TM. GEAR SPEED REDUCER

三山牌齒輪減速機

QUIET OPERATIONAL AND HIGH EFFICIENCY FOR THE INDUSTRIAL WORLD

功原機械工業股份有限公司

公司．工廠：台北市北投區立德路120巷16弄3號

TEL：(02)2893-3515（代表號）

FAX：(02)2895-1957

GONG YUAN MACHINERY INDUSTRIAL CO., LTD.

NO.3 ALLEY 16, LANE 120, LI TE ROAD.

PEI TOU, TAIPEI, TAIWAN R.O.C.

URL:http://www.motor.com.tw

Email:gongyuan@ms12.hinet.net

COMPANY PROFILE

It's almost thirty years passed since Gong Yuan Machinery Industrial established in 1967. In the early years our main product is Gear Reducer, with long experience and advanced technology G.Y.M.I has newly developed Worm Reducer, Mixer, S-Gear Reducer, H-Gears Reducer, Liner Actuators and Disco in series, under the full scale quality control system, each products must meets customers satisfactory.

公司簡介

從1967年本公司成立至今，已歷經30個年頭，成立之初主要爲生產齒輪減速機 (Gear Reducer) 單一產品。在經過不斷的研究及開發，目前除了齒輪減速機之外，尚有蝸輪減速機 (Worm Reducer)、攪拌機 (Mixer)、小型減速機 (S-Gear Reducer)、同軸型減速機 (H-Gear Reducer)、升降機 (Liner Actuators) 及無段變速機 (Disco) 等相關類產品，各項產品在出廠之前均經過高度的品質管制，才能確保每一項產品均能使顧客滿意。

構造材質

減速方式採用外接方式，減速機箱使用精良強力鑄鐵製成製造堅固橢圓形，中央有中間軸承固定壁，其前後容各裝一段齒輪和第二段齒輪。齒輪軸的軸承並經高精密度ＣＮＣ橫主軸綜合中心加工機（CNC Machine Center）加工一次完成，其軸承孔的平行度之精度極高。使齒輪嚙合精確，傳動率高。

品質優良

齒輪加工全部採用ＣＮＣ綜合車床製成，再經德國製（MODUL）滾齒輪機切出高精密度齒輪，相當美國齒輪工業協會（AGMA）級強力結晶。齒輪設計採用 **HELICAL GEAR** 壓力角 20° 以內。齒輪材質：大齒輪使用 S45C ，小齒輪使用 SCM-21，裝配後再充分精密檢查，在完美的狀態中裝配好，絕對保證其精密度，始能在無噪音中靜肅運轉。

堅固耐用

小齒輪經過滲碳熱處理，大齒輪經過高週波熱處理，並經合格檢驗硬度，且具有獨特的耐磨性，運轉滑強韌有力。出力軸以高碳鋼或合金鋼爲材質，加工後精密研磨，齒輪軸的軸承孔是同一機體，同一中心直線，減速部效力高，使用無限長，故障少，安裝設計三山牌齒輪硬化減速機，在國內外爲所有產業界樂意使用。

FEATURES

1. Through the processing of highly-precised cross principal shaft center combined processing machine (CNC) the gear shaft bearing enjoys a high transmission rate and a highly-precised parallel ratio of its bearing holes which causes the gear teeth coupling one with another

2. All the gear processing is made through by a combined lathe (CNC) and its teeth are hobbed by a Germany-made gear hobbing machine (MODUL) to a high precision which equals to the robustness evolved by AGMA. The gear is designed to fall into a pressure angle of within 20°. The principal gear is made of S45-C, and the pinion gear is made of SCM 21. The installation of such is carried out under a perfect condition. It will go through a precise check after installation, we absolutely assure its precision and thus, it is made to operate in absolute silent.

3. Robust and hard-wearing after pinion gear being passed through the heat treatment by filtering charcoal and principal gear being passed through high frequency heat treatment, and after a official test being made to its hardness, they enjoy special friction resistance and turn smoothly and robustly. Driving gear is made of high carbonaceous copper or copper alloy, it will face a precise grinding after processing. With bearing holes at the same machine body and at a centering line, the speed reducer enjoy a high efficiency. The speed reducer of 'T.M.' Brand with a characteristic of hardening could be used long and has little trouble. It appeals to be use in world wide industries.

機種、型式表示 DESCRIPTION OF TYPE & MODEL

TM - H - 235 - 1 - 20 - A - OH

TM	H	235	1	20	A	OH
公司代號 COMPANY NAME	機型 TYPE	型號 MODEL	馬力 HORSE POWER	速比 RATIO	馬達 MOTOR	使用方向 OPERATION DIRECTION
		請參閱下表	1/4HP-50HP	二段式 TWO-STAGE 1/3-1/35 三段式 THREE-STAGE 1/35-1/150 連結式 MULTI-STAGE 1/150-1/6000	A 三相 3 PHASE B 煞車 BRAKE C 特殊 SPECIAL S 單相 SINGLE PHASE	

三山牌齒輪減速機馬力型號速比一覽表 Selection Table Of HP & Model

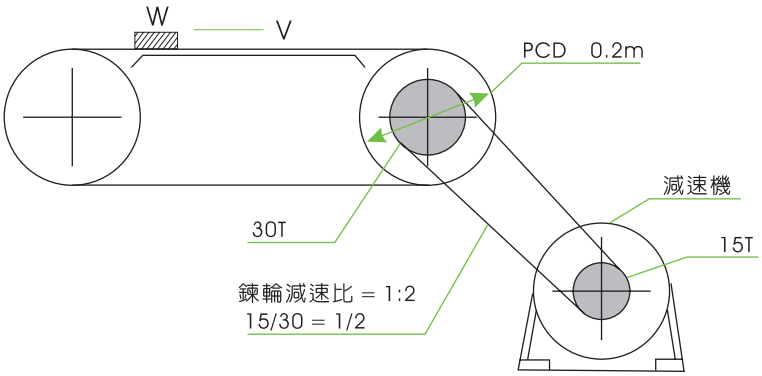
馬力 HP-4P(6P)	型號 MODEL	減速比 RATIO
1/4	125B	5 10 15 20 25 30
	125C	35 40 50 60 70 80 90 ※120
(1/8)	235C	100 110 120 130 140 150 160 170 180
1/2	125B	5 10 15 20 25 30
	125C	40 50 60
	235C	70 80 90 100
	※235C	110 120 130 140 150 160 170 180
(1/4)	340C	110 120 130 140
1	235B	5 10 15 20 25 30
	235C	35 40 50 60
	340C	70 80 90 100
	※340C	110 120 130 140
(1/2)	345C	110 120 130 140 150 160
2	235B	5 10 15 20
	340B	25 30
	340C	35 40 50 60
	345C	70 80 90 100
	※345C	110 120 130 140
(1)	450C	110 120 130 140
3	340B	5 10 15 20
	345B	25 30
	345C	35 40 50
	450C	60 70 80 90 100 ※140
(2)	455C	110 120 130 140
5	345B	5 10 15 20
	450B	25 30
	450C	35 40 50
	455C	60 70 80
	※455C	90 100 110 120 130 140 150 160
(3)	560C	90 100 110 120 130 140 150 160
7.5	450B	5 10 15 20
	455B	25 30
	455C	35 40 50
	560C	60 70 80
	※560C	90 100 110 120 130 140 150 160
(5)	570C	90 100 110 120 130 140

馬力 HP-4P(6P)	型號 MODEL	減速比 RATIO
10	455B	5 10 15 20
	560B	25 30
	560C	35 40 50
	570C	60 70 80 90 100 110
	※570C	120 130 140
(7 1/2)	680C	120 130 140 150
15	560B	5 10 15 20
	570B	25 30
	570C	35 40 50
	680C	60 70 80 90 100 110
	※680C	120 130 140
(10)	790C	120 130 140 150
20	570B	5 10 15 20
	680B	25 30
	680C	35 40 50
	790C	60 70 80
	※790C	90 100 110 120 130 140 150
(15)	800C	90 100 110 120 130 140 150
30	680B	5 10 15 20
	790B	25 30
	790C	35 40 50
	800C	60 70 80
	※800C	90 100 110 120 130 140 150
(20)	915C	90 100 110 120 130 140
40	790B	5 10 15 20
	800B	25 30
	800C	35 40 50
(30)	915C	60 70 80
50	800B	5 10 15 20
	915B	25 30
(40)	915C	35 40 50

※表示輕負荷使用 ※ Are used for light loading
可依需求訂製其他速比 Other ratios are available upon request.

減速機之選定範例 EXAMPLE OF SELECTION

例一：Example 1



◆ 搬運物總重量：W=600kg
◆ 搬送速度：V=9.5m/min
◆ 與軌道之摩擦係數： μ=0.15
◆ 鍊輪傳動效率：$\eta_1 = 0.95$
◆ 減速機傳動效率 $\eta_2 = 0.9$
◆ 運轉時間：8小時／日
◆ 起動次數：1回／分，中衝擊
◆ 使用電源：三相220V，60Hz

◆ Total weight of cargo: W=600kg
◆ Carrying speed: V=9.5m/min
◆ Friction Coefficient to guiding rail: μ=0.15
◆ Chain pulley transmission coefficient: $\eta_1 = 0.95$
◆ Gear reducer transmission Coefficient: $\eta_2 = 0.9$
◆ Operation time: 8 hour/day
◆ Start frequency: 1 time/min., Medium shock
◆ Power: 3 Phase 220V, 60Hz

減速機 Ratio

選定之注意事項 Notices Calculation Example

藉由必要的入力軸回轉速及出力軸回轉數來選定減速比
1. 先求出輸送帶滾輪回轉速(N1)
   N1 = 搬送速度／（滾輪直徑×π）
2. 再求出減速機出力軸回轉速（N2）
   N2=N1×（鍊輪齒數／減速機齒數）
3. 以3φ,60Hz之馬達計算減速比（τ）
   τ=出力軸回轉數／入力軸回轉速（馬達轉速N）

Reduction Ratio Notices Calculation Example
The reduction ratio is based on input/output shaft revolutions.
1. Find the revolution of conveyer pulley (N1)
   first N1=carring speed/ (pulley D× π)
2. Find the output shaft revolution of gear reducer (N2)
   N2=N1× (chain pulley speed/gear number of reducer)
3. Calculate reduction ratio (τ) based on 3φ,60Hz motor
   τ=output shaft revolution / input shaft revolution motor rpm N

計算範例 Load Condition Notice Calculation Example

1. N1= V / (D x π) = 9.5/(0.2 x 3.14) = 15 r/min(RPM)
2. N2 = N1 x (30/15) =15/(2/1) = 30r/min(RPM)
3. N2/N1= 30/1800 = 1/60
   (馬達轉速，motor RPM，input rpm)

扭力 Torque

選定之注意事項 Notices Calculation Example

決定減速比後，由使用機械之條件換算其扭力
1. 先算出輸送帶滾輪之扭力(T1) T1 = (μ x 荷重 X 滾輪半徑) / η1
2. 再換算成減速機出力軸所須扭力 (T2) T2 = (T1 X 鍊輪減速比) / η2

Torque Notices Calculation Example
After reduction ratio is decided, calculate the torque by the condition of the machine used.
1. Find the torque of conveyer pulley (T1)
   T1= (μ x load x pulley radius) / η1
2. Find the torque needed from the output shaft of reducer (T2)
   T2 = (T1 X reduction ratio of chain pulley) η2

計算範例 Load Condition Notice Calculation Example

1. T1= μ x W (D/2) / η1
   = 0.15 x 600 x (0.2/2) /0.95 = 9.5 kgf-m
2. T2 = (T1 x 1/2) / η2
   = (9.5x1/2)/0.9 = 5.28 kgf-m

負荷條件 Load condition

選定之注意事項 Notices Calculation Example

原動機 Prime Mover	傳動機負荷等級 Driven Machine Load Classification	每日使用時間 Duration of Service per day			
		0.50hr	2 hr	8-10 hr	10-24 hr
電動機 Electric Motor	均一負荷 Uniform	0.80	0.90	1.00	1.25
	中衝擊 Medium Shock	0.90	1.00	1.25	1.50
	重衝擊 Heavy Shock	1.00	1.25	1.50	1.75

補正扭力 = 減速機出力軸扭力 X 係數
Corrective Torque = reducer shaft torque X coeffcient

計算範例 Load Condition Notice Calculation Example

T3 = T2 x K
= 5.28 x 1.25 = 6.6 kgf-m

馬力 Horse Power

選定之注意事項 Notices Calculation Example

最後換算成馬力(Hp) Hp = (補正扭力 X 出力軸轉數) /716.2
Find horse power (Hp)
Hp = (corrective torque x revolution of output shaft) / 716.2

計算範例 Load Condition Notice Calculation Example

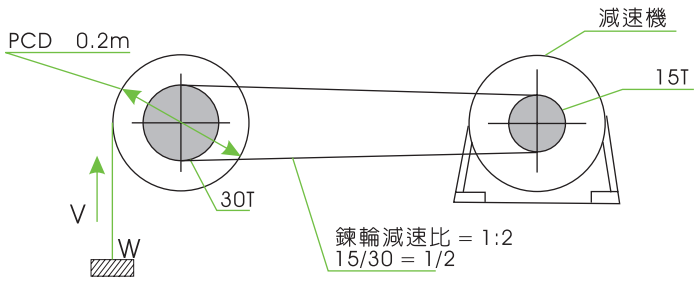
Hp = (T3 X N2) / 716.2 = (6.6 x35) / 716.2 = 0.3
1/2 Hp 馬達適用 (For 1/2 Hp motor)

型號選定 Model Selected

根據本型錄之型號速比對照表1/2Hp、減速比1/60，型號125C適用。
According to the model-reduction ratio reference table, model 125C, 1/2Hp, reduction ratio 1/60 are selected

減速機之選定範例 EXAMPLE OF SELECTION

例二：Example 2



- ◆ 搬運物總重量：W=600kg
- ◆ 搬送速度：V=9.5m/min
- ◆ 鍊輪傳動效率：$\eta_1 = 0.95$
- ◆ 減速機傳動效率$\eta_2 = 0.9$
- ◆ 運轉時間：8小時／日
- ◆ 起動次數：1回／分，中衝擊
- ◆ 使用電源：三相220V，60Hz
- ◆ Total weight of cargo: W=600kg
- ◆ Carrying speed: V=9.5m/min
- ◆ Chain pulley transmission coefficient: $\eta_1 = 0.95$
- ◆ Gear reducer transmission Coefficient: $\eta_2 = 0.9$
- ◆ Operation time: 8 hour/day
- ◆ Start frequency: 1 time/min., Medium shock
- ◆ Power; 3 Phase 220V, 60Hz

