TP游星減速機目錄
The Contents of TP Planetary Reducer

目錄
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STRUCTURE

游星減速機之結構

由一個內齒環(A)緊密結合于齒箱殼體上，環齒中心有一個自外部動力所驅動之太陽齒輪(B)，介于兩者之間有一組由三顆齒輪等分組合于托盤上之行星齒輪組(C)，該組行星齒輪依靠着出力軸、內齒環及太陽齒支撐浮游于其間；當入力側動力驅動太陽齒時，可帶動行星齒輪自傳。并依循着內齒環之軌迹沿着中心公轉，游星之旋轉帶動連接于托盤之出力輪輪出動力。

Planetary Variator's Structure

From one internal gear ring(A) closely combined with gear housing there is an outside power from sun gear inner of gear ring(B). Between two sides , there is a set with three gears combined at the above of plant of planetary gearboxes(C). This set of planetary gear depends on output shaft inside gearing and sun gear's support to swim in between. When inside power comes in to push sun gear it can connect planetary variator self-movement and followed the inside gear's guide to follow center's movement and planetary gear's movement will connected to the plant's output shaft to output power.

A 內齒環
internal gear ring

B 太陽齒輪
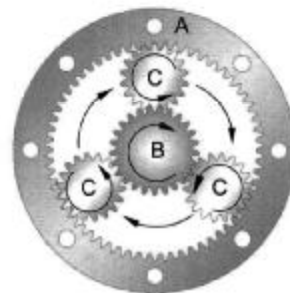sun gear

C 行星齒輪
planetary gear

游星減速機之特性

游星減速機之傳動方式异于一般傳統齒輪連動方式，傳統齒輪僅靠大小輪間接觸面驅動，所有負荷集中于該接觸點，齒輪較容易產生摩擦與斷裂，因在高減速比中需要有更多段齒輪相互連結，除占用大量空間外，同時產生更多摩擦損耗，其每一段減速齒輪之間隙成倍數累計，故其效率相對降低。

游星式齒輪減速機于驅動時，太陽齒、行星齒及內環齒間共有六個接觸面均勻承受負載，并依附着內環齒軌迹呈360度均布衝擊負荷，可降低齒輪之摩擦更使齒輪無斷裂之虞。行星齒采用浮游式運動，其間隙相當密合，每段減速間祇需籍階段齒連接，故其體積相對減少，最高效率可達97%。

Planetary Variator s Specialities

Planetary variators movement is different from the average traditinal gear's movement.Traditional gear only depends on the movement between big and small gears. It's easilies to have gear damaged and broken if all the burden concentrate that touch point.In high variators it is necessary to have sections gear connected each other, except for use a big amount space and create more surface contacted and damaged.It's become low efficiency when eachsection's planetary variators between becomes multiple times.

When planetary gear movement.There are totally 6 touch faces average surface the burdens from sungear,planetary gear,and inside gear and follow the inside gear's guide to average spread burden in 360 degree.This can no longer to worry about the broken of contact between gears. Planetary gear use. Surface swim s movement and each gear very closely.The hinghest effciency can reach 97 percent when it's size becomes small by each section's variator connection.
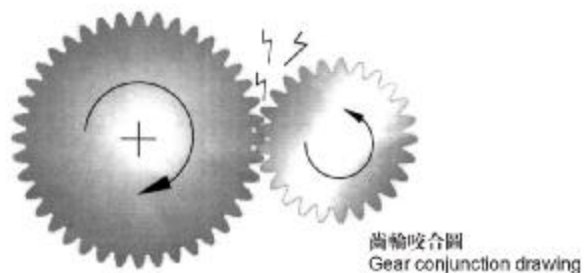
行星齒咬合圖
Planetary gear
conjunction drawing

齒輪咬合圖
Gear conjunction drawing

RATIO

游星齒輪減速原理

行星齒之運轉是由太陽齒之而來驅動，當太陽齒運轉一定轉速；被帶動之行星齒繞行內齒環一圈（360）回到原點時，太陽齒所轉動之轉速即是該段之減速比。故減速比之高低是由兩者之改變所產生。因此太陽齒數越少；行星齒就越多，產生較高之減速比(圖A)。太陽齒數越多；行星齒數就越少，產生較低之減速比(圖B)。

Reduction speed therory

Planetary gear's movement is from sun gear's movement. When sun gear movement to certain speed,the connected planetary gear surround the inside gear a circle (360 degree) back to original point. Sun gear's movement speed is this sun gears the less planetary gears which creats lower red-uction ratio (picture B) section's reduction ratio. So, the reduction speed high or low is because the creation of two side for teduction-tatio's high or low. So,if the less sun gears,the more planetary gears (Picture A). The more which creates higher reduction radio.

