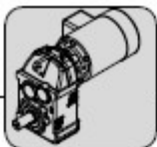


洩油孔 Oil Drain



油位孔 Oil Level



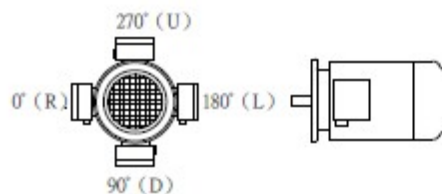


Parallel shaft helical Gear Mounting positions

安裝位置 MOUNTING POSITION (FN/FM37~97)

接線盒位置 Position of Terminal Box

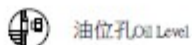
若未特別指示,標準安裝位置為"U"
Standard position "U", unless specific requirements



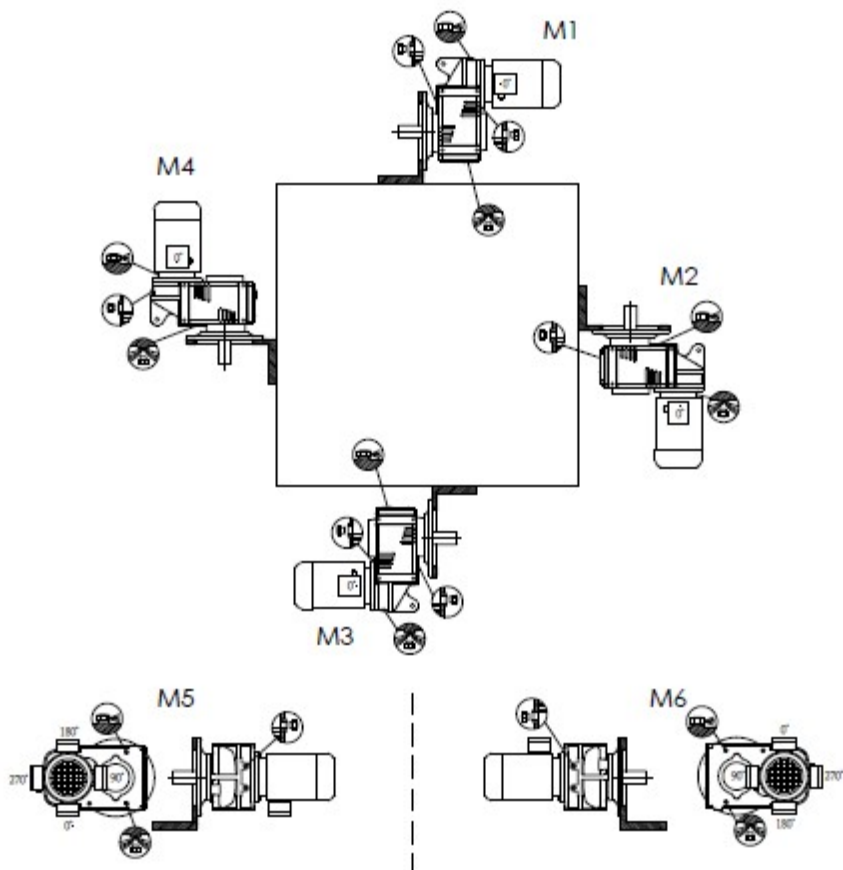
透氣孔 Breather

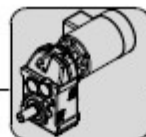


洩油孔 Oil Drain



油位孔 Oil Level

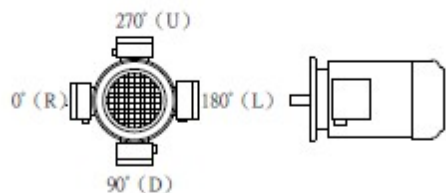




安裝位置 MOUNTING POSITION (FH37~97)

接線盒位置 Position of Terminal Box

若未特別指示,標準安裝位置為“U”
Standard position “U”, unless specific requirements



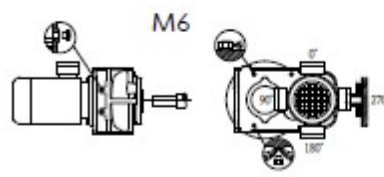
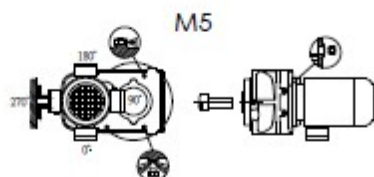
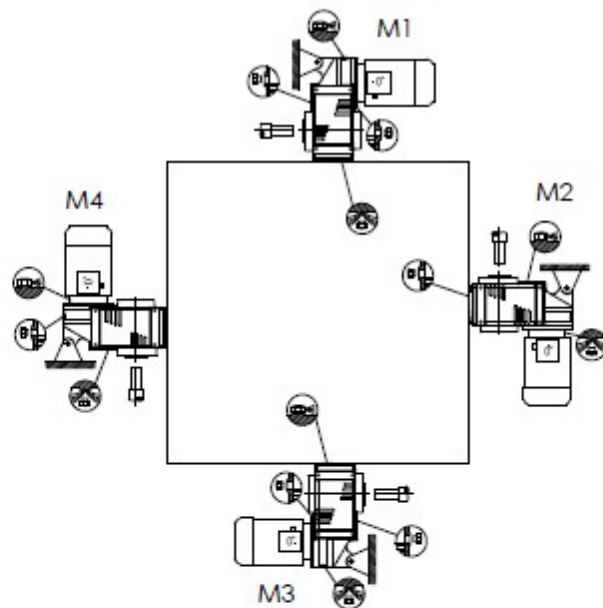
透氣孔 Breather

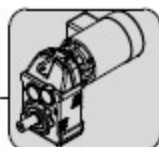


洩油孔 Oil Drain



油位孔 Oil Level





Parallel shaft helical Gear
Lubricant Volume&Lubricant Selection

潤滑油用量&潤滑油選擇 Lubricant Volume&Lubricant Selection

標準負荷，入力轉速600PRM或以上 Standard Load, Input 600 RPM or more.				
環境溫度 Temperature (C°)	中國石油 CPC	ISO VG	Mobil	Shell
-30~-15	HD 100	VG 100	Mobilgear 627	Omala 100
-15~-3	HD 150	VG 150	Mobilgear 629	Omala 150
-3~23	HD 220	VG 220	Mobilgear 630	Omala 220
23~40	HD 320	VG 320	Mobilgear 632	Omala 320
40~80	HD 460	VG 460	Mobilgear 634	Omala 460

超重負荷，入力轉速600RPM或以上 Heavy Load, Input 600 RPM or more.				
環境溫度 Temperature (C°)	中國石油 CPC	ISO VG	Mobil	Shell
-30~-15	HD 150	VG 150	Mobilgear 629	Omala 150
-15~-3	HD 220	VG 220	Mobilgear 630	Omala 220
-3~23	HD 320	VG 320	Mobilgear 632	Omala 320
23~40	HD 460	VG 460	Mobilgear 634	Omala 460
40~80	HD 680	VG 680	Mobilgear 636	Omala 680

出力轉速>100R.P.M,使用中油國光牌HD220極壓機油或同級品
output RPM>100R.P.M, please use CPC HD-220 E.P.lubricant or equivalent
出力轉速<100R.P.M,使用中油國光HD320極壓機油或同級品
output PRM<100R.P.M, please use CPC HD-320 E.P.lubricant or equivalent



用油量參照表 單位：升 Lubricant Volume (L)						
減速機型號 Gear unit	M1	M2	M3	M4	M5	M6
F...37	1.10	1.35	0.80	1.40	1.10	1.10
F...47	1.70	2.10	1.20	2.00	1.60	1.60
F...57	2.90	3.70	2.20	3.80	3.00	3.00
F...67	3.00	4.00	2.30	3.90	3.20	3.20
F...77	6.00	7.50	4.50	8.20	6.30	6.30
F...87	10.5	13.4	8.00	14.3	11.2	11.2
F...97	19.5	22.7	12.7	25.7	20.5	20.5

以上數據僅供參考
RECOMMENDATIONS

Parallel Shaft Gear Units
Permitted Combinations





1400 Input Rpm

F37, $n_1=1400$ 1/min			200 Nm					實心入力軸徑
n_1 [1/min]	Momax [Nm]	FRa [N]	i	63	71	80	90L	Input shaft mm
 3								
11	200	4290	128.51					Ø16
12	200	4290	117.88					
14	200	4290	100.36					
17	200	4290	80.65					
20	200	4290	70.5					
21	200	4290	66.09					
24	200	4290	58.32					
26	200	4290	54.54					
27	200	4290	51.7					
32	200	4290	43.83					
37	200	4290	38.31					Ø19
39	200	4290	35.91					
44	200	4290	31.69					
50	200	4070	28.1					
 2								
57	200	3820	24.7					Ø19
71	200	3425	19.71					
81	200	3210	17.32					
86	200	3110	16.29					
116	200	2660	12.09					
135	200	2445	10.39					
151	137	2405	9.27					
172	130	2315	8.14					
246	113	2075	5.68					



Parallel Shaft Gear Units Permitted Combinations

1400 Input Rpm

F47, $n_1=1400$ 1/min				400 Nm				實心入力軸徑
n_2 [1/min]	M_{max} [Nm]	F_{Ra} [N]	i	63	71	80	90L	Input shaft mm
 3								
9	400	5920	148.71					Ø16
12	400	5920	121.06					
13	400	5920	104.91					
15	400	5920	95.57					
16	400	5920	85.41					
18	400	5920	79.30					Ø19
20	400	5920	71.21					
21	400	5920	67.43					
23	400	5920	60.83					
25	400	5920	55.95					
28	400	5920	50.24					
33	400	5920	42.91					
39	385	5200	36.06					
43	369	4885	32.38					
46	361	4730	30.66					
55	336	4535	25.44					
 2								
57	370	4990	24.76					Ø19
64	371	4710	21.75					
68	372	4565	20.45					
92	374	3865	15.19					
107	374	3520	13.04					
124	243	3680	11.26					
142	230	3450	9.89					
151	225	3390	9.30					
203	200	3110	6.90					
236	188	2970	5.93					
335	164	2680	4.18					

Parallel Shaft Gear Units
Permitted Combinations





1400 Input Rpm

F57, $n_1=1400$ 1/min				800 Nm							寬心入力軸徑
n_2 [1/min]	M_{max} [Nm]	F_{Ra} [N]	i	63	71	80	90L	100L	112M	input shaft mm	
3											
8	600	9200	174.58							Ø19	
10	600	9200	139.34								
11	600	9200	122.42								
12	600	9200	115.11								
15	600	9200	96.01								
16	600	9200	86.46								
19	600	9200	73.4								
27	600	9200	51.72								
22	600	9200	64.76								
25	600	9200	56.9								
35	589	9005	39.72								
41	572	8405	34.11								
58	550	7305	24.04								
2											
53	549	7585	26.46							Ø19	
60	551	7210	23.31								
73	553	6565	19.11								
78	553	6370	18.01							Ø24	
90	555	5905	15.55								
104	557	5465	13.5								
114	558	5190	12.29								
123	600	4145	11.35								
150	550	3620	9.31								
160	541	3595	8.77								
185	512	3425	7.57								
213	485	3270	6.57								
234	468	3185	5.98								



Parallel Shaft Gear Units Permitted Combinations

1400 Input Rpm

F67, $n_1=1400$ 1/min				820 Nm						實心入力軸徑
n_2 [1/min]	M_{max} [Nm]	F_{Ra} [N]	i	63	71	80	90L	100L	112M	Input shaft mm
 3										
7	820	10300	187.70							Ø19
9	820	10300	151.68							
10	820	10300	133.62							
13	797	10300	109.55							
14	791	10300	103.23							
16	767	10300	89.11							
18	748	10300	77.36							
20	732	10300	70.42							
22	722	10300	64.95							
24	706	10300	57.22							
30	680	10300	46.91							
32	671	10300	44.20							
37	653	10300	38.16							
42	636	10300	33.12							
46	626	10300	30.15							
 2										
49	619	10300	28.44							Ø24
77	622	10300	18.10							
87	623	10300	16.12							
97	625	10300	14.46							
105	626	10300	13.31							
124	628	10090	11.31							
165	632	9105	8.48							
211	543	8215	6.63							
236	525	7950	5.94							
256	513	7750	5.47							

Parallel Shaft Gear Units
Permitted Combinations



1400 Input Rpm



F77, $n_1=1400$ 1/min				1500 Nm						實心入力軸徑
n_2 [1/min]	M_{max} [Nm]	F_{Ra} [N]	i	80	90L	100L	112M	132S	132M	Input shaft mm
3										
8	1500	15700	166.80							Ø19
9	1500	15700	160.23							
9	1500	15700	147.56							
15	1500	15700	93.90							
17	1500	15700	83.63							
19	1500	15700	75.02							
24	1500	15700	59.38							Ø24
26	1500	15700	53.26							
29	1500	15700	49.04							
34	1500	15700	41.67							Ø38
45	1500	15700	31.25							
2										
57	1500	15700	24.73							Ø38
65	1500	15700	21.49							
85	1500	15515	16.56							
90	1500	15160	15.64							
100	1500	14495	14.06							
114	1500	13700	12.28							
154	1500	11995	9.07							
179	1230	11310	7.83							
189	1207	11135	7.40							
211	1174	10755	6.65							
241	1346	8930	5.81							

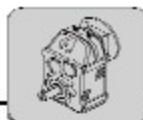


Parallel Shaft Gear Units



Permitted Combinations

1400 Input Rpm

F87, $n_1=1400$ 1/min				3000 Nm							實心入力軸徑
n_2 [1/min]	M_{max} [Nm]	F_{Ra} [N]	i	90L	100L	112M	132S	132M	160M	160L	input shaft mm
 3											
9	3000	19800	162.37								Ø19
10	3000	19800	141.09								
13	3000	19800	108.77								Ø28
14	3000	19800	102.70								
15	3000	19800	92.34								Ø38
17	3000	19800	83.32								
18	3000	19800	78.67								
20	2940	19800	70.73								
23	2866	19800	61.76								
26	2092	19800	53.48								
30	2077	19495	46.47								Ø38
39	2088	17310	35.83								
56	2104	14560	24.98								
71	2117	12850	19.61								Ø42
 2											
43	2543	16330	32.21								Ø38
49	2486	15590	28.41								
54	2446	15060	25.94								
63	2420	14045	22.10								
68	2423	13610	20.73								Ø42
75	2429	12900	18.69								
85	2436	12115	16.55								
95	2443	11375	14.76								
106	2450	10705	13.23								
143	2469	8950	9.76								
174	2212	7280	8.04								
197	2161	6915	7.12								
221	2089	6665	6.35								
246	2022	6450	5.69								
334	1840	5925	4.20								



1750 Input Rpm







FB7, $n_{in}=1750$ 1/min				4300 Nm							實心入力軸徑
n_{in} [1/min]	M_{max} [Nm]	F_{Ra} [N]	i	100L	112M	132S	132M	160M	160L	180MC	Input shaft mm
 3											
10	4300	29900	170.08								Ø28
12	4300	29900	149.98								
13	4300	29900	136.95								
16	4300	29900	109.42								Ø38
15	4300	29900	116.67								
18	4300	29690	98.66								
20	4300	28170	87.40								
22	4218	27010	77.93								
27	4075	25270	64.52								Ø42
31	3985	24215	57.15								
34	3900	23220	50.96								
38	3823	22325	45.69								
52	3616	20010	33.70								
 2											
54	3588	19690	32.38								Ø42
61	3514	18875	28.88								
77	3365	17275	22.72								
100	3350	15240	17.48								Ø48
126	3369	13435	13.86								
135	2332	14715	12.95								
151	2917	11740	11.55								
193	2715	10930	9.09								
250	2049	11820	6.99								
316	2339	9415	5.54								



Parallel Shaft Gear Units

Permitted Combinations







1400 Input Rpm

F37R17, $n_2=1400$ 1/min							200 Nm
n_2 [1/min]	M_{max} [Nm]	F_{Ra} [N]	i	56	63	71	80
 3  3							
0.17	200	4290	8021				
0.20	200	4290	6901				
0.24	200	4290	5950				
0.25	200	4290	5538				
0.28	200	4290	5013				
0.31	200	4290	4537				
0.36	200	4290	3911				
0.41	200	4290	3452				
0.47	200	4290	3001				
0.54	200	4290	2616				
0.60	200	4290	2323				
0.72	200	4290	1939				
0.82	200	4290	1711				
0.92	200	4290	1520				
 2  3							
0.71	200	4290	1973				
0.82	200	4290	1697				
0.96	200	4290	1463				
1.03	200	4290	1354				
1.25	200	4290	1123				
1.36	200	4290	1026				
1.43	200	4290	979				
1.61	200	4290	869				
1.93	200	4290	725				
2.02	200	4290	693				
2.44	200	4290	573				
2.93	200	4290	478				
3.29	200	4290	426				
3.84	200	4290	365				
 3  2							
1.16	200	4290	1211				
1.32	200	4290	1057				
1.57	200	4290	891				
1.73	200	4290	810				
1.98	200	4290	707				
2.33	200	4290	600				
2.55	200	4290	549				

Parallel Shaft Gear Units
Permitted Combinations



1400 Input Rpm





F47R17, $n_1=1400$ 1/min				400 Nm			
n_2 [1/min]	M_{max} [Nm]	F_{Ra} [N]	i	56	63	71	80
 3  3							
0.12	400	5920	11882				
0.14	400	5920	10223				
0.16	400	5920	8814				
0.19	400	5920	7426				
0.21	400	5920	6555				
0.25	400	5920	5651				
0.28	400	5920	5064				
0.32	400	5920	4368				
0.38	400	5920	3690				
0.42	400	5920	3366				
0.48	400	5920	2930				
0.54	400	5920	2598				
0.60	400	5920	2330				
0.67	400	5920	2090				
 2  3							
0.71	400	5920	1977				
0.82	400	5920	1701				
0.94	400	5920	1495				
1.00	400	5920	1406				
1.16	400	5920	1212				
1.34	400	5920	1045				
1.51	400	5920	930				
1.73	400	5920	810				
1.95	400	5920	720				
2.28	400	5920	613				
 3  2							
0.77	400	5920	1818				
0.89	400	5920	1575				
1.05	400	5920	1327				
1.16	400	5920	1207				
1.33	400	5920	1064				
1.53	400	5920	914				
1.76	400	5920	797				
1.98	400	5920	708				
2.20	400	5920	635				
2.58	400	5920	543				
2.94	400	5920	476				



Parallel Shaft Gear Units







Permitted Combinations

1400 Input Rpm

F57R37, $n_2=1400$ 1/min				600 Nm			
n_1 [1/min]	Mmax [Nm]	FRa [N]	i	63	71	80	90
 3  3							
0.10	600	9200	14610				
0.10	600	9200	13392				
0.11	600	9200	12757				
0.12	600	9200	11211				
0.14	600	9200	9770				
0.16	600	9200	8716				
0.18	600	9200	7837				
0.20	600	9200	6830				
0.23	600	9200	6017				
0.26	600	9200	5391				
0.30	600	9200	4617				
0.35	600	9200	4024				
0.39	600	9200	3573				
0.44	600	9200	3171				
0.49	600	9200	2856				
0.57	600	9200	2465				
0.63	600	9200	2217				
0.74	600	9200	1899				
0.83	600	9200	1680				
0.95	600	9200	1476				
1.13	600	9200	1236				
 2  3							
0.50	600	9200	2780				
0.53	600	9200	2661				
0.61	600	9200	2282				
0.69	600	9200	2030				
0.78	600	9200	1786				
0.87	600	9200	1611				
0.98	600	9200	1424				
1.13	600	9200	1241				
1.32	600	9200	1061				
1.50	600	9200	934				
1.66	600	9200	842				
1.83	600	9200	767				
2.09	600	9200	688				
2.58	600	9200	543				
2.90	600	9200	483				



1400 Input Rpm

F87R37, $n_1=1400$ 1/min							820 Nm
n_2 [1/min]	M_{max} [Nm]	F_{Ra} [N]	i	63	71	80	90
 3  3							
0.08	820	10300	18485				
0.09	820	10300	15177				
0.11	820	10300	13084				
0.13	820	10300	11025				
0.14	820	10300	10040				
0.16	820	10300	8750				
0.18	820	10300	7914				
0.20	820	10300	7067				
0.24	820	10300	5942				
0.26	820	10300	5365				
0.30	820	10300	4667				
0.34	820	10300	4138				
0.39	820	10300	3575				
0.45	820	10300	3116				
0.51	820	10300	2767				
0.57	820	10300	2466				
 2  3							
0.41	820	10300	3394				
0.49	820	10300	2859				
0.54	820	10300	2604				
0.62	820	10300	2269				
0.64	820	10300	2181				
0.70	820	10300	1986				
0.84	820	10300	1659				
0.97	820	10300	1446				
1.12	820	10300	1252				
1.23	820	10300	1140				
1.41	820	10300	994				
1.59	820	10300	883				
1.93	820	10300	727				
2.21	820	10300	633				
2.62	820	10300	533				
 3  2							
0.68	820	10300	2069				
0.74	820	10300	1897				
0.86	820	10300	1626				
0.98	820	10300	1433				



Parallel Shaft Gear Units

Permitted Combinations







1400 Input Rpm

F77R37, $n_2=1400$ 1/min							1500 Nm
n_2 [1/min]	M_{max} [Nm]	F_{Ra} [μ]	i	63	71	80	90
3 3							
0.07	1500	15700	19110				
0.08	1500	15700	17598				
0.09	1500	15700	16102				
0.09	1500	15700	14828				
0.10	1500	15700	13604				
0.12	1500	15700	11768				
0.12	1500	15700	11310				
0.14	1500	15700	10300				
0.14	1500	15700	9747				
0.16	1500	15700	8605				
0.19	1500	15700	7499				
0.21	1500	15700	6563				
0.24	1500	15700	5720				
0.27	1500	15700	5088				
0.31	1500	15700	4563				
0.37	1500	15700	3768				
0.42	1500	15700	3369				
0.47	1500	15700	3006				
0.53	1500	15700	2619				
0.60	1500	15700	2326				
0.67	1500	15700	2079				
2 3							
0.41	1500	15700	3420				
0.47	1500	15700	2949				
0.55	1500	15700	2563				
0.62	1500	15700	2263				
0.71	1500	15700	1972				
0.81	1500	15700	1726				
0.85	1500	15700	1647				
0.98	1500	15700	1432				
1.05	1500	15700	1336				
1.21	1500	15700	1161				
1.30	1500	15700	1078				
1.57	1500	15700	894				
3 2							
0.83	1500	15700	1682				
0.93	1500	15700	1499				

Parallel Shaft Gear Units
Permitted Combinations



1400 Input Rpm







FB7R57, $n_2=1400$ 1/min									3000 Nm
n_1 [1/min]	M_{torq} [Nm]	F_{Ra} [N]	i	63	71	80	90	100L	112M
 3  3									
0.06	3000	19800	23147						
0.07	3000	19800	19942						
0.08	3000	19800	18215						
0.09	3000	19800	15922						
0.10	3000	19800	14034						
0.11	3000	19800	12267						
0.13	3000	19800	10452						
0.15	3000	19800	9392						
0.17	3000	19800	8180						
0.20	3000	19800	7045						
0.22	3000	19800	6274						
0.25	3000	19800	5553						
0.28	3000	19800	4989						
0.33	3000	19800	4258						
0.38	3000	19800	3729						
 2  3									
0.29	3000	19800	4750						
0.33	3000	19800	4261						
0.37	3000	19800	3796						
0.41	3000	19800	3421						
0.44	3000	19800	3209						
0.49	3000	19800	2853						
0.55	3000	19800	2567						
0.65	3000	19800	2140						
0.73	3000	19800	1907						
0.82	3000	19800	1710						
0.98	3000	19800	1433						
1.12	3000	19800	1249						
1.24	3000	19800	1126						
1.41	3000	19800	990						
1.57	3000	19800	890						
1.78	3000	19800	785						
1.83	3000	19800	766						
 3  2									
0.42	3000	19800	3322						
0.47	3000	19800	2957						
0.54	3000	19800	2596						



Parallel Shaft Gear Units



Permitted Combinations

1400 Input Rpm

F97R57, $n_2=1400$ 1/min				4300 Nm					
n_2 [1/min]	Max M [Nm]	F_R [N]	i	63	71	80	90	100L	112M
 3  3									
0.05	4300	29900	27882						
0.06	4300	29900	24021						
0.07	4300	29900	21182						
0.08	4300	29900	17946						
0.09	4300	29900	15461						
0.10	4300	29900	13932						
0.11	4300	29900	12345						
0.13	4300	29900	10870						
0.15	4300	29900	9601						
0.17	4300	29900	8340						
0.19	4300	29900	7207						
0.22	4300	29900	6417						
0.25	4300	29900	5648						
0.28	4300	29900	5047						
0.32	4300	29900	4366						
 2  3									
0.24	4300	29900	5927						
0.27	4300	29900	5282						
0.31	4300	29900	4580						
0.34	4300	29900	4081						
0.42	4300	29900	3296						
0.47	4300	29900	2977						
0.54	4300	29900	2580						
0.61	4300	29900	2299						
0.72	4300	29900	1950						
0.81	4300	29900	1738						
0.95	4300	29900	1473						
1.05	4300	29900	1333						
1.14	4300	29900	1226						
1.33	4300	29900	1049						
 3  2									
0.37	4300	29900	3786						
0.40	4300	29900	3458						
0.48	4300	29900	2943						
0.54	4300	29900	2575						
0.61	4300	29900	2292						
0.71	4300	29900	1967						



1400 Input Rpm



Pm [kW]	na [1/min]	Ma [Nm]	i	FRa [N]	fs			m [kg]	
0.12 (0.16-P)	0.22	4374	6417	29900	0.98	FS97 R57	63	187	
	0.25	3649	5648	29900	1.12	FM97 R57		202	
	0.28	3440	5047	29900	1.25	FN97 R57		217	
	0.32	2976	4366	29900	1.45	FH97 R57		177	
	0.34	2667	4061	29900	1.50	FS97 R57	63	182	
	0.42	2316	3296	29900	1.86	FM97 R57		197	
	0.47	2092	2977	29900	2.06	FN97 R57		212	
	0.54	1813	2580	29900	2.37	FH97 R57		172	
	0.33	2902	4258	19900	1.03	FS87 R57	63	117	
	0.38	2541	3729	19900	1.18	FM87 R57		127	
						FN87 R57		137	
						FH87 R57		112	
0.44	2254	3309	19900	1.33	FS87 R57	63	112		
0.49	2005	2853	19900	1.50			122		
0.55	1804	2597	19900	1.66			132		
0.65	1504	2140	19900	1.99			107		
0.73	1340	1907	19900	2.24					
0.82	1202	1710	19900	2.50					
0.98	1006	1433	19900	2.98					
1.12	878	1249	19900	3.42					
1.24	791	1126	19900	3.79					
0.83	1785	2619	15700	0.84	FS77 R37	63	66		
0.89	1585	2326	15700	0.95	FM77 R37		68		
0.97	1417	2079	15700	1.06	FN77 R37		76		
					FH77 R37		62		
0.81	1213	1726	15700	1.24	FS77 R37	63	65		
0.85	1157	1647	15700	1.30			66		
0.98	1006	1432	15700	1.49			74		
1.05	938	1336	15700	1.60			61		
1.21	816	1161	15700	1.84					
1.39	757	1078	15700	1.98					
1.57	626	894	15700	2.39					
0.98	1007	1433	10300	0.81			FS87 R37	63	42
1.09	904	1287	10300	0.91	46				
1.26	781	1112	10300	1.05	48				
1.38	711	1012	10300	1.15	40				
1.55	596	848	10300	1.38					
1.88	524	746	10300	1.96					
2.15	457	651	10300	1.79					
2.45	402	572	10300	2.04					
2.73	361	513	10300	2.27					
3.20	307	437	10300	2.67					
1.85	596	848	9200	1.01	FS57 R37	63			39
1.99	516	735	9200	1.16					45
2.15	457	650	9200	1.31			46		
2.54	387	551	9200	1.55			39		
2.83	347	494	9200	1.73					
3.14	313	446	9200	1.91					
3.31	306	423	9200	1.96					
3.67	276	382	9200	2.17					
4.23	240	331	9200	2.50					
4.85	218	301	9200	2.75					
5.28	192	265	9200	3.12					
2.58	382	543	9200	1.05	FS47 R17	63	25		
2.94	335	476	9200	1.20			27		
3.35	293	417	9200	1.37			28		
							25		
3.77	269	372	9200	1.49	FS47 R17	63	25		
4.28	237	327	9200	1.69			27		



Parallel Shaft Gear Units

Selection Tables [kW] F..F..M

1400 Input Rpm

Pm [kW]	na [1/min]	Ma [Nm]	i	FRa [N]	fs			m [kg]	
4.58	223	307	5520	1.80		FM47 R17	63	28	
5.41	188	259	5520	2.13		FH47 R17		25	
4.28	230	327	4290	0.87		FS37 R17	63	20	
5.12	192	273	4290	1.04		FM37 R17		21	
5.92	166	236	4290	1.20		FN37 R17		22	
6.32	156	222	4290	1.28		FH37 R17		20	
4.48	226	313	4290	0.88		FS37 R17 FM37 R17 FN37 R17 FH37 R17	63	20	
4.73	214	296	4290	0.93				21	
5.84	180	248	4290	1.11				22	
6.39	159	219	4290	1.26				20	
7.81	133	184	4290	1.50					
8.58	118	164	4290	1.69					
7.48	140	187.70	10300	5.84				FS57	32
								FM57	38
						FN57	38		
						FH57	30		
8.02	130	174.58	9200	4.60		FS57	63	29	
10.05	104	139.34	9200	5.77		FM57		25	
						FN57		36	
						FH57		29	
9.41	111	148.71	5520	3.60		FS47	63	20	
11.57	90	121.06	5520	4.43		FM47		22	
13.35	78	104.91	5520	5.11		FN47		23	
14.87	71	95.57	5520	5.61		FH47		20	
10.89	96	128.51	4290	2.09		FS37 FM37 FN37 FH37		63	15
11.88	88	117.88	4290	2.27			16		
13.95	75	100.36	4290	2.67			17		
17.36	60	80.65	4290	3.32			15		
19.86	53	70.50	4290	3.81					
21.18	49	66.09	4290	4.06					
24.01	44	58.32	4290	4.59					
25.67	41	54.54	4290	4.90					
27.08	39	51.70	4290	5.17					
0.18 (0.25HP)	0.32	4463	4366	29900	0.96		FS97 R57 FM97 R57 FN97 R57 FH97 R57		63
							202		
							217		
							177		
0.34	4301	4081	29900	1.00		FS97 R57 FM97 R57 FN97 R57 FH97 R57	63	182	
0.42	3474	3296	29900	1.24				197	
0.47	3137	2977	29900	1.37				212	
0.54	2719	2580	29900	1.58				172	
0.81	2423	2299	29900	1.77					
0.72	2055	1950	29900	2.09					
0.81	1831	1738	29900	2.35					
0.85	1563	1473	29900	2.77					
1.05	1405	1333	29900	3.06					
1.14	1292	1226	29900	3.33					
0.54	2735	2596	19800	1.10		FS87 R57 FM87 R57 FN87 R57 FH87 R57	63	117	
0.64	2291	2174	19800	1.31				127	
0.72	2039	1935	19800	1.47				137	
0.81	1838	1735	19800	1.64				112	
0.94	1564	1484	19800	1.92					
1.08	1364	1294	19800	2.20					
1.20	1227	1164	19800	2.45					
1.32	1121	1064	19800	2.68					
1.48	1013	951	19800	2.96					
1.72	880	816	19800	3.49					
0.98	1580	1499	15700	0.95					
1.04	1414	1342	15700	1.06					





