減速機 Ratio	選定之注意事項 Notices Calculation Example	計算範例 Load Condition Notice Calculation Example
	藉由必要的入力軸回轉速及出力軸回轉數來選定減速比 1. 先求出輸送帶回轉速(N1) N1 = 搬送速度／（滾輪直徑×π） 2. 再求出減速機出力軸回轉速（N2） N2=N1×鍊輪齒數減速比 3. 以3φ,60Hz之馬達計算減速比（τ） τ=出力軸回轉數／入力軸回轉速（馬達轉速N） Reduction Ratio Notices Calculation Example The reuction ratio is based on input/output shaft revolutions. 1. Find the revolution of conveyer pulley (N1) first N1=carring speed/ (pulley D× π) 2. Find the output shaft revolution of gear reducer (N2) N2=N1× (chain pulley speed /gear number of reducer) 3. Calculate reduction ratio (τ) based on 3φ,60Hz motor τ=output shaft revolution /input shaft revolution motor rpm N	1. N1= V / (D x π) = 9.5/(0.2 x 3.14) = 15 r/min (RPM) 2. N2 = N1 / i =15/(2/1) = 30r/min (RPM) 3. τ= 出力軸回轉數／入力軸回轉數 = 30/1800 = 1/60 (馬達轉速，motor RPM，input rpm)
扭力 Torque	**選定之注意事項 Notices Calculation Example**	**計算範例 Load Condition Notice Calculation Example**
	決定減速比後，由使用機械之條件換算其扭力 1. 先算出輸送帶滾輪之扭力(T1) T1 = (μ x 荷重 X 滾輪半徑) / η1 2. 再換算成減速機出力軸所須扭力 (T2) T2 = (T1 X 鍊輪減速比) / η2 Torque Notices Calculation Example After reduction ratio is decided, calculate the torque by the condition of the machine used. 1. Find the torque of conveyer pulley (T1) T1= (μ x load x pulley radius) / η1 2. Find the torque needed from the output shaft of reducer (T2) T2 = (T1 X reduction ratio of chain pulley) η2	1. T1= W (D/2) x (1 / η1) = 600 x (0.2/2) = 60 kgf-m 2. T2 = T1 x 1/2 x 1/η2 =60 x1/2 x 1/0.9 = 33.3 kgf-m
負荷條件 Load condition	**選定之注意事項 Notices Calculation Example**	**計算範例 Load Condition Notice Calculation Example**
	根據運轉條件算出補正扭力(T3) T3 = T2 x 運轉條件（係數K） Find Corrective torque (T3) according to operation condition T3 = T2 x operation condition (coefficient K)	T3 = T2 x K = 33.3 x 1 = 33.3 kgf-m
馬力 Horse Power	**選定之注意事項 Notices Calculation Example**	**計算範例 Load Condition Notice Calculation Example**
	最後換算成馬力(Hp) Hp = (T X N) /716.2 Find horse power (Hp) Hp = (T x N) / 716.2	Hp = (T X N) / 716.2 = (33.3x30) / 716.2 = 1.39 2 Hp馬達適用 (2Hp suitable motor)
型號選定 Model Selected	根據本型錄之型號速比對照表2Hp、減速比1/60，型號340C適用。 According to the model-reduction ratio reference table, model 340C, 2Hp, reduction ratio 1/60 are selected	

常用的公式集 Frequently used Formula

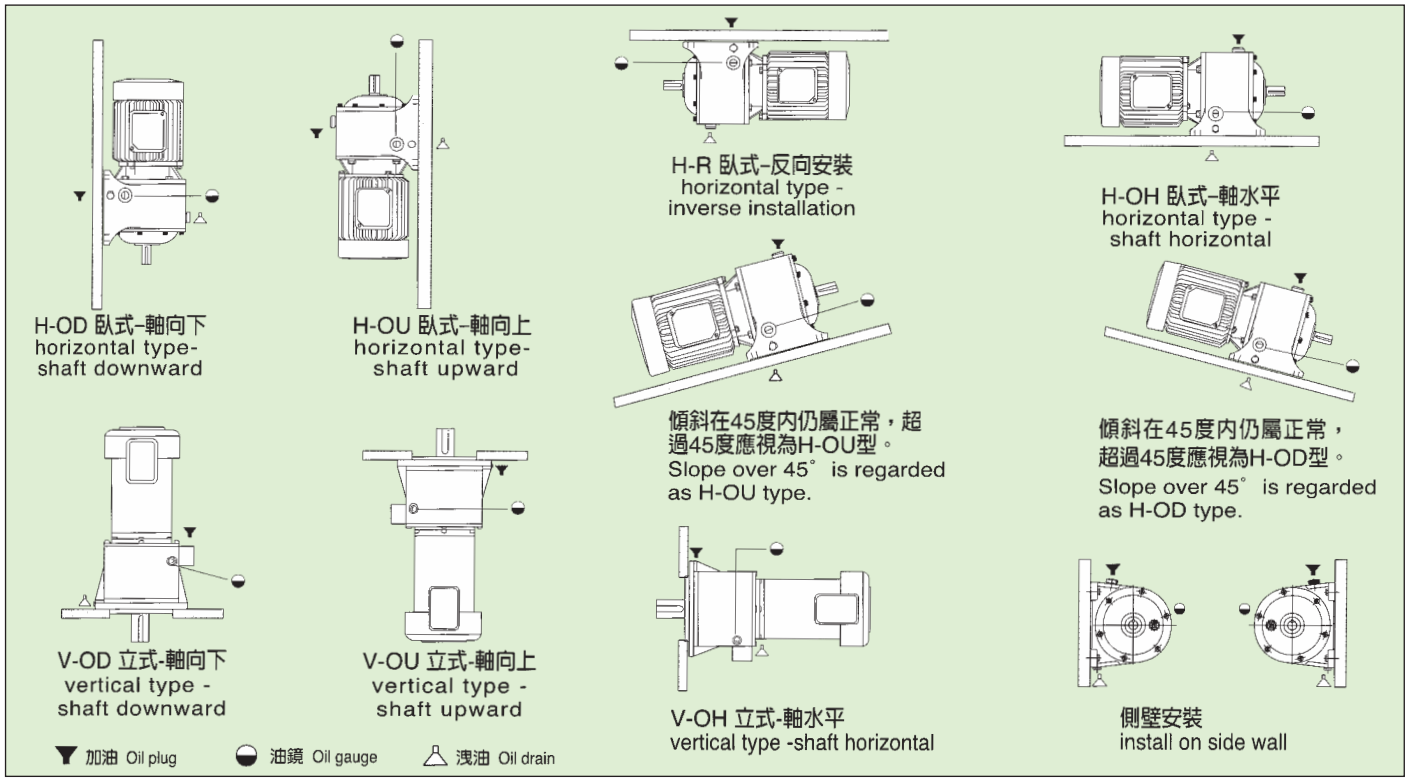
欲知的條件 Intended conditions		已知的條件 Known conditions	公式 Formula	
扭力 (Torque)	T	動力 (F)與半徑(R) / 馬力(Hp)與回轉數(N)(r.p.m.)	T = F x R	(kgf-m)
扭力 (Torque)	T	動力(Kw)與回轉數(N)(r.p.m.) / 扭力(T)與回轉數(N)(r.p.m.)	T = (716 x Hp) / N	(kgf-m)
扭力 (Torque)	T	扭力(T)與回轉數(N)(r.p.m.) / 重力(F)與速度(v)(m/sec)	T = (974 x Kw) / N	(kgf-m)
馬力 (Horse)	Hp	重力(F)與速度(V)(m/sec) / 齒輪、皮帶輪等的直徑(D)與回轉數(r.p.m.)	Hp = (T x N) / 716.2	(馬力)
動力 (Power)	Kw	入力回轉數(N1)與出力回轉數(N2)	Kw = (T x N)/974	(千瓦)
馬力 (Horse)	Hp	Power (F) & Radius (R) Horse / power (Hp) & Revolution (N)(r.p.m.)	Hp = (F x V) / 75	(馬力)
動力 (Power)	Kw	Power(Kw) & Revolution(N)(r.p.m.) / Torque(T) & Revolution(N)(r.p.m.)	Kw = (F x V) /102	(千瓦)
速度 (velocity)	V	Torque(T) & Revolution(N)(r.p.m.) / Gravity (F) & Velocity (V)(m/sec)	V = (π x D x N) / 60	(m/sec)
減速比 (Reduction Ratio)	I	Gravity (F0 & Velocity (V) (m/sec) Diameter (D) of gear and belt pulley & revolution (N) (r.p.m.) Input shaft revolution (N1) & Output shaft revolution (N2)	i = N1 / N2	

齒輪減速機的使用及安裝 USAGE AND INSTALLATION OF GEAR REDUCER

減速機使用方向 Use Direction of Gear Reducer

正常的使用方向可使減速機保持較高的壽命，非不得已的情況下盡量不要採用H-OU或V-OU的方式，因入力在軸端的油封在高速運轉下，較出力軸端的油封容易損壞，而導致潤滑油由油封滲出，如須採用請註明，以特別處理。

Proper use direction can provide ensure a longer life time to gear reducer. Unless otherwise specified. H-OU or V-O tpyes of operation shall be avoid as much as possible, because the oil seal of input shaft could damage more easily than output shaft and thus result in leakage of lubricant.

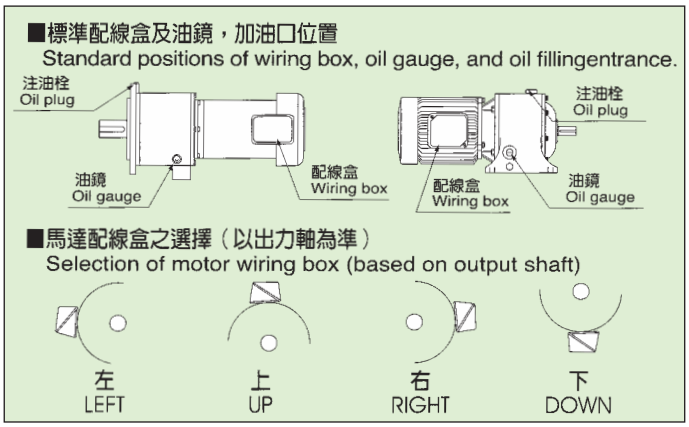


馬達配線盒位置

安裝方向注意潤滑油加油便利，油量計可看見且配線容易，正常情況下，附馬達之減速機其配線盒位置和油鏡，油蓋位置如下圖，如有不同時，請註明。

Position of Motor wiring Box

Be aware that the installation direction of wiring box shall facilitate the filing of lubricant, the visibility of oil level and wiring, In normal condition, the position of motor wiring box, oil gauge and oil lid is as shown below, unless otherwise specified.



潤滑油之選定

適當潤滑油的黏度，須使齒輪摩擦容易，遇高負荷及衝擊負荷時，減速機才能充分發揮其機能。下表即〝三山牌〞減速機潤滑油的選定：

SELECTION OF LUBRICANT OIL

Proper viscosity of lubricant is contributive to ease the friction of gears, so the speed reducer can fully apply its function in the case of high load or impact load. The table below shows the selection of lubricants for "**TM.**" speed reducers:

潤滑油之選定

荷重 (LOAD)	周圍溫度 Ambient Temperature	中國石油 KUO-KUANG BRAND	SHELL OIL	MOBIL OIL	ISO VG
普通荷重 COMMON LOAD	-30℃～5℃	國光牌極壓機油 HD-150	OMALA OIL 150	MOBIL GEAR 629	ISO VG EP 150
	5℃～40℃	國光牌極壓機油 HD-320	OMALA OIL 320	MOBIL GEAR 632	ISO VG EP 320
	40℃～65℃	國光牌極壓機油 HD-460	OMALA OIL 460	MOBIL GEAR 634	ISO VG EP 460
超荷重 HEAVY LOAD	-30℃～5℃	國光牌極壓機油 HD-320	OMALA OIL 320	MOBIL GEAR 632	ISO VG EP 320
	5℃～40℃	國光牌極壓機油 HD-460	OMALA OIL 460	MOBIL GEAR 634	ISO VG EP 460
	40℃～65℃	國光牌極壓機油 HD-680	OMALA OIL 680	MOBIL GEAR 636	ISO VG EP 680

注意事項：

1.本公司出廠減速機，使用國光牌極壓機油HD-320
2.最初使用100小時候，洗淨內部、換上新油以後每2500小時換油。
3.在高速、高溫、低速、重荷重、強制潤滑等特殊情況下使用場合，請與本公司洽商。
4.潤滑油不足可能導致噪音和齒輪快速磨損。
5.潤滑油過多可能導致漏油。
6.請加入適當潤滑油至油量計一半（請參考油量表）。

NOTICE:

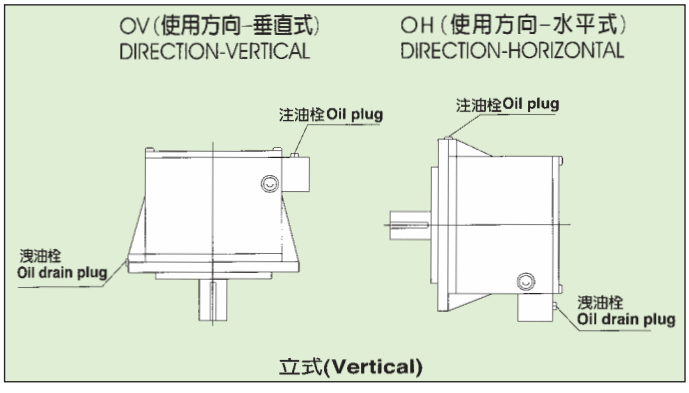
1."TM" gear reducers use Kuo-Kuang Brand engine oil HD-320
2.After initial 100 hours of usage, replace with new lubricant; then, do it every 2500 hours.
3.If use in the special conditions, such as high speed, high temperature, low speed, heavy load, and forced lubrication, please contact our company.
4.Insufficiency of lubricant could cause noise and fast abrasion of gears.
5.Excessive of lubricant could lead to oil leakage.
6.Please fill proper lubricant above half of the oil meter (see oil gauge).