(A)高速比 High Ratio
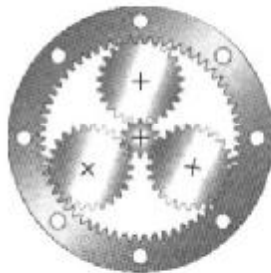
(B)低速比 Low Ratio
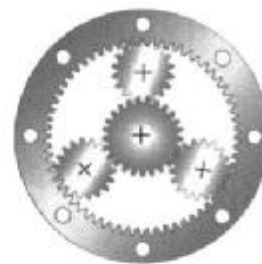
行星齒輪減速比計算

減速機往往需要較高速比之選擇。行星減速機亦可做更方便之組合，可藉由轉接之階段齒輪應用，做兩端或多段之組裝，產生倍數累計之更高減速比組裝。

Calculated Ratio

Planetary variator always need higher reduction ratio's choi-ce. So planetary variator can provide even more convience combination, It can create multiple times higher reduction tatio's assembly by using connected section's gear move-ment to make double or multiple section's combination.

單段減速比(i)之計算方法
Single Stage Internal

$$i = \frac{Z2}{Z1} + 1$$
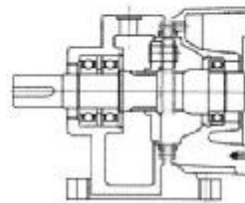
一段減速比結構
Single Stage Structure

Z1

Z2
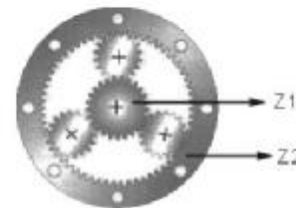
多段減速比(i)之計算方法
Multiple Stages Internal

$$i = (\frac{Z2}{Z1} + 1) \times (\frac{Z2}{Z1} + 1) \times ......$$
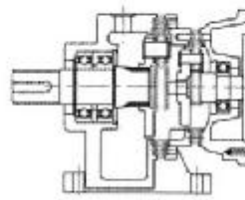
兩段減速比結構
Double Stage Structure

i=	減速比 Ratio
Z1:	太陽齒輪齒數 Sun Gear Teeth
Z2:	內齒環齒數 Internal Gear Ring Teeth

TP游星減速機型號表示方法
Nomenclature —Model Designation for TP planetary reducer

減速機型式/Type

TPHF　　　　TPVF　　　　TPHS　　　　TPVS
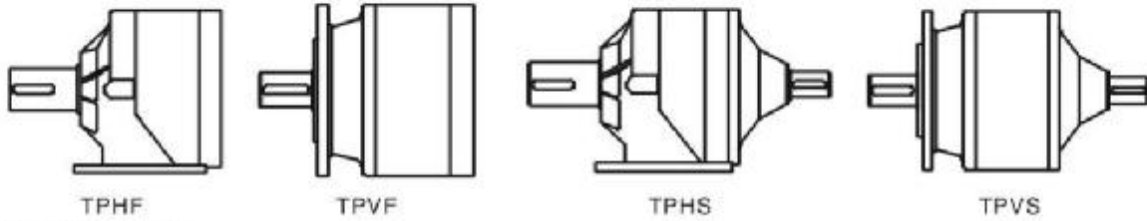
安裝方式/Installation