P _{in} [kW]	n _{in} [1/min]	M _{in} [Nm]	i	F _{Ra} [N]	f _s			m [kg]
1.17	1266	1201	15700	1.19	FS77 R37	63	66	
1.32	1120	1062	15700	1.34	FM77 R37		68	
1.59	927	880	15700	1.62	FN77 R37		76	
1.75	842	799	15700	1.78	FH77 R37		62	
1.97	750	712	15700	2.00				
2.35	629	596	15700	2.39				
1.65	894	848	10300	1.04	FS67 R37	63	42	
1.89	787	746	10300	1.20	FM67 R37		46	
2.15	686	651	10300	1.36	FN67 R37		48	
2.45	603	572	10300	1.52	FH67 R37		40	
2.73	541	513	10300	1.78				
3.20	461	437	10300	2.04				
3.66	403	382	10300	1.48	FS57 R37	63	41	
2.75	553	509	10300	1.70	FM57 R37		45	
3.15	483	444	10300	1.88	FN57 R37		47	
3.50	435	400	10300	2.26	FH57 R37		39	
4.19	363	334	10300	2.64				
4.90	310	285	10300	3.19				
5.91	257	237	10300	3.94	FS57 R37	63	39	
7.30	208	192	10300	1.15	FM57 R37		45	
2.54	581	551	9200	1.28	FN57 R37		46	
2.83	521	494	9200	1.48	FH57 R37		39	
3.14	470	446	9200	1.68				
3.64	405	384	9200	1.31	FS57 R37		63	38
4.13	357	339	9200	1.45	FM57 R37	44		
3.31	459	423	9200	1.67	FN57 R37	45		
3.67	415	382	9200	2.08	FH57 R37	38		
4.23	360	331	9200	2.45				
4.85	327	301	9200	2.72				
5.28	288	265	9200	1.02	FS47 R17	63	25	
5.22	244	225	9200	1.17	FM47 R17		27	
5.99	221	203	9200	1.32	FN47 R17		28	
3.75	394	374	5920	1.54	FH47 R17		25	
4.31	343	325	5920	1.13	FS47 R17		63	25
4.86	304	288	5920	1.20	FM47 R17			27
5.68	260	247	5920	1.42	FN47 R17	28		
4.28	356	327	5920	1.69	FH47 R17	25		
4.68	334	307	5920	1.91				
5.41	281	259	5920	2.18				
5.41	237	218	5920	1.00	FS37 R17	63	20	
7.27	209	192	5920	1.13	FM37 R17		21	
8.28	184	169	5920	1.25	FN37 R17		22	
7.81	200	184	4290	1.43	FH37 R17		20	
8.58	178	164	4290	3.90	FS67		32	
9.54	159	147	4290	4.82	FM67		36	
10.88	140	129	4290	5.48	FN67	38		
7.48	210	187.70	10300		FH67	30		
9.23	170	151.68	10300					
10.48	150	133.62	10300					
8.02	196	174.58	9200	3.07	FS67	63	29	
10.05	156	139.34	9200	3.84	FM67		25	
11.44	137	122.42	9200	4.37	FN67		36	
12.90	129	115.11	9200	4.65	FH67		29	
14.74	106	95.01	9200	5.63				
9.41	167	148.71	5920	2.40				
11.57	136	121.06	5920	2.95				
13.35	118	104.91	5920	3.40	FS47	20		
14.87	107	95.57	5920	3.74	FM47	22		



Parallel Shaft Gear Units



Selection Tables [kW] F..F7..M

1400 Input Rpm

Pm [kW]	na [1/min]	Ma [Nm]	i	FRa [N]	fa			m [kg]			
16.41	96	86.41	5920	4.19	63			23			
17.63	89	79.30	5920	4.50				20			
19.08	80	71.21	5920	5.02							
20.81	75	67.43	5920	5.31							
23.00	68	60.83	5920	5.87							
10.89	144	128.51	4290	1.39	63			15			
11.88	132	117.88	4290	1.52				16			
13.95	112	100.36	4290	1.78				17			
17.38	90	80.65	4290	2.22				15			
19.08	79	70.50	4290	2.54				16			
21.18	74	66.09	4290	2.70				17			
24.01	65	58.32	4290	3.06				15			
25.67	61	54.54	4290	3.26				16			
27.08	58	51.70	4290	3.45				17			
31.94	49	43.83	4290	4.07				15			
35.54	43	38.31	4290	4.66				16			
38.98	40	36.91	4290	4.96				17			
44.18	35	31.69	4290	5.62				15			
0.25 (0.34HP)	4308	2943	29900	1.00				71			187
0.54	3769	2575	29900	1.14							202
0.81	3355	2292	29900	1.28	217						
0.71	2879	1967	29900	1.49	177						
0.81	2528	1727	29900	1.70							
0.89	2309	1578	29900	1.86							
1.04	1985	1343	29900	2.19							
1.23	1683	1136	29900	2.59							
1.39	1475	1008	29900	2.92							
0.72	2832	1935	19800	1.06	71						117
0.81	2538	1735	19800	1.18							127
0.94	2172	1484	19800	1.38							137
1.08	1894	1294	19800	1.58				112			
1.20	1704	1164	19800	1.76							
1.32	1557	1064	19800	1.93							
1.48	1406	961	19800	2.13							
1.72	1194	816	19800	2.51							
1.98	1036	708	19800	2.89							
1.32	1555	1062	15700	0.96				71			66
1.59	1288	880	15700	1.16	68						
1.75	1169	799	15700	1.28	76						
1.97	1042	712	15700	1.44	62						
2.35	873	596	15700	1.72							
2.59	792	541	15700	1.89							
2.90	706	482	15700	2.13							
3.26	610	416	15700	2.46							
2.45	838	572	10300	0.98	71						42
2.73	751	513	10300	1.09				46			
3.20	640	437	10300	1.28				48			
								40			
2.75	768	509	10300	1.07				71			41
3.15	670	444	10300	1.22							45
3.50	604	400	10300	1.36							47
4.19	504	334	10300	1.63							39
4.90	431	285	10300	1.90							
5.91	357	237	10300	2.29							
3.84	562	384	9200	1.07	71						39
4.13	496	339	9200	1.21				45			
5.84	370	253	9200	1.62				46			
								39			
3.87	576	382	9200	1.04							



1400 Input Rpm



Pm [kW]	n [1/min]	Ma [Nm]	i	FRa [N]	fs			m [kg]		
4.23	499	331	9200	1.20	71	FS67 R37 FM67 R37 FN67 R37 FH67 R37	38			
4.65	455	301	9200	1.32						
5.28	400	265	9200	1.50						
6.22	340	225	9200	1.77						
6.89	307	203	9200	1.96						
7.89	266	176	9200	2.25						
5.68	361	247	5920	1.11	71	FS47 R17 FM47 R17 FN47 R17 FH47 R17	25			
6.53	314	214	5920	1.28						
7.39	277	189	5920	1.44						
8.06	254	174	5920	1.57						
5.41	391	259	5920	1.02	71	FS47 R17 FM47 R17 FN47 R17 FH47 R17	25			
6.41	330	218	5920	1.21						
7.27	290	192	5920	1.38						
8.28	255	169	5920	1.57						
9.43	224	149	5920	1.78						
10.70	197	131	5920	2.03						
9.54	221	147	4290	0.90	71	FS37 R17 FM37 R17 FN37 R17 FH37 R17	20			
10.88	195	129	4290	1.03						
11.95	177	117	4290	1.13						
14.23	148	98	4290	1.35						
16.19	130	86	4290	1.53						
8.39	259	166.80	15700	5.78				71	FS77 FM77 FN77 FH77	57
7.48	292	187.70	10300	2.81	71	FS67 FM67 FN67 FH67	32			
9.23	236	151.88	10300	3.47						
10.48	208	133.62	10300	3.95						
12.78	170	109.55	10300	4.67						
13.88	161	103.23	10300	4.93						
15.71	139	89.11	10300	5.53	71	FS57 FM57 FN57 FH57	29			
8.02	272	174.58	9200	2.21						
10.05	217	139.34	9200	2.77						
11.44	190	122.42	9200	3.15						
12.16	179	115.11	9200	3.35						
14.74	148	95.01	9200	4.05						
16.38	133	85.46	9200	4.50	71	FS47 FM47 FN47 FH47	20			
19.07	114	73.40	9200	5.25						
9.41	231	148.71	5920	1.73						
11.57	188	121.06	5920	2.12						
13.35	163	104.91	5920	2.45						
14.87	148	95.57	5920	2.69						
16.41	133	85.41	5920	3.01	71	FS47 FM47 FN47 FH47	20			
17.88	124	79.30	5920	3.24						
19.88	111	71.21	5920	3.61						
20.81	105	67.43	5920	3.82						
23.00	95	60.83	5920	4.22						
25.01	87	55.95	5920	4.59						
27.89	78	50.24	5920	5.12						
32.82	67	42.91	5920	5.99						
10.89	200	128.51	4290	1.00				71	FS37 FM37 FN37 FH37	15
11.88	183	117.88	4290	1.09						
13.88	156	100.36	4290	1.28						
17.38	125	80.65	4290	1.59						
19.88	110	70.50	4290	1.83						
21.18	103	66.09	4290	1.95						
24.01	91	58.32	4290	2.21						
25.87	85	54.54	4290	2.35						
27.08	80	51.70	4290	2.48						





Parallel Shaft Gear Units

Selection Tables [kW] F..F../M

1400 Input Rpm

Pm [kW]	na [1/min]	Ma [Nm]	i	FRa [N]	fs			m [kg]
	31.94	68	43.83	4290	2.93			
	35.54	60	38.31	4290	3.35			
	38.98	56	35.91	4290	3.57			
	44.18	49	31.69	4290	4.05			
	48.83	44	28.10	4290	4.56			
	55.08	40	24.70	4290	5.05			
						FS37	71	15
						FM37		16
						FN37		17
						FH37		15
0.37 (0.5HP)	0.71	4261	1967	29900	1.01			
	0.81	3741	1727	29900	1.15	FB87 R87		187
	0.89	3417	1578	29900	1.26	FM87 R87	71	202
	1.04	2908	1343	29900	1.48	FN87 R87		217
	1.23	2461	1136	29900	1.75	FH87 R87		177
	1.39	2183	1008	29900	1.97			
	1.58	1944	897	29900	2.21			
	1.88	1683	794	19800	1.07			
	1.20	2522	1164	19800	1.19			
	1.32	2305	1064	19800	1.30	FB87 R87	71	117
1.48	2081	961	19800	1.44	FM87 R87	127		
1.72	1788	816	19800	1.70	FN87 R87	137		
1.88	1534	708	19800	1.96	FH87 R87	112		
2.20	1378	636	19800	2.18				
2.58	1176	543	19800	2.55				
2.87	1057	488	19800	2.84				
1.76	1730	799	15700	0.87				
1.97	1542	712	15700	0.97				
2.26	1292	596	15700	1.16	FB77 R37	71	66	
2.59	1172	541	15700	1.28	FM77 R37		68	
2.80	1045	482	15700	1.44	FN77 R37		79	
3.28	902	416	15700	1.66	FH77 R37		62	
3.83	793	366	15700	1.89				
4.47	679	313	15700	2.21				
3.86	828	362	10300	0.99	FS87 R37	71	42	
4.22	719	332	10300	1.14	FM87 R37		46	
4.83	655	303	10300	1.25	FN87 R37		48	
5.45	557	257	10300	1.47	FH87 R37		40	
6.12	496	229	10300	1.65				
5.84	548	253	9200	1.10	FS67 R37	71	39	
6.75	449	207	9200	1.34	FM67 R37		45	
7.20	421	194	9200	1.42	FN67 R37		46	
					FH67 R37		39	
5.28	583	265	9200	1.01				
6.22	502	225	9200	1.19	FS67 R37	71	38	
6.89	454	203	9200	1.32	FM67 R37		44	
7.88	384	176	9200	1.52	FN67 R37		45	
9.19	340	152	9200	1.76	FH67 R37		38	
10.44	299	134	9200	2.00				
8.28	377	169	5920	1.06	FS47 R17		71	25
9.43	332	149	5920	1.21	FM47 R17	27		
10.70	292	131	5920	1.37	FN47 R17	28		
					FH47 R17	25		
8.39	384	166.80	15700	3.90	FS77	71	57	
8.74	369	160.23	15700	4.07	FM77		58	
9.49	340	147.56	15700	4.42	FN77		66	
					FH77		53	
7.48	432	187.70	10300	1.90				
9.29	349	151.68	10300	2.35				
10.48	308	133.62	10300	2.67				





Pm [kW]	na [1/min]	Ma [Nm]	i	FRa [N]	fs			m [kg]
	12.78	252	109.55	10300	3.16	FS67 FM67 FN67 FH67	71	32
	13.58	238	103.23	10300	3.33			36
	15.71	205	89.11	10300	3.74			38
	18.10	178	77.36	10300	4.20			30
	19.88	162	70.42	10300	4.50			
	21.58	150	64.95	10300	4.83			
	24.47	132	57.22	10300	5.37			
	8.02	402	174.58	9200	1.49	FS67 FM67 FN67 FH67	71	29
	10.05	321	139.34	9200	1.87			25
	11.44	282	122.42	9200	2.13			36
	12.18	265	115.11	9200	2.26			29
	14.74	219	95.01	9200	2.74			25
	16.38	197	85.46	9200	3.04			36
	18.07	189	73.40	9200	3.55			29
	27.07	119	51.72	9200	5.00			
	21.82	149	64.76	9200	4.02			
	24.81	131	56.90	9200	4.57			
	9.41	343	148.71	5920	1.17			FS47 FM47 FN47 FH47
	11.57	279	121.06	5920	1.44	22		
	13.35	242	104.91	5920	1.66	23		
	14.87	220	95.57	5920	1.82	20		
	16.41	196	85.41	5920	2.04	22		
	17.88	183	79.30	5920	2.19	23		
	19.88	164	71.21	5920	2.44	20		
	20.81	155	67.43	5920	2.58	22		
	23.00	140	60.83	5920	2.85	23		
	25.01	129	55.95	5920	3.10	20		
	27.89	116	50.24	5920	3.46			
	32.82	99	42.91	5920	4.05			
	38.80	83	36.06	5920	4.64			
	43.28	75	32.38	5920	4.95			
	45.79	70	30.66	5920	5.13			
	55.03	59	25.44	5920	5.74			
	13.95	231	100.36	4290	0.86	FS37 FM37 FN37 FH37	71	15
	17.38	186	80.65	4290	1.08			16
	19.88	162	70.90	4290	1.23			17
	21.18	152	65.09	4290	1.32			15
	24.01	134	58.32	4290	1.49			
	25.87	126	54.54	4290	1.59			
	27.08	119	51.70	4290	1.68			
	31.94	101	43.83	4290	1.98			
	36.54	88	38.31	4290	2.27			
	38.98	83	35.91	4290	2.41			
	44.18	73	31.88	4290	2.74			
	49.83	65	28.10	4290	3.08			
	58.88	59	24.70	4290	3.41			
	71.01	47	19.71	4290	4.27			
	80.83	41	17.32	4290	4.86			
	85.98	39	16.29	4290	5.17			
0.55 (0.74HP)	1.04	4323	1343	29500	0.99	FS97 R57 FM97 R57 FN97 R57 FH97 R57	80	188
	1.23	3658	1136	29500	1.18			203
	1.39	3245	1008	29500	1.33			218
	1.58	2880	897	29500	1.49			178
	1.88	2427	754	29500	1.77			
	2.08	2187	679	29500	1.97			
	2.32	1940	603	29500	2.22			
	2.63	1714	532	29500	2.51			
	2.98	1521	472	29500	2.83			
	3.50	1287	400	29500	3.34			



Parallel Shaft Gear Units



Selection Tables [KW] F..F../M

1400 Input Rpm

Pm [KW]	na [1/min]	Ma [Nm]	i	FRa [N]	fs			m [kg]
3.95	1142	355	29900	3.77				
1.46	3094	961	19800	0.97				
1.72	2628	816	19800	1.14		FB67 R57		118
1.98	2280	708	19800	1.32		FM67 R57	80	128
2.20	2049	636	19800	1.46		FN67 R57		138
2.88	1749	543	19800	1.72		FH67 R57		113
2.97	1571	488	19800	1.91				
3.80	1188	369	19800	2.53				
2.90	1553	482	15700	0.97		FS77 R37		68
3.36	1341	416	15700	1.12		FM77 R37	80	70
3.83	1178	366	15700	1.27		FN77 R37		78
4.47	1009	313	15700	1.49		FH77 R37		64
5.45	827	257	10300	0.99		FS87 R37		44
6.12	737	229	10300	1.11		FM87 R37	80	48
6.88	655	203	10300	1.25		FN87 R37		50
8.08	559	174	10300	1.47		FH87 R37		42
8.82	556	162.37	19800	5.40		FS87		97
						FM87	80	107
						FN87		117
						FH87		92
8.38	571	166.80	15700	2.63				
8.74	548	160.23	15700	2.74		FS77		59
9.49	505	147.56	15700	2.97		FM77	80	60
14.91	321	93.90	15700	4.66		FN77		68
16.74	286	83.63	15700	5.23		FH77		55
18.88	257	75.02	15700	5.84				
7.46	642	187.70	10300	1.28				
9.23	519	151.68	10300	1.58				
10.48	457	133.62	10300	1.79				
12.78	375	109.55	10300	2.12				
13.58	353	103.23	10300	2.24				
15.71	305	89.11	10300	2.51		FS87		34
18.10	265	77.36	10300	2.82		FM87	80	38
19.88	241	70.42	10300	3.03		FN87		40
21.58	222	64.95	10300	3.25		FH87		32
24.47	195	57.22	10300	3.61				
28.85	161	48.91	10300	4.23				
31.87	151	44.20	10300	4.44				
36.89	131	38.16	10300	5.01				
42.27	113	33.12	10300	5.62				
8.02	597	174.58	9200	1.00				
10.05	477	139.34	9200	1.26				
11.44	419	122.42	9200	1.43				
12.16	394	115.11	9200	1.52				
14.74	325	95.01	9200	1.84		FS67		31
16.38	292	85.46	9200	2.05		FM67	80	27
19.07	251	73.40	9200	2.39		FN67		38
27.07	177	51.72	9200	3.38		FH67		31
21.82	222	64.76	9200	2.70				
24.81	195	56.90	9200	3.07				
35.25	136	39.72	9200	4.32				
41.04	117	34.11	9200	4.89				
11.87	414	121.06	5920	0.97				
13.35	359	104.91	5920	1.11				
14.87	327	95.57	5920	1.22				
16.41	292	85.41	5920	1.37				
17.83	272	79.30	5920	1.47				
19.88	244	71.21	5920	1.64		FS47		22
20.81	230	67.43	5920	1.74		FM47		24



1400 Input Rpm



Pm [kW]	na [1/min]	Ma [Nm]	i	FRa [N]	fs			m [kg]	
	23.00	208	60.63	5920	1.92	FM47	80	25	
	25.01	192	55.95	5920	2.09			FM47	22
	27.89	172	50.24	5920	2.33				
	32.82	147	42.91	5920	2.72				
	38.80	124	36.06	5920	3.12				
	43.25	111	32.38	5920	3.33				
	45.79	105	30.66	5920	3.45				
	55.03	87	25.44	5920	3.86				
	19.85	241	70.50	4290	0.83	FS37 FM37 FN37 FH37	80	17	
	21.19	225	66.09	4290	0.88				
	24.01	200	58.32	4290	1.00				
	25.87	187	54.54	4290	1.07				
	27.05	177	51.70	4290	1.13				
	31.94	150	43.83	4290	1.33				
	36.54	131	38.31	4290	1.52				
	38.58	123	35.91	4290	1.62				
	44.19	108	31.69	4290	1.84				
	49.83	96	28.10	4290	2.07				
	58.85	87	24.70	4290	2.29				
	71.01	70	19.71	4290	2.88				
	80.83	61	17.32	4290	3.27	FS37 FM37 FN37 FH37	17		
	85.56	57	16.29	4265	3.48				
	115.79	43	12.09	3960	4.68				
	134.81	37	10.39	3795	5.47				
	151.08	33	9.27	3605	4.19				
	171.96	29	8.14	3480	4.54				
	245.33	20	5.68	3145	5.65				
	1.39	4425	1006	29600	0.97		FS97 R57 FM97 R57 FN97 R57 FH97 R57	188	
0.75 (1HP)	1.58	3941	897	29600	1.09			203	
	1.86	3310	754	29600	1.30			218	
	2.06	2963	679	29600	1.44			178	
	2.32	2646	603	29600	1.63				
	2.63	2338	532	29600	1.84				
	2.96	2074	472	29600	2.07				
	3.50	1755	400	29600	2.45				
	3.95	1557	355	29600	2.76				
	1.98	3109	708	19600	0.96	FS87 R57 FM87 R57 FN87 R57 FH87 R57		118	
	2.20	2794	636	19600	1.07			128	
	2.58	2384	543	19600	1.26			138	
	2.87	2143	488	19600	1.40			113	
	3.80	1620	369	19600	1.85				
	3.83	1607	366	15700	0.93	FS77 R37 FM77 R37 FN77 R37 FH77 R37	68		
	4.47	1376	313	15700	1.09			70	
	4.98	1235	281	15700	1.21			78	
								64	
	8.23	794	170.08	29600	5.42	FS97 FM97 FN97 FH97	169		
								184	
								159	
								159	
	8.82	758	162.37	19600	3.96	FS87 FM87 FN87 FH87	97		
	9.82	658	141.09	19600	4.56			107	
	12.87	508	108.77	19600	5.92			117	
							92		
	8.39	778	166.80	15700	1.93	FS77 FM77 FN77 FH77	59		
	8.74	748	160.23	15700	2.01			60	
	9.49	689	147.56	15700	2.18			68	
	14.91	438	93.90	15700	3.42			68	
	18.74	390	83.63	15700	3.84			55	
	19.85	350	75.02	15700	4.29				



Parallel Shaft Gear Units



Selection Tables [kW] F...F7..M

1400 Input Rpm

Pm [kW]	na [1/min]	Ma [Nm]	l	FRa [N]	fs			m [kg]
23.58		277	59.38	15700	5.40			
7.46		876	187.70	10300	0.94			
9.23		708	151.68	10300	1.16			
10.48		624	133.62	10300	1.32			
12.78		511	109.55	10300	1.56			
13.58		482	103.23	10300	1.64			
15.71		416	89.11	10300	1.84			
18.10		361	77.36	10300	2.07			
19.88		329	70.42	10300	2.22			
21.58		303	64.95	10300	2.38			
24.47		267	57.22	10300	2.65			
28.85		219	46.91	10300	3.11			
31.67		206	44.20	10300	3.26			
35.89		178	38.16	10300	3.67			
42.27		155	33.12	10300	4.12			
45.43		141	30.15	10300	4.44			
49.23		137	28.44	10300	4.52			
						F557 FM57 FN57 FH57	80	34 38 40 32
						F557 FM57 FN57 FH57	80	35 39 41 33
10.05		650	139.34	9200	0.92			
11.44		571	122.42	9200	1.05			
12.16		537	115.11	9200	1.12			
14.74		443	96.01	9200	1.35			
16.38		399	85.46	9200	1.50			
19.07		343	73.40	9200	1.75			
27.07		241	51.72	9200	2.48			
21.62		302	64.76	9200	1.98			
24.81		266	56.90	9200	2.25			
35.25		185	38.72	9200	3.17			
41.04		159	34.11	9200	3.59			
58.25		112	24.04	9200	4.89			
52.91		127	26.46	9200	4.31			
60.08		112	23.31	9200	4.91			
						F557 FM57 FN57 FH57	80	32 28 39 32
13.35		490	104.91	5920	0.82			
14.67		445	95.57	5920	0.90			
16.41		398	85.41	5920	1.00			
17.63		371	79.30	5920	1.08			
19.88		332	71.21	5920	1.20			
20.81		314	67.43	5920	1.27			
23.00		284	60.83	5920	1.41			
25.01		261	55.95	5920	1.53			
27.89		234	50.24	5920	1.71			
32.62		200	42.91	5920	2.00			
38.80		168	36.06	5920	2.29			
43.28		151	32.38	5920	2.44			
45.79		143	30.66	5920	2.53			
55.03		119	25.44	5920	2.83			
58.55		119	24.76	5920	3.11			
64.35		105	21.75	5920	3.54			
68.43		98	20.45	5920	3.78			
92.05		73	15.19	5920	5.10			
107.48		63	13.04	5775	5.98			
124.41		54	11.26	5450	4.48			
141.57		48	9.89	5260	4.84			
150.54		45	9.30	5170	5.02			
202.52		33	6.90	4750	6.00			
						F547 FM47 FN47 FH47	80	22 24 25 22
						F547 FM47 FN47 FH47	80	22 24 25 22



1400 Input Rpm



Pm [kW]	na [1/min]	Ma [Nm]	l	FRa [N]	fa			m [kg]
27.08		241	51.70	4290	0.83	FS37 FM37 FN37 FH37	80	17
31.94		205	43.83	4290	0.98			18
36.84		179	38.31	4290	1.12			19
39.98		168	35.91	4290	1.19			17
44.18		148	31.69	4290	1.35			
49.83		131	28.10	4290	1.52			
56.68		119	24.70	4290	1.68	FS37 FM37 FN37 FH37	80	17
71.01		95	19.71	4275	2.11			18
80.83		83	17.32	4180	2.40			19
85.98		78	16.29	4106	2.55			17
115.79		58	12.09	3625	3.43			
134.81		50	10.39	3680	4.01			
151.08		45	9.27	3480	3.07			
171.98		39	8.14	3370	3.33			
246.33		27	5.68	3070	4.15			
1.1 (1.5HP)	2.06	4375	679	29600	0.98	FS97 R57 FM97 R57 FN97 R57 FH97 R57	90	188
	2.32	3881	603	29600	1.11			203
	2.63	3429	532	29600	1.25			218
	2.98	3042	472	29600	1.41			178
	3.50	2574	400	29600	1.67			
	3.95	2283	355	29600	1.88			
	2.87	3142	488	19600	0.95	FS87 R57 FM87 R57 FN87 R57 FH87 R57	90	118
	3.80	2376	369	19600	1.26			128
	4.37	2065	321	19600	1.45			138
	5.87	1591	247	19600	1.89			113
	8.23	1164	170.08	29600	3.70			169
	9.33	1027	149.98	29600	4.19	184		
	10.22	937	136.95	29600	4.59	FS97 FM97 FN97 FH97	199	
	12.79	749	109.42	29600	5.75		159	
	12.00	799	116.67	29600	5.39			
	8.82	1111	162.37	19600	2.70			
	9.92	966	141.09	19600	3.11		97	
	12.87	745	108.77	19600	4.03	FS87 FM87 FN87 FH87	107	
	13.63	703	102.70	19600	4.27		117	
15.18	632	92.34	19600	4.75	92			
16.80	570	83.32	19600	5.26				
17.80	539	78.67	19600	5.56				
8.39	1142	166.80	15700	1.31	FS77 FM77 FN77 FH77	90	59	
8.74	1097	160.23	15700	1.37			60	
9.49	1010	147.56	15700	1.49			68	
14.91	643	93.90	15700	2.33			55	
16.74	572	83.63	15700	2.62				
18.88	514	75.02	15700	2.92				
23.58	406	59.38	15700	3.68				
26.29	365	53.26	15700	4.11				
28.55	336	49.04	15700	4.47				
33.60	285	41.67	15700	5.25				
10.48	915	133.62	10300	0.90	FS67 FM67 FN67 FH67	80	34	
12.78	750	109.55	10300	1.06			38	
13.88	707	103.23	10300	1.12			40	
15.71	610	89.11	10300	1.26			32	
18.10	529	77.36	10300	1.41				
19.88	482	70.42	10300	1.51				
21.58	445	64.95	10300	1.63				
24.47	392	57.22	10300	1.81				
29.85	321	46.91	10300	2.12				
31.67	303	44.20	10300	2.22				
36.89	261	38.16	10300	2.50				
42.27	227	33.12	10300	2.81				



Parallel Shaft Gear Units



Selection Tables [kW] F..F../M

1400 Input Rpm

Pm [kW]	na [1/min]	Ma [Nm]	i	FRa [N]	fs			m [kg]
46.43	206	30.15	10000	3.03				
49.23	201	28.44	10000	3.08		FB67		35
77.37	129	18.10	10000	4.86		FM67	90	39
86.87	114	16.12	10000	5.47		FN67		41
						FH67		33
14.74	650	95.01	9200	0.92				
19.39	585	85.46	9200	1.02				
19.07	602	73.40	9200	1.20		FS57		31
27.07	354	51.72	9200	1.69		FM57	90	27
21.82	443	64.76	9200	1.35		FN57		38
24.81	389	56.90	9200	1.54		FH57		31
35.25	272	39.72	9200	2.18				
41.04	234	34.11	9200	2.45				
59.25	165	24.04	9200	3.33				
52.91	187	26.46	9200	2.94				
60.06	164	23.31	9200	3.35		FS57		32
73.26	135	19.11	9025	4.10		FM57	90	28
77.74	127	18.01	8980	4.35		FN57		39
90.05	110	15.55	8525	5.06		FH57		32
103.74	95	13.50	8190	5.85				
19.89	487	71.21	5920	0.82				
20.81	460	67.43	5920	0.87				
23.00	417	60.83	5920	0.96				
25.01	383	55.95	5920	1.04		FS47		22
27.89	344	50.24	5920	1.16		FM47	90	24
32.82	294	42.91	5920	1.36		FN47		25
38.80	247	36.06	5920	1.56		FH47		22
43.26	222	32.38	5920	1.67				
45.79	209	30.66	5920	1.72				
55.03	174	25.44	5920	1.93				
59.55	175	24.76	5920	2.12				
64.35	154	21.75	5920	2.42				
68.43	144	20.45	5920	2.58				
92.05	107	15.19	5770	3.48		FB47		22
107.48	92	13.04	5555	4.07		FM47	90	24
124.41	79	11.26	5220	3.06		FN47		25
141.57	70	9.89	5055	3.30		FH47		22
193.54	66	9.30	4980	3.42				
202.52	49	6.90	4610	4.09				
238.45	42	5.93	4420	4.49				
334.53	30	4.18	4005	5.56				
38.98	246	35.91	4105	0.81		FB37		17
44.19	217	31.69	4100	0.92		FM37	90	18
49.83	192	28.10	4075	1.04		FN37		19
						FH37		17
59.89	174	24.70	3990	1.15				
71.01	139	19.71	3885	1.44				
80.83	122	17.32	3825	1.64		FS37		17
85.96	115	16.29	3790	1.74		FM37	90	18
115.79	85	12.09	3590	2.34		FN37		19
134.81	73	10.39	3480	2.73		FH37		17
161.08	65	9.27	3255	2.10				
171.99	57	8.14	3175	2.27				
246.33	40	5.68	2905	2.83				
1.5 (2HP)	2.63	4675	532	29600	0.92	FS97 R57		188
	2.96	4148	472	29600	1.04	FM97 R57	90	203
	3.50	3510	400	29600	1.23	FN97 R57		218
	3.95	3113	355	29600	1.38	FH97 R57		178
	4.37	2816	321	19800	1.07	FS97 R57		118



1400 Input Rpm



Pm [kW]	na [1/min]	Ma [Nm]	i	FRa [N]	fa			m [kg]
	5.87	2170	247	19600	1.38	FM87 R57 FN87 R57 FH87 R57	90	128 138 113
	8.23	1588	170.08	29600	2.71			
	9.33	1400	149.98	29600	3.08			
	10.22	1278	136.95	29600	3.37	FS97		169
	12.79	1021	109.42	29600	4.21	FM97	90	184
	12.00	1089	116.67	29600	3.96	FN97		199
	14.19	921	98.66	29600	4.68	FH97		159
	16.02	816	87.40	29600	5.27			
	17.95	727	77.93	29600	5.81			
	8.62	1516	162.37	19600	1.98			
	9.92	1317	141.09	19600	2.28			
	12.87	1015	108.77	19600	2.96			
	13.63	959	102.70	19600	3.13	FB87		97
	15.16	862	92.34	19600	3.48	FM87	90	107
	16.80	778	83.32	19600	3.86	FN87		117
	17.80	734	78.67	19600	4.08	FH87		92
	19.79	660	70.73	19600	4.45			
	22.87	576	61.76	19600	4.96			
	26.18	499	53.48	19600	4.19			
	30.12	434	46.47	19600	4.78			
	8.39	1557	166.80	15700	0.96			
	8.74	1496	160.23	15700	1.00			
	9.49	1377	147.56	15700	1.09			
	14.91	876	93.90	15700	1.71	FS77		59
	16.74	781	83.63	15700	1.92	FM77	90	60
	18.66	700	75.02	15700	2.14	FN77		68
	23.58	554	59.38	15700	2.70	FH77		55
	26.29	497	53.26	15700	3.02			
	28.55	458	49.04	15700	3.28			
	33.60	389	41.67	15700	3.86			
	44.80	292	31.25	15700	5.14			
	13.88	964	103.23	10300	0.82			
	15.71	832	89.11	10300	0.92			
	16.10	722	77.36	10300	1.04			
	19.88	657	70.42	10300	1.11	FS67		34
	21.58	606	64.95	10300	1.19	FM67	90	36
	24.47	534	57.22	10300	1.32	FN67		40
	29.85	438	46.91	10300	1.55	FH67		32
	31.87	413	44.20	10300	1.63			
	36.89	356	38.16	10300	1.84			
	42.27	309	33.12	10300	2.06			
	46.43	261	30.15	10300	2.22			
	49.23	274	28.44	10300	2.26			
	77.37	174	18.10	10300	3.57	FB67		35
	86.87	155	16.12	10300	4.01	FM67	90	39
	96.84	139	14.46	10300	4.49	FN67		41
	105.18	128	13.31	10300	4.89	FH67		33
	123.79	109	11.31	10300	5.75			
	19.07	685	73.40	9200	0.88			
	27.07	483	51.72	9200	1.24	FS57		31
	21.82	604	64.76	9200	0.99	FM57	90	27
	24.81	531	56.90	9200	1.13	FN57		36
	36.25	371	39.72	9200	1.58	FH57		31
	41.04	318	34.11	9200	1.79			
	66.25	224	24.04	9200	2.44			
	82.91	255	26.46	9200	2.15			
	60.06	224	23.31	9150	2.46			