油量表

立式減速機依使用方向的不同而使用不同的油量，而油鏡及洩油孔位置亦不同，訂貨時請註明使用方向。臥式減速機之油量請參考尺寸表。

Oil Capacities:

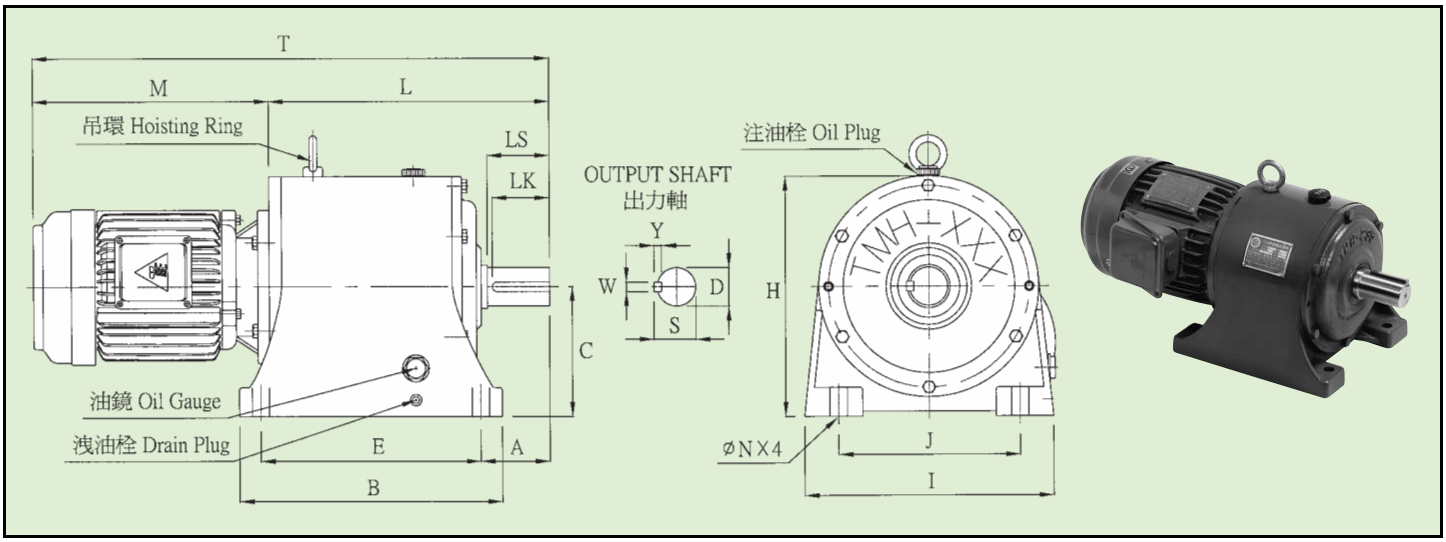
The amount of lubricant oil and the position of oil gauge and drain hole for the vertical speed reducers are based on use direction.
Please indicate the intended use direction when ordering.
Please refer to dimension table for the lubricant oil amount.



油量表 (Oil Capacities)

TYPE	TM-V		TM-VD		TM-VB	
方向 / MODEL	OH	OV	OH	OV	OH	OV
125B	0.3	0.5	0.3	0.5	0.3	0.5
235B	1.0	2.0	1.0	2.0	1.0	2.0
340B	1.5	3.0	1.5	3.0	1.5	3.0
345B	2.0	4.0	2.0	4.0	2.0	4.0
450B	3.0	8.0	3.0	8.0	3.0	8.0
455B	5.0	12	5.0	12	5.0	12
560B	5.0	12	5.0	12	5.0	12
570B	8.0	20	8.0	20	8.0	20
680B	8.0	20	8.0	20	8.0	20
790B	10	24	10	24	10	24
800B	12	30	12	30	12	30
125C	0.5	1.0	0.5	1.0	0.5	1.0
235C	1.5	3.0	1.5	3.0	1.5	3.0
340C	2.0	4.0	2.0	4.0	2.0	4.0
345C	3.0	8.0	3.0	8.0	3.0	8.0
450C	5.0	12	5.0	12	5.0	12
455C	8.0	20	8.0	20	8.0	20
560C	8.0	20	8.0	20	8.0	20
570C	10	24	10	24	10	24
680C	12	30	12	30	12	30

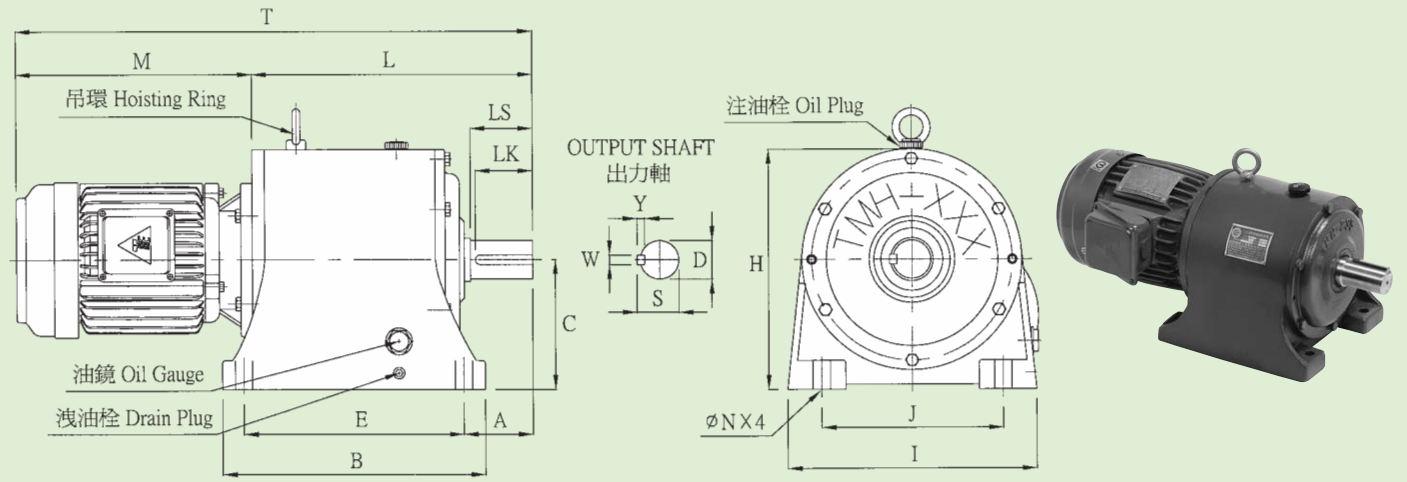
TMH 二段式尺寸表 2-STAGE DIMENSION



尺寸表 DIMENSION（單位 m/m）

型號 MODEL TMH	馬力 HP (4P)	減速比 RATIO	M	L	T	H	C	A	腳座 FOOT STOCK					出力軸 OUTPUT SHAFT				重量 WEIGHT (KG)	油量 OIL (ℓ)
									E	J	B	I	N	D	LS	S	WxYxLK		
125B	1/4 1/2	5-30	225 247.5	179.5	404.5 427	192.5	110	62.5	150	140	180	180	12	25	45	28	7x7x40	12	0.6
235B	1 2	5-30 5-20	242 321.5	231.5	473.5 553	220	120	68.5	210	150	240	220	14	35	60	38	10x8x55	22	1.2
340B	2 3	30 5-20	321.5 314.5	252.5	574 567	250	135	76.5	230	190	275	260	18	40	65	43	10x8x60	32	1.5
345B	3 5	30 5-20	314.5 371	271.5	586 642.5	290	160	84	250	220	290	290	18	45	70	48	12x8x65	50	2
450B	5 7.5	30 5-20	371 374	312.5	683.5 686.5	325	180	94.5	310	270	355	340	18	50	80	53	12x8x75	72	3
455B	7.5 10	30 5-20	374 412	333	707 745	380	210	110.5	320	300	360	380	18	55	85	59	15x10x80	100	5
560B	10 15	30 5-10	412 498	355.5	767.5 853.5	435	245	114	350	330	400	410	20	60	95	64	15x10x90	136	6.5
570B	15 20	15-30 5-10	498 542	383.5	881.5 925.5	480	265	88.5	380	340	440	440	20	70	100	75	18x12x95	187	12
680B	20 30	15-30 5-10	542 562	423 443	965 1005	535	295	96	420	400	480	490	20	80	115	86.5	20x15x110	228	15
790B	30 40	15-30 5-10	562 600	486	1048 1086	605	340	116	480	420	542	540	26	90	130	96.5	24x16x125	350	18
800B	40 50	15-30 5-10	600 660	569	1169 1229	690	400	157	500	480	602	600	26	100	145	108	28x18x140	500	20
915B	50	15-30	660	624	1284	757.5	420	157	600	580	700	700	28	115	180	124	32x20x175	550	25

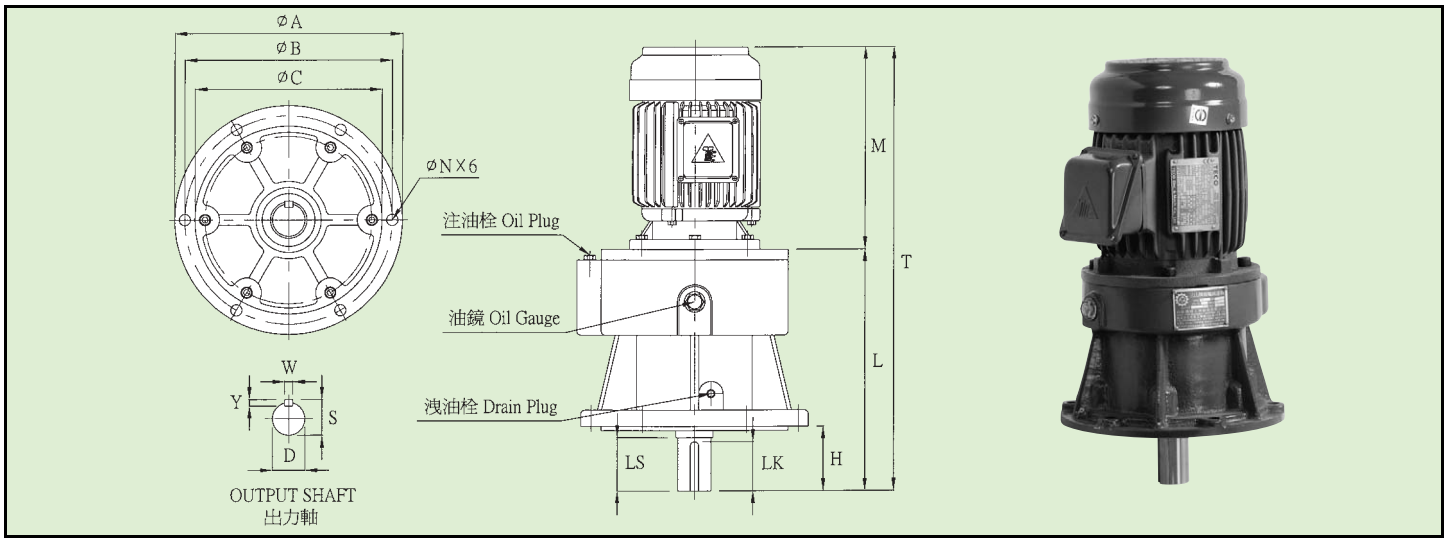
TMH 三段式尺寸表 3-STAGE DIMENSION



尺寸表 DIMENSION（單位 m/m）

型號 MODEL TMH	馬力 HP (4P)	減速比 RATIO	M	L	T	H	C	A	腳座 FOOT STOCK					出力軸 OUTPUT SHAFT				重量 WEIGHT (KG)	油量 OIL (ℓ)
									E	J	B	I	N	D	LS	S	WxYxLK		
125C	1/4 1-2	40-90 40-60	225 247.5	195.5	420.5 443	192.5	110	62.5	150	140	180	180	12	25	45	28	7x7x40	14	0.7
235C	1/4 1/2 1	120 90 40-60	225 247.5 242	267.5 267.5 256.5	492.5 515 498.5	220	120	74.5	210	150	240	220	14	35	60	38	10x8x55	25	1.4
340C	1/2 1 2	120 90 40-60	247.5 242 321.5	295.5 282.5 282.5	543 524.5 604	250	135	75	230	190	275	260	18	40	65	43	10x8x60	35	1.7
345C	1 2 3	120 90 40	242 321.5 314.5	314.5 314.5 302.5	556.5 636 617	290	160	89	250	220	290	290	18	45	70	48	12x8x65	52	2.2
450C	2 3 5	120 60-90 40	321.5 314.5 371	359.5 347.5 347.5	681 662 718.5	325	180	94.5	310	270	355	340	18	50	80	53	12x8x75	75	3.5
455C	3 5 7.5	120 60 40	314.5 371 374	390 384 370	704.5 755 744	380	210	110.5	320	300	360	380	18	55	85	59	15x10x80	110	6
560C	5 7.5 10	90-120 60 40	371 374 412	417.5 397.5 397.5	788.5 771.5 809.5	435	245	119	350	330	400	410	20	60	95	64	15x10x90	140	8
570C	7.5 10 15	90-120 60-90 40	374 412 498	448.5 448.5 428.5	822.5 860.5 926.5	480	265	123.5	380	340	440	440	20	70	100	75	18x12x95	226	14
680C	10 15 20	120 60-90 40	412 498 542	490.5 470.5 470.5	902.5 968.5 1012.5	535	295	118.5	420	400	480	490	20	80	115	86.5	20x15x110	250	17
790C	15 20 30	120 60 40	498 542 562	530	1028 1072 1092	605	340	123	480	420	540	540	26	90	130	96.5	24x16x125	380	20
800C	20 30 40	90 60 40	542 562 600	597	1139 1159 1197	690	400	166	500	480	580	600	26	100	145	108	28x18x140	550	23
915C	20 30 40 50	120 90 60 40	542 562 600 660	703	1245 1265 1303 1363	757.5	420	157	600	580	700	700	28	115	180	124	32x20x175	600	30