H1　　H2　　H3　　H4

H5　　V1　　V2　　V3
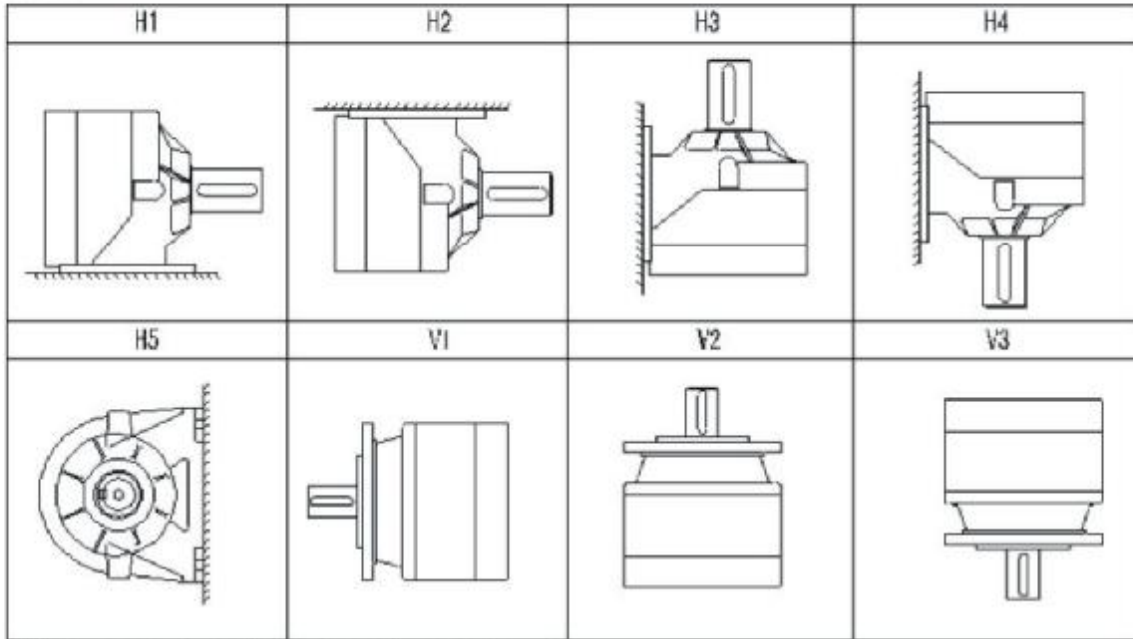
※如需其他系列產品組合，請與本公司確認結合法蘭與軸心尺寸。
Please confirm with our company the correct flange and shaft size, if there is necessary to combine with other serial products。

TP游星減速機型號表示方法
Nomenclature —Model Designation for TP planetary reducer

框號 Frame Size	500	501	503	504	505	506	507	509	510
	511	513	515	514	516	517	518	519	521

TP　　HF　　500　　L　　1　　5.78　　H　　1/4　　H1

減速機型式
Type of Reducer

HF	臥式入力帶法蘭型 Horizontal Mount With Input Flange
VF	立式入力帶法蘭型 Vertical Mount With Input Flange
HS	臥式雙軸型 Horizontal Mount With Double Shaft
VS	立式雙軸型 Vertical Mount With Double Shaft

軸向
The Layout of Axis

R	垂直軸分布 Right Angle Shaft
L	平行軸分布 Parallel shaft

減速比
Ratio

出力軸輸出形式
Type of Output Shaft

	帶平鍵實心軸 Solid Shaft With Key
Z	帶花鍵實心軸 Solid Shaft With Spline
H	中空軸配鎖緊盤 Hollowed Shaft With Shrink Disk
V	中空軸帶花鍵 Hollowed Shaft With Spline

安裝方式
Mounting Arrangement

傳動級數
Transmission Stage

1級	Single
2級	Double
3級	Triple
4級	Quadruple

電機代碼
Motor Type

1/4	0.2kW
1/2	0.4kW
1	0.75kW
2	1.5kW
3	2.2kW
5	3.7kW
...	...

傳仕游星減速機
Transcyko planetary reducer

計算 單位轉換

TECHNICAL

公式及範例　Technical Formula

$$HP = \frac{T \times N}{716.2}$$

HP ＝ 馬力　　Horse power (HP)
T ＝ 扭矩　　Torque (kgf・m)
N ＝ 轉速　　rpm

範例：
入力轉動馬力1HP
減速比1/20
設定傳動效率100%
求其輸出扭矩To=?

For example：
Input Motor HP=1HP
Ratio = 1/20
Efficiency = 100%
The Torque To = ?

$$HP = \frac{T \times N}{716.2} \quad T = \frac{716.2}{1800} = 0.3979 \text{kgf} \cdot \text{m}$$

To = 0.3979 × 20 × 100%=7.958kgf・m

範例：
已知出力軸轉速90rpm，
入力軸轉速1800rpm，
求其減速比?