Parallel Shaft Gear Units



Selection Tables [kW] F..F7..M

1400 Input Rpm

Pm [kW]	na [1/min]	Ma [Nm]	i	FRa [N]	fs			m [kg]		
	73.28	184	19.11	8725	3.00	FS57 FM57	90	32		
	77.74	173	18.01	8595	3.19			28		
	83.05	150	15.55	8280	3.71			39		
	103.74	130	13.50	7975	4.29			32		
	113.95	118	12.29	7780	4.71					
	123.30	109	11.35	7510	5.50					
	27.89	489	50.24	9520	0.85	FM47 FM47	90	22		
	32.62	401	42.91	9520	1.00			24		
	38.80	337	36.06	9570	1.14			25		
	43.28	302	32.38	9580	1.22			22		
	45.70	285	30.66	9575	1.26					
	55.03	237	25.44	9520	1.42					
	58.55	238	24.76	9520	1.55	FM47 FM47	90	22		
	64.35	209	21.75	9535	1.77			24		
	68.43	197	20.45	9780	1.89			25		
	92.05	146	15.19	5475	2.55			22		
	107.48	125	13.04	5305	2.99			24		
	124.41	108	11.26	4950	2.24			25		
	141.57	95	9.89	4825	2.42			22		
	150.54	89	9.30	4760	2.51					
	202.52	67	6.90	4445	3.00					
	236.45	57	5.93	4280	3.30					
	334.53	40	4.18	3910	4.08					
	58.88	238	24.70	3445	0.84			FS37 FM37	90	17
	71.01	190	19.71	3450	1.05					18
	83.83	167	17.32	3445	1.20					19
	85.98	157	16.29	3430	1.28	17				
	115.79	116	12.09	3325	1.72					
	134.81	100	10.39	3255	2.00					
	151.08	89	9.27	3000	1.54					
	171.98	78	8.14	2950	1.67					
	246.33	55	5.68	2775	2.07					
2.2 (3-P)	4.95	3037	292	29900	1.18	FS97 R57 FM97 R57	100			191
	5.57	3239	251	29900	1.33			206		
	8.23	2328	170.08	29900	1.85	FS97 FM97	100	221		
	9.33	2053	149.98	29900	2.10			181		
	10.22	1875	136.95	29900	2.30			172		
	12.79	1498	109.42	29900	2.87			187		
	12.00	1597	116.67	29900	2.70			202		
	14.19	1351	98.66	29900	3.19			162		
	15.02	1196	87.40	29900	3.59					
	17.96	1067	77.93	29900	3.96					
	21.70	883	64.52	29900	4.61					
	24.50	782	57.15	29900	5.08					
	27.47	698	50.96	29900	5.59					
	8.82	2223	162.37	19900	1.35	FS87 FM87	100	100		
	9.82	1931	141.09	19900	1.55			110		
	12.87	1489	108.77	19900	2.02			120		
	13.93	1406	102.70	19900	2.13			95		
	15.18	1264	92.34	19900	2.37					
	16.80	1141	83.32	19900	2.63					
	17.80	1077	78.67	19900	2.78					
	19.79	968	70.73	19900	3.03					
	22.87	845	61.76	19900	3.38					
	26.18	732	53.48	19900	2.86					
	30.12	636	46.47	19900	3.26					
	38.08	490	35.83	19900	4.26					



1400 Input Rpm



Pm [kW]	na [1/min]	Ma [Nm]	i	FRa [N]	fa			m [kg]
14.91		1296	93.90	15700	1.17			
16.74		1145	83.63	15700	1.31			
18.88		1027	75.02	15700	1.46			
23.58		813	59.38	15700	1.84	FS77		62
26.29		729	53.26	15700	2.06	FM77	100	63
28.55		671	49.04	15700	2.24	FN77		71
33.80		570	41.67	15700	2.62	FH77		58
44.80		428	31.25	15700	3.51			
58.82		349	24.73	15700	4.30	FS77		63
65.16		303	21.49	15700	4.95	FM77	100	65
						FN77		73
						FH77		59
21.58		889	64.95	10300	0.81			
24.47		783	57.22	10300	0.90	FS67		37
29.85		642	46.91	10300	1.06	FM67		41
31.87		605	44.20	10300	1.11	FN67	100	43
36.89		522	38.16	10300	1.25	FH67		35
42.27		453	33.12	10300	1.40			
48.43		413	30.15	10300	1.51			
49.23		401	28.44	10300	1.54			
77.37		255	18.10	10300	2.43			
86.87		227	16.12	10300	2.73	FS67		38
96.84		204	14.46	10300	3.06	FM67	100	42
105.18		188	13.31	10300	3.33	FN67		44
123.79		160	11.31	10300	3.92	FH67		36
165.05		120	8.48	10300	5.28			
211.32		93	6.63	9695	5.80			
27.07		708	51.72	9200	0.85	FS57		34
35.25		544	39.72	9200	1.08	FM57	100	30
41.04		467	34.11	9080	1.22	FN57		41
58.25		329	24.04	8910	1.67	FH57		34
62.91		373	26.46	8685	1.47			
80.08		329	23.31	8505	1.68			
73.28		270	19.11	8195	2.05			
77.74		254	18.01	8095	2.18			
90.05		219	15.55	7880	2.53	FS57		35
103.74		190	13.50	7605	2.92	FM57	100	31
113.95		173	12.29	7440	3.21	FN57		42
123.30		160	11.35	7145	3.75	FH57		35
160.40		131	9.31	6820	4.19			
169.61		124	8.77	6725	4.38			
184.89		107	7.57	6480	4.79			
212.98		93	6.57	6245	5.23			
233.95		84	5.98	6065	5.54			
43.25		443	32.38	4380	0.83	FS47		24
45.79		419	30.66	4445	0.86	FM47	100	26
55.03		348	25.44	4600	0.97	FN47		27
						FH47		24
88.55		349	24.76	5110	1.06			
84.35		307	21.75	5100	1.21			
88.43		289	20.45	5090	1.29			
92.05		215	15.19	4960	1.74	FS47		24
107.48		184	13.04	4865	2.04	FM47	100	26
124.41		159	11.26	4485	1.53	FN47		27
141.57		140	9.89	4415	1.65	FH47		24
160.54		131	9.30	4375	1.71			
202.52		96	6.90	4160	2.05			
239.45		84	5.93	4035	2.25			
334.53		69	4.16	3735	2.78			



Parallel Shaft Gear Units



Selection Tables [kW] F..F7..M

1400 Input Rpm

Pm [kW]	na [1/min]	Ma [Nm]	i	FRa [N]	fs			m [kg]
80.83	244	17.32	2775	0.82				
85.96	230	16.29	2806	0.87				19
116.79	171	12.09	2860	1.17				20
134.91	147	10.39	2850	1.37			100	21
151.08	131	9.27	2555	1.05				19
171.96	115	8.14	2560	1.14				
246.33	80	5.68	2505	1.41				
3 (4HP)	8.29	3175	170.06	29900	1.36			
	9.33	2800	149.96	29900	1.54			
	10.22	2557	136.95	29900	1.68			
	12.79	2043	109.42	29900	2.11			
	12.00	2178	116.67	29900	1.98			172
	14.19	1842	96.66	29900	2.34			187
	16.02	1631	87.40	29900	2.64		100	202
	17.96	1455	77.93	29900	2.90			162
	21.70	1204	64.52	29900	3.38			
	24.60	1067	57.15	29900	3.73			
	27.47	951	50.96	29900	4.10			
	30.64	853	45.69	29900	4.48			
	41.64	629	33.70	29900	5.73			
	43.23	623	32.38	29900	5.76			
							100	177
								192
								207
								167
	8.82	3031	162.37	19800	0.99			
	9.82	2634	141.09	19800	1.14			
	12.67	2030	108.77	19800	1.48			
	13.63	1917	102.70	19800	1.56			
	15.16	1724	92.34	19800	1.74			
	16.80	1555	83.32	19800	1.93			100
	17.80	1469	78.67	19800	2.04		100	110
	19.79	1320	70.73	19800	2.23			120
	22.67	1153	61.76	19800	2.48			95
	26.16	998	53.48	19800	2.69			
	30.12	868	46.47	19800	2.99			
	39.08	669	36.83	19800	3.12			
	56.03	466	24.98	19800	4.50			
	71.39	366	19.61	19800	5.77			
	43.46	620	32.21	19800	4.10			106
	49.28	547	28.41	19800	4.54		100	115
	53.97	499	25.94	19800	4.90			125
	63.36	425	22.10	19800	5.69			100
	14.91	1753	90.90	15700	0.85			
	16.74	1561	83.63	15700	0.96			
	18.66	1400	75.02	15700	1.07			62
	23.68	1106	59.38	15700	1.35			63
	26.29	964	53.26	15700	1.51		100	71
	28.55	915	49.04	15700	1.64			58
	33.60	778	41.67	15700	1.92			
	44.80	583	31.25	15700	2.57			
	56.62	476	24.73	15700	3.15			63
	65.16	414	21.49	15700	3.63			65
	84.52	319	16.56	15700	4.71		100	73
	89.51	301	15.64	15700	4.98			59
	99.96	271	14.06	15700	5.54			
	31.67	825	44.20	10300	0.81			37
	36.69	712	38.16	10300	0.92			41
	42.27	618	33.12	10300	1.03		100	43
	46.43	563	30.15	10300	1.11			35



1400 Input Rpm



Pm [kW]	ng [1/min]	Ma [Nm]	i	FRa [N]	fs			m [kg]
49.23		547	28.44	10300	1.13	FS67 FM67 FN67 FH67	100	36
77.37		348	18.10	10300	1.78			
86.87		310	16.12	10300	2.00			
86.84		278	14.46	10300	2.24			
105.18		256	13.31	10300	2.44			
123.79		218	11.31	10300	2.88			
165.05		163	8.48	10300	3.87			
211.32		127	6.63	9680	4.25			
235.58		114	5.94	9005	4.59			
255.85		105	5.47	9095	4.87			
41.04		637	34.11	8035	0.90	FS67 FM67 FN67 FH67	100	34
58.25		449	24.04	7875	1.22			
52.91		508	26.46	7850	1.08			
80.08		449	23.31	7765	1.23			
73.28		368	19.11	7590	1.50	FS67 FM67 FN67 FH67	100	36
77.74		347	18.01	7530	1.60			
90.05		299	15.55	7360	1.85			
103.74		260	13.50	7175	2.14			
113.95		236	12.29	7050	2.35			
123.30		219	11.35	6735	2.75			
150.40		179	9.31	6480	3.07			
159.61		169	8.77	6405	3.21			
184.89		146	7.57	6205	3.51			
212.98		127	6.57	6005	3.84			
233.95		115	5.98	5875	4.06			
64.35		419	21.75	4260	0.89	FS67 FM67 FN67 FH67	100	24
88.43		394	20.45	4300	0.94			
92.05		293	15.19	4375	1.28			
107.48		251	13.04	4360	1.49			
124.41		217	11.26	3955	1.12			
141.57		190	9.89	3945	1.21			
150.54		179	9.30	3935	1.26			
202.52		133	6.90	3830	1.50			
238.45		114	5.93	3755	1.65			
334.53		81	4.18	3535	2.04			
115.79		233	12.08	2325	0.86	FS37 FM37 FN37 FH37	100	19
134.81		200	10.39	2365	1.00			
171.98		157	8.14	2110	0.83			
246.33		109	5.68	2190	1.04			
4 (54HP)						FS97 FM97 FN97 FH97	112	172
8.23		4233	170.08	29900	1.02			
9.33		3733	149.98	29900	1.15			
10.22		3409	136.95	29900	1.26			
12.79		2724	109.42	29900	1.58			
12.00		2904	116.67	29900	1.48			
14.19		2456	96.66	29900	1.75			
16.02		2175	87.40	29900	1.98			
17.98		1940	77.93	29900	2.18			
21.70		1606	64.52	29900	2.54			
24.50		1422	57.15	29900	2.79			
27.47		1268	50.96	29900	3.07			
30.64		1137	45.69	29900	3.36			
41.54		839	33.70	29900	4.30			
43.23		831	32.38	29900	4.32			
48.47		741	28.88	29545	4.74			
61.61		583	22.72	27800	5.77			
9.92		3512	141.09	19800	0.85	FS97 FM97 FN97 FH97	112	177



Parallel Shaft Gear Units



Selection Tables [kW] F..F../M

1400 Input Rpm

Pm [kW]	na [1/min]	Ma [Nm]	i	FRa [N]	fs			m [kg]
12.87		2707	106.77	19600	1.11			
13.83		2556	102.70	19600	1.17			
15.95		2298	92.94	19600	1.31			
16.80		2074	83.32	19600	1.45			
17.80		1958	78.67	19600	1.53			
19.79		1761	70.73	19600	1.67			
22.87		1537	61.76	19600	1.86			
26.95		1331	53.48	19600	1.57			
30.12		1157	46.47	19600	1.79			
39.09		892	35.83	19600	2.34			
55.03		622	24.98	19600	3.38			
71.39		488	19.61	19600	4.33			
43.46		827	32.21	19600	3.08			
49.26		729	28.41	19600	3.41			
53.97		666	25.94	19600	3.67			
63.36		567	22.10	19600	4.27			
67.55		532	20.73	19600	4.55			
74.92		480	18.69	19600	5.06			
84.59		425	16.55	19325	5.72			
18.85		1867	75.02	15700	0.80			
23.59		1478	59.38	15700	1.01			
26.29		1326	53.26	15700	1.13			
28.55		1221	49.04	15700	1.23			
33.80		1037	41.67	15700	1.44			
44.80		778	31.25	15700	1.93			
58.82		635	24.73	15700	2.36			
65.95		551	21.49	15700	2.72			
84.82		425	16.56	15700	3.53			
99.51		401	15.64	15700	3.74			
99.55		361	14.06	15700	4.16			
114.03		315	12.28	15700	4.75			
46.43		751	30.15	10300	0.83			
49.23		730	28.44	10300	0.85			
77.37		464	18.10	10300	1.34			
86.87		414	16.12	10300	1.50			
95.84		371	14.46	10300	1.68			
105.98		342	13.31	10300	1.83			
123.79		290	11.31	10300	2.16			
165.05		218	8.46	10195	2.90			
211.32		170	6.63	9440	3.19			
235.98		152	5.94	9180	3.45			
255.95		140	5.47	8960	3.65			
58.25		598	24.04	6965	0.92			
52.91		679	25.46	6905	0.81			
60.08		568	23.31	6845	0.92			
73.28		490	19.11	6835	1.13			
77.74		462	18.01	6815	1.20			
90.05		399	15.55	6745	1.39			
103.74		346	13.50	6645	1.61			
113.95		315	12.29	6565	1.77			
123.30		291	11.35	6215	2.06			
159.40		239	9.31	6060	2.30			
159.61		225	8.77	6005	2.41			



1400 Input Rpm



Pm [kW]	na [1/min]	Ma [Nm]	i	FRa [N]	fs			m [kg]
	184.89	194	7.57	5860	2.64			
	212.98	169	6.57	5705	2.88			
	233.95	154	5.98	5600	3.05			
5.5 (7.4HP)	8.33	5133	149.98	29000	0.84			
	10.22	4687	136.55	29000	0.92			
	12.79	3745	109.42	29000	1.15			
	12.00	3963	116.67	29000	1.06			
	14.19	3377	98.66	29000	1.28			
	16.02	2991	87.40	29000	1.44			
	17.95	2667	77.93	29000	1.58			
	21.70	2208	64.52	29000	1.84			
	24.80	1966	57.15	29000	2.03			
	27.47	1744	50.96	29000	2.23			
	30.84	1564	45.69	29000	2.44			
	41.54	1153	33.70	29745	3.12			
	43.28	1143	32.38	29085	3.14	FB97	132S	162
	48.47	1019	28.88	28655	3.45	FB97		197
	61.81	802	22.72	27120	4.20	FB97		212
	80.09	617	17.48	25450	5.43	FB97		172
	12.87	3723	106.77	19600	0.81			
	13.63	3515	102.70	19600	0.85			
	15.16	3160	92.34	19600	0.95			
	16.80	2852	83.32	19600	1.05			
	17.80	2693	78.67	19600	1.11			
	19.79	2421	70.73	19600	1.21			
	22.67	2114	61.76	19600	1.35			
	25.16	1830	53.48	19600	1.44			
	30.12	1591	46.47	19600	1.30			
	38.08	1226	35.83	19600	1.70			
	55.03	855	24.98	19600	2.46			
	71.39	671	19.61	19050	3.15			
	43.46	1137	32.21	19600	2.24			
	48.28	1002	28.41	19600	2.48			
	53.97	915	25.94	19600	2.67	FB97		111
	63.35	780	22.10	19600	3.10	FB97		121
	67.85	731	20.73	19675	3.31	FB97	132S	131
	74.92	659	18.69	19255	3.68	FB97		106
	84.58	584	16.55	18750	4.16			
	94.85	521	14.76	18270	4.69			
	105.80	467	13.23	17820	5.24			
	26.29	1823	53.26	15700	0.82	FB77		68
	28.55	1678	49.04	15700	0.89	FB77	132S	69
	33.80	1426	41.67	15700	1.05	FB77		77
	44.80	1070	31.25	15700	1.40	FB77		84
	59.82	872	24.73	15700	1.72			
	65.16	758	21.49	15700	1.98			
	84.52	584	16.56	15700	2.57	FB77		69
	89.51	552	15.64	15700	2.72	FB77	132S	71
	99.56	496	14.06	15700	3.02	FB77		79
	114.03	433	12.28	15700	3.46	FB77		85
	164.41	320	9.07	15700	4.69			
	178.71	276	7.83	15700	4.46			
	189.27	261	7.40	15480	4.62			
	77.37	638	18.10	10300	0.97			
	86.87	569	16.12	10300	1.09			
	95.84	510	14.46	10300	1.22	FB97		44
	105.18	470	13.31	10300	1.33	FB97	132S	48
	123.79	399	11.31	10300	1.57	FB97		50
	165.05	299	8.48	9980	2.11	FB97		42

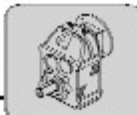


Parallel Shaft Gear Units

Selection Tables [kW] F..F7..M

1400 Input Rpm

Pm [kW]	na [1/min]	Ma [Nm]	i	FRa [N]	ts			m [kg]
211.32	234	653	9230	2.32				
235.58	210	594	8990	2.51				
255.88	193	547	8806	2.68				
73.28	674	19.11	5706	0.82				
77.74	635	18.01	5750	0.87				
90.05	549	15.55	5820	1.01				
103.74	478	13.50	5845	1.17				
113.95	433	12.29	5835	1.28				
123.30	401	11.35	5440	1.50				
150.40	328	9.31	5420	1.68				
159.81	309	8.77	5406	1.75				
184.89	267	7.57	5340	1.92				
212.98	232	6.57	5280	2.09				
233.95	211	5.98	5195	2.22				
						FS67	132S	41
						FM67		37
						FN67		48
						FH67		41
7.5	12.79	5107	10842	29900	0.84			
(30HP)	12.00	5445	11667	29900	0.79			
	14.19	4805	9866	29900	0.94			
	16.02	4079	8740	29900	1.05			177
	17.98	3637	7793	29900	1.16	FS87	132M	192
	21.70	3011	6452	29900	1.35	FM87		207
	24.50	2667	57.15	29900	1.49	FN87		167
	27.47	2378	50.96	29900	1.64	FH87		
	30.84	2132	45.69	29900	1.79			
	41.54	1573	33.70	29450	2.29			
	43.23	1598	32.38	29100	2.30			
	48.47	1390	28.88	27510	2.53	FS87	132M	182
	61.81	1093	22.72	26215	3.08	FM87		197
	80.09	841	17.48	24755	3.58	FN87		212
	101.02	667	13.86	23460	5.06	FH87		172
	108.10	623	12.95	23890	3.74			
	121.19	556	11.55	23095	5.25			
	17.80	3672	78.67	19800	0.82			
	19.79	3301	70.73	19800	0.89			
	22.67	2882	61.78	19800	0.99	FS87	132M	106
	26.16	2496	53.48	18910	0.84	FM87		116
	30.12	2169	46.47	19095	0.96	FN87		126
	38.08	1672	35.83	19095	1.25	FH87		101
	56.03	1166	24.98	18575	1.80			
	71.39	915	19.61	18000	2.31			
	43.66	1590	32.21	19800	1.64			
	49.28	1367	28.41	19605	1.82			
	53.97	1248	25.94	19375	1.96			
	63.38	1063	22.10	18920	2.28	FS87	132M	111
	67.55	967	20.73	18720	2.43	FM87		121
	74.92	889	18.89	18395	2.70	FN87		131
	84.58	796	16.55	17985	3.05	FH87		106
	94.85	710	14.76	17595	3.44			
	105.80	637	13.23	17210	3.84			
	143.41	470	9.76	16105	5.24			
	174.23	367	8.04	15125	5.72			
	44.80	1498	31.25	15700	1.03	FS77	132M	68
						FM77		69
						FN77		77
						FH77		64
	56.62	1190	24.73	15700	1.26			
	65.16	1034	21.49	15700	1.45			
	84.52	797	16.56	15700	1.88			
	89.51	752	15.64	15700	1.99	FS77	132M	69
	89.08	677	14.06	15700	2.22	FM77		71



1400 Input Rpm













Pm [kW]	na [1/min]	Ma [Nm]	i	FRa [N]	fs			m [kg]
	114.03	591	12.28	15700	2.53	FN77 FH77	132M	79
	154.41	436	9.07	15700	3.44			65
	176.71	377	7.83	15225	3.27			
	189.27	356	7.40	15035	3.39			
	241.90	279	5.81	14225	4.81			
9.2 (12.4HP)	16.02	5003	87.40	26665	0.86	FS97 FM97 FN97 FH97	132M	177
	17.96	4461	77.93	29040	0.95			192
	21.70	3694	64.52	29055	1.10			207
	24.50	3272	57.15	28915	1.21			207
	27.47	2917	50.96	28690	1.34			167
	30.64	2616	45.69	28410	1.46			
	41.54	1929	33.70	27390	1.87			
	43.23	1911	32.38	27010	1.88			
	48.47	1705	28.88	26535	2.06			
	61.61	1341	22.72	25490	2.51	FS97 FM97 FN97 FH97	132M	182
	60.09	1032	17.48	24170	3.24			197
	101.02	818	13.86	22965	4.12			212
	108.10	764	12.95	22160	3.05			172
	121.19	682	11.55	21625	4.28			
	154.04	536	9.09	20490	5.06			
	200.25	413	6.99	19250	4.96			
	22.67	3536	61.76	16250	0.81	FS97 FM97 FN97 FH97	132M	106
	39.08	2051	35.83	17465	1.02			116
	56.03	1430	24.98	17440	1.47			126
	71.39	1123	19.61	17110	1.88			101
43.46	1901	32.21	16630	1.34				
49.29	1677	28.41	16495	1.48				
53.97	1531	25.94	16390	1.60				
63.36	1304	22.10	16055	1.86				
67.55	1223	20.73	17910	1.98	FS97 FM97 FN97 FH97	132M	111	
74.92	1103	18.69	17690	2.20			121	
84.58	977	16.55	17340	2.49			131	
94.85	871	14.76	17015	2.80			106	
105.80	781	13.23	16690	3.13				
143.41	576	9.76	15725	4.27				
174.23	474	8.04	14745	4.66				
196.70	420	7.12	14380	5.13				
220.59	375	6.35	14030	5.57				
44.80	1769	31.25	15700	0.84	FS77 FM77 FN77 FH77	132M	68	
							69	
							77	
							64	
	56.62	1459	24.73	15700			1.03	
	65.16	1268	21.49	15700	1.18			
	84.52	978	16.56	15700	1.54			
	89.51	923	15.64	15700	1.62	FS77 FM77 FN77 FH77	69	
	99.56	830	14.06	15700	1.81		71	
	114.03	725	12.28	15700	2.07		79	
	154.41	535	9.07	15690	2.80		65	
	176.71	462	7.83	14820	2.66			
	189.27	437	7.40	14690	2.76			
	241.90	343	5.81	13925	3.92			
11 (15HP)	17.96	5334	77.93	26345	0.79	FS97 FM97 FN97 FH97	160M	188
	21.70	4416	64.52	26820	0.92			203
	24.50	3912	57.15	26935	1.02			218
	27.47	3488	50.96	26930	1.12			178
	30.64	3127	45.69	26825	1.22			
	41.54	2307	33.70	26190	1.56			
43.23	2285	32.38	25890	1.57				



Parallel Shaft Gear Units



Selection Tables [kW] F..F7..M

1400 Input Rpm

Pm [kW]	ng [1/min]	Ma [Nm]	i	FRa [N]	fs			m [kg]					
48.47	2038	28.88	25605	1.73			180M	193 208 223 183					
61.61	1604	22.72	24640	2.10									
80.09	1234	17.48	23645	2.71									
101.02	978	13.86	22495	3.45									
108.10	914	12.95	21605	2.55									
121.19	815	11.55	21135	3.58									
154.04	641	9.09	20100	4.24									
200.25	493	6.99	18660	4.15									
252.59	391	5.54	17900	5.99									
39.08	2452	35.83	15740	0.85									
58.03	1710	24.98	16235	1.23									
71.39	1342	19.61	16165	1.57									
43.46	2273	32.21	17295	1.12							180M	122 132 142 117	
49.28	2005	28.41	17315	1.24									
53.97	1830	25.94	17280	1.34									
63.36	1599	22.10	17135	1.55									
67.55	1462	20.73	17060	1.65									
74.92	1319	18.69	16885	1.84									
84.58	1168	16.55	16665	2.08									
94.65	1042	14.76	16405	2.34									
105.80	934	13.23	16140	2.62									
143.41	689	9.76	15320	3.57									
174.23	567	8.04	14345	3.90									
196.70	502	7.12	14025	4.29									
220.59	448	6.35	13715	4.66									
246.05	402	5.69	13405	5.03									
58.62	1745	24.73	15700	0.86			180M	80 82 90 76					
65.16	1516	21.49	15700	0.99									
64.52	1169	16.56	15700	1.28									
89.51	1104	15.64	15700	1.36									
99.58	962	14.06	15700	1.51									
114.03	866	12.28	15700	1.73									
154.41	640	9.07	15230	2.34									
178.71	553	7.83	14390	2.23									
189.27	522	7.40	14245	2.31									
241.10	410	5.81	13605	3.28									
15 (20HP)	27.47	4757	50.96	23000					0.82			180L	188 203 218 178
30.84	4264	45.69	23310	0.90									
41.54	3146	33.70	23685	1.15									
43.23	3116	32.38	23290	1.15									
48.47	2779	28.88	23215	1.27									
61.61	2187	22.72	22835	1.54									
80.09	1682	17.48	22160	1.99									
101.02	1334	13.86	21365	2.53									
108.10	1246	12.95	20370	1.87									
121.19	1112	11.55	20030	2.63									
154.04	875	9.09	19235	3.11									
200.25	673	6.99	18280	3.04									
252.59	533	5.54	17405	4.39									
58.03	2332	24.98	13665	0.90									
71.39	1830	19.61	14065	1.15									
43.46	3100	32.21	14325	0.82			180L	117 127 137 112					
49.28	2734	28.41	14700	0.91									
53.97	2496	25.94	14895	0.98									
63.36	2126	22.10	15100	1.14									



1400 Input Rpm



Pm [kW]	ng [1/min]	Ma [Nm]	i	FRa [N]	fs			m [kg]
	67.55	1994	20.73	15140	1.21			
	74.92	1798	18.69	15165	1.35	FS87	180L	122
	84.58	1693	16.55	15130	1.53			FM87
	84.85	1420	14.76	15045	1.72	FN87		
	105.80	1273	13.23	14825	1.92	FH87		117
	143.41	939	9.76	14420	2.62			
	174.23	773	8.04	13460	2.86			
	198.70	665	7.12	13240	3.15			
	220.59	611	6.36	13015	3.42			
	246.05	548	5.69	12780	3.69			
	333.53	404	4.20	12090	4.54			
18.5 (25HP)	41.54	3880	33.70	21315	0.93	FS97	180M	197
								FM97
						FN97		227
						FH97		187
	43.23	3843	32.38	21030	0.93			
	48.47	3428	28.88	21205	1.03			
	81.81	2897	22.72	21255	1.25	FS97	180M	202
	80.09	2075	17.48	20945	1.61			FM97
	101.02	1845	13.86	20430	2.05	FN97		232
	108.10	1537	12.95	19290	1.52	FH97		192
	121.19	1371	11.55	19065	2.13			
	154.04	1079	9.09	18475	2.52			
	200.25	830	6.99	17700	2.47			
	252.59	658	5.54	16940	3.56			
	71.39	2258	19.61	12230	0.94	FS87	180M	126
								FM87
						FN87		146
						FH87		121
	53.97	3078	25.94	12800	0.79			
	83.35	2622	22.10	13320	0.92			
	67.55	2460	20.73	13470	0.98	FS87	180M	131
	74.92	2218	18.69	13655	1.09			FM87
	84.58	1964	16.55	13795	1.24	FN87		151
	84.85	1752	14.76	13855	1.39	FH87		126
	105.80	1570	13.23	13655	1.56			
	143.41	1159	9.76	13635	2.13			
	174.23	954	8.04	12685	2.32			
	198.70	845	7.12	12555	2.55			
	220.59	753	6.36	12400	2.77			
	246.05	675	5.69	12230	2.99			
	333.53	498	4.20	11670	3.68			
22 (30HP)	48.47	4076	28.88	19200	0.86	FS97	180L	202
	81.81	3307	22.72	19680	1.05			FM97
	80.09	2467	17.48	19730	1.36	FN97		232
	101.02	1956	13.86	19470	1.72	FH97		192
	108.10	1828	12.95	18210	1.28			
	121.19	1630	11.55	18100	1.79			
	154.04	1283	9.09	17715	2.12			
	200.25	987	6.99	17115	2.08			
	252.59	762	5.54	16475	3.00			
	67.55	2925	20.73	11800	0.83	FS87	180L	131
	74.92	2637	18.69	12150	0.92			FM87
	84.58	2306	16.55	12455	1.04	FN87		151
	84.85	2063	14.76	12665	1.17	FH87		126
	105.80	1868	13.23	12790	1.31			
	143.41	1378	9.76	12845	1.79			
	174.23	1134	8.04	11910	1.95			
	198.70	1005	7.12	11865	2.15			



Parallel Shaft Gear Units


Selection Tables [kW] F..F/..M

1400 Input Rpm

Pm [kW]	na [1/min]	Ma [Nm]	i	FRa [N]	fa			m [kg]
	230.59	896	6.35	11790	2.33			
	248.05	803	5.69	11680	2.52			
	333.53	582	4.20	11270	3.10			
30 (40HP)	80.09	3364	17.48	16855	0.99			
	101.02	2967	13.86	17270	1.26			
	108.90	2492	12.95	15740	0.94			
	121.99	2223	11.55	15895	1.31			
	154.04	1749	9.09	15985	1.55			
	200.25	1345	6.99	15780	1.52			
	252.59	1067	5.51	15415	2.20			
						FS97		205
						FMS7		220
						FNS7	200L	235
						FHS7		195



1400 Input Rpm


i	na [1/min]	Ma max [Nm]	Pe [kW]	FRa [N]	FRe [N]		m [kg]
F37							200Nm
128.51	11	200	0,25	4290	640	FSS37 FMS37 FNS37 FHS37	14
117.88	12	200	0,27	4290	660		
100.36	14	200	0,32	4290	640		
80.65	17	200	0,40	4290	630		
70.50	20	200	0,46	4290	610		
66.09	21	200	0,49	4290	610		
58.32	24	200	0,55	4290	590		
54.54	26	200	0,59	4290	480		
51.70	27	200	0,62	4290	580		
43.63	32	200	0,73	4290	490		
38.31	37	200	0,84	4290	710	FSS37 FMS37 FNS37 FHS37	14
35.91	39	200	0,89	4290	700		
31.69	44	200	1,01	4290	690		
28.10	50	200	1,14	4070	680		
24.70	57	200	1,26	3820	420	FSS37 FMS37 FNS37 FHS37	14
19.71	71	200	1,58	3425	480		
17.32	81	200	1,80	3210	480		
15.29	86	200	1,91	3110	490		
12.09	116	200	2,57	2680	400		
10.39	135	200	3,01	2445	410		
9.27	151	137	2,31	2405	270		
8.14	172	130	2,50	2315	290		
5.68	246	113	3,11	2075	290		
F47							
148.71	9	400	0,43	5920	540	FSS47 FMS47 FNS47 FHS47	19
121.08	12	400	0,53	5920	520		
104.91	13	400	0,61	5920	440		
95.57	15	400	0,67	5920	490		
85.41	16	400	0,75	5920	420		
79.30	18	400	0,81	5920	740	FSS47 FMS47 FNS47 FHS47	19
71.21	20	400	0,90	5920	740		
67.43	21	400	0,96	5920	680		
60.83	23	400	1,06	5920	740		
55.95	25	400	1,15	5920	670		
50.24	28	400	1,28	5920	660		
42.91	33	400	1,50	5920	660		
38.06	39	385	1,72	5200	540		
32.38	43	389	1,83	4885	590		
30.86	46	361	1,90	4730	440		
25.44	55	336	2,12	4535	490		
24.78	57	370	2,33	4990	420		
21.75	64	371	2,66	4710	390		
20.46	68	372	2,83	4565	380		
15.19	92	374	3,83	3865	320		
13.04	107	374	4,48	3520	340		
11.26	124	243	3,36	3580	330		
9.89	142	230	3,63	3460	290		
8.30	151	225	3,77	3390	290		
8.00	203	200	4,50	3110	300		
5.93	236	188	4,94	2970	280		
4.18	335	164	6,12	2680	220		
F57							600Nm
174.58	8	600	0,55	9200	910	FSS57 FMS57	29
139.34	10	600	0,69	9200	980		
122.42	11	600	0,79	9200	1050		
115.11	12	600	0,84	9200	1100		
95.01	15	600	1,01	9200	1140		
85.46	16	600	1,13	9200	1160		