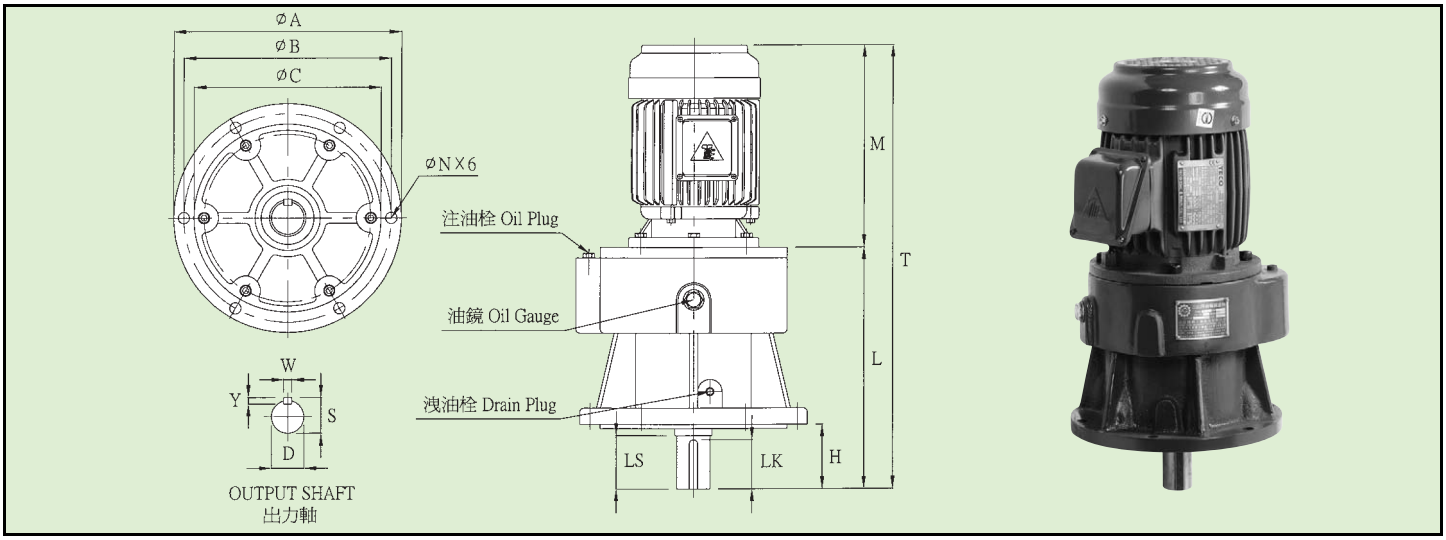
TMV 二段式尺寸表 2-STAGE DIMENSION



尺寸表 DIMENSION（單位 m/m）

型號 MODEL TMV	馬力 HP (4P)	減速比 RATIO	M	L	T	H	法蘭面 FLANGE				出力軸 OUTPUT SHAFT				重量 WEIGHT (KG)
							A	B	C	N	D	LS	S	WxYxLK	
125B	1/4 1/2	5-30	225 247.5	179.5	404.5 427	58.5	210	190	170	12	25	45	28	7x7x40	11
235B	1 2	5-30 5-20	242 321.5	231.5	473.5 553	72	250	225	200	14	35	60	38	10x8x55	22
340B	2 3	30 5-20	321.5 314.5	251.5	573 566	78	280	255	230	14	40	65	43	10x8x60	29
345B	3 5	30 5-20	314.5 371	271.5	586 642.5	83	310	280	250	14	45	70	48	12x8x65	50
450B	5 7.5	30 5-20	371 374	312.5	683.5 686.5	93	350	320	290	14	50	80	53	12x8x75	70
455B	7.5 10	30 5-20	374 412	333	707 745	98.5	400	370	340	18	55	85	59	15x10x80	95
560B	10 15	30 5-10	412 498	355.5	767.5 853.5	109.5	450	410	380	18	60	95	64	15x10x90	145
570B	15 20	15-30 5-10	498 542	391.5	889.5 933.5	110	500	460	420	20	70	100	75	18x12x95	200
680B	20 30	15-30 5-10	542 562	452	994 1014	137	560	510	470	20	80	115	86.5	20x15x110	233
790B	30 40	15-30 5-10	562 600	535.5	1097.5 1135.5	163.5	620	570	520	26	90	130	96.5	24x16x125	290
800B	40 50	15-30 5-10	600 660	556	1156 1216	166	700	650	600	26	100	145	108	28x18x140	350
915B	50	15-30	660	637	1297	202	850	780	700	32	115	180	124	32x20x175	500

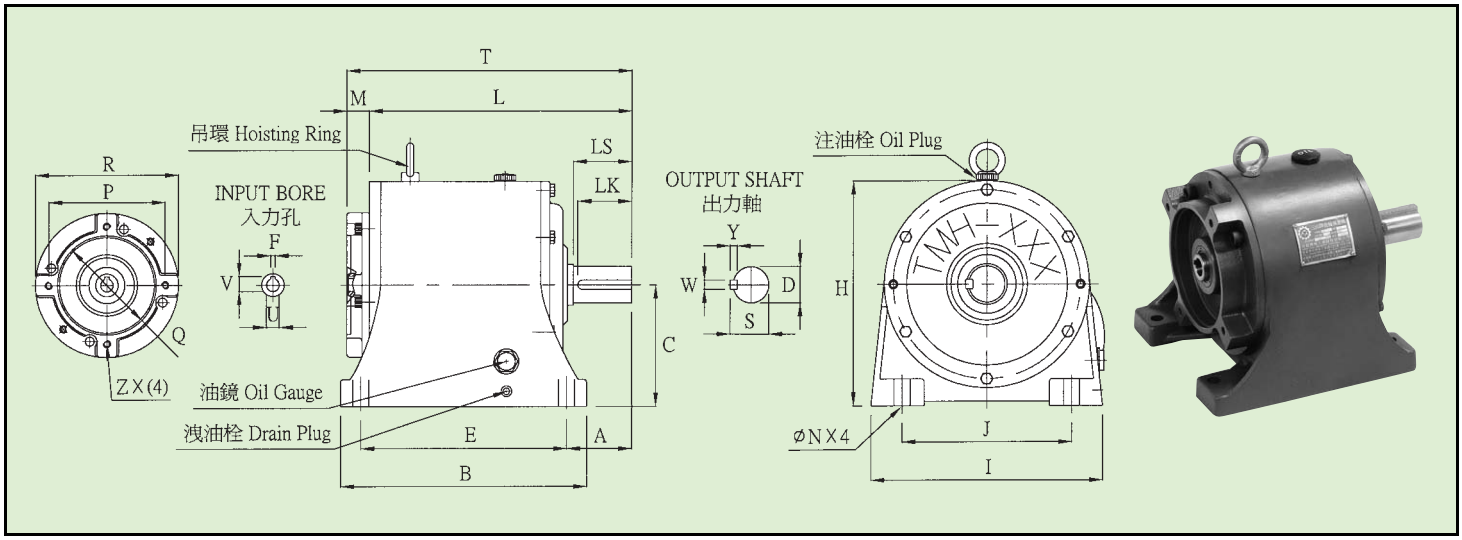
TMV 三段式尺寸表 3-STAGE DIMENSION



尺寸表 DIMENSION（單位 m/m）

型號 MODEL TMV	馬力 HP (4P)	減速比 RATIO	M	L	T	H	法蘭面 FLANGE				出力軸 OUTPUT SHAFT				重量 WEIGHT (KG)
							A	B	C	N	D	LS	S	WxYxLK	
125C	1/4 1/2	40-90 40-60	225 247.5	195.5	420.5 443	58.5	210	190	170	12	25	45	28	7x7x40	14
235C	1/4 1/2 1	120 90 40-60	225 247.5 242	267.5 267.5 256.5	492.5 515 498.5	72	250	225	200	14	35	60	38	10x8x55	23
340C	1/2 1 2	120 90 40-60	247.5 242 321.5	294.5 281.5 281.5	542 523.5 603	78	280	255	230	14	40	65	43	10x8x60	35
345C	1 2 3	120 90 40	242 321.5 314.5	314.5 314.5 302.5	556.5 636 617	83	310	280	250	14	45	70	48	12x8x65	56
450C	2 3 5	120 60-90 40	321.5 314.5 371	361.5 347.5 347.5	683 662 718.5	93	350	320	290	14	50	80	53	12x8x75	72
455C	3 5 7.5	120 60 40	314.5 371 374	396.5 396.5 382.5	711 767.5 756.5	98	400	370	340	18	55	85	59	15x10x80	105
560C	5 7.5 10	90-120 60 40	371 374 412	421.5 397.5 397.5	792.5 771.5 809.5	109.5	450	410	380	18	60	95	64	15x10x90	146
570C	7.5 10 15	90-120 60-90 40	374 412 498	460.5 460.5 436.5	834.5 872.5 934.5	110	500	460	420	20	70	100	75	18x12x95	240
680C	10 15 20	120 60-90 40	412 498 542	550 495 495	932 993 1037	137	560	510	470	20	80	115	86.5	20x15x110	286
790C	15 20 30	120 60 40	498 542 562	572.5	1070.5 1114.5 1134.5	163.5	620	570	520	26	90	130	96.5	24x16x125	350
800C	20 30 40	90 60 40	542 562 600	574	1116 1136 1174	166	700	650	600	26	100	145	108	28x18x140	420
915C	20 30 40 50	120 90 60 40	542 562 600 660	695 695 695 700	1237 1257 1295 1360	202	850	780	700	32	115	180	124	32x20x175	550

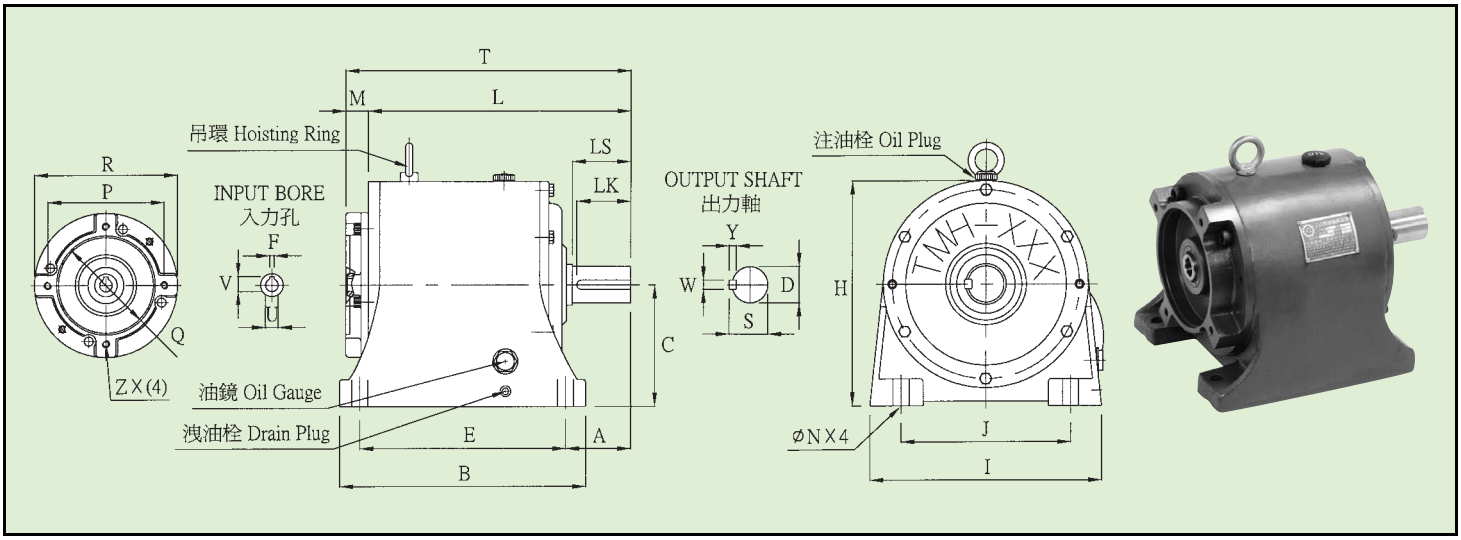
TMHB 二段式尺寸表 2-STAGE DIMENSION



尺寸表 DIMENSION（單位 m/m）

型號 MODEL TMHB	馬力 HP (4P)	減速比 RATIO	T	H	L	C	A	腳座 FOOT STOCK					馬達盤 IEC MOTOR FLANGE					入力孔 INPUT BORE			出力軸 OUTPUT SHAFT				重量 WEIGHT (KG)	油量 OIL (ℓ)
								E	J	B	I	N	M	P	Q	R	Z	U	F	V	D	LS	S	WxYxLK		
125B	1/4 1/2	5-30	204.5	192.5	179.5	110	62.5	150	140	180	180	12	25	130	110	160	M8	11 14	4 5	12.75 16.3	25	45	28	7x7x40	17	0.6
235B	1 2	5-30 5-20	267 277	220	231.5	120	68.5	210	150	240	220	14	35.5 45.5	165	130	200	M10	19 24	6 8	21.8 27.4	35	60	38	10x8x55	30	1.2
340B	2 3	30 5-20	298 302.5	250	252.5	135	76.5	230	190	275	260	18	45.5 50	165 215	130 180	200 252	M10 M12	24 28	8 8	27.4 31.3	40	65	43	10x8x60	41	1.5
345B	3 5	30 5-20	321.5	290	271.5	160	84	250	220	290	290	18	50	215	180	252	M12	28	8	31.3	45	70	48.5	12x8x65	53	2
450B	5 7.5	30 5-20	364 379	325	314	180	96	310	270	355	340	18	50 65	215 265	180 230	252 300	M12	28 38	8 10	31.3 41.3	50	80	53.5	12x8x75	82	3
455B	7.5 10	30 5-20	398	380	333	210	110.5	320	300	360	380	18	65	265	230	300	M12	38	10	41.3	55	85	60	15x10x80	123	5
560B	10 15	30 5-10	420.5 440.5	435	355.5	245	114	350	330	400	410	20	65 85	265 300	230 250	300 355	M12 M16	38 42	10 12	41.3 45.3	60	95	65	15x10x90	170	6.5
570B	15 20	15-30 5-10	468.5	480	383.5	265	88.5	380	340	440	440	20	85	300	250	355	M16	42	12	45.3	70	100	76	18x12x95	175	12
680B	20 30	15-30 5-10		535	423 443	295	96	420	400	480	490	20									80	115	87.5	20x15x110		15
790B	30 40	15-30 5-10		605	486	340	116	480	420	542	540	26									90	130	98	24x16x125		18
800B	40 50	15-30 5-10		690	569	400	157	500	480	602	600	26									100	145	109	28x18x140		20
915B	50	15-30		757.5	624	420	157	600	580	700	700	28									115	180	125	32x20x175		25