For example：
Output Shaft rpm = 90rpm
Input Shaft rpm = 1800rpm
The Ratio= ?

$$R = \frac{1800}{90} = 20 \qquad \text{減速比} = 20$$

Ratio = 20

單位換算

Meter(m) = inches(in) × 0.0254
Meter(m) = feel(ft) × 0.3048
Kilograms(kgf) = tons(t) × 1016.047
Kilograms(kgf) = pound(lb) × 0.45359
Newton(N) = pound-force(lbf) × 4.448222
Newton metro(Nm) = pound foot(lbft) × 1.355818
Newton metro(Nm) = Kilograms merer(Kgf・m) × 9.81
DaNm = Nm/10

徑向力系數表　O.H.L Factor Table

鏈輪	Sprpcket	1.00
齒輪	Gear	1.25
三角皮帶	V-Belt	1.50
平皮帶	Flat-Belt	2.50

負載使用系數 The Load Service Factor　Sf

負載類型 Type of load	每小时启动次数 Numbers of start/hour	运行总时间 Total hours of running(h)				
		≤5000	10000	15000	25000	50000
		每日运行时间 hours of running in every day (h)				
		h < 4	4 < h < 8	8 < h < 12	12 < h < 16	16 < h < 24
均匀负载 Uniform load	N < 10	0.90	1.00	1.15	1.30	1.60
	10 < N < 30	0.95	1.15	1.30	1.50	1.80
	30 < N < 100	1.00	1.25	1.45	1.60	2.00
中等负载 Medium load	N < 10	1.00	1.25	1.45	1.60	2.00
	10 < N < 30	1.10	1.40	1.60	1.80	2.20
	30 < N < 100	1.20	1.50	1.70	2.00	2.40
重负载 Heavy load	N < 10	1.20	1.50	1.70	2.00	2.40
	10 < N < 30	1.30	1.60	1.80	2.10	2.60
	30 < N < 100	1.40	1.75	2.00	2.30	2.80

EFFICIENCY AND OIL

游星齒輪減速機的效率表

段數 Stage	減速比 Reduction Ratio	效率值 Efficiency
L1	3.48~7.2	97%
L2	12.1~51.8	95%
L3	63~373	92%
L4	403~2687	90%
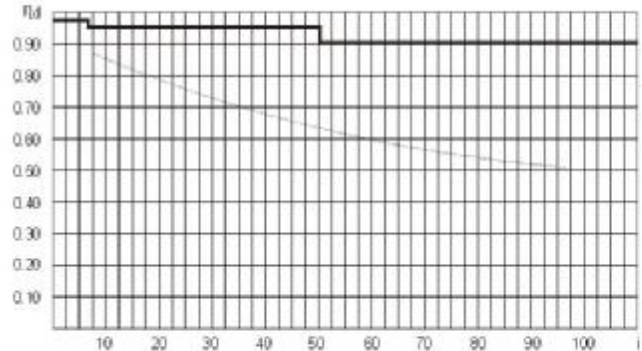
η_d : 表示傳輸效率	Transmission efficiency
i : 表示減速比數	Reduction ratio
—— : 表示游星式齒輪減速機效率值	Efficiency of planetary gear
: 表示傳統式齒輪減速機效率值	Efficiency of helicel gear

潤滑油選定

適當潤滑油的黏度，可使齒輪滑動摩擦圓滑，于高負載及衝擊負載時，減速機才能充分發揮應有之效率。

Gear Lubrication

Suitable gear lubrication oil will increase gear surface contact running and extension gears,bearings &other parts life. Please reference following table of lubrication gear oil for your reducers.

下表即減速機潤滑的選定　Gear Lubrication

負載 LOAD	周圍溫度 AMBIENT	SHELL OIL	MOBIL OIL	中國石油
普通負載 Normal Load	-30℃~5℃	Omala oil 68	Mobil Comp 626	國光牌極壓機油 HD-60
	5℃~40℃	Omala oil 220	Mobil Comp 632 600W Cylinder oil	國光牌極壓機油 HD-220
	40℃~65℃	Omala oil 320	Mobil Comp 634 600W Cylinder oil	國光牌極壓機油 HD-320
重級負載 Heavy Load	-30℃~5℃	Omala oil 150	Mobil Comp 632	國光牌極壓機油 HD-150
	5℃~40℃	Omala oil 320	Mobil Comp 634	國光牌極壓機油 HD-320
	40℃~65℃	Omala oil 68	Mobil Comp 636	國光牌極壓機油 HD-680

注意事項

1. 減速機表面容許最高溫度80℃。
2. 最初使用300小時後，換上新油七後每2500小時換油。
3. 特殊操作環境選用，請洽本公司。

Remark

1. Max surface temperature allowed to reach 80℃.
2. Please change lub-oil for first 300 running hours and after another 2500 running.
3. Please contact for specical application.