Helical Gear Units



Selection Tables [KW] F..S

1400 Input Rpm

I	na [1/min]	Ma max [Nm]	Pe [KW]	FRa [N]	FRc [N]		m [kg]	
73.40	19	600	1.31	9200	1200	FNS57 FHS57	Ø19	36
81.72	27	600	1.86	9200	1160			29
84.76	22	600	1.49	9200	960			
56.90	25	600	1.69	9200	960			
39.72	36	589	2.38	9006	970			
34.11	41	572	2.69	8406	1020			
24.04	58	550	3.67	7306	970			
26.46	53	549	3.23	7586	580	FBS57 FMS57 FHS57	Ø19	30
23.31	60	561	3.69	7210	590			26
19.11	73	553	4.50	6566	620			37
								30
16.01	78	553	4.79	6370	620	FBS57 FMS57 FNS57 FHS57	Ø24	32
16.66	90	555	5.96	5906	610			28
13.60	104	557	6.43	5466	650			39
12.29	114	558	7.06	5190	630			32
11.35	123	600	8.25	4145	370			28
9.31	150	550	9.22	3620	360			39
8.77	160	541	9.63	3596	350			32
7.57	185	512	10.54	3425	370			
6.57	213	485	11.51	3270	440			
5.96	234	468	12.19	3185	430			
F67								650Nm
187.70	7	820	0.70	10900	720	FBS67 FMS67 FNS67 FHS67	Ø19	
151.88	9	820	0.87	10900	820			
133.62	10	820	0.99	10900	900			
109.66	13	797	1.17	10900	910			
103.23	14	791	1.23	10900	940			
89.11	16	767	1.38	10900	970			32
77.36	18	748	1.55	10900	950			36
70.42	20	732	1.67	10900	950			38
64.65	22	722	1.79	10900	900			30
57.22	24	706	1.99	10900	920			
49.91	30	680	2.33	10900	950			
44.20	32	671	2.44	10900	980			
38.16	37	653	2.75	10900	970			
33.12	42	636	3.09	10900	950			
30.15	46	626	3.33	10900	950			
26.44	49	619	3.39	10900	1000			
19.10	77	622	5.35	10900	950	FBS67 FMS67 FNS67 FHS67	Ø24	35
16.12	87	623	6.01	10900	960			39
14.46	97	625	6.73	10900	970			41
13.31	105	626	7.33	10900	940			33
11.31	124	628	8.63	10900	910			
8.48	165	632	11.61	9106	880			
6.69	211	543	12.75	8215	620			
5.94	236	525	13.78	7960	630			
5.47	256	513	14.61	7790	590			
F77								950Nm
166.80	8	1500	1.44	15700	750	FBS77 FMS77 FNS77 FHS77	Ø19	58
160.23	9	1500	1.50	15700	760			59
147.56	9	1500	1.63	15700	730			67
93.90	15	1500	2.56	15700	950			54
83.63	17	1500	2.88	15700	950			
76.02	19	1500	3.21	15700	940			
69.38	24	1500	4.05	15700	960			59
53.26	26	1500	4.53	15700	990			60
49.04	29	1500	4.92	15700	990			68
41.67	34	1500	5.77	15700	960	55		
31.25	45	1500	7.71	15700	1480	FBS77 FMS77 FNS77 FHS77	Ø36	64
								65
								73
24.73	57	1500	9.46	15700	1240			60
21.46	65	1500	10.88	15700	1260			
19.56	65	1500	14.12	15615	1270			



1400 Input Rpm


l	na [1/min]	Ma max [Nm]	Pe [kW]	FRa [N]	FRb [N]			m [kg]		
18.84	90	1500	14,94	15160	1320	FSS77 FMS77 FNS77 FHS77	Ø38	66		
14.08	100	1500	16,63	14495	1330			67		
12.28	114	1500	19,00	13700	1300			75		
9.07	154	1500	25,77	11965	1270			61		
7.83	179	1230	24,51	11310	1020					
7.40	189	1207	25,44	11135	1060					
5.91	241	1346	36,06	8930	1020					
FB7										
182.37	9	3000	2,97	19600	770	FSS87 FMS87 FNS87 FHS87	Ø48	96		
141.08	10	3000	3,42	19600	730			106		
								118		
108.77	13	3000	4,44	19600	800	FSS87 FMS87 FNS87 FHS87	Ø48	98		
102.70	14	3000	4,69	19600	810			108		
92.34	15	3000	5,22	19600	790			118		
								93		
83.32	17	3000	5,79	19600	1100	FSS87 FMS87 FNS87 FHS87	Ø38	102		
78.97	18	3000	6,12	19600	1120			112		
70.73	20	2940	6,68	19600	1110			122		
61.76	23	2866	7,44	19600	1300			97		
53.48	26	2092	6,38	19600	1170					
48.47	30	2077	7,18	19495	1130					
35.83	39	2088	9,36	17310	1090					
24.98	56	2104	13,51	14960	2370	FSS87 FMS87 FNS87 FHS87	Ø42	110		
19.81	71	2117	17,32	12850	2260			120		
								130		
								105		
32.21	43	2543	12,30	16330	1160	FSS87 FMS87 FNS87 FHS87	Ø38	107		
28.41	49	2486	13,63	15990	1160			117		
25.94	54	2446	14,69	15080	1140			127		
22.10	63	2420	17,08	14045	1150	FMS87 FNS87	Ø38	102		
20.73	68	2423	18,20	13610	1110					
18.89	75	2429	20,26	12900	2230	FSS87 FMS87 FNS87 FHS87	Ø42	115		
16.55	85	2436	22,90	12115	2170			125		
14.76	96	2443	25,79	11375	2110			135		
13.23	106	2450	28,83	10705	2060			110		
9.76	143	2469	39,32	8950	1840			125		
8.04	174	2212	42,89	7280	1710			135		
7.12	197	2161	47,23	6915	1680			110		
6.35	221	2089	51,28	6665	1670					
5.89	246	2022	55,34	6450	1660					
4.20	334	1940	68,19	5925	1580					
FB7										
170.08	8	4300	4,07	29900	590			FSS87 FMS87 FNS87 FHS87	Ø28	174
149.88	9	4300	4,61	29900	570					189
136.95	10	4300	5,06	29900	520	204				
								164		
109.42	13	4300	6,32	29900	1530	FSS87 FMS87 FNS87 FHS87	Ø38	177		
116.87	12	4300	5,93	29900	1550			192		
98.86	14	4300	7,01	29900	1510			207		
87.40	16	4300	7,91	29900	1490			167		
77.93	18	4218	8,71	29785	1470					
64.82	22	4075	10,14	27895	1270					
57.16	25	3865	11,18	26740	3710	FSS87 FMS87 FNS87 FHS87	Ø42	185		
50.88	27	3900	12,29	25865	3640			200		
45.89	31	3823	13,43	24680	3660			215		
33.70	42	3616	17,19	22170	3650	FMS87 FNS87	Ø42	175		
32.38	43	3688	17,27	21825	2460			190		
28.88	48	3514	18,98	20960	2450	FMS87 FNS87 FHS87	Ø42	205		
22.72	62	3365	23,08	19190	2430			220		
								180		
17.48	80	3350	29,84	17010	3240	FSS87 FMS87 FNS87	Ø48	196		
13.86	101	3369	37,94	15080	3120			211		
12.05	108	2332	28,08	16330	2710			226		
11.88	121	2917	38,41	13305	2220					



Helical Gear Units



Selection Tables [KW] F..S

1400 Input Rpm

i	n_a [1/min]	M_a max [Nm]	P_a [KW]	F_{Ra} [N]	F_{Ra} [N]		m [kg]
9.09	154	2715	46.59	12366	2230	FHS97	166
6.99	200	2049	45.67	13165	2610		
5.54	253	2339	65.91	10670	2160		



1750 Input Rpm



F37, $n_2=1750$ 1/min				200 Nm				賣心入力軸徑
n_1 [1/min]	M_{max} [Nm]	F_{Ra} [N]	i	63	71	80	90L	Input shaft mm
 3								
14	200	4290	128.51					Ø16
15	200	4290	117.88					
17	200	4290	100.36					
22	200	4290	80.65					
25	200	4290	70.5					
26	200	4290	66.09					
30	200	4290	58.32					
32	200	4290	54.54					
34	200	4290	51.7					
40	200	4290	43.83					
46	200	4290	38.31					Ø19
49	200	4110	35.91					
55	200	3875	31.69					
62	200	3660	28.1					
 3								
71	200	3430	24.7					Ø19
89	200	3060	19.71					
101	200	2860	17.32					
107	200	2770	16.29					
145	200	2390	12.09					
168	200	2150	10.39					
189	137	2290	9.27					
215	130	2160	8.14					
308	114	1940	5.68					



Parallel Shaft Gear Units



Permitted Combinations

1750 Input Rpm

F47, $n_2=1750$ 1/min				400 Nm				實心入力軸徑
n_1 [1/min]	M_{max} [Nm]	F_{ra} [N]	i	63	71	80	SOL	Input shaft mm
 3								
12	400	5920	148.71					Ø16
14	400	5920	121.06					
17	400	5920	104.91					
18	400	5920	95.57					
20	400	5920	85.41					
22	400	5920	79.30					Ø19
25	400	5920	71.21					
26	400	5920	67.43					
29	400	5920	60.83					
31	400	5920	55.95					
35	400	5920	50.24					
41	400	5710	42.91					
49	385	4705	36.06					
54	369	4555	32.38					
57	361	4480	30.66					
69	336	4245	25.44					
 2								
71	370	4480	24.76					Ø19
80	371	4175	21.75					
86	372	4025	20.45					
115	374	3380	15.19					
134	374	3065	13.04					
155	243	3355	11.26					
177	230	3230	9.89					
188	225	3175	9.30					
253	200	2910	6.90					
295	188	2780	5.93					
419	164	2505	4.18					



1750 Input Rpm



F57, $n_2=1750$ 1/min										600 Nm	實心入力軸徑
n_1 [1/min]	M_{max} [Nm]	F_{Ra} [N]	i	63	71	80	90L	100L	112M	Input shaft mm	
 3											
10	600	9200	174.58							Ø19	
13	600	9200	139.34								
14	600	9200	122.42								
15	600	9200	115.11								
18	600	9200	95.01								
20	600	9200	85.46								
24	600	9200	73.4								
34	600	9175	51.72								
27	600	9200	64.76								
31	600	9200	56.9								
44	589	8170	39.72								
51	572	7685	34.11								
73	550	6600	24.04								
 2											
66	549	6920	26.46							Ø19	
75	551	6485	23.31								
92	553	5850	19.11								
97	553	5665	18.01							Ø24	
113	555	5225	15.55								
130	557	4820	13.5								
142	558	4570	12.29								
154	600	3555	11.35								
188	550	3405	9.31								
200	541	3330	8.77								
231	512	3195	7.57								
266	485	3065	6.57								
293	468	2990	5.98								



Parallel Shaft Gear Units

Permitted Combinations

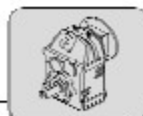
1750 Input Rpm

F67, n _e =1750 1/min				820 Nm						實心入力軸徑
n _e [1/min]	M _{max} [Nm]	F _{ra} [N]	i	63	71	80	90L	100L	112M	Input shaft mm
 3										
9	820	10300	187.70							Ø19
12	820	10300	151.68							
13	820	10300	133.62							
16	797	10300	109.55							
17	791	10300	103.23							
20	767	10300	89.11							
23	748	10300	77.36							
25	732	10300	70.42							
27	722	10300	64.96							
31	706	10300	57.22							
37	680	10300	46.91							
40	671	10300	44.20							
46	653	10300	38.16							
53	636	10300	33.12							
58	626	10300	30.15							
 2										
62	619	10300	28.44							Ø24
97	622	10300	18.10							
109	623	10300	16.12							
121	625	10175	14.46							
131	626	9685	13.31							
155	628	9330	11.31							
206	632	8410	8.48							
264	543	7565	6.63							
295	525	7320	5.94							
320	513	7140	5.47							



1750 Input Rpm



F77, $n_2=1750$ 1/min				1500 Nm						實心入力軸徑
n_1 [1/min]	M_{max} [Nm]	F_{Ra} [N]	i	80	90L	100L	112M	132S	132M	Input shaft mm
3										
10	1500	15700	166.80							Ø19
11	1500	15700	160.23							
12	1500	15700	147.56							
19	1500	15700	93.90							
21	1500	15700	83.63							
23	1500	15700	75.02							
29	1500	15700	59.38							Ø24
33	1500	15700	53.26							
36	1500	15700	49.04							
42	1500	15700	41.67							
56	1500	15700	31.25							Ø38
2										
71	1500	15700	24.73							Ø38
81	1500	15700	21.49							
106	1500	14135	16.56							
112	1500	13805	15.64							
124	1500	13185	14.06							
143	1500	12440	12.28							
193	1500	10845	9.07							
223	1230	10240	7.83							
237	1207	10065	7.40							
263	1174	9740	6.65							
301	1346	8355	5.81							



Parallel Shaft Gear Units



Permitted Combinations

1750 Input Rpm

F87, n _e =1750 1/min				3000 Nm							實心入力軸徑
n _a [1/min]	M _{max} [Nm]	F _{ra} [N]	i	90L	100L	112M	132S	132M	160M	160L	Input shaft mm
 3											
11	3000	19800	162.37								Ø19
12	3000	19800	141.09								
16	3000	19800	108.77								Ø28
17	3000	19800	102.70								
19	3000	19800	92.34								
21	3000	19800	83.32								
22	3000	19800	78.67								
25	2940	19596	70.73								Ø38
28	2866	18680	61.76								
33	2092	18730	53.48								
38	2077	17655	46.47								
49	2088	15605	35.83								
70	2104	13036	24.98								Ø42
89	2117	11430	19.61								
 2											
54	2543	14680	32.21								Ø38
62	2486	14005	28.41								
67	2446	13536	25.94								
79	2420	12570	22.10								
84	2423	12166	20.73								
94	2429	11500	18.69								Ø42
106	2436	10766	16.55								
119	2443	10070	14.76								
132	2450	9440	13.23								
179	2469	7796	9.76								
218	2212	6196	8.04								
246	2161	5866	7.12								
276	2089	5650	6.35								
308	2022	5470	5.69								
417	1840	5030	4.20								



1750 Input Rpm







F97, $n_2=1750$ 1/min				4300 Nm							實心入力軸徑
n_1 [1/min]	M_{max} [Nm]	F_{ra} [N]	i	100L	112M	132S	132M	160M	160L	180MC	Input shaft mm
 3											
10	4300	29900	170.08								Ø28
12	4300	29900	149.98								
13	4300	29900	136.96								
16	4300	29900	109.42								Ø38
15	4300	29900	116.67								
18	4300	29690	98.66								
20	4300	28170	87.40								
22	4218	27010	77.93								
27	4075	25270	64.52								
31	3985	24215	57.15								Ø42
34	3900	23220	50.96								
38	3823	22325	45.69								
52	3616	20010	33.70								
 2											
54	3588	19690	32.38								Ø42
61	3514	18875	28.88								
77	3365	17275	22.72								
100	3350	15240	17.48								Ø48
126	3369	13435	13.86								
135	2332	14715	12.96								
151	2917	11740	11.55								
193	2715	10930	9.09								
250	2049	11820	6.99								
316	2339	9415	5.54								



Parallel Shaft Gear Units







Permitted Combinations

1750 Input Rpm

F37R17, $n_1=1750$ 1/min				200 Nm			
n_2 [1/min]	M_{max} [Nm]	F_{Ra} [N]	i	56	63	71	80
 3  3							
0.22	200	4290	8021				
0.25	200	4290	6901				
0.29	200	4290	5950				
0.32	200	4290	5538				
0.35	200	4290	5013				
0.39	200	4290	4537				
0.45	200	4290	3911				
0.51	200	4290	3452				
0.58	200	4290	3001				
0.67	200	4290	2616				
0.75	200	4290	2323				
0.90	200	4290	1939				
1.02	200	4290	1711				
1.15	200	4290	1520				
 2  3							
0.89	200	4290	1973				
1.03	200	4290	1697				
1.20	200	4290	1463				
1.29	200	4290	1354				
1.56	200	4290	1123				
1.71	200	4290	1026				
1.79	200	4290	979				
2.01	200	4290	869				
2.41	200	4290	725				
2.52	200	4290	693				
3.05	200	4290	573				
3.66	200	4290	478				
4.11	200	4290	426				
4.80	200	4290	365				
 3  2							
1.45	200	4290	1211				
1.66	200	4290	1057				
1.96	200	4290	891				
2.16	200	4290	810				
2.48	200	4290	707				
2.92	200	4290	600				
3.18	200	4290	549				



1750 Input Rpm

F47R-17, $n_a=1750$ 1/min				400 Nm			
n_a [1/min]	M_{max} [Nm]	$F R_a$ [N]	i	56	63	71	80
 3  3							
0.15	400	5920	11882				
0.17	400	5920	10223				
0.20	400	5920	8814				
0.24	400	5920	7426				
0.27	400	5920	6555				
0.31	400	5920	5651				
0.35	400	5920	5054				
0.40	400	5920	4368				
0.47	400	5920	3690				
0.52	400	5920	3356				
0.60	400	5920	2930				
0.67	400	5920	2598				
0.75	400	5920	2330				
0.84	400	5920	2090				
 2  3							
0.89	400	5920	1977				
1.03	400	5920	1701				
1.17	400	5920	1495				
1.25	400	5920	1406				
1.44	400	5920	1212				
1.67	400	5920	1045				
1.88	400	5920	930				
2.16	400	5920	810				
2.43	400	5920	720				
2.85	400	5920	613				
 3  2							
0.96	400	5920	1818				
1.11	400	5920	1575				
1.32	400	5920	1327				
1.45	400	5920	1207				
1.66	400	5920	1054				
1.91	400	5920	914				
2.19	400	5920	797				
2.47	400	5920	708				
2.76	400	5920	635				
3.22	400	5920	543				



Parallel Shaft Gear Units







Permitted Combinations

1750 Input Rpm

F57R37, $n_1=1750$ 1/min							600 Nm
n_2 [1/min]	M_{max} [Nm]	F_{Ra} [N]	i	63	71	80	90
			3 3				
0.12	600	9200	14610				
0.13	600	9200	13392				
0.14	600	9200	12757				
0.16	600	9200	11211				
0.18	600	9200	9770				
0.20	600	9200	8716				
0.22	600	9200	7837				
0.26	600	9200	6830				
0.29	600	9200	6017				
0.32	600	9200	5391				
0.38	600	9200	4617				
0.43	600	9200	4024				
0.49	600	9200	3573				
0.55	600	9200	3171				
0.61	600	9200	2856				
0.71	600	9200	2465				
0.79	600	9200	2217				
0.92	600	9200	1899				
1.04	600	9200	1680				
1.19	600	9200	1476				
1.42	600	9200	1236				
			2 3				
0.63	600	9200	2780				
0.66	600	9200	2661				
0.77	600	9200	2282				
0.86	600	9200	2030				
0.98	600	9200	1786				
1.09	600	9200	1611				
1.23	600	9200	1424				
1.41	600	9200	1241				
1.65	600	9200	1061				
1.87	600	9200	934				
2.08	600	9200	842				
2.28	600	9200	767				
2.62	600	9200	668				
3.22	600	9200	543				
3.63	600	9200	483				



1750 Input Rpm







F67R37, $n_n=1750$ 1/min							820 Nm
n_a [1/min]	M_{max} [Nm]	F_{Ra} [N]	i	63	71	80	90
 3  3							
0.09	820	10900	18485				
0.12	820	10900	15177				
0.13	820	10900	13084				
0.16	820	10900	11025				
0.17	820	10900	10040				
0.20	820	10900	8750				
0.22	820	10900	7914				
0.25	820	10900	7087				
0.29	820	10900	5942				
0.33	820	10900	5355				
0.37	820	10900	4667				
0.42	820	10900	4138				
0.49	820	10900	3575				
0.56	820	10900	3116				
0.63	820	10900	2767				
0.71	820	10900	2466				
 2  3							
0.52	820	10900	3394				
0.61	820	10900	2859				
0.67	820	10900	2604				
0.77	820	10900	2269				
0.80	820	10900	2181				
0.88	820	10900	1986				
1.05	820	10900	1659				
1.21	820	10900	1446				
1.40	820	10900	1252				
1.53	820	10900	1140				
1.76	820	10900	994				
1.98	820	10900	883				
2.41	820	10900	727				
2.76	820	10900	633				
3.28	820	10900	533				
 3  2							
0.85	820	10900	2059				
0.92	820	10900	1897				
1.08	820	10900	1626				



Parallel Shaft Gear Units

Permitted Combinations

1750 Input Rpm

F77R37, $n_2=1400$ 1/min				1500 Nm			
n_2 [1/min]	M_{max} [Nm]	F_{Ra} [N]	i	63	71	80	90
 3  3							
0.09	1500	15700	19110				
0.10	1500	15700	17596				
0.11	1500	15700	16102				
0.12	1500	15700	14828				
0.13	1500	15700	13504				
0.15	1500	15700	11768				
0.15	1500	15700	11310				
0.17	1500	15700	10300				
0.18	1500	15700	9747				
0.20	1500	15700	8605				
0.23	1500	15700	7499				
0.27	1500	15700	6563				
0.31	1500	15700	5720				
0.34	1500	15700	5098				
0.38	1500	15700	4563				
0.46	1500	15700	3768				
0.52	1500	15700	3359				
0.58	1500	15700	3006				
0.67	1500	15700	2619				
0.75	1500	15700	2326				
0.84	1500	15700	2079				
 2  3							
0.51	1500	15700	3420				
0.59	1500	15700	2949				
0.68	1500	15700	2563				
0.77	1500	15700	2263				
0.89	1500	15700	1972				
1.01	1500	15700	1726				
1.06	1500	15700	1647				
1.22	1500	15700	1432				
1.31	1500	15700	1336				
1.51	1500	15700	1161				
1.62	1500	15700	1078				
1.96	1500	15700	894				
 3  2							
1.04	1500	15700	1682				
1.17	1500	15700	1499				



1750 Input Rpm







F87R57, $n_1=1400$ 1/min										3000 Nm	
n_2 [1/min]	M_{max} [Nm]	F_{Ra} [N]	i	63	71	80	90	100L	112M		
			3 3								
0.08	3000	19800	23147								
0.09	3000	19800	19942								
0.10	3000	19800	18215								
0.11	3000	19800	15922								
0.12	3000	19800	14034								
0.14	3000	19800	12267								
0.17	3000	19800	10452								
0.19	3000	19800	9392								
0.21	3000	19800	8180								
0.25	3000	19800	7045								
0.28	3000	19800	6274								
0.32	3000	19800	5553								
0.35	3000	19800	4989								
0.41	3000	19800	4258								
0.47	3000	19800	3729								
			2 3								
0.37	3000	19800	4750								
0.41	3000	19800	4261								
0.46	3000	19800	3796								
0.51	3000	19800	3421								
0.55	3000	19800	3209								
0.61	3000	19800	2853								
0.68	3000	19800	2567								
0.82	3000	19800	2140								
0.92	3000	19800	1907								
1.02	3000	19800	1710								
1.22	3000	19800	1433								
1.40	3000	19800	1249								
1.55	3000	19800	1126								
1.77	3000	19800	990								
1.97	3000	19800	890								
2.23	3000	19800	785								
2.29	3000	19800	766								
			3 2								
0.53	3000	19800	3322								
0.59	3000	19800	2957								
0.67	3000	19800	2596								





Parallel Shaft Gear Units

Permitted Combinations

1750 Input Rpm

F97R57, $n_2=1750$ 1/min									4300 Nm
n_1 [1/min]	M_{max} [Nm]	F_{ra} [N]	i	63	71	80	90	100L	112M
 3  3									
0.06	4300	29900	27882						
0.07	4300	29900	24021						
0.08	4300	29900	21182						
0.10	4300	29900	17946						
0.11	4300	29900	15461						
0.13	4300	29900	13932						
0.14	4300	29900	12345						
0.16	4300	29900	10870						
0.18	4300	29900	9601						
0.21	4300	29900	8340						
0.24	4300	29900	7207						
0.27	4300	29900	6417						
0.31	4300	29900	5648						
0.35	4300	29900	5047						
0.40	4300	29900	4366						
 2  3									
0.30	4300	29900	5927						
0.33	4300	29900	5282						
0.38	4300	29900	4580						
0.43	4300	29900	4081						
0.53	4300	29900	3296						
0.59	4300	29900	2977						
0.68	4300	29900	2580						
0.76	4300	29900	2299						
0.90	4300	29900	1950						
1.01	4300	29900	1738						
1.19	4300	29900	1473						
1.31	4300	29900	1333						
1.43	4300	29900	1226						
1.67	4300	29900	1049						
 3  2									
4.62	4300	29900	3786						
5.06	4300	29900	3458						
5.95	4300	29900	2943						
6.80	4300	29900	2575						
7.63	4300	29900	2292						
8.50	4300	29900	1967						





Pm [kW]	na [1/min]	Ma [Nm]	i	FRa [N]	fs			m [kg]		
0.12 (0.16HP)	0.27	3499	6417	29600	1.23	FS97 R57	63	167		
	0.31	3079	5648	29600	1.40	FM97 R57		202		
	0.36	2752	5047	29600	1.56	FN97 R57		217		
	0.40	2360	4366	29600	1.81	FH97 R57		177		
	0.43	2294	4061	29600	1.87	FS97 R57	63	162		
	0.53	1853	3296	29600	2.32	FM97 R57		197		
	0.59	1673	2977	29600	2.57	FN97 R57		212		
	0.66	1450	2580	29600	2.97	FH97 R57		172		
	0.41	2322	4258	19600	1.29	FS87 R57	63	117		
	0.47	2033	3729	19600	1.48	FM87 R57		127		
					FN87 R57	137				
					FH87 R57	112				
0.66	1804	3209	19600	1.66	FS87 R57	63	112			
0.81	1604	2653	19600	1.87						
0.88	1443	2567	19600	2.08						
0.82	1303	2140	19600	2.49						
0.92	1072	1907	19600	2.80						
1.02	961	1710	19600	3.12						
1.22	805	1433	19600	3.73						
1.40	702	1249	19600	4.27						
1.66	633	1126	19600	4.74						
0.87	1428	2619	15700	1.05				FS77 R37	63	66
0.76	1268	2326	15700	1.18	FM77 R37	68				
0.84	1133	2079	15700	1.32	FN77 R37	76				
					FH77 R37	62				
1.01	970	1726	15700	1.55	FS77 R37	63	65			
1.06	926	1647	15700	1.62						
1.22	805	1432	15700	1.86						
1.31	751	1336	15700	2.00						
1.51	653	1161	15700	2.30						
1.62	606	1078	15700	2.48						
1.96	503	894	15700	2.98						
1.22	806	1433	10300	1.02	FS67 R37	63	42			
1.36	723	1287	10300	1.13						
1.57	625	1112	10300	1.31						
1.73	569	1012	10300	1.44						
2.06	477	848	10300	1.72						
2.34	420	746	10300	1.95						
2.69	366	651	10300	2.24						
3.06	322	572	10300	2.55						
3.41	288	513	10300	2.84						
4.00	246	437	10300	3.34						
2.06	477	848	9200	1.26				FS57 R37	63	39
2.36	413	735	9200	1.45						
2.69	365	660	9200	1.64						
3.17	310	551	9200	1.94						
3.54	278	494	9200	2.16						
3.92	251	446	9200	2.39						
4.14	245	423	9200	2.45						
4.59	221	382	9200	2.71						
5.29	192	331	9200	3.13						
6.01	175	301	9200	3.44						
6.59	154	265	9200	3.90						
3.22	305	543	5920	1.31	FS47 R17	63	25			
3.67	268	476	5920	1.49						
4.20	234	417	5920	1.71						
4.71	215	372	5920	1.86	FM47 R17	63	25			
5.36	189	327	5920	2.11						



Parallel Shaft Gear Units

Selection Tables [kW] F..F/..M

1750 Input Rpm

Pm [kW]	na [1/min]	Ma [Nm]	i	FRa [N]	fs			m [kg]
5.70	178	307	5820	2.25	FM7 R17	63	28	
6.76	190	259	5820	2.67			FM7 R17	25
5.35	184	327	4290	1.09	FM37 R17	63	20	
6.41	154	273	4290	1.30			FM37 R17	21
7.41	133	236	4290	1.51	FM37 R17	63	22	
7.80	125	222	4290	1.61			FM37 R17	20
5.90	181	313	4290	1.10	FM37 R17	63	20	
6.91	172	296	4290	1.17			FM37 R17	21
7.05	144	248	4290	1.39	FM37 R17	63	22	
7.98	127	219	4290	1.57			FM37 R17	20
9.52	107	184	4290	1.88	FM37 R17	63	20	
10.70	95	164	4290	2.11			FM37 R17	
10.02	104	174.58	9000	5.75	FM57	63	29	
							FM57	25
					FM57	63	36	
							FM57	29
11.77	89	148.71	5820	4.50	FM47	63	20	
14.48	72	121.06	5820	5.53			FM47	22
					FM47	63	23	
							FM47	20
13.82	77	128.51	4290	2.61	FM37	63	15	
14.85	70	117.88	4290	2.84			FM37	16
17.44	60	100.36	4290	3.33	FM37	63	17	
21.70	48	80.65	4290	4.15			FM37	15
24.82	42	70.50	4290	4.76	FM37	63	15	
28.48	39	66.09	4290	5.07			FM37	
30.01	35	58.32	4290	5.74				
0.18 (0.25-HP)	0.40	3571	4366	29900	1.20	FM87 R57	63	187
					FM87 R57			202
					FM87 R57	63	217	
							FM87 R57	177
	0.43	3441	4081	29900	1.25	FM87 R57	63	182
	0.53	2779	3296	29900	1.55			FM87 R57
	0.59	2510	2977	29900	1.71	FM87 R57	63	212
	0.68	2175	2580	29900	1.98			FM87 R57
	0.76	1938	2299	29900	2.22	FM87 R57	63	117
	0.80	1644	1950	29900	2.62			FM87 R57
	1.01	1465	1738	29900	2.93	FM87 R57	63	137
	1.19	1242	1473	29900	3.46			FM87 R57
	1.31	1124	1333	29900	3.83	FM87 R57	63	117
	1.43	1034	1226	29900	4.16			FM87 R57
	0.67	2188	2396	19800	1.37	FM87 R57	63	117
	0.81	1833	2174	19800	1.64			FM87 R57
	0.90	1631	1935	19800	1.84	FM87 R57	63	137
	1.01	1463	1735	19800	2.06			FM87 R57
	1.18	1251	1484	19800	2.40	FM87 R57	63	66
	1.35	1091	1294	19800	2.75			FM87 R57
	1.50	982	1164	19800	3.06	FM87 R57	63	76
	1.64	897	1064	19800	3.34			FM87 R57
	1.82	810	961	19800	3.70	FM87 R57	63	
	2.14	688	816	19800	4.36			FM87 R57
	1.17	1264	1489	15700	1.19	FM77 R37	63	66
	1.30	1131	1342	15700	1.33			FM77 R37
	1.46	1012	1201	15700	1.48	FM77 R37	63	76
	1.65	896	1062	15700	1.67			FM77 R37
	1.99	742	880	15700	2.02	FM77 R37	63	
	2.19	673	799	15700	2.23			FM77 R37
	2.46	600	712	15700	2.50	FM77 R37	63	
	2.80	503	595	15700	2.98			FM77 R37