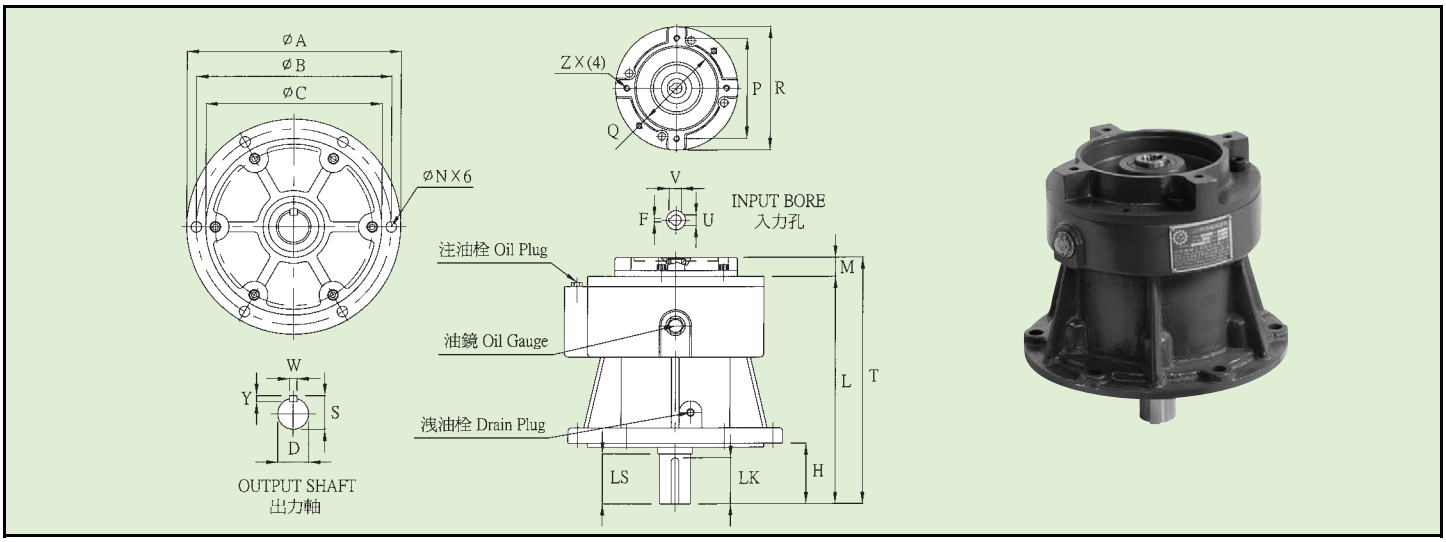
TMHB 三段式尺寸表 3-STAGE DIMENSION



尺寸表 DIMENSION（單位 m/m）

型號 MODEL TMHB	馬力 HP (4P)	減速比 RATIO	T	H	L	C	A	腳座 FOOT STOCK					馬達盤 IEC MOTOR FLANGE					入力孔 INPUT BORE			出力軸 OUTPUT SHAFT				重量 WEIGHT (KG)	油量 OIL (ℓ)
								E	J	B	I	N	M	P	Q	R	Z	U	F	V	D	LS	S	WxYxLK		
125C	1/4 1/2	40-90 40-60	220.5	192.5	195.5	110	62.5	150	140	180	180	12	25	130	110	160	M8	11 14	4 5	12.75 16.3	25	45	28	7x7x40	19	0.7
235C	1/4 1/2 1	120 90 40-60	292.5 292.5 292	220	267.5 267.5 256.5	120	74.5	210	150	240	220	14	25 25 35.5	130 130 165	110 110 130	160 160 200	M8 M8 M10	11 14 19	4 5 6	12.75 16.3 21.8	35	60	38	10x8x55	33	1.4
340C	1/2 1 2	120 90 40-60	320.5 318 328	250	295.5 282.5 282.5	135	75	230	190	275	260	18	25 35.5 45.5	130 165 165	110 130 130	160 200 200	M8 M10 M10	14 19 24	5 6 8	16.3 21.8 27.4	40	65	43	10x8x60	44	1.7
345C	1 2 3	120 90 40	350 360 352.5	290	314.5 314.5 302.5	160	89	250	220	290	290	18	35.5 45.5 50	165 165 215	130 130 180	200 200 252	M10 M10 M12	19 24 28	6 8 8	21.8 27.4 31.3	45	70	48	12x8x65	55	2.2
450C	2 3 5	120 60-90 40	405 397.5 397.5	325	359.5 347.5 347.5	180	94.5	310	270	355	340	18	45.5 50 50	165 215 215	130 180 180	200 252 252	M10 M12 M12	24 28 28	8 8 8	27.4 31.3 31.3	50	80	53	12x8x75	85	3.5
455C	3 5 7.5	120 60 40	440 434 435	380	390 384 370	210	110.5	320	300	360	380	18	50 50 65	215 215 265	180 180 230	252 252 300	M12	28 28 38	8 8 10	31.3 31.3 41.3	55	85	59	15x10x80	133	6
560C	5 7.5 10	90-120 60 40	467.5 462.5 462.5	435	417.5 397.5 397.5	245	119	350	330	400	410	20	50 65 65	215 265 265	180 230 230	252 300 300	M12	28 38 38	8 10 10	31.3 41.3 41.3	60	95	64	15x10x90	174	8
570C	7.5 10 15	90-120 60-90 40	513.5	480	448.5 448.5 428.5	265	123.5	380	340	440	440	20	65 65 85	265 265 300	230 230 250	300 300 355	M12 M12 M16	38 38 42	10 10 12	41.3 41.3 45.3	70	100	75	18x12x95	230	14
680C	10 15 20	120 60-90 40	555.5 555.5	535	490.5 470.5 470.5	295	118.5	420	400	480	490	20	65 85	265 300	230 250	300 355	M12 M16	38 42	10 12	41.3 45.3	80	115	86.5	20x15x110	300	17
790C	15 20 30	120 60 40		605	552	340	123	480	420	540	540	26									90	130	96.5	24x16x125		20
800C	20 30 40	90 60 40		690	597	400	166	500	480	580	600	26									100	145	108	28x18x140		23
915C	20 30 40 50	120 90 60 40		757.5	703	420	157	600	580	700	700	28									115	180	124	32x20x175		30

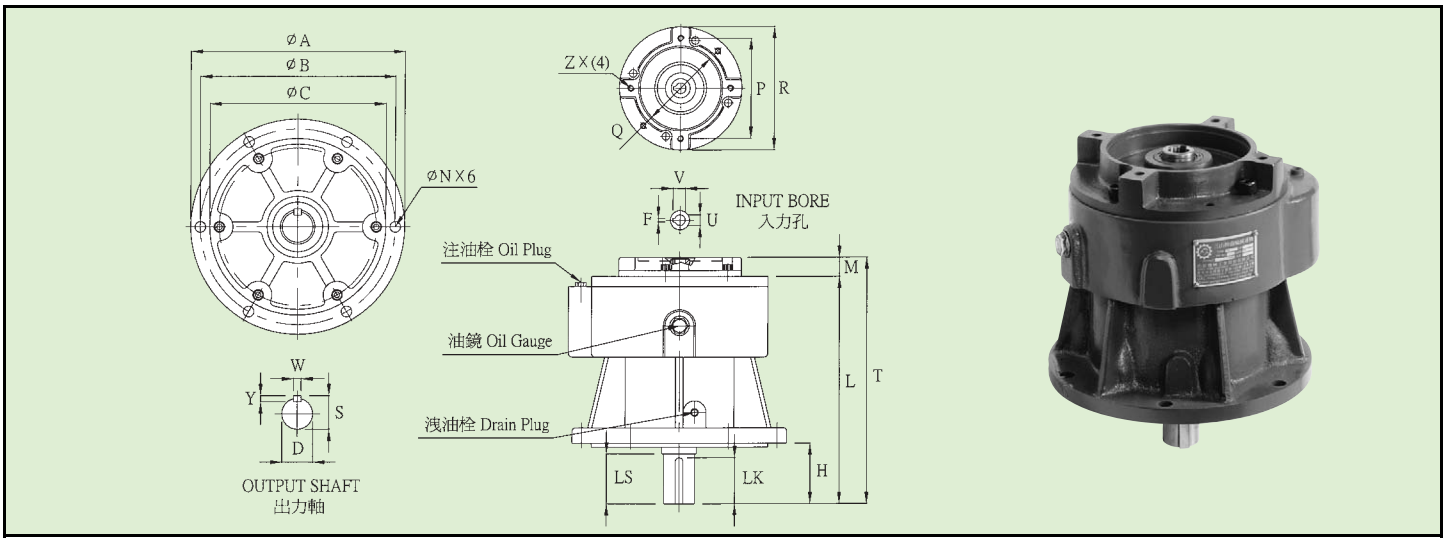
TMVB 二段式尺寸表 2-STAGE DIMENSION



尺寸表 DIMENSION（單位 m/m）

型號 MODEL TMVB	馬力 HP (4P)	減速比 RATIO	T	L	H	法蘭面 FLANGE				馬達盤 IEC MOTOR FLANGE					入力孔 INPUT BORE			出力軸 OUTPUT SHAFT				重量 WEIGHT (KG)
						A	B	C	N	M	P	Q	R	Z	U	F	V	D	LS	S	WxYxLK	
125B	1/4 1/2	5-30	204.5	179.5	58.5	210	190	170	12	25	130	110	160	M8	11 14	4 5	12.75 16.3	25	45	28	7x7x40	16
235B	1 2	5-30 5-20	267 277	231.5	72	250	225	200	14	35.5 45.5	165	130	200	M10	19 24	6 8	21.8 27.4	35	60	38	10x8x55	30
340B	2 3	30 5-20	297 302	251.5	78	280	255	230	14	45.5 50	165 215	130 180	200 252	M10 M12	24 28	8 8	27.4 31.3	40	65	43	10x8x60	38
345B	3 5	30 5-20	321.5	271.5	83	310	280	250	14	50	215	180	252	M12	28	8	31.3	45	70	48	12x8x65	59
450B	5 7.5	30 5-20	362.5 377.5	312.5	93	350	320	290	14	50 65	215 265	180 230	252 300	M12	28 38	8 10	31.3 41.3	50	80	53	12x8x75	80
455B	7.5 10	30 5-20	398	333	98.5	400	370	340	18	65	265	230	300	M12	38	10	41.3	55	85	59	15x10x80	118
560B	10 15	30 5-10	420.5 440.5	355.5	109.5	450	410	380	18	65 85	265 300	230 250	300 355	M12 M16	38 42	10 12	41.3 45.3	60	95	64	15x10x90	170
570B	15 20	15-30 5-10	476.5	391.5	110	500	460	420	20	90	300	250	350	M16	42	12	45.3	70	100	75	18x12x95	243
680B	20 30	15-30 5-10		450	135	560	510	470	20	90	300	250	350	M16	42	12	45.3	80	115	86.5	20x15x110	
790B	30 40	15-30 5-10		535.5	163.5	620	570	520	26									90	130	96.5	24x16x125	
800B	40 50	15-30 5-10		556	166	700	650	600	26									100	145	108	28x18x140	
915B	50	15-30		637	202	850	780	700	32									115	180	124	32x20x175	

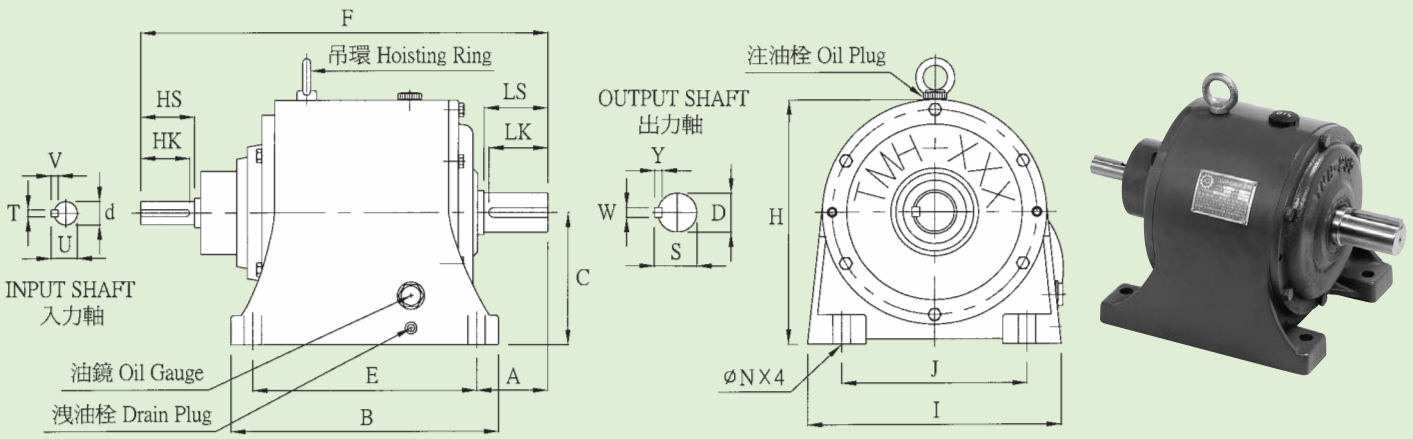
TMVB 三段式尺寸表 3-STAGE DIMENSION



尺寸表 DIMENSION（單位 m/m）

型號 MODEL TMVB	馬力 HP (4P)	減速比 RATIO	T	L	H	法蘭面 FLANGE				馬達盤 IEC MOTOR FLANGE					入力孔 INPUT BORE			出力軸 OUTPUT SHAFT				重量 WEIGHT (KG)
						A	B	C	N	M	P	Q	R	Z	U	F	V	D	LS	S	WxYxLK	
125C	1/4 1/2	40-90 40-60	220.5	195.5	58.5	210	190	170	12	25	130	110	160	M8	11 14	4 5	12.75 16.3	25	45	28	7x7x40	19
235C	1/4 1/2 1	120 90 40-60	292.5 292.5 292	267.5 267.5 256.5	72	250	225	200	14	25 25 35.5	130 130 165	110 110 130	160 160 200	M8 M8 M10	11 14 19	4 5 6	12.75 16.3 21.8	35	60	38	10x8x55	31
340C	1/2 1 2	120 90 40-60	319.5 317 327	294.5 281.5 281.5	78	280	255	230	14	25 35.5 45.5	130 165 165	110 130 130	160 200 200	M8 M10 M10	14 19 24	5 6 8	16.3 21.8 27.4	40	65	43	10x8x60	34
345C	1 2 3	120 90 40	350 360 352.5	314.5 314.5 302.5	83	310	280	250	14	35.5 45.5 50	165 165 215	130 130 180	200 200 252	M10 M10 M12	19 24 28	6 8 8	21.8 27.4 31.3	45	70	48	12x8x65	64
450C	2 3 5	120 60-90 40	407 397.5 397.5	361.5 347.5 347.5	93	350	320	290	14	45.5 50 50	165 215 215	130 180 180	200 252 252	M10 M12 M12	24 28 28	8 8 8	27.4 31.3 31.3	50	80	53	12x8x75	82
455C	3 5 7.5	120 60 40	446.5 446.5 447.5	396.5 396.5 382.5	98	400	370	340	18	50 50 65	215 215 265	180 180 230	252 252 300	M12	28 28 38	8 8 10	31.3 31.3 41.3	55	85	59	15x10x80	128
560C	5 7.5 10	90-120 60 40	471.5 462.5 462.5	421.5 397.5 397.5	109.5	450	410	380	18	50 65 65	215 265 265	180 230 230	252 300 300	M12	28 38 38	8 10 10	31.3 41.3 41.3	60	95	64	15x10x90	170
570C	7.5 10 15	90-120 60-90 40	525.5 525.5 521.5	460.5 460.5 436.5	110	500	460	420	20	65 65 85	265 265 300	230 230 250	300 300 355	M12 M12 M16	38 38 42	10 10 12	41.3 41.3 45.3	70	100	75	18x12x95	283
680C	10 15 20	120 60-90 40	579 574	514 489 487	137	560	510	470	20	65 85	265 300	230 250	300 355	M12 M16	38 42	10 12	41.3 45.3	80	115	86.5	20x15x110	328
790C	15 20 30	120 60 40		572.5	163.5	620	570	520	26									90	130	96.5	24x16x125	
800C	20 30 40	90 60 40		574	166	700	650	600	26									100	145	108	28x18x140	
915C	20 30 40 50	120 90 60 40		695 695 695 700	202	850	780	700	32									115	180	124	32x20x175	