選型表注釋 Description of selection table

i	Mn2 [N.m]	n2 [r/min]	P1 [kW]	Pt [kW]	n1 [r/min]	N1max [r/min]	Mb [N.m]	M2 [N.m]	M2max [N.m]
傳動比 Ratio	額定輸出扭矩 Output Torque Rating	輸出轉速 Output Speed	輸入功率 Input Power	熱功率 Thermal Power	輸入轉速 Input Speed	最大輸入轉速 Max.Input Speed	額定剎車扭矩 Reted Brake Torque	參考扭矩 Reference Torque	最大輸出扭矩 Max.Output Torque

TP500	i 1:	Mn2[N.m]						P₁ [kW]	Pt [kW]	n₁ [min⁻¹]	n₁max [min⁻¹]	Mb [Nm]
		n₂·h 10 000	n₂·h 25 000	n₂·h 50 000	n₂·h 100 000	n₂·h 500 000	n₂·h 1000 000					
L1	3.48	672	672	672	624	624	614	20	7.5	2000	4000	260
	4.26	960	960	854	816	730	586	20	7.5	2000	4000	330
	5.77	826	701	624	624	624	557	18.2	7.5	2000	4000	260
	7.20	672	576	528	528	528	490	12.4	7.5	2000	4000	160
L2	12.1	672	672	672	624	624	614	9.0	7.5	2000	4000	100
	14.6	672	672	672	624	624	614	7.3	7.5	2000	4000	100
	18.2	960	960	854	816	730	586	7.8	7.5	2000	4000	100
	20.1	672	672	672	624	624	614	5.4	7.5	2000	4000	100
	24.6	960	960	854	816	730	586	5.8	7.5	2000	4000	100
	30.7	960	960	854	816	730	586	4.9	7.5	2000	4000	50
	33.3	826	701	624	624	624	557	3.3	7.5	2000	4000	50
	41.5	826	701	624	624	624	557	2.8	7.5	2000	4000	50
	51.8	672	576	528	528	528	490	1.9	7.5	2000	4000	50
L3	42.1	672	672	672	624	624	614	2.9	7.5	2000	4000	50
	51.6	960	960	854	816	730	586	3.2	7.5	2000	4000	50
	63.2	960	960	854	816	730	586	2.7	7.5	2000	4000	50
	69.9	672	672	672	624	624	614	1.7	7.5	2000	4000	50
	77.5	960	960	854	816	730	586	2.2	7.5	2000	4000	50
	85.6	960	960	854	816	730	586	2	7.5	2000	4000	50
	105	960	960	854	816	730	586	1.6	7.5	2000	4000	50
	116	826	701	624	624	624	557	1.2	7.5	2000	4000	50
	131	960	960	854	816	730	586	1.3	7.5	2000	4000	50
	142	960	960	854	816	730	586	1.2	7.5	2000	4000	50
	177	960	960	854	816	730	586	0.97	7.5	2000	4000	50
	192	826	701	624	624	624	557	0.8	7.5	2000	4000	50
	221	960	960	854	816	730	586	0.78	7.5	2000	4000	50
	240	826	701	624	624	624	557	0.67	7.5	2000	4000	50
	299	826	701	624	624	624	557	0.56	7.5	2000	4000	50
	373	672	576	528	528	528	490	0.38	7.5	2000	4000	50
L4	403	826	701	624	624	624	557	0.63	6	2000	4000	50
	447	960	960	854	816	730	586	0.66	6	2000	4000	50
	494	960	960	854	816	730	586	0.6	6	2000	4000	50
	558	960	960	854	816	730	586	0.53	6	2000	4000	50
	616	960	960	854	816	730	586	0.48	6	2000	4000	50
	755	960	960	854	816	730	586	0.39	6	2000	4000	50
	819	960	960	854	816	730	586	0.36	6	2000	4000	50
	942	960	960	854	816	730	586	0.31	6	2000	4000	50
	1022	960	960	854	816	730	586	0.29	6	2000	4000	50
	1108	826	701	624	624	624	557	0.27	6	2000	4000	50
	1275	960	960	854	816	730	586	0.23	6	2000	4000	50
	1383	826	701	624	624	624	557	0.21	6	2000	4000	50
	1591	960	960	854	816	730	586	0.19	6	2000	4000	50
	1725	826	701	624	624	624	557	0.17	6	2000	4000	50
	2153	826	701	624	624	624	557	0.14	6	2000	4000	50
	2687	672	576	528	528	528	490	0.11	6	2000	4000	50