Pm [kW]	na [1/min]	Ma [Nm]	i	FRa [N]	fs			m [kg]
2.06		715	848	10300	1.15			
2.34		629	746	10300	1.30	FB67 R37		42
2.69		548	661	10300	1.50	FM67 R37		46
3.06		483	572	10300	1.70	FN67 R37	63	48
3.41		433	513	10300	1.89	FH67 R37		40
4.00		369	437	10300	2.22			
4.56		322	382	10300	2.54			
3.44		442	509	10300	1.85			
3.94		386	444	10300	2.12	FB67 R37		41
4.37		348	400	10300	2.36	FM67 R37		45
5.24		290	334	10300	2.83	FN67 R37	63	47
6.13		248	285	10300	3.30	FH67 R37		38
7.39		206	237	10300	3.98			
8.13		167	192	10300	4.92			
3.17		465	551	9200	1.29	FB57 R37		38
3.54		417	494	9200	1.44	FM57 R37		45
3.92		376	446	9200	1.60	FN57 R37	63	46
4.56		324	384	9200	1.85	FH57 R37		38
5.17		286	339	9200	2.10			
4.14		367	423	9200	1.63			
4.59		332	382	9200	1.81	FB57 R37		38
5.29		288	331	9200	2.09	FM57 R37		44
5.81		262	301	9200	2.29	FN57 R37	63	45
6.59		231	265	9200	2.60	FH57 R37		38
7.78		196	225	9200	3.07			
8.61		177	203	9200	3.40			
4.88		315	374	5920	1.27	FB47 R17		25
5.38		274	325	5920	1.46	FM47 R17		27
6.07		243	288	5920	1.65	FN47 R17	63	28
7.10		208	247	5920	1.92	FH47 R17		25
5.36		284	327	5920	1.41			
5.70		267	307	5920	1.50	FB47 R17		25
6.76		225	259	5920	1.78	FM47 R17	63	27
8.01		190	218	5920	2.11	FN47 R17		28
9.09		167	192	5920	2.39	FH47 R17		25
10.36		147	169	5920	2.72			
8.52		160	184	4290	1.25	FB37 R17		20
10.70		142	164	4290	1.41	FM37 R17	63	21
11.93		128	147	4290	1.57	FN37 R17		22
13.57		112	129	4290	1.78	FH37 R17		20
9.32		168	187.70	10300	4.87	FB67		32
						FM67	63	36
						FN67		38
						FH67		30
10.02		156	174.58	9200	3.63	FB57		29
12.66		125	139.34	9200	4.80	FM57	63	25
14.30		110	122.42	9200	5.47	FN57		36
15.20		103	115.11	9200	5.81	FH57		29
11.77		133	148.71	5920	3.00			
14.46		108	121.06	5920	3.69	FB47		20
16.68		94	104.91	5920	4.26	FM47	63	22
18.31		86	95.57	5920	4.68	FN47		23
20.49		77	85.41	5920	5.23	FH47		20
22.97		71	79.30	5920	5.62			
13.62		115	128.51	4290	1.74			
14.85		106	117.88	4290	1.89			
17.44		90	100.36	4290	2.22			
21.70		72	80.65	4290	2.77	FB37		15
24.82		63	70.50	4290	3.17	FM37		16



Parallel Shaft Gear Units



Selection Tables [kW] F..F../M

1750 Input Rpm

Pm [kW]	na [1/min]	Ma [Nm]	i	FRa [N]	fs			m [kg]		
	26.48	59	66.09	4290	3.38	FK37 FK37	63	17		
	30.01	52	58.32	4290	3.83			15		
	32.09	49	54.54	4290	4.08					
	33.85	46	51.70	4290	4.31					
	38.93	39	43.83	4290	5.08					
	45.08	34	38.31	4290	5.82					
0.25 (0.34HP)	0.59	3446	2943	29900	1.25	FS37 R37 FM37 R37 FN37 R37 FW37 R37	71	187		
	0.68	3016	2575	29900	1.43			202		
	0.76	2684	2292	29900	1.60			217		
	0.89	2303	1967	29900	1.87			177		
	1.01	2022	1727	29900	2.13					
	1.11	1847	1578	29900	2.33					
	1.30	1572	1343	29900	2.74					
	1.54	1330	1136	29900	3.23					
	1.74	1180	1008	29900	3.64					
	0.90	2265	1905	19800	1.32			FS37 R37 FM37 R37 FN37 R37 FW37 R37	71	117
	1.01	2031	1735	19800	1.48					127
	1.18	1737	1484	19800	1.73					137
	1.35	1515	1294	19800	1.98					112
	1.50	1363	1164	19800	2.20					
1.84	1246	1064	19800	2.41						
1.82	1125	961	19800	2.67						
2.14	956	816	19800	3.14						
2.47	829	708	19800	3.62						
1.85	1244	1062	15700	1.21	FS77 R37 FM77 R37 FN77 R37 FW77 R37	71	66			
1.99	1030	880	15700	1.46			68			
2.19	935	799	15700	1.80			76			
2.46	834	712	15700	1.80			62			
2.83	698	599	15700	2.15						
3.23	633	541	15700	2.37						
3.63	565	482	15700	2.66						
4.20	488	416	15700	3.08						
3.08	670	572	10300	1.22			FS37 R37 FM37 R37 FN37 R37 FW37 R37	71	42	
3.41	601	513	10300	1.36					46	
4.00	512	437	10300	1.60	48					
					40					
3.44	615	509	10300	1.33	FS37 R37 FM37 R37 FN37 R37 FW37 R37	71			41	
3.94	536	444	10300	1.53					45	
4.37	483	400	10300	1.70					47	
5.24	403	334	10300	2.08					39	
6.13	345	285	10300	2.38						
7.39	296	237	10300	2.87						
4.56	450	384	9200	1.33			FS37 R37 FM37 R37 FN37 R37 FW37 R37	71	39	
5.17	397	339	9200	1.51	45					
6.02	296	253	9200	2.03	46					
					39					
4.59	461	382	9200	1.30	FS37 R37 FM37 R37 FN37 R37 FW37 R37	71			38	
5.29	399	331	9200	1.50					44	
5.81	364	301	9200	1.65					45	
6.59	320	265	9200	1.87			38			
7.78	272	225	9200	2.21						
8.81	245	203	9200	2.45						
9.82	213	176	9200	2.82						
7.10	289	247	5820	1.39			FS47 R17 FM47 R17 FN47 R17 FW47 R17	71	25	
8.17	251	214	5820	1.59					27	
9.24	222	189	5820	1.80					28	
10.07	203	174	5820	1.97	25					
8.76	313	259	5820	1.38						
8.01	294	218	5820	1.52						
						25				



1750 Input Rpm



Pm [kW]	na [1/min]	Ma [Nm]	i	FRa [N]	fs			m [kg]		
9.09		232	192	5920	1.72	FM47 R17	71	27		
10.36		204	169	5920	1.96			28		
11.78		179	149	5920	2.23			25		
13.38		158	131	5920	2.53					
11.83		177	147	4290	1.13	FS37 R17	71	20		
13.57		156	129	4290	1.28			21		
14.94		141	117	4290	1.41			22		
17.78		119	98	4290	1.68			20		
20.24		104	86	4290	1.92					
9.32		234	188	10300	3.51			FM87	71	32
11.54		189	152	10300	4.34	36				
13.10		166	134	10300	4.93	38				
15.87		136	110	10300	5.84	30				
10.02		217	174.58	9200	2.76	FS57	71	29		
12.55		173	139.34	9200	3.46			25		
14.30		152	122.42	9200	3.94			36		
15.20		143	115.11	9200	4.19			29		
18.42		118	95.01	9200	5.06					
20.48		106	85.46	9200	5.63					
11.77		185	148.71	5920	2.16	FM47	71	20		
14.48		151	121.06	5920	2.66			22		
16.88		131	104.91	5920	3.06			23		
18.31		119	95.57	5920	3.37			20		
20.49		106	85.41	5920	3.77			22		
22.07		99	79.30	5920	4.05			23		
24.57		89	71.21	5920	4.51			20		
25.95		84	67.43	5920	4.78					
28.77		76	60.83	5920	5.28					
31.28		70	56.95	5920	5.74					
13.82		160	128.51	4290	1.25			FS37	71	15
14.85		147	117.88	4290	1.36	16				
17.44		125	100.36	4290	1.60	17				
21.70		100	80.65	4290	1.99	15				
24.82		88	70.50	4290	2.28	16				
26.48		82	66.09	4290	2.43	17				
30.01		73	58.32	4290	2.76	15				
32.09		68	54.54	4290	2.94					
33.85		64	51.70	4290	3.10					
39.93		55	43.83	4290	3.66					
45.88		48	38.31	4290	4.19					
48.73		45	35.91	4290	4.47					
55.22		39	31.69	4290	5.06					
62.29		35	28.10	4290	5.70					
0.37 (0.5F)	0.89	3409	1967	29600	1.28	FM87 R57	71			187
	1.01	2993	1727	29600	1.44					202
	1.11	2734	1578	29600	1.57					217
	1.30	2327	1343	29600	1.85			177		
	1.54	1969	1136	29600	2.18					
	1.74	1747	1008	29600	2.46					
	1.95	1555	897	29600	2.76					
	1.35	2243	1294	19600	1.34	FM87 R57	71	117		
	1.50	2018	1164	19600	1.49			127		
	1.64	1844	1064	19600	1.63			137		
	1.82	1685	961	19600	1.80			112		
	2.14	1414	816	19600	2.12					
	2.47	1227	708	19600	2.44					
2.75	1103	636	19600	2.72						
3.22	941	543	19600	3.19						
3.59	846	488	19600	3.55						



Parallel Shaft Gear Units



Selection Tables [kW] F..F../M

1750 Input Rpm

Pm [kW]	na [1/min]	Ma [Nm]	i	FRa [N]	fs			m [kg]
2.19	1384	799	15700	1.08				
2.46	1234	712	15700	1.22				
2.93	1034	596	15700	1.46				
3.23	938	541	15700	1.60				66
3.63	836	482	15700	1.79			71	68
4.20	722	416	15700	2.08				76
4.78	634	366	15700	2.37				62
5.59	543	313	15700	2.76				
4.58	662	362	10300	1.24				42
5.27	575	332	10300	1.43				46
5.78	524	303	10300	1.56			71	48
6.61	445	257	10300	1.84				40
7.65	397	229	10300	2.07				
6.62	438	253	9200	1.37				39
6.44	399	207	9200	1.67			71	45
9.00	337	194	9200	1.78				46
								39
6.59	474	265	9200	1.27				
7.78	402	225	9200	1.49				38
8.61	363	203	9200	1.65			71	44
9.62	315	176	9200	1.90				45
11.48	272	152	9200	2.20				38
13.05	240	134	9200	2.50				
10.36	302	169	5920	1.32				25
11.78	265	149	5920	1.51			71	27
13.38	234	131	5920	1.71				28
								25
10.49	307	166.80	15700	4.88				57
10.62	295	160.23	15700	5.08			71	58
11.86	272	147.56	15700	5.52				66
								53
9.32	346	187.70	10300	2.37				
11.54	279	151.68	10300	2.93				
13.10	246	133.62	10300	3.33				32
15.97	202	109.55	10300	3.95			71	36
18.95	190	103.23	10300	4.16				38
19.84	164	89.11	10300	4.67				30
22.82	142	77.36	10300	5.25				
24.85	130	70.42	10300	5.63				
10.02	322	174.58	9200	1.86				
12.58	257	139.34	9200	2.34				
14.30	225	122.42	9200	2.66				
15.20	212	115.11	9200	2.83				29
16.42	175	95.01	9200	3.42			71	25
20.48	157	85.46	9200	3.80				36
23.84	135	73.40	9200	4.44				29
33.84	95	51.72	9200	6.28				
27.02	119	64.76	9200	5.02				
30.76	105	56.90	9200	5.71				
11.77	274	148.71	5920	1.46				
14.46	223	121.06	5920	1.79				
16.88	193	104.91	5920	2.07				
18.31	176	95.57	5920	2.28				
20.49	157	85.41	5920	2.54				20
22.07	146	79.30	5920	2.74				22
24.57	131	71.21	5920	3.05			71	23
25.95	124	67.43	5920	3.23				20
28.77	112	60.83	5920	3.57				
31.28	103	55.95	5920	3.88				



1750 Input Rpm



Pm [kW]	na [1/min]	Ma [Nm]	i	FRa [N]	fs			m [kg]
34.83	93	50.24	5920	4.33				
40.78	79	42.91	5920	5.06				
48.53	66	36.06	5920	5.79				
13.62	237	128.51	4290	0.85				
14.85	217	117.88	4290	0.92				
17.44	185	100.36	4290	1.08				
21.70	149	80.65	4290	1.35				
24.82	130	70.50	4290	1.54				
26.48	122	66.09	4290	1.64				
30.01	107	58.32	4290	1.86				
32.09	100	54.54	4290	1.98				
33.85	96	51.70	4290	2.10				
39.93	81	43.83	4290	2.47				
45.88	71	38.31	4290	2.83				
48.73	66	35.91	4290	3.02				
55.22	58	31.69	4290	3.42				
62.29	52	28.10	4290	3.85				
70.85	47	24.70	4290	4.26				
88.77	37	19.71	4290	5.34				
						FS37 FM37 FN37 FH37	71	15 16 17 15
0.55 (0.74HP)	1.30	3458	1343	29600	1.24			
1.54	2926	1136	29600	1.47				
1.74	2596	1008	29600	1.66				
1.95	2312	887	29600	1.86				
2.32	1942	754	29600	2.21				
2.58	1750	679	29600	2.46				
2.90	1552	603	29600	2.77				
3.29	1371	532	29600	3.14				
3.71	1217	472	29600	3.53				
4.38	1029	400	29600	4.18				
4.94	913	355	29600	4.71				
1.82	2475	961	19600	1.21				
2.14	2102	816	19600	1.43				
2.47	1824	708	19600	1.64				
2.75	1639	636	19600	1.83				
3.22	1389	543	19600	2.14				
3.59	1257	488	19600	2.39				
4.74	950	369	19600	3.16				
3.83	1242	482	15700	1.21				
4.20	1073	416	15700	1.40				
4.78	943	366	15700	1.59				
5.59	807	313	15700	1.86				
6.81	662	257	10300	1.24				
7.85	589	229	10300	1.39				
8.81	524	203	10300	1.57				
10.08	447	174	10300	1.83				
10.49	457	186.80	15700	3.28				
10.92	439	180.23	15700	3.42				
11.85	404	147.56	15700	3.71				
18.84	257	93.90	15700	5.83				
8.32	514	187.70	10300	1.59				
11.54	415	151.68	10300	1.97				
13.10	366	133.62	10300	2.24				
15.97	300	109.55	10300	2.65				
18.95	263	100.23	10300	2.80				
19.84	244	89.11	10300	3.14				
22.82	212	77.36	10300	3.53				
26.85	193	70.42	10300	3.79				
						FS67 FM67 FN67 FH67	80	34 36 40 32



Parallel Shaft Gear Units

Selection Tables [kW] F..F/..M

1750 Input Rpm

Pm [kW]	na [1/min]	Ma [Nm]	i	FRa [N]	fs			m [kg]
26.94	176	64.96	10300	4.07				
30.59	157	57.22	10300	4.51				
37.31	138	46.91	10300	5.29				
39.59	121	44.20	10300	5.55				
10.02	476	174.59	9200	1.25				
12.58	382	139.34	9200	1.57				
14.30	336	122.42	9200	1.79				
15.20	315	115.11	9200	1.90				
18.42	260	95.01	9200	2.30				
20.48	234	85.46	9200	2.56			80	31
23.84	201	73.40	9200	2.99				27
33.84	142	51.72	9200	4.23				38
27.02	177	64.76	9200	3.38				31
30.78	156	56.90	9200	3.84				
44.06	109	39.72	9200	5.40				
11.77	407	148.71	5920	0.96				
14.46	331	121.06	5920	1.21				
16.88	287	104.91	5920	1.39				
18.31	262	95.57	5920	1.53				
20.49	234	85.41	5920	1.71				
22.07	217	79.30	5920	1.84				
24.57	196	71.21	5920	2.06				
25.95	185	67.43	5920	2.17				
28.77	167	60.83	5920	2.40			80	22
31.28	153	55.95	5920	2.61				24
34.83	138	50.24	5920	2.91				25
40.78	117	42.91	5920	3.40				22
48.53	99	36.06	5920	3.90				
54.05	89	32.38	5920	4.17				
57.08	84	30.86	5920	4.31				
68.80	70	25.44	5920	4.83				
70.88	70	24.76	5920	5.30				
							80	22
								24
								25
								22
21.70	221	80.65	4290	0.91				
24.82	193	70.90	4290	1.04				
26.48	181	66.08	4290	1.11				
30.01	160	58.32	4290	1.25				
32.09	149	54.54	4290	1.34				
33.85	142	51.70	4290	1.41				
39.93	120	43.83	4290	1.66				
45.88	105	38.31	4290	1.91				
48.73	98	35.91	4290	2.03				
55.22	87	31.69	4290	2.30				
62.29	77	28.10	4290	2.59				
70.85	70	24.70	4290	2.87				
88.77	56	19.71	4245	3.59				
101.04	49	17.32	4105	4.09				
107.46	46	16.29	4040	4.35				
144.74	34	12.09	3720	5.85				
							80	17
								18
								19
								17
0.75 (9-P)	1.74	3640	1008	29900	1.21			
	1.95	3152	897	29900	1.36			
	2.32	2648	754	29900	1.62			
	2.58	2366	679	29900	1.80			
	2.90	2117	603	29900	2.03			
	3.29	1870	532	29900	2.30			
	3.71	1659	472	29900	2.59			
	4.38	1404	400	29900	3.06			
							80	198
								203
								218
								178



1750 Input Rpm



Pm [kW]	na [1/min]	Ma [Nm]	i	FRa [N]	fs			m [kg]
4.94		1245	366	29600	3.45			
2.47		2487	708	19600	1.21	FB67 R57		118
2.76		2235	636	19600	1.34	FM67 R57		129
3.22		1908	543	19600	1.57	FN67 R57	80	138
3.59		1714	488	19600	1.75	FH67 R57		113
4.74		1296	369	19600	2.32			
4.76		1285	366	15700	1.17	FS77 R37		68
5.59		1100	313	15700	1.36	FM77 R37	80	70
6.22		988	281	15700	1.52	FN77 R37		78
						FH77 R37		64
10.78		606	162.37	19600	4.95	FB67		97
12.40		527	141.09	19600	5.70	FM67	80	107
						FN67		117
						FH67		92
10.49		623	166.80	15700	2.41			
10.92		598	160.23	15700	2.51	FS77		59
11.86		551	147.56	15700	2.72	FM77	80	60
18.84		351	93.90	15700	4.27	FN77		68
20.92		312	83.63	15700	4.79	FH77		55
23.33		280	75.02	15700	5.36			
9.32		701	187.70	10300	1.17			
11.54		566	151.68	10300	1.45			
13.10		499	133.62	10300	1.64			
15.97		409	109.55	10300	1.95			
16.95		385	103.23	10300	2.05			
19.64		333	89.11	10300	2.30	FB67		34
22.62		289	77.36	10300	2.59	FM67	80	38
24.85		263	70.42	10300	2.78	FN67		40
26.94		242	64.95	10300	2.98	FH67		32
30.59		214	57.22	10300	3.31			
37.31		175	46.91	10300	3.88			
39.59		165	44.20	10300	4.07			
45.85		142	38.16	10300	4.59			
52.83		124	33.12	10300	5.15			
59.03		113	30.15	10300	5.55			
61.54		109	28.44	10300	5.65	FB67		35
						FM67	80	39
						FN67		41
						FH67		33
10.02		652	174.58	9200	0.92			
12.56		520	139.34	9200	1.15			
14.30		457	122.42	9200	1.31			
15.20		430	115.11	9200	1.40			
18.42		355	95.01	9200	1.69	FS67		31
20.48		319	85.46	9200	1.88	FM67	80	27
23.84		274	73.40	9200	2.19	FN67		38
33.84		193	51.72	9200	3.10	FH67		31
27.02		242	64.76	9200	2.48			
30.76		212	56.90	9200	2.62			
44.06		148	39.72	9200	3.96			
51.30		127	34.11	9200	4.49			
14.48		452	121.06	5920	0.89			
18.88		362	104.91	5920	1.02			
19.31		357	95.57	5920	1.12			
20.49		319	85.41	5920	1.26			
22.07		296	79.30	5920	1.35			
24.57		266	71.21	5920	1.50	FB47		22
25.95		252	67.43	5920	1.59	FM47		24
28.77		227	60.63	5920	1.76	FN47	80	25





Parallel Shaft Gear Units

Selection Tables [kW] F..F../M

1750 Input Rpm

Pm [kW]	na [1/min]	Ma [Nm]	i	FRa [N]	fs			m [kg]	
0.12 (0.16HP)	0.27	3499	6417	2900	1.23	FS97 R57 FM97 R57 FN97 R57 FH97 R57	63	187	
	0.31	3079	5648	2900	1.40			202	
	0.35	2752	5047	2900	1.56			217	
	0.40	2380	4366	2900	1.81			177	
	0.43	2294	4081	2900	1.87	FS97 R57 FM97 R57 FN97 R57 FH97 R57	63	182	
	0.53	1853	3296	2900	2.32			197	
	0.59	1673	2977	2900	2.57			212	
	0.68	1450	2580	2900	2.97			172	
	0.41	2322	4258	19800	1.29	FS97 R57 FM97 R57 FN97 R57 FH97 R57	63	117	
	0.47	2033	3729	19800	1.48			127	
	0.55	1804	3309	19800	1.66			137	
	0.61	1604	2853	19800	1.87			142	
	0.68	1443	2567	19800	2.08	FS97 R57 FM97 R57 FN97 R57 FH97 R57	63	112	
	0.82	1203	2140	19800	2.49			122	
	0.92	1072	1907	19800	2.80			132	
	1.02	961	1710	19800	3.12			107	
1.22	805	1433	19800	3.73					
1.40	702	1249	19800	4.27					
1.58	633	1126	19800	4.74					
0.67	1428	2619	15700	1.06	FS77 R37 FM77 R37 FN77 R37 FH77 R37			63	66
0.75	1268	2326	15700	1.18					68
0.84	1133	2079	15700	1.32					76
1.01	970	1726	15700	1.55					62
1.08	926	1647	15700	1.62	FS77 R37 FM77 R37 FN77 R37 FH77 R37			63	65
1.22	806	1432	15700	1.86		66			
1.31	751	1336	15700	2.00		74			
1.51	653	1161	15700	2.30		61			
1.62	606	1078	15700	2.48					
1.98	503	894	15700	2.98					
1.22	806	1433	10300	1.02		FS97 R37 FM97 R37 FN97 R37 FH97 R37	63		42
1.38	723	1287	10300	1.13					46
1.57	625	1112	10300	1.31	48				
1.73	568	1012	10300	1.44	40				
2.08	477	848	10300	1.72					
2.34	420	746	10300	1.95					
2.69	366	651	10300	2.24					
3.08	322	572	10300	2.55					
3.41	288	513	10300	2.84					
4.00	246	437	10300	3.34					
2.08	477	848	9200	1.26	FS67 R37 FM67 R37 FN67 R37 FH67 R37			63	39
2.38	413	735	9200	1.45					45
2.69	366	650	9200	1.64		46			
3.17	310	551	9200	1.94		39			
3.54	276	494	9200	2.16					
3.92	251	448	9200	2.39					
4.14	245	423	9200	2.45					
4.59	221	382	9200	2.71					
5.29	192	331	9200	3.13					
5.81	175	301	9200	3.44					
6.59	154	265	9200	3.90					
3.22	306	543	5820	1.31	FS47 R17 FM47 R17 FN47 R17 FH47 R17	63	25		
3.67	268	476	5820	1.49			27		
4.20	234	417	5820	1.71			28		
4.71	215	372	5820	1.86			25		
5.38	189	327	5820	2.11		27			





Pm [kW]	na [1/min]	Ma [Nm]	i	FRa [N]	fs			m [kg]
13.10		732	133.62	10300	1.12			
15.97		600	109.55	10300	1.33			
16.95		565	103.23	10300	1.40			
19.84		488	89.11	10300	1.57			
22.82		424	77.36	10300	1.76			
24.85		386	70.42	10300	1.89			
26.94		356	64.95	10300	2.03			
30.59		313	57.22	10300	2.26			
37.31		257	46.91	10300	2.65			
39.59		242	44.20	10300	2.78			
45.85		209	38.16	10300	3.13			
52.83		181	33.12	10300	3.51			
58.03		165	30.15	10300	3.79			
81.54		161	28.44	10300	3.86			
						FS67		35
						FM67		38
						FN67	90	41
						FH67		33
14.30		670	122.42	9200	0.89			
15.20		630	115.11	9200	0.95			
18.42		520	95.01	9200	1.15			
20.48		468	85.46	9200	1.28			
23.84		402	73.40	9200	1.49			
33.84		283	51.72	9200	2.11			
27.02		355	64.76	9200	1.69			
30.76		312	56.90	9200	1.92			
44.05		217	39.72	9200	2.70			
51.30		187	34.11	9200	3.06			
72.81		132	24.04	9065	4.17			
85.13		149	26.46	9200	3.67			
75.07		132	23.31	8965	4.19			
91.57		108	19.11	8485	5.12			
97.16		102	18.01	8345	5.44			
20.49		468	85.41	5920	0.86			
22.07		434	79.30	5920	0.92			
24.57		390	71.21	5920	1.03			
25.95		369	67.43	5920	1.09			
28.77		333	60.83	5920	1.20			
31.28		306	55.95	5920	1.31			
34.83		275	50.24	5920	1.46			
40.78		235	42.91	5920	1.70			
48.53		197	36.06	5920	1.95			
54.05		177	32.38	5920	2.08			
57.08		168	30.66	5920	2.16			
66.80		139	25.44	5920	2.41			
70.88		140	24.76	5920	2.65			
80.45		123	21.75	5920	3.02			
85.56		115	20.45	5870	3.22			
115.24		86	15.19	5480	4.35			
134.17		74	13.04	5250	5.09			
155.45		64	11.26	4940	3.82			
176.94		56	9.89	4775	4.13			
188.17		53	9.30	4700	4.28			
203.48		39	6.90	4305	5.11			
235.09		33	5.93	4155	5.62			
39.93		240	43.83	4105	0.83			
45.88		210	38.31	4065	0.95			
48.73		197	35.91	4065	1.02			
55.22		174	31.69	4045	1.15			
62.39		154	28.10	3955	1.30			
						FS37		17
						FM37		18
						FN37	90	19
						FH37		17



Parallel Shaft Gear Units

Selection Tables [kW] F..F../M

1750 Input Rpm

Pm [kW]	na [1/min]	Ma [Nm]	i	FRa [N]	fs			m [kg]
	70.85	139	24.70	3695	1.43			
	88.77	111	19.71	3770	1.80			
	101.04	98	17.32	3685	2.06			
	107.46	92	16.29	3645	2.17	FS37		17
	144.74	68	12.09	3430	2.93	FM37	50	18
	188.51	59	10.39	3315	3.42	FN37		19
	198.85	52	9.27	3115	2.62	FH37		17
	214.96	46	8.14	3025	2.84			
	307.92	32	5.68	2780	3.54			
1.5 (2HP)	3.29	3740	532	29900	1.15	FS37 R57		188
	3.71	3318	472	29900	1.30	FM37 R57	50	203
	4.38	2908	400	29900	1.53	FN37 R57		218
	4.94	2491	355	29900	1.73	FH37 R57		173
	5.48	2253	321	19800	1.33	FS37 R57		118
	7.08	1736	247	19800	1.73	FM37 R57	50	128
						FN37 R57		138
						FH37 R57		113
	10.29	1270	170.08	29900	3.39			
	11.87	1120	149.98	29900	3.84	FS37		169
	12.78	1023	136.96	29900	4.21	FM37	50	194
	15.99	817	109.42	29900	5.27	FN37		199
	18.00	871	116.67	29900	4.96	FH37		159
	17.74	737	96.66	29900	5.84			
	10.78	1212	162.37	19800	2.48			
	12.40	1054	141.09	19800	2.85			
	16.09	812	108.77	19800	3.70	FS37		97
	17.04	767	102.70	19800	3.91	FM37	50	107
	18.96	689	92.34	19800	4.36	FN37		117
	21.00	622	83.32	19800	4.82	FH37		92
	22.24	587	78.67	19800	5.10			
	24.74	528	70.73	19800	5.96			
	10.49	1246	166.80	15700	1.20			
	10.92	1196	160.23	15700	1.25			
	11.86	1102	147.56	15700	1.36			
	18.54	701	93.90	15700	2.14	FS37		59
	20.92	625	83.83	15700	2.40	FM37	50	60
	23.33	590	75.02	15700	2.68	FN37		68
	28.47	443	59.38	15700	3.36	FH37		55
	32.88	396	53.26	15700	3.77			
	35.89	366	49.04	15700	4.10			
	42.00	311	41.67	15700	4.81			
	13.10	998	133.62	10300	0.82			
	15.97	818	109.55	10300	0.97			
	18.95	771	103.23	10300	1.08			
	19.84	665	89.11	10300	1.15			
	22.82	578	77.36	10300	1.29	FS37		34
	24.85	526	70.42	10300	1.39	FM37		38
	26.94	485	64.95	10300	1.49	FN37	50	40
	30.59	427	57.22	10300	1.65	FH37		32
	37.31	360	46.91	10300	1.94			
	39.59	330	44.20	10300	2.04			
	45.88	285	38.16	10300	2.29			
	52.83	247	33.12	10300	2.57			
	58.03	225	30.15	10300	2.78			
	61.54	219	28.44	10300	2.83	FS37		35
	98.71	139	18.10	10300	4.46	FM37	50	39
	108.59	124	16.12	10300	5.01	FN37		41
	121.85	111	14.46	10300	5.61	FH37		33
	18.42	709	95.01	9200	0.84			



1750 Input Rpm



Pm [kW]	na [1/min]	Ma [Nm]	i	FRa [N]	fs			m [kg]
	20.48	638	85.46	9200	0.94			
	23.84	548	73.40	9200	1.10	FB57		31
	33.84	386	51.72	9200	1.55	FM57		27
	27.02	484	64.76	9200	1.24	FN57	90	38
	30.78	425	58.90	9200	1.41	FH57		31
	44.08	297	39.72	9200	1.98			
	51.30	255	34.11	9200	2.24			
	72.81	179	24.04	8770	3.06			
	88.13	204	26.46	8945	2.69			
	76.07	179	23.31	8670	3.07	FB57		32
	91.57	147	19.11	8245	3.75	FM57		28
	97.98	139	18.01	8115	3.99	FN57	90	39
	112.87	120	15.55	7805	4.64	FH57		32
	128.87	104	13.50	7510	5.36			
	142.44	95	12.29	7315	5.88			
	25.95	503	67.43	5920	0.80			
	28.77	454	60.83	5920	0.88			
	31.28	418	55.95	5920	0.96	FB47		22
	34.83	375	50.24	5920	1.07	FM47		24
	40.78	320	42.91	5920	1.25	FN47	90	25
	48.83	269	36.06	5665	1.43	FH47		22
	54.05	242	32.38	5630	1.53			
	57.08	229	30.66	5605	1.58			
	68.80	190	25.44	5600	1.77			
	70.88	191	24.76	5750	1.94			
	80.45	167	21.75	5620	2.21			
	85.56	157	20.45	5555	2.36			
	115.24	117	15.19	5225	3.19	FS47		22
	134.17	100	13.04	5045	3.73	FM47		24
	155.45	87	11.26	4725	2.80	FN47	90	25
	176.94	76	9.89	4590	3.03	FH47		22
	188.17	72	9.30	4525	3.14			
	253.46	53	6.90	4205	3.75			
	295.09	46	5.93	4040	4.12			
	418.83	32	4.18	3675	5.10			
	55.22	237	31.69	3505	0.84	FS37		17
	82.29	210	28.10	3515	0.95	FM37		18
						FN37	90	19
						FH37		17
	70.85	190	24.70	3480	1.05			
	88.77	152	19.71	3420	1.32			
	101.04	133	17.32	3380	1.50	FS37		17
	107.46	125	16.29	3355	1.59	FM37		18
	144.74	93	12.09	3215	2.15	FN37	90	19
	168.81	80	10.39	3130	2.51	FH37		17
	188.85	71	9.27	2910	1.92			
	214.98	63	8.14	2845	2.08			
	307.92	44	5.68	2690	2.59			
2.2 (3HP)	6.20	2910	262	29000	1.48	FS97 R57		191
	6.96	2991	251	29000	1.66	FM97 R57		206
						FN97 R57	90	221
						FH97 R57		181
	10.29	1863	170.08	29000	2.31			
	11.67	1643	149.98	29000	2.62			
	12.78	1500	136.95	29000	2.87	FS97		172
	15.99	1198	109.42	29000	3.59	FM97		187
	16.00	1278	116.67	29000	3.37	FN97	90	202
	17.74	1081	98.66	29000	3.98	FH97		162
	20.82	957	87.40	29000	4.49			