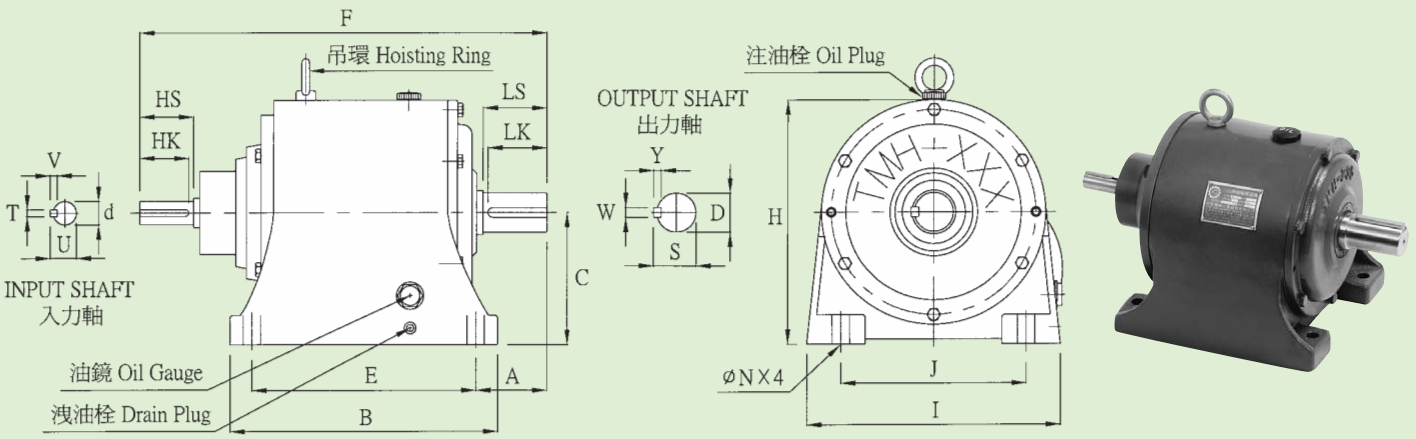
TMHD 二段式尺寸表 2-STAGE DIMENSION



尺寸表 DIMENSION（單位 m/m）

型號 MODEL TMHD	馬力 HP (4P)	減速比 RATIO	F	A	C	H	入力軸 INPUT SHAFT				腳座 FOOT STOCK					出力軸 OUTPUT SHAFT				重量 WEIGHT (KG)	油量 OIL (ℓ)
							d	HS	TxVxHK	U	E	J	B	I	N	D	LS	S	WxYxLK		
125B	1/4 1/2	5-30	262.5	62.5	110	192.5	14	35	5x5x30	16	150	140	180	180	12	25	45	28	7x7x40	17	0.6
235B	1 2	5-30 5-20	358.5	68.5	120	220	19	50	5x5x45	21	210	150	240	220	14	35	60	38.5	10x8x55	30	1.2
340B	2 3	30 5-20	388.5	76.5	135	250	24	55	7x7x50	27	230	190	275	260	18	40	65	43	10x8x60	41	1.5
345B	3 5	30 5-20	406.5	84	160	290	28	55	7x7x50	31	250	220	290	290	18	45	70	48	12x8x65	58	2
450B	5 7.5	30 5-20	466.5	94.5	180	325	28	65	7x7x60	31	310	270	355	340	18	50	80	53	12x8x75	82	3
455B	7.5 10	30 5-20	500	110.5	210	380	38	70	10x8x65	41.5	320	300	360	380	18	55	85	59	15x10x80	123	5
560B	10 15	30 5-10	531.5	114	245	435	38	75	10x8x70	41.5	350	330	400	410	20	60	95	64	15x10x90	170	6.5
570B	15 20	15-30 5-10	570.5	88.5	265	480	42	80	12x8x75	45.5	380	340	440	440	20	70	100	75	18x12x95	230	12
680B	20 30	15-30 5-10	616	96	295	535	42	80	12x8x75	45.5	420	400	480	490	20	80	115	86.5	20x15x110	270	15
790B	30 40	15-30 5-10	721	116	340	605	48	100	12x8x95	51.5	480	420	542	540	26	90	130	96.5	24x16x125	410	18
800B	40 50	15-30 5-10	827	157	400	690	55	100	15x10x95	60	500	480	602	600	26	100	145	108	28x18x140	580	20
915B	50	15-30	925	157	420	757.5	60	110	15x10x105	65	600	580	700	700	28	115	180	124	32x20x175	630	25

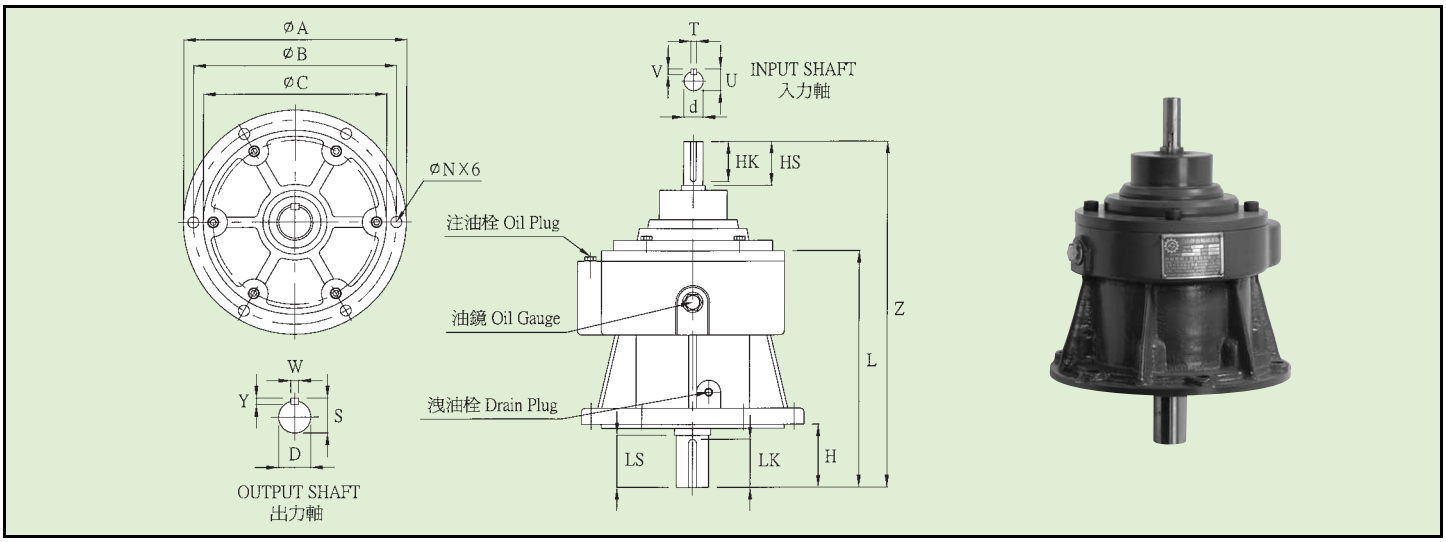
TMHD 三段式尺寸表 3-STAGE DIMENSION



尺寸表 DIMENSION（單位 m/m）

型號 MODEL TMHD	馬力 HP (4P)	減速比 RATIO	F	A	C	H	入力軸 INPUT SHAFT				腳座 FOOT STOCK					出力軸 OUTPUT SHAFT				重量 WEIGHT (KG)	油量 OIL (ℓ)
							d	HS	TxVxHK	U	E	J	B	I	N	D	LS	S	WxYxLK		
125C	1/4 1/2	40-90 40-60	278.5	62.5	110	192.5	14	35	5x5x30	16	150	140	180	180	12	25	45	28	7x7x40	19	0.7
235C	1/4 1/2 1	120 90 40-60	383.5	74.5	120	220	19	50	5x5x45	21	210	150	240	220	14	35	60	38	10x8x55	33	1.4
340C	1/2 1 2	120 90 40-60	418.5	75	135	250	24	55	7x7x50	27	230	190	275	260	18	40	65	43	10x8x60	44	1.7
345C	1 2 3	120 90 40	437.5	89	160	290	28	55	7x7x50	31	250	220	290	290	18	45	70	48	12x8x65	55	2.2
450C	2 3 5	120 60-90 40	501.5	94.5	180	325	28	65	7x7x60	31	310	270	355	340	18	50	80	53	12x8x75	85	3.5
455C	3 5 7.5	120 60 40	537	110.5	210	380	38	70	10x8x65	41.5	320	300	360	380	18	55	85	59	15x10x80	133	6
560C	5 7.5 10	90-120 60 40	573.5	119	245	435	38	75	10x8x70	41.5	350	330	400	410	20	60	95	64	15x10x90	174	8
570C	7.5 10 15	90-120 60-90 40	615.5	123.5	265	480	42	80	12x8x75	45.5	380	340	440	440	20	70	100	75	18x12x95	230	14
680C	10 15 20	120 60-90 40	661.5	118.5	295	535	42	80	12x8x75	45.5	420	400	480	490	20	80	115	86.5	20x15x110	300	17
790C	15 20 30	120 60 40	765	123	340	605	48	100	12x8x95	51.5	480	420	540	540	26	90	130	96.5	24x16x125	420	20
800C	20 30 40	90 60 40	856	166	400	690	55	100	15x10x95	60	500	480	580	600	26	100	145	108	28x18x140	580	23
915C	20 30 40 50	120 90 60 40	1004	157	420	757.5	60	110	15x10x105	65	600	580	700	700	28	115	180	124	32x20x175	650	30

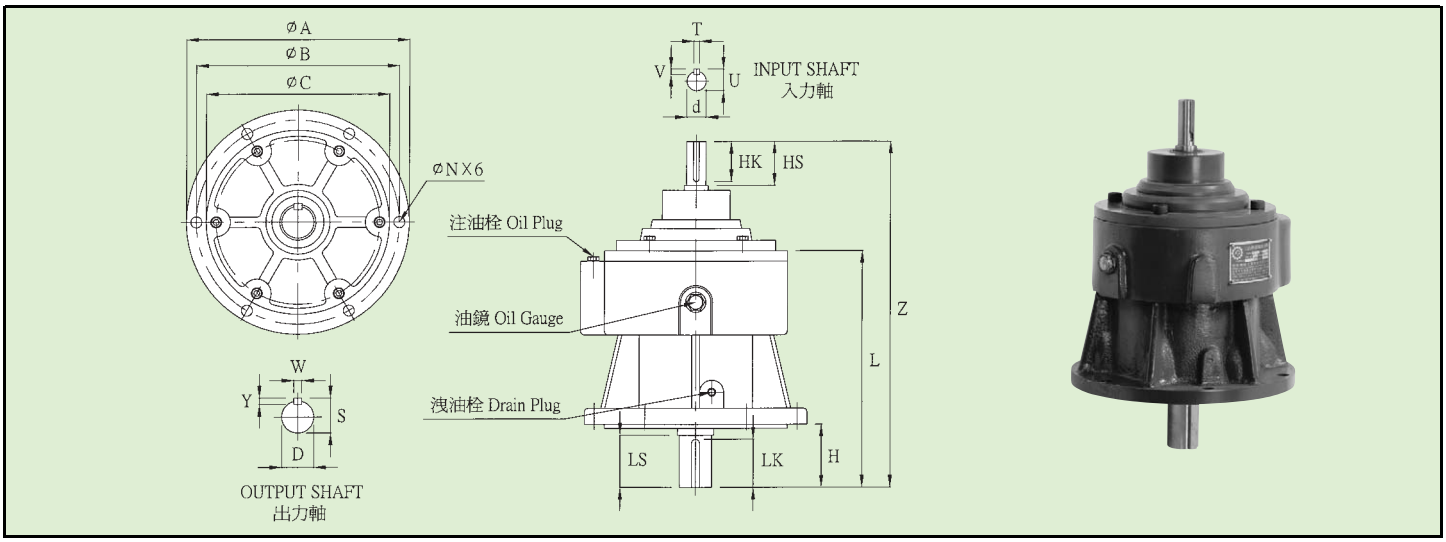
TMVD 二段式尺寸表 2-STAGE DIMENSION



尺寸表 DIMENSION（單位 m/m）

型號 MODEL TMVD	馬力 HP (4P)	減速比 RATIO	L	Z	入 力 軸 INPUT SHAFT				法蘭面 FLANGE				出力軸 OUTPUT SHAFT					重量 WEIGHT (KG)
					d	HS	TxVxHK	U	A	B	C	N	D	LS	S	H	WxYxLK	
125B	1/4 1/2	5-30	179.5	262.5	14	35	5x5x30	16	210	190	170	12	25	45	28	58.5	7x7x40	16
235B	1 2	5-30 5-20	231.5	358.5	19	50	5x5x45	21	250	225	200	14	35	60	38	72	10x8x55	30
340B	2 3	30 5-20	251.5	387	24	55	7x7x50	27	280	255	230	14	40	65	43	78	10x8x60	38
345B	3 5	30 5-20	271.5	407.5	28	55	7x7x50	31	310	280	250	14	45	70	48	83	12x8x65	59
450B	5 7.5	30 5-20	312.5	466.5	28	65	7x7x60	31	350	320	290	14	50	80	53	93	12x8x75	80
455B	7.5 10	30 5-20	333	500	38	70	10x8x65	41.5	400	370	340	18	55	85	59	98.5	15x10x80	118
560B	10 15	30 5-10	355.5	531.5	38	75	10x8x70	41.5	450	410	380	18	60	95	64	109.5	15x10x90	170
570B	15 20	15-30 5-10	391.5	578.5	42	80	12x8x75	45.5	500	460	420	20	70	100	75	110	18x12x95	243
680B	20 30	15-30 5-10	452	642	42	80	12x8x75	45.5	560	510	470	20	80	115	86.5	137	20x15x110	275
790B	30 40	15-30 5-10	535.5	764.5	48	100	12x8x95	51.5	620	570	520	26	90	130	96.5	163.5	24x16x125	350
800B	40 50	15-30 5-10	556	814	55	100	15x10x95	60	700	650	600	26	100	145	108	166	28x18x140	430
915B	50	15-30	637	938	60	110	15x10x105	65	850	780	700	32	115	180	124	202	32x20x175	580

TMVD 三段式尺寸表 3-STAGE DIMENSION

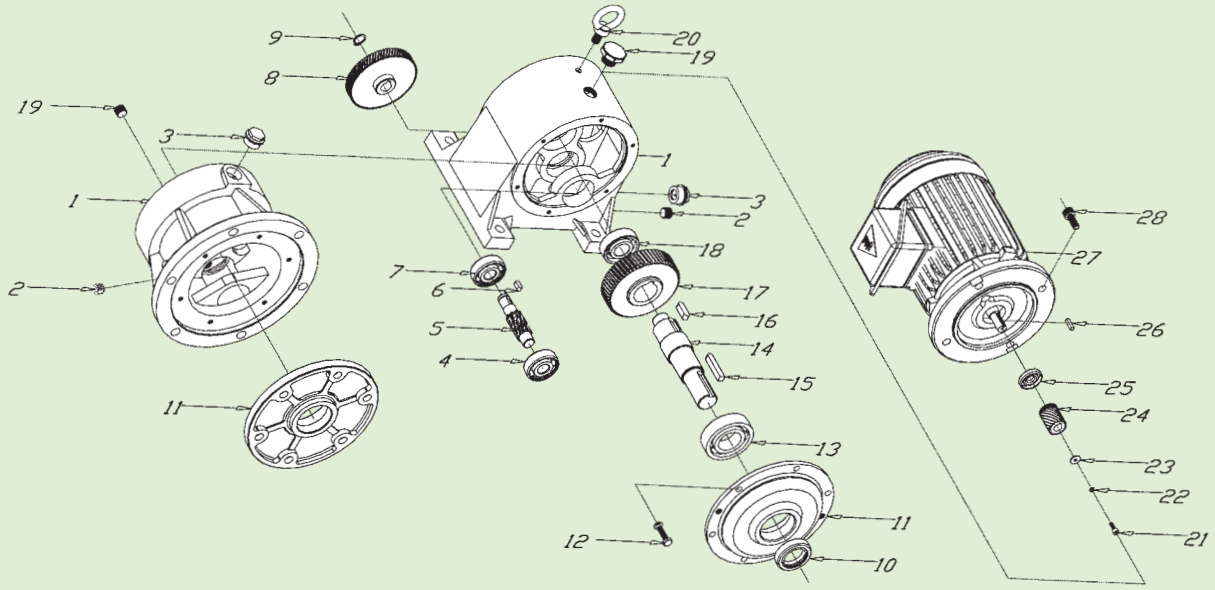


尺寸表 DIMENSION（單位 m/m）

型號 MODEL TMVD	馬力 HP (4P)	減速比 RATIO	L	Z	入力軸 INPUT SHAFT				法蘭面 FLANGE				出力軸 OUTPUT SHAFT					重量 WEIGHT (KG)
					d	HS	TxVxHK	U	A	B	C	N	D	LS	S	H	WxYxLK	
125C	1/4 1/2	40-90 40-60	195.5	278.5	14	35	5x5x30	16	210	190	170	12	25	45	28	58.5	7x7x40	19
235C	1/4 1/2 1	120 90 40-60	267.5 267.5 256.5	394.5 394.5 383.5	19	50	5x5x45	21	250	225	200	14	35	60	38	72	10x8x55	31
340C	1/2 1 2	120 90 40-60	294.5 281.5 281.5	430.5 417.5 417.5	24	55	7x7x50	27	280	255	230	14	40	65	43	78	10x8x60	34
345C	1 2 3	120 90 40	314.5 314.5 302.5	444.5 444.5 432.5	28	55	7x7x50	31	310	280	250	14	45	70	48	83	12x8x65	64
450C	2 3 5	120 60-90 40	361.5 347.5 347.5	515.5 501.5 501.5	28	65	7x7x60	31	350	320	290	14	50	80	53	93	12x8x75	82
455C	3 5 7.5	120 60 40	396.5 396.5 382.5	553.5 553.5 539.5	38	70	10x8x65	41.5	400	370	340	18	55	85	59	98	15x10x80	128
560C	5 7.5 10	90-120 60 40	421.5 397.5 397.5	597.5 573.5 573.5	38	75	10x8x70	41.5	450	410	380	18	60	95	64	109.5	15x10x90	170
570C	7.5 10 15	90-120 60-90 40	460.5 460.5 436.5	647.5 647.5 623.5	42	80	12x8x75	45.5	500	460	420	20	70	100	75	110	18x12x95	283
680C	10 15 20	120 60-90 40	512 487 487	705 680 680	42	80	12x8x75	45.5	560	510	470	20	80	115	86.5	137	20x15x110	328
790C	15 20 30	120 60 40	572.5	801.5	48	100	12x8x95	51.5	620	570	520	26	90	130	96.5	163.5	24x16x125	410
800C	20 30 40	90 60 40	574	857	55	100	15x10x95	60	700	650	600	26	100	145	108	166	28x18x140	500
915C	20 30 40 50	120 90 60 40	695 695 695 700	1001 1001 1001 1006	60	110	15x10x105	65	850	780	700	32	115	180	124	202	32x20x175	630

2-STAGE SYSTEM DRAWING [MODEL: TMH/V]

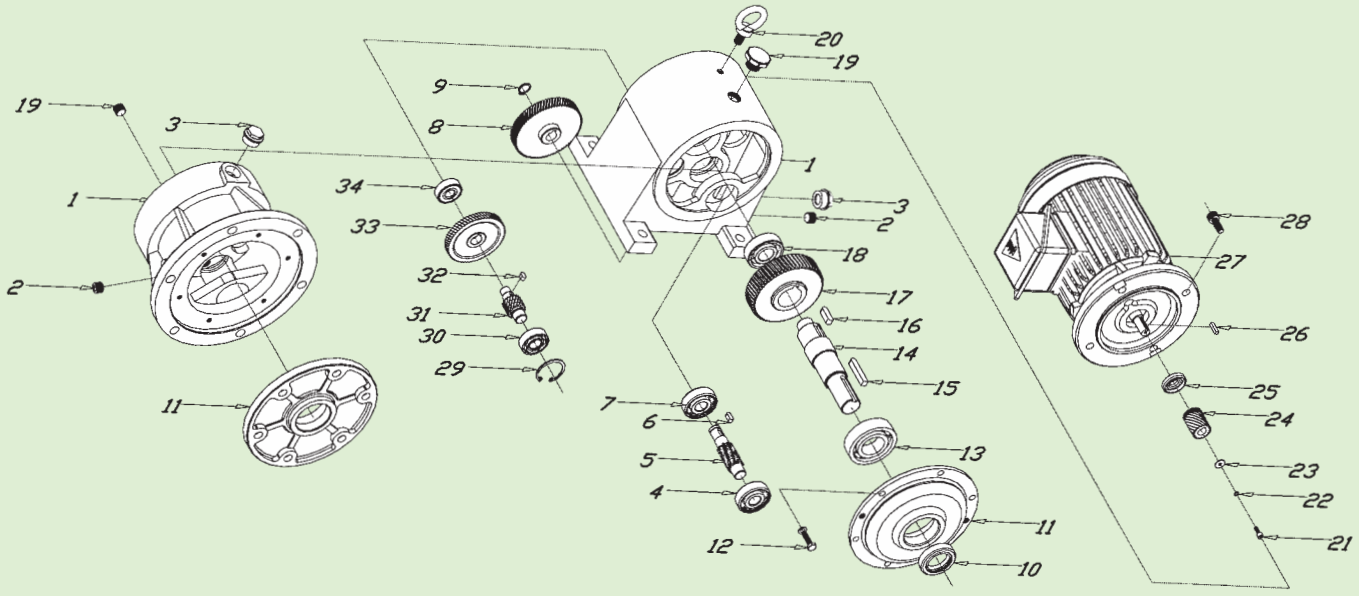
TMH&V 2段式分解系統圖



編號 No.	零件名稱 name of parts	編號 No.	零件名稱 name of parts	編號 No.	零件名稱 name of parts	編號 No.	零件名稱 name of parts
1	機殼 Case	11	出力蓋 Case cover(output)	21	6角承窩頭螺絲 Hex. screw	X	X
2	排油栓 Oil drain plug	12	6角頭螺絲 Hexagon head bolt	22	彈簧華司 Spring washer	X	X
3	油鏡 Oil gauge	13	軸承 Bearing	23	平行華司 Washer	X	X
4	軸承 Bearing	14	出力軸 Output shaft	24	Bp齒輪 Bp Gear	X	X
5	Ap齒輪軸 Ap gear shaft	15	鍵 Key	25	油封 Oil seal	X	X
6	鍵 Key	16	鍵 Key	26	鍵 Key	X	X
7	軸承 Bearing	17	Ag齒輪 Ag gear	27	馬達 Motor	X	X
8	Bg齒輪 Bg gear	18	軸承 Bearing	28	6角承窩頭螺絲 Hex. screw	X	X
9	外扣環 Shaft retaining ring	19	注油栓 Oil filler plug	X	X	X	X
10	油封 Oil seal	20	吊環 Hoisting ring	X	X	X	X

3-STAGE SYSTEM DRAWING [MODEL: TMH/V]

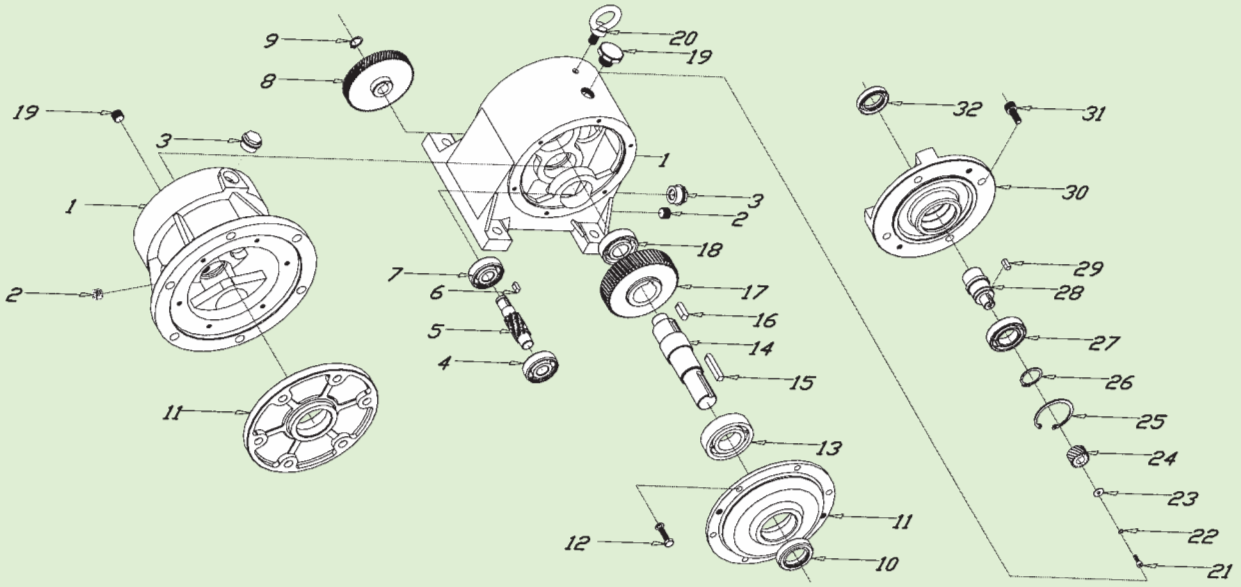
TMH&V 3段式分解系統圖



編號 No.	零件名稱 name of parts	編號 No.	零件名稱 name of parts	編號 No.	零件名稱 name of parts	編號 No.	零件名稱 name of parts
1	機殼 Case	11	出力蓋 Case cover(output)	21	6角承窩頭螺絲 Hex. screw	31	bp齒輪軸 bp gear shaft
2	排油栓 Oil drain plug	12	6角頭螺絲 Hexagon head bolt	22	彈簧華司 Spring washer	32	鍵 Key
3	油鏡 Oil gauge	13	軸承 Bearing	23	平行華司 Washer	33	Cg齒輪 Cg gear
4	軸承 Bearing	14	出力軸 Output shaft	24	Cp齒輪 Cp Gear	34	軸承 Bearing
5	Ap齒輪軸 Ap gear shaft	15	鍵 Key	25	油封 Oil seal	X	X
6	鍵 Key	16	鍵 Key	26	鍵 Key	X	X
7	軸承 Bearing	17	Ag齒輪 Ag gear	27	馬達 Motor	X	X
8	Bg齒輪 Bg gear	18	軸承 Bearing	28	6角承窩頭螺絲 Hex. screw	X	X
9	外扣環 Shaft retaining ring	19	注油栓 Oil filler plug	29	內扣環 Bearing retaining ring	X	X
10	油封 Oil seal	20	吊環 Hoisting ring	30	軸承 Bearing	X	X

2-STAGE SYSTEM DRAWING [MODEL: TMHB/VB]

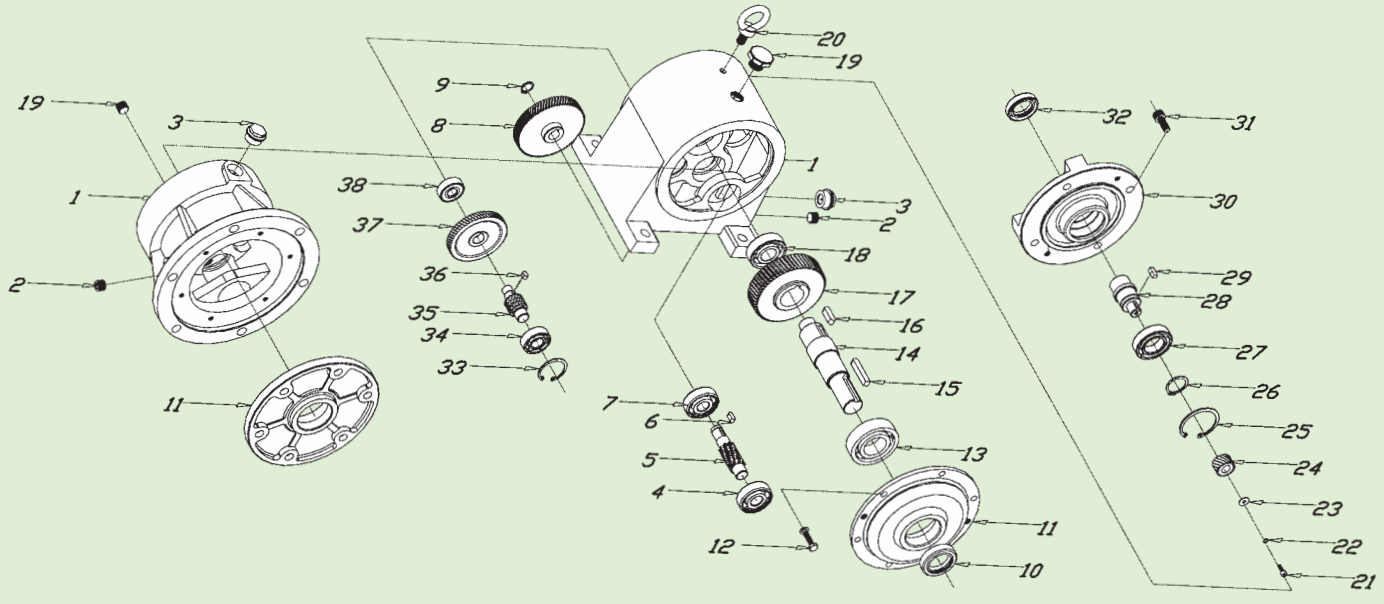
TMHB&VB 2段式分解系統圖



編號 No.	零件名稱 name of parts	編號 No.	零件名稱 name of parts	編號 No.	零件名稱 name of parts	編號 No.	零件名稱 name of parts
1	機殼 Case	11	出力蓋 Case cover(output)	21	6角承窩頭螺絲 Hex. screw	31	6角承窩頭螺絲 Hex. screw
2	排油栓 Oil drain plug	12	6角頭螺絲 Hexagon head bolt	22	彈簧華司 Spring washer	32	油封 Oil seal
3	油鏡 Oil gauge	13	軸承 Bearing	23	平行華司 Washer	X	X
4	軸承 Bearing	14	出力軸 Output shaft	24	Bp齒輪 Bp Gear	X	X
5	Ap齒輪軸 Ap gear shaft	15	鍵 Key	25	內扣環 Bearing retaining ring	X	X
6	鍵 Key	16	鍵 Key	26	外扣環 Shaft retaining ring	X	X
7	軸承 Bearing	17	Ag齒輪 Ag gear	27	軸承 Bearing	X	X
8	Bg齒輪 Bg gear	18	軸承 Bearing	28	直結式入力軸 Director input shaft	X	X
9	外扣環 Shaft retaining ring	19	注油栓 Oil filler plug	29	鍵 Key	X	X
10	油封 Oil seal	20	吊環 Hoisting ring	30	直結式法蘭 Director flange	X	X