Parallel Shaft Gear Units



Selection Tables [kW] F..F../M

1750 Input Rpm

Pm [kW]	na [1/min]	Ma [Nm]	i	FRa [N]	fs			m [kg]
22.48	853	77.93	29900	4.95				
27.12	707	64.52	29900	5.76				
10.78	1778	162.37	19800	1.69				
12.40	1545	141.09	19800	1.94				
18.09	1191	108.77	19800	2.52				
17.04	1125	102.70	19800	2.67				
18.95	1011	92.34	19800	2.97				
21.00	913	83.32	19800	3.29				
22.24	862	78.67	19800	3.48			100	100
24.74	775	70.73	19800	3.79				110
28.34	676	61.76	19800	4.23				120
32.72	585	53.48	19800	3.57				95
37.88	509	46.47	19800	4.08				
48.85	392	35.83	19800	5.32				
10.49	1827	168.80	15700	0.82				
10.92	1755	160.23	15700	0.85				
11.88	1616	147.56	15700	0.93				
18.84	1028	93.90	15700	1.46				
20.92	916	83.83	15700	1.63				62
23.33	822	75.02	15700	1.83			100	63
28.47	650	59.38	15700	2.30				71
32.88	583	53.26	15700	2.57				58
35.89	537	49.04	15700	2.79				
42.00	456	41.67	15700	3.28				
58.00	342	31.25	15700	4.38				
70.77	279	24.73	15700	5.37				
							100	63
								65
								73
								59
22.82	847	77.36	10300	0.88				
24.85	771	70.42	10300	0.95				
28.94	711	64.95	10300	1.02				
30.59	627	57.22	10300	1.13				
37.31	514	46.91	10300	1.32				37
39.59	484	44.20	10300	1.39			100	41
45.88	418	38.16	10300	1.56				43
52.83	363	33.12	10300	1.75				35
58.03	330	30.15	10300	1.89				
81.54	321	28.44	10300	1.93				
98.71	204	18.10	10300	3.04				38
108.59	182	16.12	10300	3.42			100	42
121.05	163	14.46	10300	3.83				44
131.48	150	13.31	10300	4.16				36
154.74	128	11.31	10300	4.90				
33.84	566	51.72	9200	1.06				
27.02	708	64.76	9200	0.84				34
30.78	623	56.90	9200	0.96			100	30
44.08	435	39.72	8895	1.35				41
51.30	374	34.11	8800	1.53				34
72.81	283	24.04	8255	2.08				
88.13	259	25.46	8380	1.84				
75.07	283	23.31	8155	2.09				
91.87	216	19.11	7820	2.56				
97.18	203	18.01	7720	2.72				35
112.57	176	15.55	7460	3.16				31
129.87	152	13.50	7210	3.65			100	42
142.44	138	12.29	7040	4.01				35
154.12	128	11.35	6780	4.69				
188.00	105	9.31	6450	5.24				



1750 Input Rpm



















Pm [kW]	na [1/min]	Ma [Nm]	i	FRa [N]	fs			m [kg]
199.51	99	8.77	6355	5.47				
231.11	85	7.57	6115	5.99				
40.78	470	42.91	5090	0.85		FB47		24
48.53	395	36.06	4505	0.97		FM47	100	26
54.05	365	32.38	4590	1.04		FN47		27
57.08	336	30.66	4620	1.08		FH47		24
69.80	279	25.44	4685	1.21				
70.88	260	24.76	5060	1.32				
80.45	246	21.75	5030	1.51				
85.56	231	20.45	5000	1.61				
115.24	171	15.19	4815	2.18		FB47		24
134.17	147	13.04	4695	2.55		FM47	100	26
155.46	127	11.26	4355	1.91		FN47		27
176.94	112	9.89	4290	2.06		FH47		24
188.17	105	9.30	4215	2.14				
263.46	78	6.90	3975	2.56				
295.09	67	5.93	3845	2.81				
418.83	47	4.18	3535	3.48				
88.77	223	19.71	2815	0.90				
101.04	196	17.32	2845	1.02				
107.46	184	16.29	2855	1.09		FS37		19
144.74	137	12.09	2845	1.46		FM37	100	20
168.51	117	10.39	2810	1.71		FN37		21
188.85	105	9.27	2590	1.31		FH37		19
214.96	92	8.14	2535	1.42				
307.92	64	5.68	2435	1.77				
3 (4HP)	10.29	2540	170.08	29600	1.89			
11.67	2240	149.98	29600	1.92				
12.78	2045	136.95	29600	2.10				
15.99	1634	109.42	29600	2.63				
15.00	1742	116.67	29600	2.47		FS97	100	172
17.74	1473	98.66	29600	2.92		FM97		187
20.02	1305	87.40	29600	3.29		FN97		202
22.46	1164	77.93	29600	3.63		FH97		162
27.12	964	64.52	29600	4.23				
30.62	853	57.15	29600	4.66				
34.34	761	50.96	29600	5.12				
38.30	682	45.69	29600	5.60				
10.78	2425	162.37	19600	1.24				
12.40	2107	141.09	19600	1.42				
16.09	1624	108.77	19600	1.85				
17.04	1534	102.70	19600	1.96				
18.95	1379	92.34	19600	2.18		FS97	100	100
21.00	1244	83.32	19600	2.41		FM97		110
22.24	1175	78.67	19600	2.55		FN97		120
24.74	1066	70.73	19600	2.78		FH97		95
28.34	922	61.76	19600	3.10				
32.72	799	53.48	19600	2.62				
37.66	694	46.47	19600	2.99				
48.85	535	35.83	19600	3.90				
70.04	373	24.98	19600	5.63				
18.84	1402	93.90	15700	1.07				
20.82	1249	83.63	15700	1.20				
23.33	1120	75.02	15700	1.34		FS77	100	62
29.47	867	59.38	15700	1.69		FM77		63
32.86	795	53.26	15700	1.89		FN77		71
36.69	732	49.04	15700	2.05		FH77		58
42.00	622	41.67	15700	2.41				
66.00	467	31.25	15700	3.21				



Parallel Shaft Gear Units

Selection Tables [kW] F..F../M

1750 Input Rpm

Pm [kW]	na [1/min]	Ma [Nm]	i	FRa [N]	fs			m [kg]			
70.77	381	24.73	15700	3.94			100	63			
81.45	331	21.49	15700	4.53				65			
105.85	255	16.56	15700	5.88				73			
								59			
30.59	854	57.22	10300	0.83			100	37			
37.31	701	46.91	10300	0.97				41			
39.59	660	44.20	10300	1.02				43			
45.86	570	38.16	10300	1.15				35			
52.83	495	33.12	10300	1.29							
58.03	450	30.15	10300	1.39							
61.54	438	28.44	10300	1.41			100	38			
98.71	279	18.10	10300	2.23				42			
108.59	248	16.12	10300	2.51				44			
121.05	223	14.46	10300	2.81				36			
131.46	205	13.31	10300	3.05							
154.74	174	11.31	10300	3.60							
206.32	131	8.48	9730	4.84							
284.15	102	6.63	9020	5.31							
294.47	91	5.94	8750	5.74							
44.08	593	39.72	8025	0.99						100	34
51.30	509	34.11	7960	1.12							30
72.81	359	24.04	7665	1.53							41
								34			
68.13	407	26.46	7690	1.35			100	35			
75.07	359	23.31	7565	1.54				31			
91.57	294	19.11	7335	1.88				42			
97.18	277	18.01	7260	2.00				35			
112.57	239	15.55	7065	2.32				31			
129.67	208	13.50	6865	2.68				42			
142.44	189	12.29	6730	2.94				35			
154.12	175	11.35	6450	3.44							
188.00	143	9.31	6180	3.84							
199.51	135	8.77	6100	4.01							
231.11	117	7.57	5895	4.39							
286.23	101	6.57	5690	4.80							
292.44	92	5.98	5560	5.08							
57.08	458	30.86	3495	0.79						100	24
68.80	380	25.44	3750	0.89	26						
					27						
								24			
70.88	381	24.76	4315	0.97			100	24			
80.45	335	21.75	4360	1.11				26			
85.58	315	20.45	4370	1.18				27			
115.24	234	15.19	4345	1.60				24			
134.17	201	13.04	4290	1.87				26			
165.45	173	11.26	3830	1.40				27			
176.94	152	9.89	3890	1.51				24			
188.17	143	9.30	3865	1.57							
253.46	106	6.90	3715	1.88							
285.09	91	5.93	3620	2.06							
418.83	64	4.18	3380	2.55							
107.48	251	16.29	2280	0.80						100	19
144.74	186	12.09	2415	1.07							20
169.51	160	10.39	2445	1.25							21
188.85	143	9.27	2145	0.96	19						
214.96	125	8.14	2175	1.04							
307.92	88	5.68	2185	1.30							
4	10.29	3367	170.08	29900	1.27						
(5.4HP)	11.87	2367	149.98	29900	1.44						





Pm [kW]	na [1/min]	Ma [Nm]	i	FRa [N]	fs			m [kg]
12.78	2727	136.95	29600	1.58	FS87 FM87 FN87 FH87	12	172	
15.99	2179	109.42	29600	1.98				
15.00	2323	116.67	29600	1.85				
17.74	1965	98.66	29600	2.19				
20.02	1740	87.40	29600	2.47				
22.46	1552	77.93	29600	2.72				
27.12	1285	64.52	29600	3.17				
30.62	1138	57.15	29600	3.49				
34.34	1015	50.96	29600	3.84				
39.30	910	45.69	29600	4.20				
51.92	671	33.70	29600	5.37				
54.04	665	32.38	28730	5.40	FS87 FM87 FN87 FH87	12	177	
60.59	593	28.88	27915	5.93			192	
							207	
							167	
10.78	3233	162.37	19600	0.93	FS87 FM87 FN87 FH87	12	100	
12.40	2809	141.09	19600	1.07				
16.09	2166	108.77	19600	1.39				
17.04	2045	102.70	19600	1.47				
18.95	1839	92.34	19600	1.63				
21.00	1659	83.32	19600	1.81				
22.24	1567	78.67	19600	1.91				
24.74	1408	70.73	19600	2.09				
28.34	1230	61.76	19600	2.32				
32.72	1065	53.48	19600	1.96				
37.66	925	46.47	19600	2.24				
48.85	713	35.83	19600	2.93				
70.04	498	24.98	19600	4.22				
89.24	390	19.61	18840	5.41				
94.32	661	32.21	19600	3.84	FS87 FM87 FN87 FH87	12	105	
91.60	583	28.41	19600	4.26			115	
97.47	532	25.94	19600	4.59			125	
79.19	454	22.10	19635	5.34			100	
84.44	425	20.73	19330	5.69				
18.84	1870	93.90	15700	0.80	FS77 FM77 FN77 FH77	12	62	
20.92	1665	83.63	15700	0.90				
23.33	1494	75.02	15700	1.00				
29.47	1162	59.38	15700	1.27				
32.86	1061	53.26	15700	1.41				
35.69	976	49.04	15700	1.54				
42.00	830	41.67	15700	1.80				
56.00	622	31.25	15700	2.41				
70.77	508	24.73	15700	2.96				
81.45	441	21.49	15700	3.40				
105.66	340	16.56	15700	4.41	FS77 FM77 FN77 FH77	12	63	
111.89	321	15.64	15700	4.67			65	
124.45	269	14.06	15700	5.20			73	
142.63	252	12.28	15700	5.94			59	
45.86	760	38.16	10300	0.86	FS87 FM87 FN87 FH87	12	37	
52.63	660	33.12	10300	0.97			41	
59.03	600	30.15	10300	1.04			43	
							35	
91.54	584	28.44	10300	1.06	FS87 FM87 FN87 FH87	12	38	
96.71	371	18.10	10300	1.67				
108.59	331	16.12	10300	1.88				
121.05	297	14.46	10300	2.10				
131.48	273	13.31	10300	2.29				
154.74	232	11.31	10300	2.70				
208.32	174	8.48	9915	3.63				



Parallel Shaft Gear Units

Selection Tables [kW] F..F../M

1750 Input Rpm

Pm [kW]	na [1/min]	Ma [Nm]	i	FRa [N]	fs			m [kg]
284.15		136	6.63	8905	3.99			
294.47		122	5.94	8650	4.31			
319.83		112	5.47	8460	4.57			
51.30		679	34.11	6915	0.84			34
72.81		479	24.04	6650	1.15		112	30
						F57		41
						F67		34
68.13		543	26.46	6655	1.01			
75.07		479	23.31	6630	1.15			
91.57		392	19.11	6735	1.41			
97.18		370	18.01	6695	1.50			
112.57		319	15.55	6575	1.74	F57		35
129.67		277	13.50	6440	2.01	F67		31
142.44		252	12.29	6345	2.21	F67	112	42
154.12		233	11.35	6035	2.58	F67		35
188.00		191	9.31	5840	2.88			
199.51		180	8.77	5780	3.01			
231.11		155	7.57	5615	3.29			
265.23		135	6.57	5450	3.60			
292.44		123	5.98	5340	3.81			
5.5 (7.4HP)	10.29	4657	170.08	29900	0.92			
	11.87	4106	149.98	29900	1.06			
	12.78	3750	136.95	29900	1.15			
	15.99	2996	109.42	29900	1.44			
	15.00	3194	116.67	29900	1.35	F57		177
	17.74	2701	98.66	29900	1.59	F67		192
	20.02	2393	87.40	29900	1.80	F67	132S	207
	22.46	2134	77.93	29900	1.96	F67		167
	27.12	1769	64.52	29900	2.30			
	30.82	1565	57.15	29900	2.54			
	34.34	1395	50.96	29900	2.79			
	38.30	1251	45.69	29900	3.05			
	51.92	923	33.70	28305	3.91			
	54.04	914	32.36	27960	3.92	F57		182
	60.59	815	28.88	27230	4.31	F67	132S	197
	77.01	641	22.72	25700	5.25	F67		242
						F67		172
	16.09	2978	108.77	19800	1.01			
	17.04	2812	102.70	19800	1.07			
	18.95	2528	92.34	19800	1.19			
	21.00	2281	83.32	19800	1.31			
	22.24	2154	78.67	19800	1.38	F57		106
	24.74	1937	70.73	19800	1.52	F67		116
	26.34	1891	61.76	19800	1.69	F67	132S	125
	32.72	1464	53.48	19800	1.43	F67		101
	37.88	1272	46.47	19800	1.63			
	48.85	981	35.83	19800	2.13			
	70.04	694	24.98	19125	3.07			
	89.24	537	19.61	18205	3.94			
	54.32	909	32.21	19800	2.80			
	61.80	802	28.41	19800	3.10			
	67.47	732	25.94	19685	3.34	F57		111
	78.19	624	22.10	19025	3.88	F67	132S	121
	84.44	585	20.73	18760	4.14	F67		131
	93.85	527	18.89	18330	4.60	F67		106
	105.72	467	16.55	17820	5.20			
	118.58	417	14.76	17345	5.86			
	28.47	1626	59.38	15700	0.92	F57		68
	32.88	1458	53.26	15700	1.03	F67		69



1750 Input Rpm



Pm [kW]	na [1/min]	Ma [Nm]	i	FRa [N]	fs			m [kg]
35.89	1343	49.04	15700	1.12		FN77	132S	77
42.00	1141	41.67	15700	1.31		FN77		64
58.00	856	31.25	15700	1.75				
70.77	698	24.73	15700	2.15				
81.45	606	21.49	15700	2.47				
105.85	468	16.56	15700	3.21		FS77		69
111.89	441	15.64	15700	3.40		FN77		71
124.45	397	14.06	15700	3.78		FN77	132S	79
142.53	347	12.28	15700	4.32		FH77		65
193.01	256	9.07	18610	5.86				
223.39	221	7.83	14660	5.57				
235.59	209	7.40	14650	5.78				
86.71	511	18.10	10300	1.22				
108.89	455	16.12	10300	1.37				
121.05	408	14.46	10300	1.53		FS87		44
131.48	376	13.31	10300	1.67		FM87		48
154.74	319	11.31	10140	1.96		FN87	132S	50
208.32	239	8.48	9445	2.64		FH87		42
264.15	187	6.63	8735	2.90				
294.47	168	5.94	8500	3.13				
319.83	154	5.47	8325	3.32				
72.81	658	24.04	5825	0.83		FS57		40
						FM57	132S	36
						FN57		47
						FH57		40
75.07	658	23.31	5725	0.84				
91.57	539	19.11	5825	1.02				
97.18	508	18.01	5840	1.09				
112.57	439	15.55	5840	1.29				
128.67	381	13.50	5800	1.46		FS57		41
142.44	347	12.29	5780	1.60		FM57	132S	37
154.12	320	11.35	5415	1.88		FN57		48
188.00	263	9.31	5330	2.09		FH57		41
198.51	248	8.77	5300	2.19				
231.11	214	7.57	5200	2.40				
268.23	186	6.57	5065	2.62				
282.44	169	5.98	5015	2.77				
7.5 (30HP)	12.78	5113	136.95	29000	0.84			
	15.99	4085	109.42	29000	1.05			
	15.00	4356	116.67	29000	0.99			
	17.74	3684	98.66	29000	1.17			
	20.02	3263	87.40	29000	1.32	FS97		177
	22.46	2910	77.93	29000	1.45	FM97	132M	192
	27.12	2409	64.52	29000	1.69	FN97		207
	30.82	2134	57.15	29000	1.86	FH97		167
	34.34	1903	50.96	29390	2.05			
	38.30	1706	45.69	28860	2.24			
	51.92	1258	33.70	27265	2.86			
	54.04	1246	32.38	26935	2.88	FS97		182
	60.59	1112	28.88	26310	3.16	FM97	132M	197
	77.01	875	22.72	24980	3.85	FN97		212
	103.11	673	17.48	23505	4.97	FH97		172
	18.85	3447	92.34	19800	0.87			
	21.00	3111	83.32	19800	0.96			
	22.24	2937	78.67	19800	1.02			
	24.74	2641	70.73	19800	1.11	FS87		106
	28.34	2306	61.76	19800	1.24	FM87	132M	116
	32.72	1987	53.48	19140	1.05	FN87		125
	37.88	1735	46.47	19120	1.20	FH87		101



Parallel Shaft Gear Units



Selection Tables [kW] F..F../M

1750 Input Rpm

Pm [kW]	na [1/min]	Ma [Nm]	i	FRa [N]	fs			m [kg]
	48.85	1338	35.83	18830	1.56			
	70.04	933	24.98	18055	2.25			
	89.24	732	19.61	17370	2.89			
	54.32	1240	32.21	19360	2.06			
	81.80	1053	28.41	19000	2.27			
	87.47	998	25.94	18725	2.45	FS87		111
	79.19	851	22.10	18210	2.85	FM87	132M	121
	84.44	798	20.73	17965	3.03	FN87		131
	93.85	719	18.89	17640	3.38	FH87		106
	105.72	637	16.55	17210	3.82			
	118.58	568	14.76	16800	4.30			
	132.25	509	13.23	16405	4.81			
	35.89	1631	49.04	15700	0.82	FS77		68
	42.00	1556	41.67	15700	0.96	FM77	132M	69
	58.00	1167	31.25	15700	1.29	FN77		77
						FH77		64
	70.77	952	24.73	15700	1.58			
	81.45	827	21.49	15700	1.81			
	105.85	638	16.96	15700	2.35			
	111.89	602	15.84	15700	2.49	FS77		69
	124.45	541	14.06	15700	2.77	FM77	132M	71
	142.93	473	12.28	15700	3.17	FN77		79
	163.01	349	9.07	15235	4.30	FH77		65
	223.39	302	7.83	14480	4.08			
	238.59	285	7.40	14290	4.24			
	301.38	224	5.81	13485	6.01			
9.2 (12.4HP)	15.99	5011	109.42	28865	0.86			
	15.00	5343	116.67	28695	0.81			
	17.74	4519	98.86	29090	0.95			
	20.02	4003	87.40	29090	1.07	FS97		177
	22.48	3669	77.93	29090	1.18	FM97	132M	192
	27.12	2955	64.52	28720	1.38	FN97		207
	30.82	2617	57.15	28410	1.52	FH97		167
	34.34	2334	50.96	28055	1.67			
	38.30	2092	45.69	27685	1.82			
	51.92	1544	33.70	26385	2.34			
	54.04	1529	32.38	26055	2.35			
	60.89	1364	28.88	25530	2.58	FS97		182
	77.01	1073	22.72	24365	3.14	FM97	132M	197
	100.11	825	17.48	23035	4.05	FN97		212
	128.28	654	13.86	21840	5.15	FH97		172
	135.13	611	12.95	21110	3.82			
	151.49	545	11.55	20570	5.35			
	22.34	3603	78.87	18185	0.83			
	24.74	3240	70.73	18510	0.91			
	28.34	2829	61.76	18785	1.01	FS97		106
	32.72	2449	53.48	17190	0.85	FM97	132M	116
	37.88	2128	46.47	17425	0.98	FN97		126
	48.85	1641	35.83	17530	1.27	FH97		101
	70.04	1144	24.98	17145	1.84			
	89.24	896	19.61	16655	2.35			
	54.32	1521	32.21	18345	1.67			
	81.80	1341	28.41	18115	1.85			
	87.47	1225	25.94	17915	2.00			
	79.19	1043	22.10	17530	2.32	FS97		111
	84.44	979	20.73	17345	2.47	FM97	132M	121
	93.85	882	18.89	17090	2.75	FN97		131
	105.72	782	16.55	16690	3.11	FH97		106
	118.58	697	14.76	16335	3.50			



1750 Input Rpm



Pm [kW]	na [1/min]	Ma [Nm]	i	FRa [N]	fs			m [kg]	
132.25	625	13.23	15990	3.92					
179.27	461	9.76	14990	5.34					
217.79	379	8.04	14065	5.83					
58.00	1431	31.25	15700	1.05					
						FS77	132M	68	
						FM77		69	
						FN77		77	
						FH77		64	
70.77	1167	24.73	15700	1.29					
81.45	1014	21.49	15700	1.48					
105.85	782	16.56	15700	1.92					
111.89	738	15.64	15700	2.03					
124.45	664	14.06	15700	2.25					
142.53	593	12.28	15700	2.58					
183.01	428	9.07	14920	3.50					
223.39	370	7.83	14155	3.33					
235.59	349	7.40	13980	3.46					
301.38	274	5.81	13245	4.90					
						FS77	132M	69	
						FM77		71	
						FN77		79	
						FH77		65	
11 (95-F)	17.74	5403	98.66	25295	0.80				
	20.02	4786	87.40	26665	0.90				
	22.46	4237	77.93	28670	0.99				
	27.12	3533	64.52	28935	1.15				
	30.82	3129	57.15	26825	1.27				
	34.34	2791	50.96	26645	1.40				
	38.30	2502	45.69	26395	1.53				
	51.92	1846	33.70	25450	1.95				
	54.04	1828	32.38	25135	1.96				
	60.59	1631	28.88	24705	2.16				
	77.01	1283	22.72	23715	2.62				
	103.11	987	17.48	22535	3.39				
	128.28	762	13.86	21445	4.31				
	135.13	731	12.95	20670	3.19				
	151.49	652	11.55	20175	4.48				
	192.55	513	9.09	19120	5.29				
	253.31	395	6.99	17970	5.19				
	29.34	3382	61.76	16800	0.85				
	37.85	2545	46.47	15640	0.82				
	48.85	1902	35.83	16150	1.06				
	70.04	1368	24.98	16180	1.53				
	89.24	1074	19.61	15900	1.97				
	54.32	1819	32.21	17280	1.40				
	81.80	1604	28.41	17170	1.55				
	67.47	1464	25.94	17055	1.67				
	79.19	1247	22.10	16785	1.94				
	84.44	1170	20.73	16650	2.07				
	83.85	1055	18.69	16435	2.30				
	105.72	934	16.55	16145	2.60				
	118.58	833	14.76	15850	2.93				
	132.25	747	13.23	15550	3.28				
	179.27	551	9.76	14665	4.47				
	217.79	454	8.04	13750	4.87				
	245.87	402	7.12	13410	5.37				
	275.74	358	6.35	13085	5.83				
	58.00	1711	31.25	15700	0.88				
						FS77	160M	79	
						FM77		80	
						FN77		86	
						FH77		75	
	70.77	1396	24.73	15700	1.07				
	81.45	1213	21.49	15700	1.24				
	105.85	935	16.56	15700	1.60				



Parallel Shaft Gear Units



Selection Tables [kW] F..F..M

1750 Input Rpm

Pm [kW]	na [1/min]	Ma [Nm]	i	FRa [N]	fs			m [kg]				
	111.89	883	15.64	15700	1.70	FS77	180M	80				
	124.45	794	14.06	15700	1.88			FM77	82			
	142.53	693	12.28	15455	2.16			FN77	90			
	193.01	512	9.07	14590	2.93			FH77	76			
	223.39	442	7.83	13810	2.79							
	239.59	418	7.40	13655	2.89							
	301.35	328	5.81	12990	4.10							
15 (20HP)	27.12	4818	64.52	22960	0.85	FS97	100L	188				
	30.82	4267	57.15	23310	0.93			FM97	203			
	34.34	3805	50.96	23505	1.02			FN97	218			
	38.30	3412	45.69	23585	1.12	FH97	178					
	51.92	2517	33.70	23375	1.43							
	54.04	2493	32.38	23075	1.44							
	60.59	2224	28.88	22870	1.58							
	77.01	1749	22.72	22270	1.92							
	100.11	1346	17.48	21425	2.49	FS97	100L	193				
	126.28	1067	13.86	20565	3.16			FM97	208			
	135.13	997	12.95	19980	2.34			FN97	223			
	191.49	889	11.55	19290	3.28			FH97	183			
	192.55	700	9.09	18430	3.88							
	280.31	538	6.59	17435	3.81							
	315.74	427	5.54	16545	5.49							
	70.04	1968	24.98	14045	1.13	FS97	100L	117				
	89.24	1464	19.61	14220	1.44			FM97	127			
								FN97	137			
					FH97	112						
	54.32	2480	32.21	14905	1.03	FS97	100L					
	61.80	2187	28.41	15075	1.14							
	67.47	1997	25.94	15140	1.22							
	78.19	1701	22.10	15155	1.42							
	84.44	1595	20.73	15130	1.52							
	93.85	1439	18.89	15055	1.69				122			
	105.72	1274	16.55	14925	1.91			FM97	132			
	118.55	1136	14.76	14790	2.15			FN97	142			
	132.25	1019	13.23	14575	2.40			FH97	117			
	179.27	751	9.76	13945	3.28							
	217.79	619	8.04	13040	3.57							
	245.87	548	7.12	12790	3.94							
	275.74	489	6.35	12525	4.27							
	307.55	438	5.69	12270	4.61							
	418.91	323	4.20	11530	5.68							
18.5 (25HP)	34.34	4693	50.96	20755	0.83	FS97	180M	197				
	38.30	4208	45.69	21120	0.91			FM97	212			
	51.92	3104	33.70	21555	1.16			FN97	227			
						FH97	187					
		54.04	3074	32.38	21290	1.17	FS97	180M				
		60.59	2742	28.88	21270	1.28						
		77.01	2158	22.72	21010	1.56						
		100.11	1660	17.48	20455	2.02			FS97		202	
		126.28	1316	13.86	19795	2.56					FM97	217
		135.13	1230	12.95	18815	1.90					FN97	232
		191.49	1097	11.55	18520	2.86			FH97	192		
		192.55	863	9.09	17820	3.15						
		250.31	664	6.59	16970	3.09						
		315.74	526	5.54	16175	4.45						
		70.04	2301	24.98	12170	0.91			FS97	180M	126	
		89.24	1806	19.61	12790	1.17					FM97	136
						FN97					146	
									FH97	121		



1750 Input Rpm


Pm [kW]	na [1/min]	Ma [Nm]	i	FRa [N]	fs			m [kg]
	54.32	3069	32.21	12825	0.83			
	61.60	2897	28.41	13245	0.92			
	67.47	2463	25.94	13465	0.99			
	79.19	2088	22.10	13730	1.15			
	84.44	1968	20.73	13790	1.23			
	88.65	1774	18.69	13850	1.37	FS97		131
	105.72	1572	16.55	13855	1.55	FM97		141
	118.56	1401	14.76	13805	1.74	FN97	180M	151
	132.25	1256	13.23	13720	1.95	FH97		126
	179.27	927	9.76	13315	2.68			
	217.79	763	8.04	12420	2.90			
	245.67	676	7.12	12230	3.19			
	275.74	603	6.35	12035	3.46			
	307.66	540	5.69	11830	3.74			
	418.91	399	4.20	11205	4.61			
22 (30HP)	51.92	3691	33.70	19740	0.98	FS97		197
						FM97		212
						FN97	180L	227
						FH97		187
	54.04	3656	32.38	19480	0.98			
	60.59	3361	28.88	19660	1.08			
	77.01	2966	22.72	19750	1.31			
	100.11	1974	17.48	19485	1.70	FS97		202
	128.28	1565	13.86	19025	2.16	FM97		217
	135.13	1462	12.95	17950	1.80	FN97	180L	232
	151.49	1304	11.55	17750	2.24	FH97		192
	192.55	1026	9.09	17215	2.65			
	230.31	789	6.99	16500	2.59			
	315.74	629	5.54	15800	3.74			
	60.24	2148	19.61	11285	0.98			
	67.47	2029	25.94	11795	0.83			
	79.19	2495	22.10	12300	0.97			
	84.44	2340	20.73	12455	1.03			
	88.65	2110	18.69	12645	1.15			
	105.72	1869	16.55	12785	1.30	FS97		131
	118.56	1696	14.76	12855	1.47	FM97		141
	132.25	1494	13.23	12865	1.64	FN97	180L	151
	179.27	1102	9.76	12685	2.23	FH97		126
	217.79	907	8.04	11795	2.44			
	245.67	804	7.12	11685	2.68			
	275.74	717	6.35	11545	2.91			
	307.66	642	5.69	11390	3.14			
	418.91	474	4.20	10680	3.87			
30 (40HP)	60.59	4447	28.88	15995	0.79			
	77.01	3499	22.72	16665	0.96			
	100.11	2691	17.48	17265	1.24	FS97		205
	128.28	2134	13.86	17270	1.58	FM97		220
	135.13	1994	12.95	15970	1.17	FN97	200L	235
	151.49	1779	11.55	15865	1.64	FH97		195
	192.55	1399	9.09	15825	1.94			
	230.31	1076	6.99	15435	1.90			
	315.74	853	5.54	14955	2.75			



Helical Gear Units


Selection Tables [kW] F..S

1750 Input Rpm

i	na [1/min]	Ma max [Nm]	Pe [kW]	FRa [N]	FRe [N]		m [kg]
F37							200Nm
128.51	14	200	0.31	4290	590	FSS37 FMS37 FNS37 FHS37 Ø16	14
117.88	15	200	0.34	4290	590		
100.36	17	200	0.40	4290	580		
80.85	22	200	0.50	4290	560		
70.50	25	200	0.57	4290	550		
65.09	26	200	0.61	4290	540		
59.32	30	200	0.69	4290	530		
54.54	32	200	0.73	4290	410		
51.70	34	200	0.78	4290	520		
43.83	40	200	0.92	4290	400		
39.31	46	200	1.05	4230	640	FSS37 FMS37 FNS37 FHS37 Ø19	14
35.91	49	200	1.12	4110	640		
31.89	55	200	1.27	3875	630		
28.10	62	200	1.42	3660	620		
24.70	71	200	1.58	3430	380	FSS37 FMS37 FNS37 FHS37 Ø19	14
19.71	89	200	1.98	3060	410		
17.32	101	200	2.25	2860	390		
16.29	107	200	2.39	2770	380		
12.09	145	200	3.22	2360	330		
10.39	169	200	3.76	2150	340		
9.27	189	137	2.88	2250	210		
8.14	215	130	3.12	2180	210		
5.88	308	113	3.89	1940	220		
F47							
148.71	12	400	0.54	5920	470	FSS47 FMS47 FNS47 FHS47 Ø16	19
121.06	14	400	0.66	5920	450		
104.91	17	400	0.77	5920	390		
85.57	18	400	0.84	5920	430		
85.41	20	400	0.94	5920	380	FSS47 FMS47 FNS47 FHS47 Ø19	19
79.30	22	400	1.01	5920	670		
71.21	25	400	1.13	5920	670		
67.43	26	400	1.19	5920	610		
60.83	29	400	1.32	5920	670		
55.95	31	400	1.44	5920	600		
50.24	35	400	1.60	5920	600		
42.91	41	400	1.87	5710	590		
36.08	49	365	2.14	4705	470		
32.38	54	369	2.29	4555	480		
30.88	57	361	2.37	4480	380	FSS47 FMS47 FNS47 FHS47 Ø19	19
25.44	69	336	2.66	4245	380		
24.76	71	370	2.91	4480	350		
21.75	80	371	3.32	4175	330		
20.45	86	372	3.54	4025	320		
15.19	115	374	4.79	3380	250		
13.04	134	374	5.60	3065	270		
11.26	155	243	4.20	3355	260		
9.89	177	230	4.54	3230	230		
9.30	188	225	4.71	3175	230		
6.90	253	200	5.63	2910	240		
5.93	295	188	6.18	2780	210		
4.18	419	164	7.65	2505	150		
F57							
174.59	10	600	0.69	9200	790	FSS57 FMS57	29
139.34	13	600	0.86	9200	860		
122.42	14	600	0.98	9200	930		
115.11	15	600	1.05	9200	990		
95.01	18	600	1.27	9200	1020		
85.48	20	600	1.41	9200	1050		