3-STAGE SYSTEM DRAWING [MODEL: TMHB/VB]

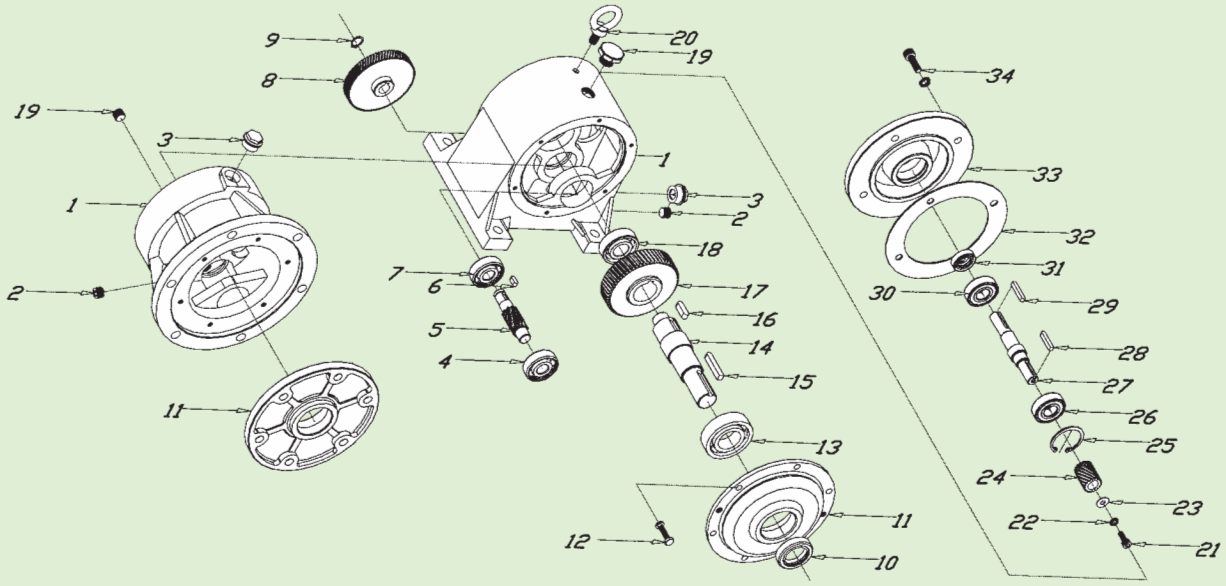
TMHB&VB 3段式分解系統圖



編號 No.	零件名稱 name of parts	編號 No.	零件名稱 name of parts	編號 No.	零件名稱 name of parts	編號 No.	零件名稱 name of parts
1	機殼 Case	11	出力蓋 Case cover(output)	21	6角承窩頭螺絲 Hex. screw	31	6角承窩頭螺絲 Hex. screw
2	排油栓 Oil drain plug	12	6角頭螺絲 Hexagon head bolt	22	彈簧華司 Spring washer	32	油封 Oil seal
3	油鏡 Oil gauge	13	軸承 Bearing	23	平行華司 Washer	33	內扣環 Bearing retaining ring
4	軸承 Bearing	14	出力軸 Output shaft	24	Cp齒輪 Cp Gear	34	軸承 Bearing
5	Ap齒輪軸 Ap gear shaft	15	鍵 Key	25	內扣環 Bearing retaining ring	35	bp齒輪軸 bp gear shaft
6	鍵 Key	16	鍵 Key	26	外扣環 Shaft retaining ring	36	鍵 Key
7	軸承 Bearing	17	Ag齒輪 Ag gear	27	軸承 Bearing	37	Cg齒輪 Cg gear
8	Bg齒輪 Bg gear	18	軸承 Bearing	28	直結式入力軸 Director input shaft	38	軸承 Bearing
9	外扣環 Shaft retaining ring	19	注油栓 Oil filler plug	29	鍵 Key	X	X
10	油封 Oil seal	20	吊環 Hoisting ring	30	直結式法蘭 Director flange	X	X

2-STAGE SYSTEM DRAWING [MODEL: TMHD/VD]

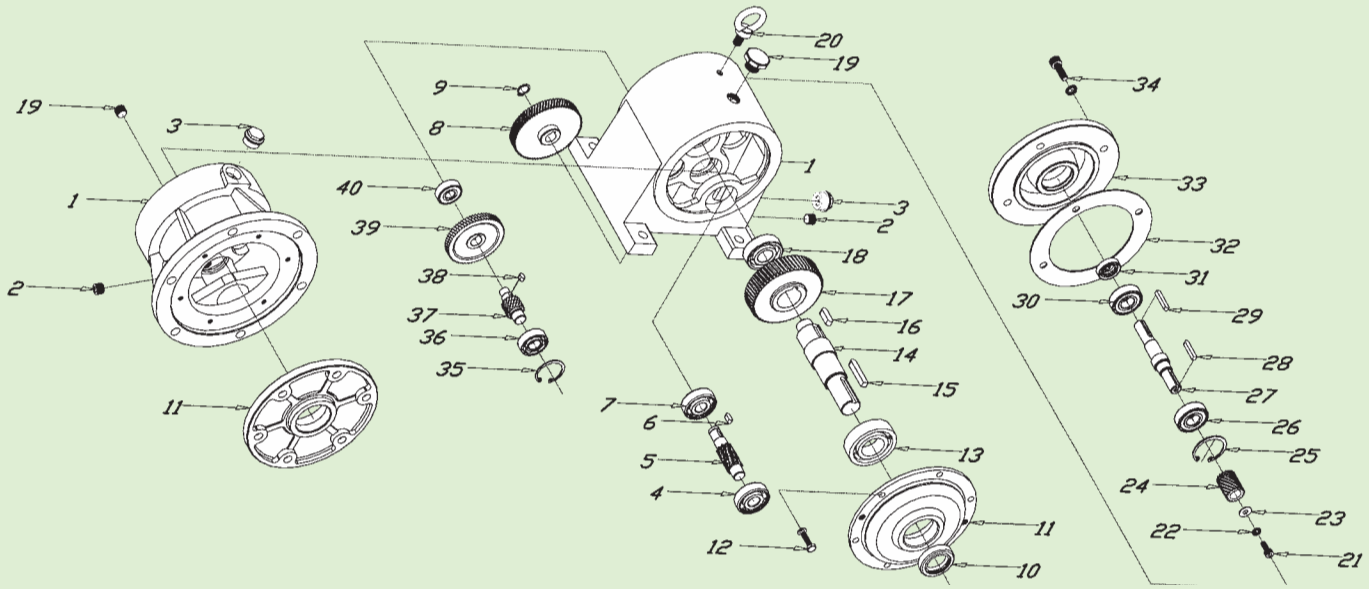
TMHD&VD 2段式分解系統圖



編號 No.	零件名稱 name of parts	編號 No.	零件名稱 name of parts	編號 No.	零件名稱 name of parts	編號 No.	零件名稱 name of parts
1	機殼 Case	11	出力蓋 Case cover(output)	21	6角承窩頭螺絲 Hex. screw	31	油封 Oil seal
2	排油栓 Oil drain plug	12	6角頭螺絲 Hexagon head bolt	22	彈簧華司 Spring washer	32	石綿墊圈 Parking
3	油鏡 Oil gauge	13	軸承 Bearing	23	平行華司 Washer	33	入力蓋 Case cover(input)
4	軸承 Bearing	14	出力軸 Output shaft	24	Bp齒輪 Bp Gear	34	6角承窩頭螺絲 Hex. screw
5	Ap齒輪軸 Ap gear shaft	15	鍵 Key	25	內扣環 Bearing retaining ring	X	X
6	鍵 Key	16	鍵 Key	26	軸承 Bearing	X	X
7	軸承 Bearing	17	Ag齒輪 Ag gear	27	雙軸入力軸心 HD Input Shaft	X	X
8	Bg齒輪 Bg gear	18	軸承 Bearing	28	鍵 Key	X	X
9	外扣環 Shaft retaining ring	19	注油栓 Oil filler plug	29	鍵 Key	X	X
10	油封 Oil seal	20	吊環 Hoisting ring	30	軸承 Bearing	X	X

3-STAGE SYSTEM DRAWING [MODEL: TMHD/VD]

TMHD&VD 3段式分解系統圖



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3	油鏡 Oil gauge	13	軸承 Bearing	23	平行華司 Washer	33	入力蓋 Case cover(input)
4	軸承 Bearing	14	出力軸 Output shaft	24	Cp齒輪 Cp Gear	34	6角承窩頭螺絲 Hex. screw
5	Ap齒輪軸 Ap gear shaft	15	鍵 Key	25	內扣環 Bearing retaining ring	35	內扣環 Bearing retaining ring
6	鍵 Key	16	鍵 Key	26	軸承 Bearing	36	軸承 Bearing
7	軸承 Bearing	17	Ag齒輪 Ag gear	27	雙軸入力軸心 HD Input Shaft	37	bp齒輪軸 bp gear shaft
8	Bg齒輪 Bg gear	18	軸承 Bearing	28	鍵 Key	38	鍵 Key
9	外扣環 Shaft retaining ring	19	注油栓 Oil filler plug	29	鍵 Key	39	Cg齒輪 Cg gear
10	油封 Oil seal	20	吊環 Hoisting ring	30	軸承 Bearing	40	軸承 Bearing

使用齒輪減速機注意事項

說　明

本齒輪減速機是採用螺旋齒輪差動減速構造。分爲二段式和三段式，二段式是與馬達同一方向減速傳動（1/5～1/30減速比）三段式是與馬達相反方向減速傳動（1/31～1/150減速比）。

裝　機

裝配減速機於被驅動機械時，請防止在主體、入力軸或出力軸發生意外的力量（例如側壓力、變曲力、衝擊力）否則將構成軸、軸承、主體之被損壞。請注意下列事項：

1.**裝配台**：減速機固定不良，則易發生振動縮短減速機之壽命。一般而言必須固定放於堅固水平的混泥土或鋼架之上。

2.**減速機與機械之連結**

(a)連結器：減速機之出力軸和被驅動機械之轉動軸力求同心水平。

(b)齒輪或鍊條：減速機之出力軸和被驅動機械之轉動軸，要求平行，請檢查兩個齒輪或鏈盤之側邊是否成一直線。並且要調整適當的齒輪間隙和鍊條張力。

(c)三角皮帶：減速機之出力軸與被驅動機械之轉動軸要平行，並且兩個皮帶輪上之三角槽中心要相對（減速比減速機應少用三角皮帶傳動法）。

運轉試車

開始使用新減速機時，請先看有沒有潤滑油。依減速機指示潤滑油加入至油鏡之中即可試車，在近於無負荷情況下試轉一段時間後慢慢地增加負荷，以免齒輪之齒面受損傷。當負荷增加到正常負荷時，用電流計量其電流是否超過馬達之額定電流。如有超過時，請改用較大馬力減速機。

訂購時應確認事項

1. 馬力、極數、頻率和電壓。
2. 選擇型式型號及減速比。
3. 要驅動的機械和所需的轉數。
4. 連結方式和安裝環境。
5. 每天運轉時間和起動頻率。
6. 其他特殊須求。

INSTRUCTIONS ON THE APPLICATION OF GEAR SPEED REDUCERS

These reducers are designed according to the spiral gear differential principles and classified into 2-stage and 3-stage categories. 2-stage reducers rotate in the direction of the motor (1/5~1/30 Reduction Ratio), while 3-stage reducers rotate opposite to the motor's (1/31~1/150 Reduction Ratio).

INSTALLATION:

Avoid external forces acting on the input / output axes (such as side pressure, fractional or impact forces) which would damage the shafts, bearings and inner parts of the equipment.

1. **Installation site :** Poor fixing of the reducer will cause vibration to shorten the service lift. Generally , it should be installed on stable level concrete or steel stands.

2. **Connection between the reducer and the machine.**
   (a) Connector : The output shaft of the reducer and the rotating shaft of the machine must be aligned.
   (b) Gear and chain : shafts of the reducer and the driven machine are need to be paralleled , both side way of wheels or gears should be in a straight line, connecting chains clearance and tension must be checked.
   (c) Belt : shafts are in paralleled as mention above, both center of triangle sink of wheels must be in opposite side. (Triangle belts should be avoided.)

OPERATION TESTING:

Check lubricant fist, gradually increase the load amount smooth operation. After the normal load is reached, check the current if it is overdue. Change larger reducer when necessary.

PLEASE INDICATE THE FOLLOWING ITEMS CLEARLY WHEN YOU ORDER:

1. HP, Poles, Hz and Voltage.
2. Selected Type and Model, Reduction Ratio.
3. Machine to be driven and R. P. M. Required
4. Connecting way and loading conditions.
5. Daily operation hours and starting frequency.
6. Other special requirements.

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