1750 Input Rpm


i	na [1/min]	Ma max [Nm]	Pe [kW]	FRa [N]	FRa [N]		m [kg]
73.40	24	600	1.64	9200	1060	FMS57 FMS57	36
51.72	34	600	2.33	9175	1040		29
64.76	27	600	1.86	9200	840		
56.90	31	600	2.11	9200	870		
39.72	44	589	2.97	8170	860		
34.11	51	572	3.37	7685	900		
24.04	73	550	4.58	6600	860		
26.48	66	549	4.04	6620	490	FSS57 FMS57 FMS57 FMS57	30
23.31	75	551	4.61	6485	500		26
19.11	92	553	5.63	5650	520		37
							30
18.01	97	553	5.99	5665	510	FSS57 FMS57 FMS57 FMS57	32
15.56	113	555	6.96	5225	510		28
13.50	130	557	8.04	4820	540		38
12.29	142	558	8.83	4570	520		32
11.35	154	600	10.31	3555	300		28
9.31	188	550	11.52	3405	290		38
8.77	200	541	12.04	3330	270		32
7.57	231	512	13.18	3195	300		
6.57	266	485	14.39	3065	370		
5.98	292	468	15.24	2990	360		
FB7							620Nm
167.70	9	620	0.88	10300	600	FSS57 FMS57 FMS57 FMS57	32
151.88	12	620	1.08	10300	700		36
133.62	13	620	1.23	10300	790		36
109.56	16	797	1.46	10300	790		30
103.23	17	791	1.54	10300	820		
89.11	20	797	1.73	10300	850		
77.36	23	748	1.94	10300	830		
70.42	25	732	2.08	10300	830		
64.95	27	722	2.24	10300	790		
57.22	31	706	2.48	10300	810		
46.91	37	680	2.91	10300	840		
44.20	40	671	3.05	10300	870		
38.16	46	653	3.44	10300	850		
33.12	53	636	3.86	10300	830		
30.15	58	629	4.16	10300	830		
26.44	62	619	4.24	10300	890		
19.10	97	622	6.69	10300	840	FSS57 FMS57 FMS57 FMS57	35
16.12	109	623	7.52	10300	860		38
14.48	121	625	8.42	10175	860		41
13.31	131	626	9.16	9685	830		33
11.31	155	628	10.79	9330	800		
8.48	206	632	14.51	8410	770		
6.63	264	543	15.94	7565	520		
5.94	294	525	17.23	7320	520		
5.47	320	513	18.26	7140	500		
F77							1500Nm
166.80	10	1500	1.81	15700	640	FSS77 FMS77 FMS77 FMS77	58
160.23	11	1500	1.88	15700	640		59
147.56	12	1500	2.04	15700	620		67
133.60	19	1500	3.21	15700	840		54
113.03	21	1500	3.60	15700	840		
75.02	23	1500	4.02	15700	820		
69.38	29	1500	5.06	15700	850	FSS77 FMS77 FMS77 FMS77 FMS77	59
53.26	33	1500	5.86	15700	880		60
49.04	36	1500	6.15	15700	880		68
41.67	42	1500	7.22	15700	850		55
31.25	56	1500	9.54	15700	1330		64



Helical Gear Units



Selection Tables [kW] F..S

1750 Input Rpm

i	na [1/min]	Ma max [Nm]	Pe [kW]	FRa [N]	FRa [N]		m [kg]
						FMS77 FNS77 FHS77	65 73 60
24.73	71	1500	11.82	15700	1100		
21.49	81	1500	13.60	15700	1110		
19.59	106	1500	17.85	14135	1120		
15.81	112	1500	18.58	13805	1180	FSS77 FMS77 FNS77 FHS77	65 67 75 61
14.08	124	1500	20.79	13185	1190		
12.28	143	1500	23.76	12440	1150		
9.07	193	1500	32.22	10845	1120		
7.83	223	1230	30.94	10240	870		
7.40	237	1207	31.79	10085	910		
5.81	301	1346	45.10	8365	870		
F87							3000Nm
162.37	11	3000	3.71	19800	660	FSS87 FMS87 FNS87 FHS87	98 106 116 91
141.09	12	3000	4.27	19800	620		
108.77	16	3000	5.55	19800	700	FSS87 FMS87 FNS87 FHS87	98 108 118 93
102.70	17	3000	5.87	19800	710		
92.34	19	3000	6.53	19800	690		
83.32	21	3000	7.23	19800	950	FSS87 FMS87 FNS87 FHS87	102 112 122 97
78.67	22	3000	7.65	19800	970		
70.73	25	2940	8.34	19595	980		
61.76	28	2866	9.30	18680	1060		
53.48	33	2092	7.85	18730	1020		
48.47	38	2077	8.97	17655	990		
35.83	49	2088	11.71	15805	940		
24.98	70	2104	16.98	13035	2120	FSS87 FMS87 FNS87 FHS87	110 120 130 105
19.81	89	2117	21.55	11430	2010		
32.21	54	2543	15.38	14680	1010	FSS87 FMS87 FNS87 FHS87	107 117 127 102
28.41	62	2486	17.04	14005	1010		
25.94	67	2446	18.36	13535	990		
22.10	79	2420	21.34	12570	1000		
20.73	84	2423	22.76	12165	970		
19.69	94	2429	25.32	11500	1960	FSS87 FMS87 FNS87 FHS87	115 125 135 110
18.55	106	2436	28.62	10765	1920		
14.78	119	2443	32.23	10070	1960		
13.23	132	2450	36.04	9440	1900		
9.78	179	2469	49.16	7795	1590		
8.04	218	2212	53.61	6195	1290		
7.12	246	2161	59.03	5865	1270		
6.35	276	2089	64.10	5650	1280		
5.89	308	2022	69.17	5470	1290		
4.20	417	1840	85.20	5080	1270		
F97							4300Nm
170.08	10	4300	5.08	29600	500	FSS97 FMS97 FNS97 FHS97	174 189 204 164
149.98	12	4300	5.77	29600	490		
136.95	13	4300	6.31	29600	450		
109.42	16	4300	7.90	29600	1380	FSS97 FMS97 FNS97 FHS97	177 192 207 167
116.87	15	4300	7.42	29600	1400		
98.88	18	4300	8.77	29690	1370		
87.40	20	4300	9.88	28170	1340		
77.93	22	4218	10.98	27010	1330		
64.52	27	4075	12.68	25270	1120		



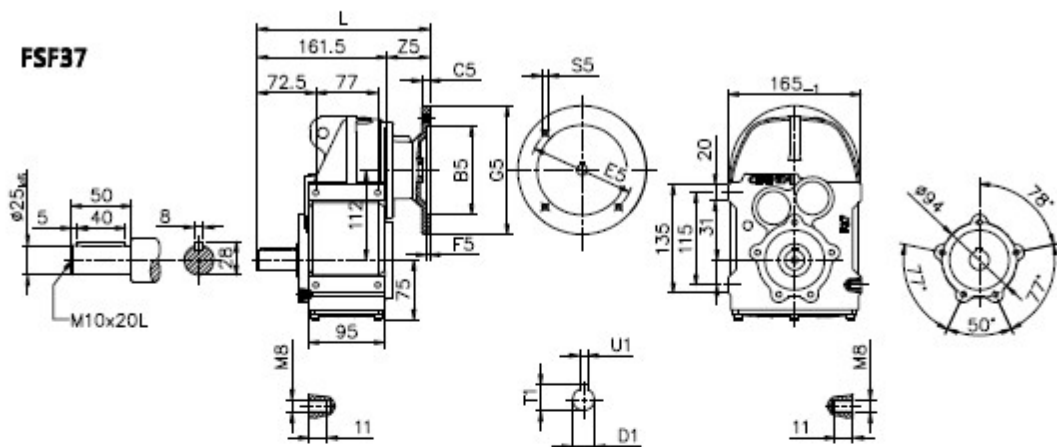
1750 Input Rpm

i	n_a [1/min]	M_a max [Nm]	P_e [kW]	$F R_a$ [N]	$F R_e$ [N]	 ... 	m [kg]	
57.15	31	3685	13.97	24215	3320	FSS97 FMS97 FNS97 FHS97	185	
50.95	34	3600	15.36	23220	3240		∅42	200
45.89	38	3523	16.79	22325	3160			215
33.70	52	3616	21.48	20010	3150			175
32.38	54	3588	21.59	19690	2210	FSS97 FMS97 FNS97 FHS97	190	
28.88	61	3514	23.72	18875	2200		∅42	205
22.72	77	3365	26.86	17275	2180			220
								180
17.48	100	3350	37.30	15240	2920	FSS97 FMS97 FNS97 FHS97	196	
13.86	126	3069	47.42	13435	2810			211
12.06	135	2332	35.10	14715	2390			225
11.55	151	2917	49.26	11740	1690		∅48	186
9.09	193	2715	58.24	10930	1620			
8.89	250	2049	57.09	11820	2290			
5.54	316	2339	82.39	9415	1840			

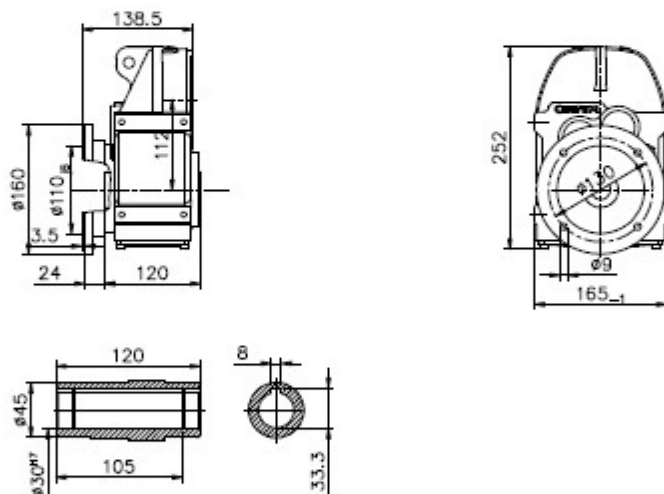


Parallel shaft helical Gear Dimension Sheets [mm]

FSF37



FMF37



For the dimensions concerning the solid input shaft, please refer to the table shown at page C09.

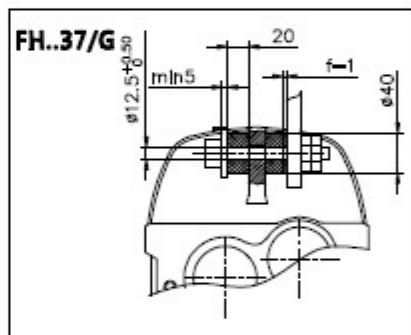
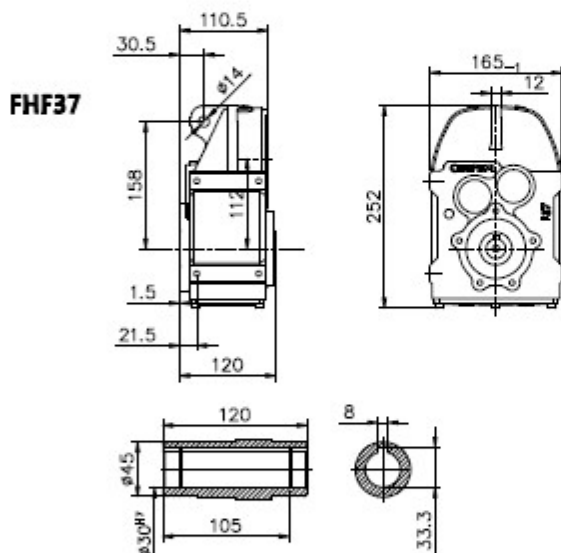
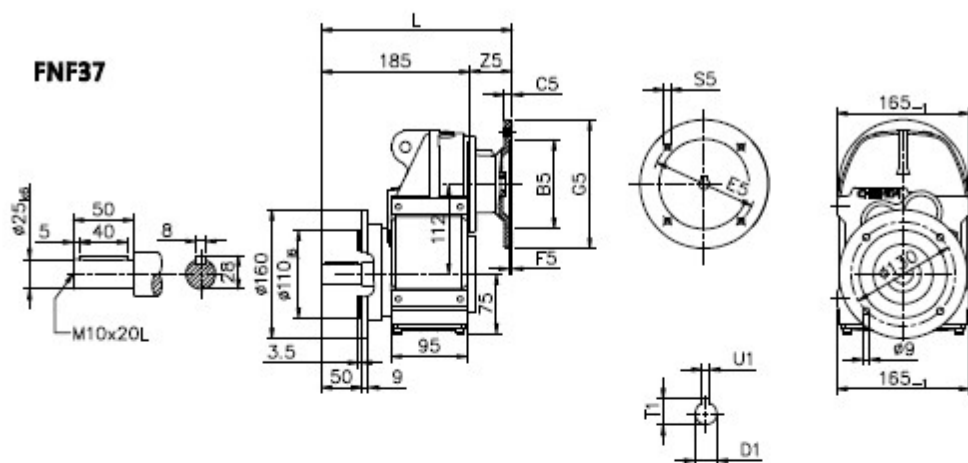
For the dimensions concerning the motor input, please refer to the table shown at page C10.

入力軸直心軸之尺寸表・請參閱第C09頁・

入力軸電動直心軸之尺寸表・請參閱第C10頁・

	B5	C5	F5	G5	L	S5	Z5	D1	T1	U1	
IBC 65 *	95	10	115	4	140	214.5	MB	9	11	12.8	4
IBC 71	110	10	130	4	160	214.5	MB	9	14	16.3	5
IBC 80	130	12	165	5	200	232.5	M10	71	19	21.8	6
IBC 90	130	12	165	5	200	232.5	M10	71	24	27.3	8

* 台灣東元原廠請參閱第C12頁・

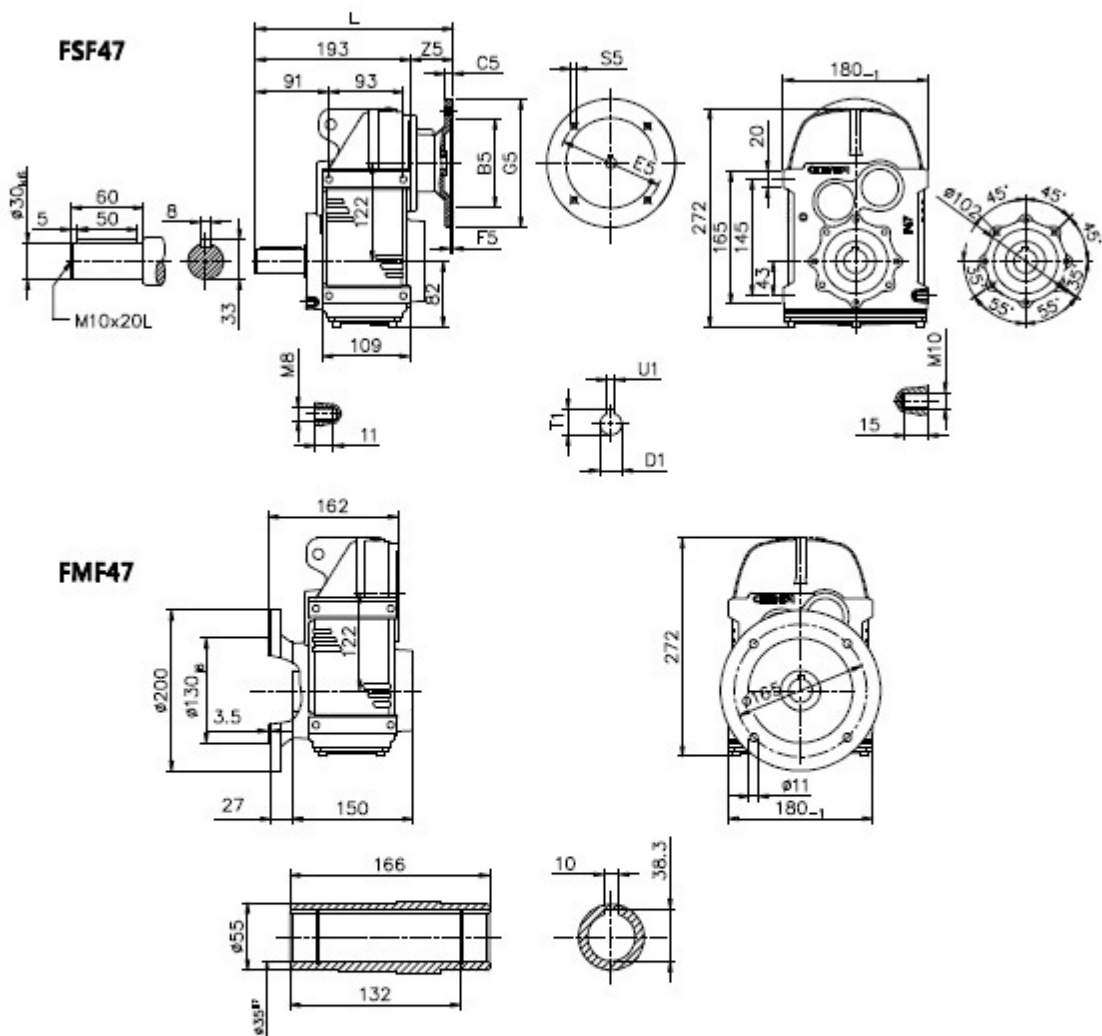


	B5	C5	B5	F5	G5	L	S5	Z5	D1	T1	U1
IBC 68 *	95	10	115	4	140	238	MB	53	11	12.8	4
IBC 71	110	10	130	4	160	238	MB	53	14	16.3	5
IBC 80	130	12	165	5	200	256	M10	71	19	21.8	6
IBC 90	130	12	165	5	200	256	M10	71	24	27.3	8

* 台灣元陽齒輪參閱圖C12頁



Parallel shaft helical Gear Dimension Sheets [mm]



For the dimensions concerning the solid input shaft, please refer to the table shown at page C09.

For the dimensions concerning the motor input, please refer to the table shown at page C10.

入力軸直心軸之尺寸表・請參閱第C09頁。

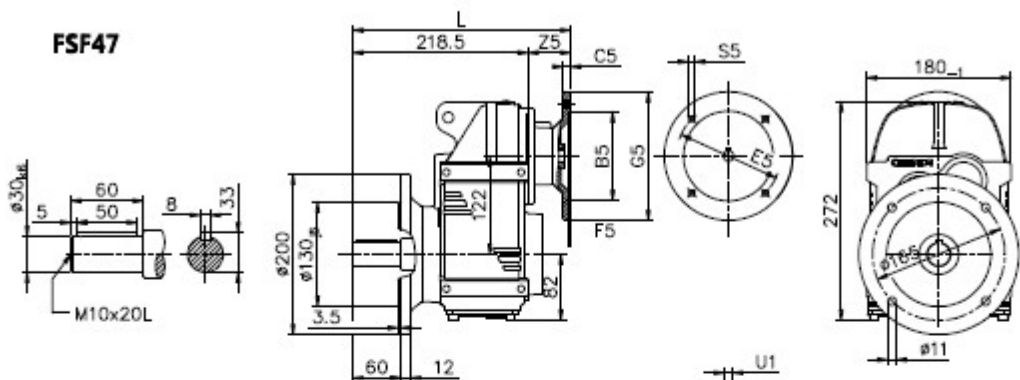
入力軸電動直心軸之尺寸表・請參閱第C10頁。

	B5	C5	B5	F5	G5	L	S5	Z5	D1	T1	U1
IBC 65 *	95	10	115	4	140	246	MB	53	11	12.8	4
IBC 71	110	10	130	4	160	246	MB	53	14	16.3	5
IBC 80	130	12	165	5	200	264	M10	71	19	21.8	6
IBC 90	130	12	165	5	200	264	M10	71	24	27.3	8

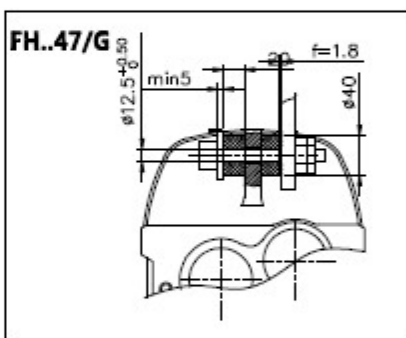
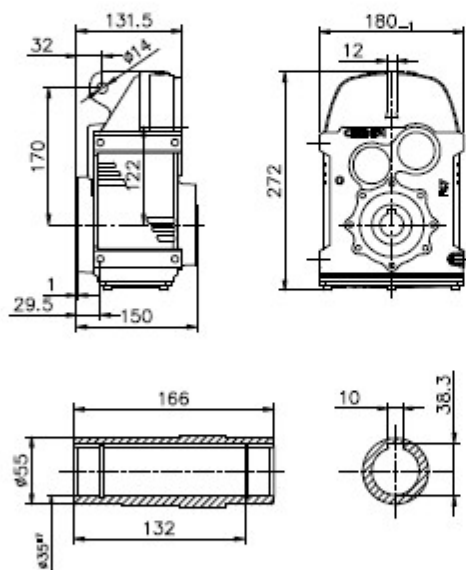
* 台灣東元規格請參閱第C12頁。



FSF47



FMF47



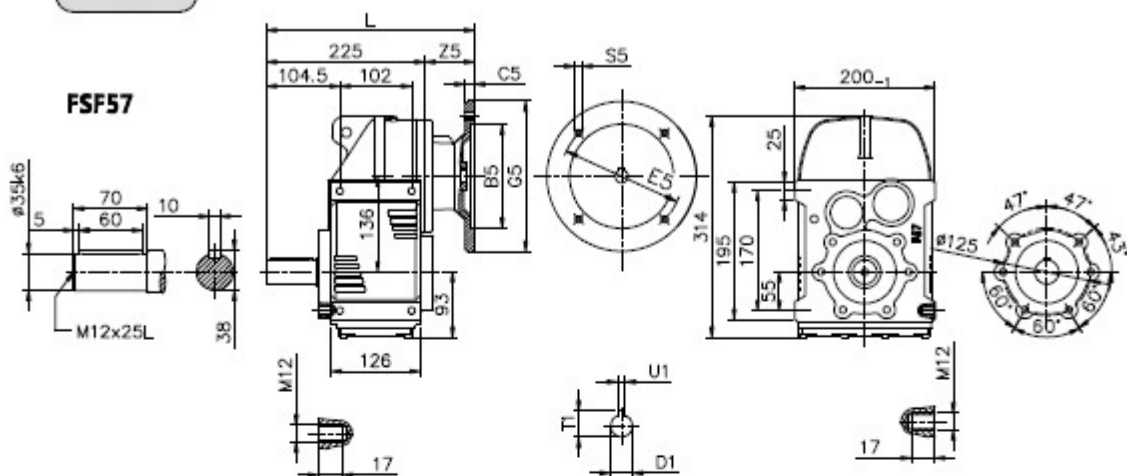
	B5	C5	B5	F5	G5	L	S5	Z5	D1	T1	U1
IBC 68 *	95	10	115	4	140	271.5	MB	53	11	12.8	4
IBC 71	110	10	130	4	160	271.5	MB	53	14	16.3	5
IBC 80	130	12	165	5	200	289.5	MI0	71	19	21.8	6
IBC 90	130	12	165	5	200	289.5	MI0	71	24	27.3	8

* 台灣元陽齒輪廠參照圖號L274

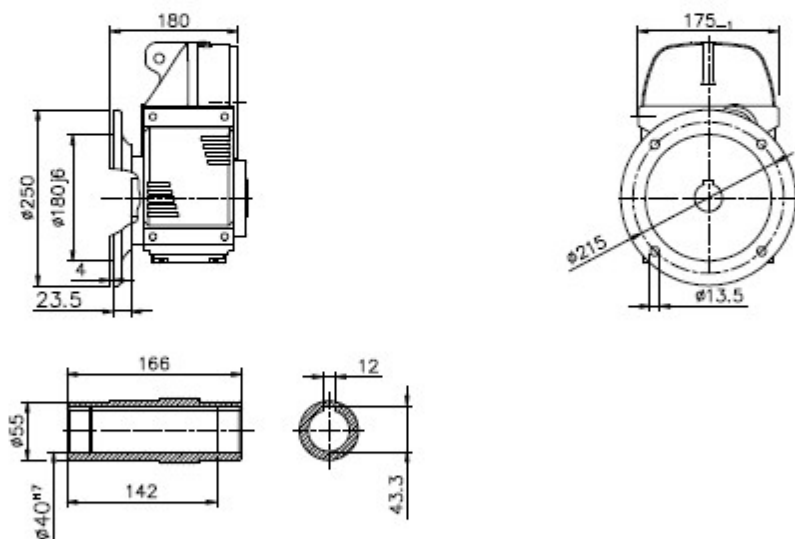


Parallel shaft helical Gear Dimension Sheets [mm]

FSF57



FMF57



For the dimensions concerning the solid input shaft, please refer to the table shown at page C09.

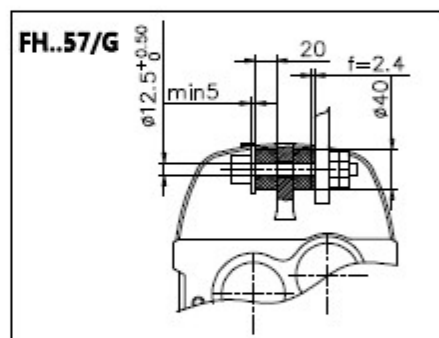
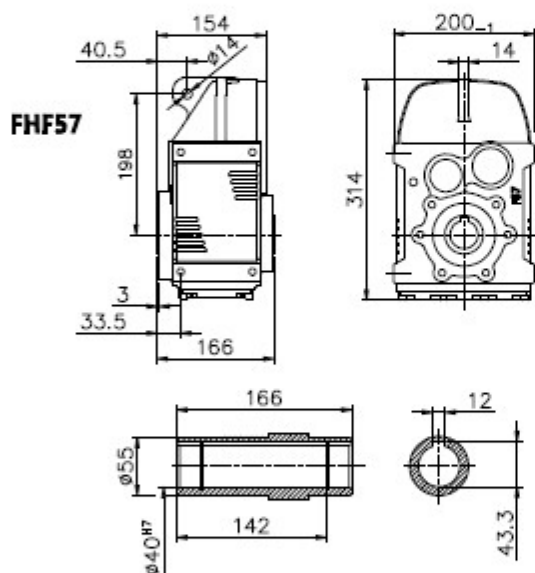
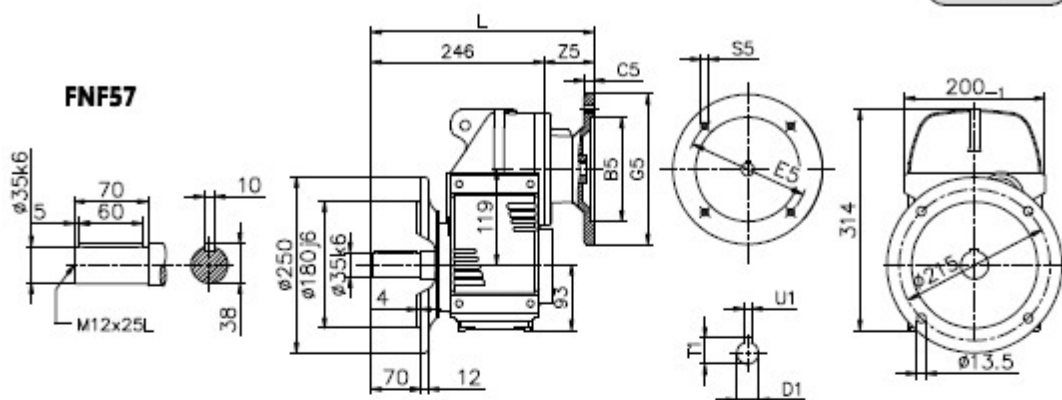
For the dimensions concerning the motor input, please refer to the table shown at page C10.

入力軸真心軸之尺寸表・請參閱第C09頁・

入力軸用直軸之尺寸表・請參閱第C10頁・

	B5	C5	B5	B5	C5	L	S5	Z5	D1	T1	U1
IBC 65 *	95	10	115	4	140	271.5	MB	46.5	11	12.8	4
IBC 71	110	10	130	4	160	271.5	MB	46.5	14	16.3	5
IBC 80	130	12	165	5	200	289.5	MC10	64.5	19	21.8	6
IBC 90	130	12	165	5	200	289.5	MC10	64.5	24	27.3	8
IBC 100	180	15	215	5	250	306	MC12	81	28	31.3	8
IBC 112	180	15	215	5	250	306	MC12	81	28	31.3	8

* 台灣東元用直軸請參閱第C12頁・

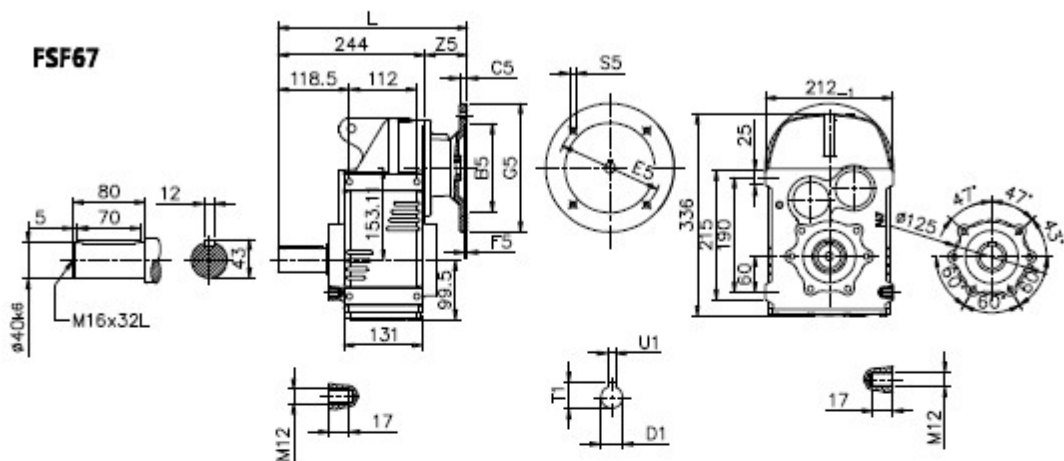


	B5	C5	B5	B5	C5	L	S5	Z5	D1	T1	U1
IBC 65 *	95	10	115	4	140	292.5	MB	46.5	11	12.8	4
IBC 71	110	10	130	4	160	292.5	MB	46.5	14	16.3	5
IBC 80	130	12	165	5	200	310.5	MC10	64.5	19	21.8	6
IBC 90	130	12	165	5	200	310.5	MC10	64.5	24	27.3	8
IBC 100	180	15	215	5	250	327	MC12	81	28	31.3	8
IBC 112	180	15	215	5	250	327	MC12	81	28	31.3	8

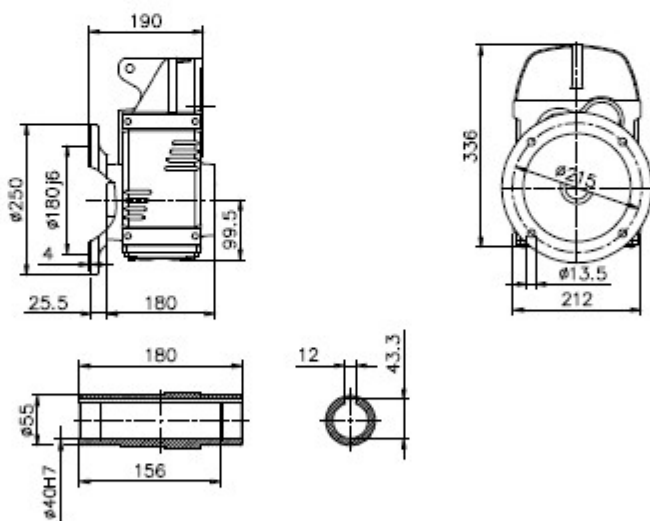


Parallel shaft helical Gear Dimension Sheets [mm]

FSF67



FMF67



For the dimensions concerning the solid input shaft, please refer to the table shown at page C09.

For the dimensions concerning the motor input, please refer to the table shown at page C10.

入力軸実心軸之尺寸表・請參閱第C09頁・

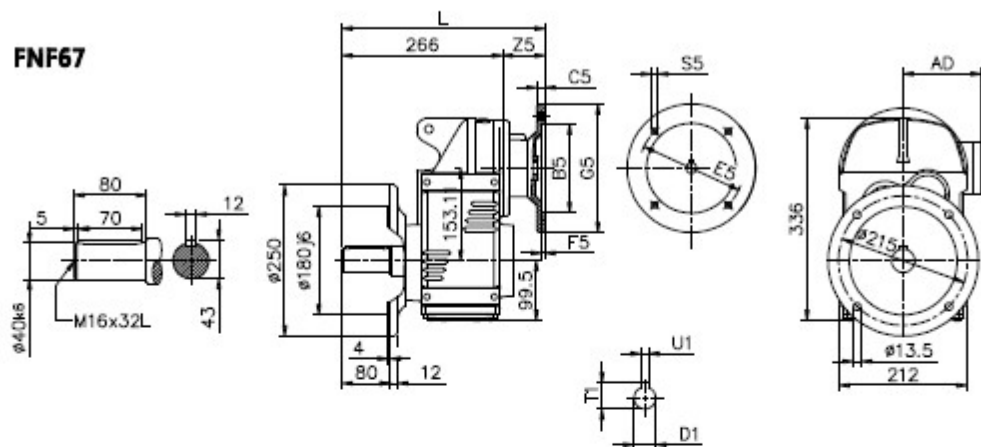
入力軸用直線軸之尺寸表・請參閱第C10頁・

	B5	C5	B5	B5	C5	L	S5	Z5	D1	T1	U1
IBC 65 *	95	10	115	4	140	290.5	M8	46.5	11	12.8	4
IBC 71	110	10	130	4	160	290.5	M8	46.5	14	16.3	5
IBC 80	130	12	165	5	200	308.5	M10	64.5	19	21.8	6
IBC 90	130	12	165	5	200	308.5	M10	64.5	24	27.3	8
IBC 100	180	15	215	5	250	325	M12	81	28	31.3	8
IBC 112	180	15	215	5	250	325	M12	81	28	31.3	8

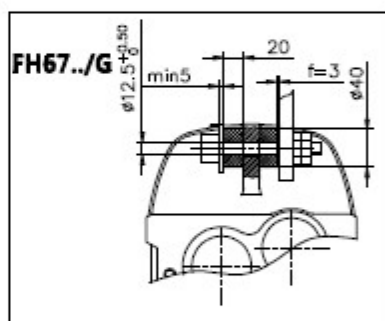
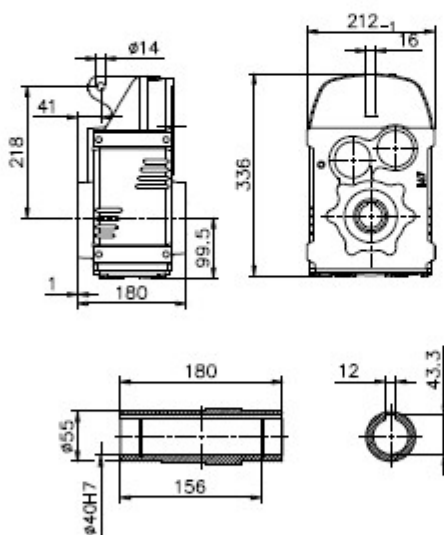
* 台灣東元用直線軸請參閱第C12頁・



FNF67



FHF67

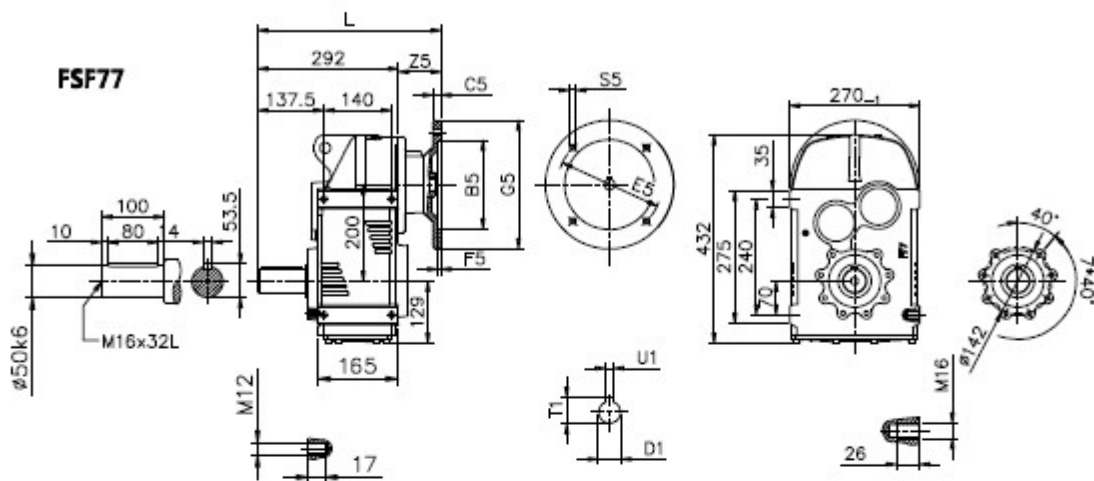


	B5	C5	B5	B5	C5	L	S5	Z5	D1	T1	U1
IBC 65 *	95	10	115	4	140	312.5	MB	46.5	11	12.8	4
IBC 71	110	10	130	4	160	312.5	MB	46.5	14	16.3	5
IBC 80	130	12	165	5	200	330.5	MC10	64.5	19	21.8	6
IBC 90	130	12	165	5	200	330.5	MC10	64.5	24	27.3	8
IBC 100	180	15	215	5	250	347	MC12	81	28	31.3	8
IBC 112	180	15	215	5	250	347	MC12	81	28	31.3	8

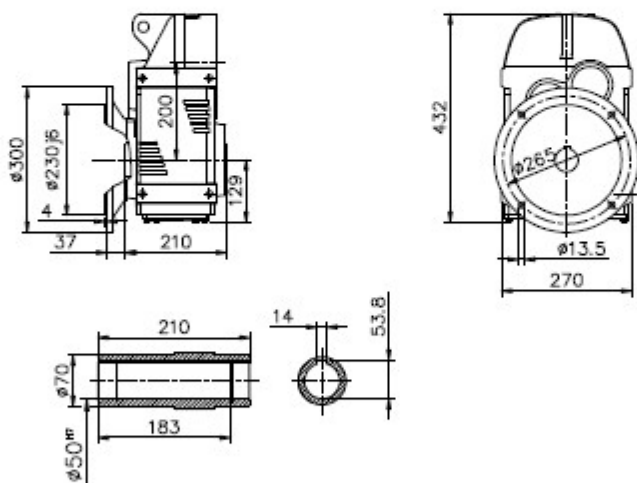
* 台灣東元電機股份有限公司製



Parallel shaft helical Gear Dimension Sheets [mm]



FMF77



For the dimensions concerning the solid Input shaft, please refer to the table shown at page C08.

For the dimensions concerning the motor input, please refer to the table shown at page C10.

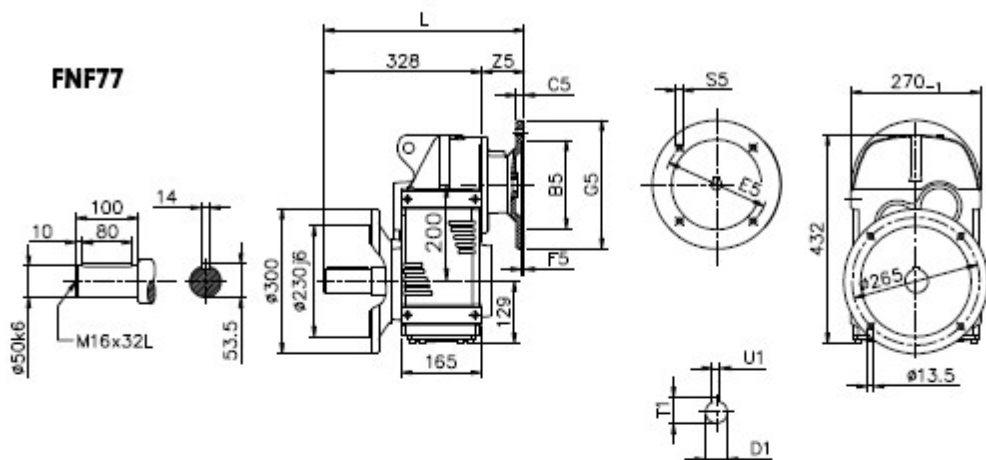
入力軸實心軸之尺寸表・請參閱第C08頁・

入力軸用電動直軸型之尺寸表・請參閱第C10頁・

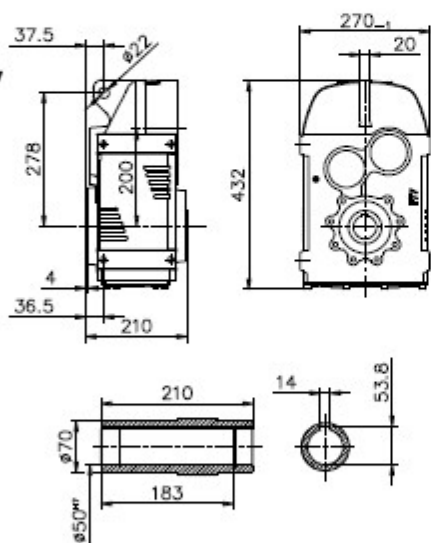
	B5	C5	B5	P5	C5	L	S5	Z5	D1	T1	U1
IBC 80	130	12	165	5	200	351	M10	59	19	21.8	6
IBC 90	130	12	165	5	200	351	M10	59	24	27.3	8
IBC 100	180	15	215	5	290	367.5	M12	75.5	28	31.3	8
IBC 112	180	15	215	5	290	367.5	M12	75.5	28	31.3	8
IBC 132	230	16	265	6	300	416	M12	124	38	41.3	10



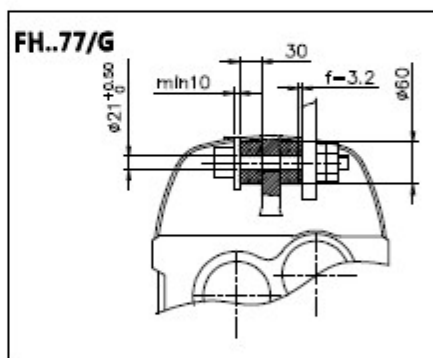
FNF77



FHF77



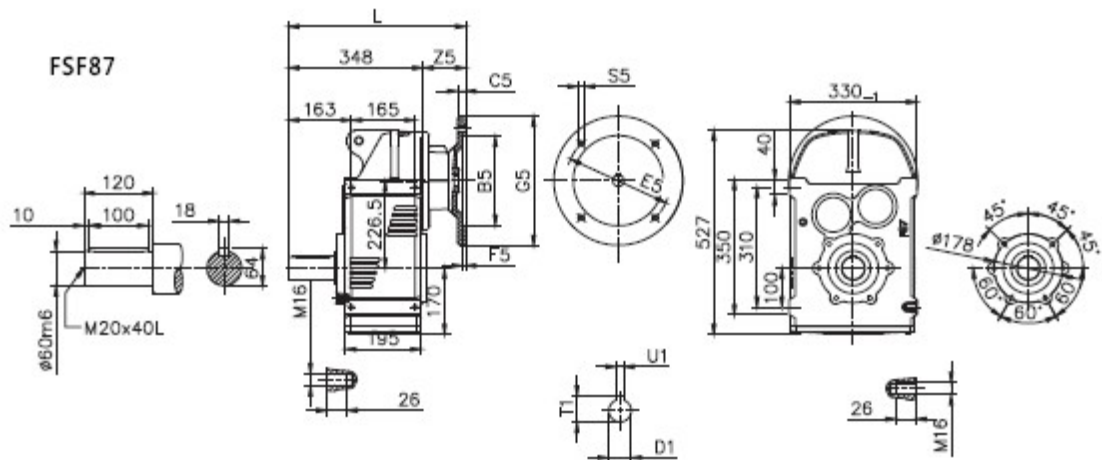
FH..77/G



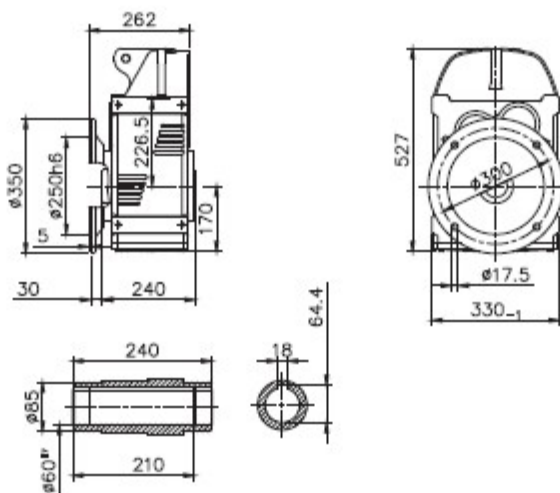
	B5	C5	B5	P5	G5	L	S5	Z5	D1	T1	U1
IHC 80	130	12	165	5	200	387	M10	59	19	21.8	6
IHC 90	130	12	165	5	200	387	M10	59	24	27.3	8
IHC 100	180	15	215	5	290	403.5	M12	75.5	28	31.3	8
IHC 112	180	15	215	5	290	403.5	M12	75.5	28	31.3	8
IHC 132	230	16	265	6	300	452	M12	124	38	41.3	10



Parallel shaft helical Gear Dimension Sheets [mm]



FMF87



For the dimensions concerning the solid input shaft, please refer to the table shown at page C09.

For the dimensions concerning the motor input, please refer to the table shown at page C10.

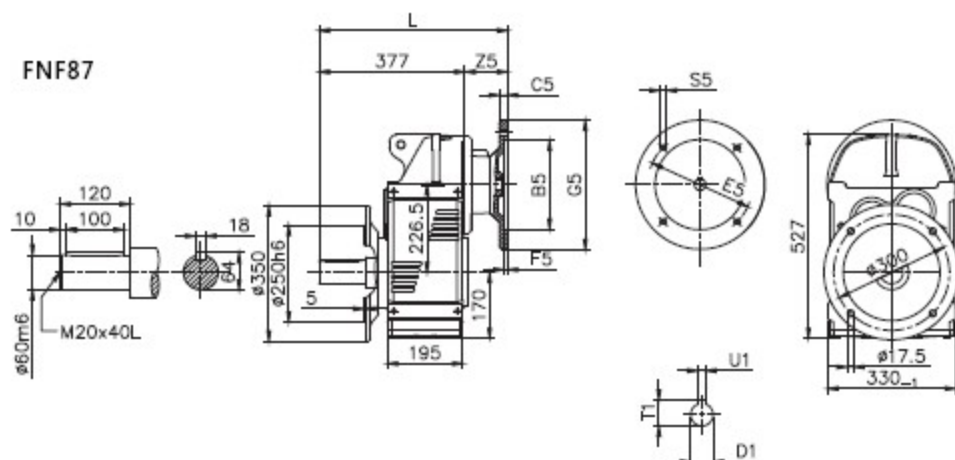
人力為實心軸之尺寸表・請參閱第124頁・

人力為馬達直結型之尺寸表・請參閱第123頁・

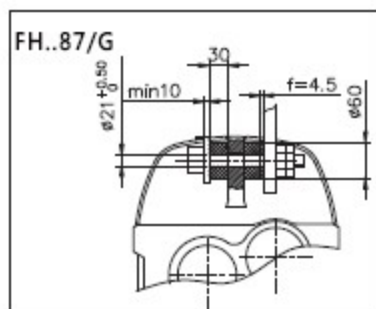
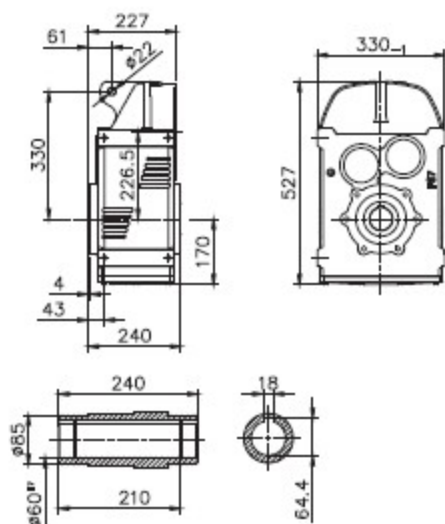
	B5	C5	E5	F5	G5	L	S5	Z5	D1	T1	U1
IBC 80	130	12	165	5	200	397.5	M10	49.5	19	21.8	6
IBC 90	130	12	165	5	200	397.5	M10	49.5	24	27.3	8
IBC 100	180	15	215	5	250	414	M12	66	28	31.3	8
IBC 112	180	15	215	5	250	414	M12	66	28	31.3	8
IBC 132	230	16	265	6	300	462.5	M12	114.5	38	41.3	10
IBC 160	250	20	300	6	350	498.5	M16	150.5	42	45.3	12



FNF87



FHF87

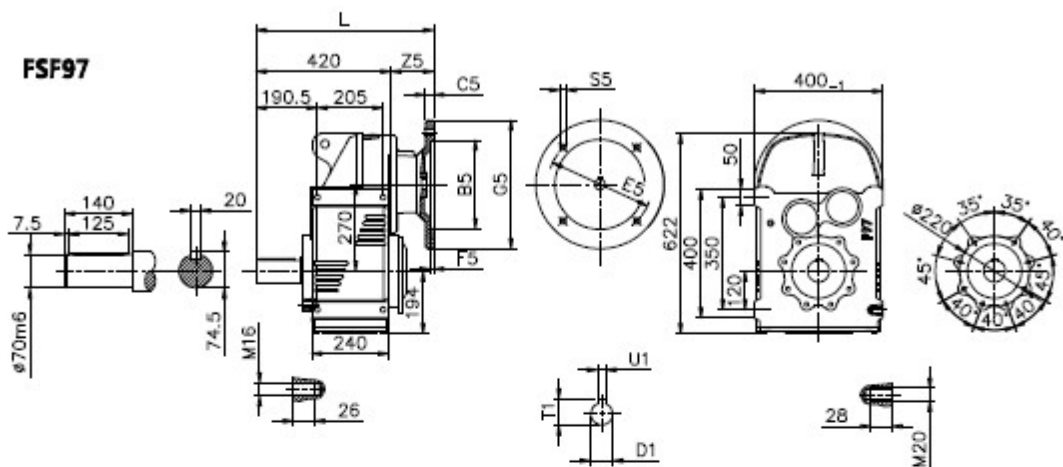


	B5	C5	E5	F5	G5	L	S5	Z5	D1	T1	U1
IEC 80	130	12	165	5	200	426.5	M10	49.5	19	21.8	6
IEC 90	130	12	165	5	200	426.5	M10	49.5	24	27.3	8
IEC 100	180	15	215	5	250	443	M12	66	28	31.3	8
IEC 112	180	15	215	5	250	443	M12	66	28	31.3	8
IEC 132	230	16	265	6	300	491.5	M12	114.5	38	41.3	10
IEC 160	250	20	300	6	350	527.5	M16	150.5	42	45.3	12

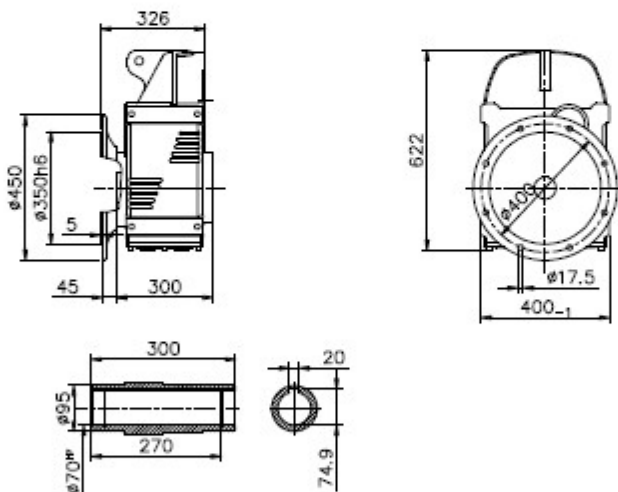


Parallel shaft helical Gear Dimension Sheets [mm]

FSF97



FMF97



For the dimensions concerning the solid input shaft, please refer to the table shown at page C08.

For the dimensions concerning the motor input, please refer to the table shown at page C10.

入力軸實心軸之尺寸表・請參閱第C08頁・

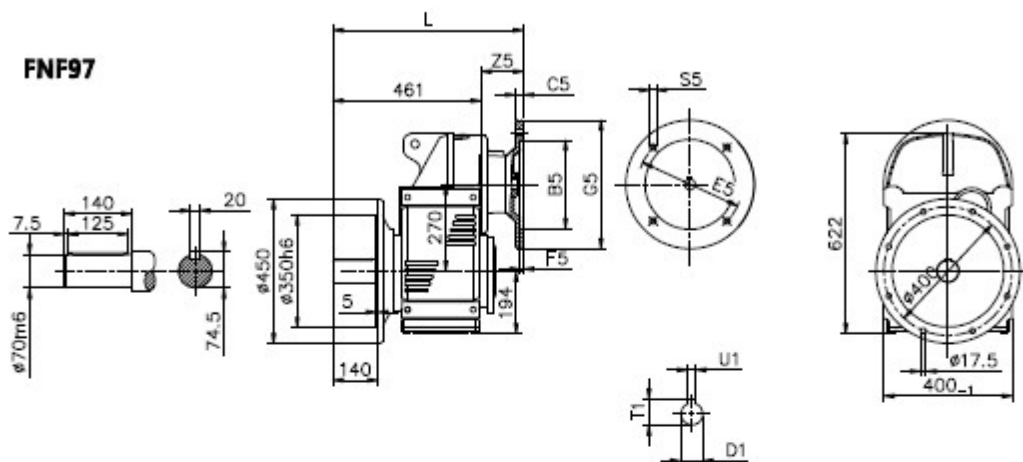
入力軸用直立形之尺寸表・請參閱第C10頁・

	B5	C5	B5	P5	G5	L	S5	Z5	D1	T1	U1
IBC 100	180	15	215	5	290	482	M12	62	28	31.3	8
IBC 112	180	15	215	5	290	482	M12	62	28	31.3	8
IBC 132	230	16	265	6	300	526.5	M12	106.5	38	41.3	10
IBC 160	280	20	300	6	350	562.5	M16	142.5	42	45.3	12
IBC 180*	280	20	300	6	350	571.5	M16	151.5	48	51.8	14

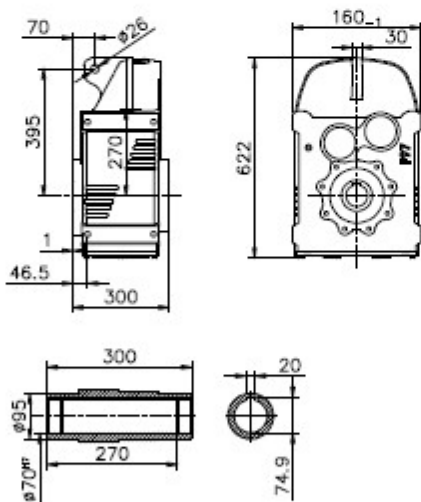
*台灣東元用直立形參閱第C12頁・



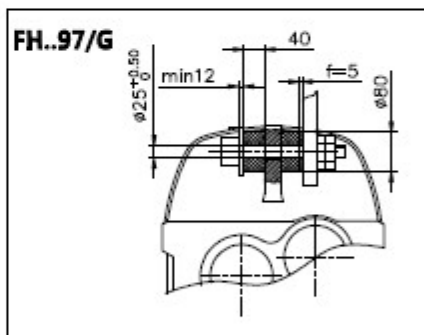
FNF97



FHF97



FH..97/G



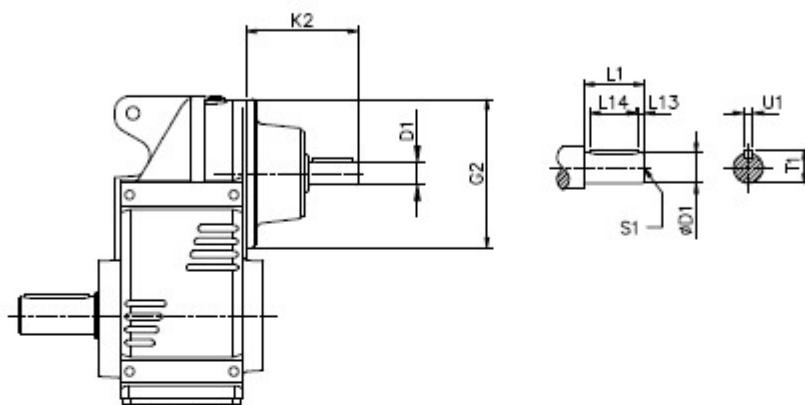
	B5	C5	B5	P5	G5	L	S5	Z5	D1	T1	U1
IBC 100	180	15	215	5	290	523	M12	62	28	31.3	8
IBC 112	180	15	215	5	290	523	M12	62	28	31.3	8
IBC 132	230	16	265	6	300	567.5	M12	106.5	38	41.3	10
IBC 160	290	20	300	6	390	608.5	M16	142.5	42	45.3	12
IBC 180 *	290	20	300	6	390	612.5	M16	151.5	48	51.8	14

* 台灣東元用齒輪參照C12頁。

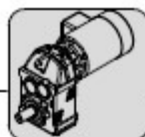


Parallel shaft helical Gear Units Dimension Sheets [mm]

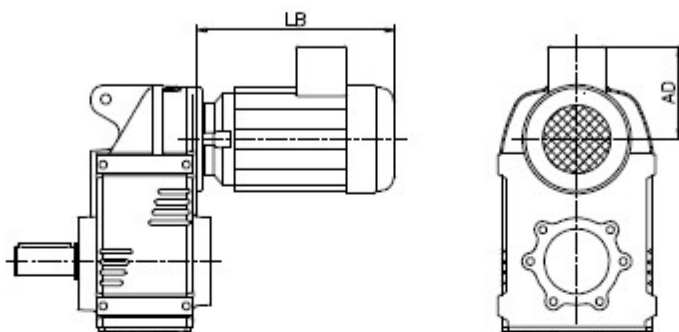
實心入力 Solid Input Shaft F..S



	D1	L1	L13	L14	T1	U1	S1	K2	G2	FIG
F.37	16 ϕ s	40	4	32	18	5	M5*10L	88	120	1
	19 ϕ s	40	4	32	21.5	6	M6*12L	90.5	120	1
F.47	16 ϕ s	40	4	32	18	5	M5*10L	88	120	1
	19 ϕ s	40	4	32	21.5	6	M6*12L	90.5	120	1
F.57	19 ϕ s	40	4	32	21.5	6	M6*12L	95	160	2
	24 ϕ s	50	5	40	27	8	M8*16L	119.5	160	2
F.67	19 ϕ s	40	4	32	21.5	6	M6*12L	95	160	2
	24 ϕ s	50	5	40	27	8	M8*16L	119.5	160	2
F.77	19 ϕ s	40	4	32	21.5	6	M6*12L	89.5	200	2
	19 ϕ s	40	4	32	21.5	6	M6*12L	106	200	2
	24 ϕ s	50	5	40	27	8	M8*16L	114	200	2
	38 ϕ s	80	5	70	41	10	M12*24L	177	200	2
F.87	19 ϕ s	40	4	32	21.5	6	M6*12L	95.5	250	2
	28 ϕ s	60	5	50	31	8	M8*16L	114.5	250	2
	38 ϕ s	80	5	70	41	10	M12*24L	167.5	250	2
	42 ϕ s	110	10	70	45	12	M16*32L	240.5	250	2
F.97	28 ϕ s	60	5	50	31	8	M8*16L	110.5	300	2
	38 ϕ s	80	5	70	41	10	M12*24L	159.5	300	2
	42 ϕ s	110	10	70	45	12	M16*32L	232.5	300	2
	48 ϕ s	110	10	80	51.5	14	M16*32L	237.5	300	2

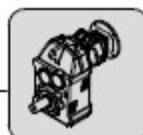


周速直結
Couple With motor
F..M

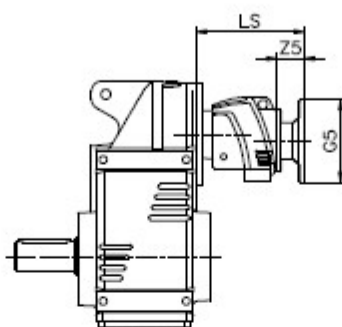


	MOTOR	AC	AD	LB
F.37	65	120	108	231.5
	71	136	116	247.5
	80	160	127	309
	90	176	139	354.5
F.47	65	120	108	231.5
	71	136	116	247.5
	80	160	127	309
	90	176	139	354.5
F.57	65	120	108	225
	71	136	116	241
	80	160	127	302.5
	90	176	139	348
	100	198	149	396
	112	220	167	408
F.67	65	120	108	225
	71	136	116	241
	80	160	127	302.5
	90	176	139	348
	100	198	149	396
	112	220	167	408
F.77	80	160	127	297
	90	176	139	342.5
	100	198	149	390.5
	112	220	167	402.5
	132S	258	184.5	441

	MOTOR	AC	AD	LB
F.87	80	160	127	287.5
	90	176	139	333
	100	198	149	381
	112	220	167	399
	132S	258	184.5	431.5
	132M	258	184.5	469.5
	160M	348	263	550
F.97	100	198	149	377
	112	220	167	389
	132S	258	184.5	423.5
	132M	258	184.5	461.5
	160M	334	263	542
	160L	334	286	586
	180MC	382	305	607.5



雙重齒多段
Multi-Staged Gear Unit

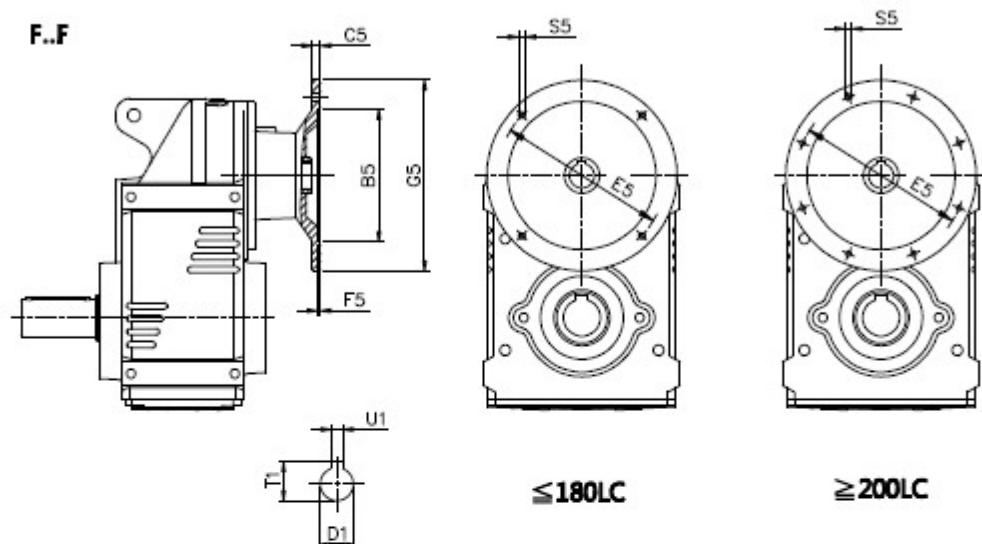


		LS	Z5	G5
R.37R17	IBC 56	181.5	56.5	80
	IBC 63	181.5	56.5	90
	IBC 71	181.5	56.5	105
	IBC 80	196	71	120
R.47R17	IBC 56	181.5	56.5	80
	IBC 63	181.5	56.5	90
	IBC 71	181.5	56.5	105
	IBC 80	196	71	120
R.57R37	IBC 63	217	53	140
	IBC 71	217	53	160
	IBC 80	235	71	200
	IBC 90	235	71	200
R.67R37	IBC 63	217	53	140
	IBC 71	217	53	160
	IBC 80	235	71	200
	IBC 90	235	71	200
R.77R37	IBC 63	211.5	53	140
	IBC 71	211.5	53	160
	IBC 80	229.5	71	200
	IBC 90	229.5	71	200
R.87R37	IBC 63	241.5	46.5	140
	IBC 71	241.5	46.5	160
	IBC 80	239.5	64.5	200
	IBC 90	239.5	64.5	200
	IBC 100	276	81	250
	IBC 112	276	81	250
R.97R37	IBC 63	233.5	46.5	140
	IBC 71	233.5	46.5	160
	IBC 80	251.5	64.5	200
	IBC 90	215.5	64.5	200
	IBC 100	268	81	250
	IBC 112	268	81	250



Parallel shaft helical Gear Units Dimension Sheets[mm]

法蘭入力 Input Flanges



輸入馬力 HP - 4P	IEC Frame	B5	C5	B5	F5	G5	S5	D1	T1	U1
0.25	63	110	10	130	4	160	M8	11	12.8	4
0.5	71	110	10	130	4	160	M8	14	16.3	5
1	80	130	12	165	5	200	M10	19	21.8	6
2	90L	130	12	165	5	200	M10	24	27.3	8
3	100L	180	15	215	5	250	M12	28	31.3	8
5	112M	180	15	215	5	250	M12	28	31.3	8
7.5	132S	230	16	265	6	300	M12	38	41.3	10
10	132M	230	16	265	6	300	M12	38	41.3	10
15	160M	250	20	300	6	350	M16	42	45.3	12
20	160L	250	20	300	6	350	M16	42	45.3	12
25 / 30	180MC	300	20	350	6	400	M16	48	51.8	14
40	180LC	300	20	350	6	400	M16	55	59.3	16
50 / 60	200LC	350	20	400	6	450	M16	60	64.4	18

This dimensional table is with specific frame sizes for TECO motor.
International IEC motor dimensions are referred to the specification as below.
本表適用於台灣東元馬達(4P)·如使用國際 IEC 馬達·請參照各型號尺寸圖下方表格·