$$M_{2max} = 1.2 \cdot M_{n2} \text{ (n₂·h = 10000)} \qquad M2 = 1000 N.m$$

TP501	i 1:	Mn2[N.m]						P_1 [kW]	Pt [kW]	n_1 [min⁻¹]	n_{1max} [min⁻¹]	M_b [Nm]
		$n_2 \cdot h$ 10 000	$n_2 \cdot h$ 25 000	$n_2 \cdot h$ 50 000	$n_2 \cdot h$ 100 000	$n_2 \cdot h$ 500 000	$n_2 \cdot h$ 1 000 000					
L1	3.48	1344	1344	1344	1248	1248	1056	30	7.5	2000	4000	440
	4.26	1920	1920	1680	1632	1296	1056	30	7.5	2000	4000	440
	5.77	1632	1392	1248	1248	1248	1008	30	7.5	2000	4000	400
	7.20	1104	1104	1104	1104	1104	902	26	7.5	2000	4000	260
L2	12.1	1344	1344	1344	1248	1248	1056	17.9	7.5	2000	4000	160
	14.6	1344	1344	1344	1248	1248	1056	14.6	7.5	2000	4000	160
	18.2	1920	1920	1680	1632	1296	1056	15.6	7.5	2000	4000	160
	20.1	1344	1344	1344	1248	1248	1056	10.8	7.5	2000	4000	160
	24.6	1920	1920	1680	1632	1296	1056	11.7	7.5	2000	4000	160
	30.7	1920	1920	1680	1632	1296	1056	9.7	7.5	2000	4000	100
	33.3	1632	1392	1248	1248	1248	1008	6.6	7.5	2000	4000	100
	41.5	1632	1392	1248	1248	1248	1008	5.5	7.5	2000	4000	100
	51.8	1104	1104	1104	1104	1104	902	3.7	7.5	2000	4000	50
L3	42.1	1344	1344	1344	1248	1248	1056	5.7	7.5	2000	4000	50
	51.6	1920	1920	1680	1632	1296	1056	6.6	7.5	2000	4000	50
	63.2	1920	1920	1680	1632	1296	1056	5.4	7.5	2000	4000	50
	69.9	1344	1344	1344	1248	1248	1056	3.4	7.5	2000	4000	50
	77.5	1920	1920	1680	1632	1296	1056	4.4	7.5	2000	4000	50
	85.6	1920	1920	1680	1632	1296	1056	4.0	7.5	2000	4000	50
	105	1920	1920	1680	1632	1296	1056	3.3	7.5	2000	4000	50
	116	1632	1392	1248	1248	1248	1008	2.4	7.5	2000	4000	50
	131	1920	1920	1680	1632	1296	1056	2.6	7.5	2000	4000	50
	142	1920	1920	1680	1632	1296	1056	2.4	7.5	2000	4000	50
	177	1920	1920	1680	1632	1296	1056	1.9	7.5	2000	4000	50
	192	1632	1392	1248	1248	1248	1008	1.6	7.5	2000	4000	50
	221	1920	1920	1680	1632	1296	1056	1.6	7.5	2000	4000	50
	240	1632	1392	1248	1248	1248	1008	1.3	7.5	2000	4000	50
	299	1632	1392	1248	1248	1248	1008	1.1	7.5	2000	4000	50
	373	1104	1104	1104	1104	1104	902	0.53	7.5	2000	4000	50
L4	403	1632	1392	1248	1248	1248	1008	1.2	6	2000	4000	50
	447	1920	1920	1680	1632	1296	1056	1.3	6	2000	4000	50
	494	1920	1920	1680	1632	1296	1056	1.2	6	2000	4000	50
	558	1920	1920	1680	1632	1296	1056	1.06	6	2000	4000	50
	616	1920	1920	1680	1632	1296	1056	0.96	6	2000	4000	50
	755	1920	1920	1680	1632	1296	1056	0.78	6	2000	4000	50
	819	1920	1920	1680	1632	1296	1056	0.72	6	2000	4000	50
	942	1920	1920	1680	1632	1296	1056	0.63	6	2000	4000	50
	1022	1920	1920	1680	1632	1296	1056	0.58	6	2000	4000	50
	1108	1632	1392	1248	1248	1248	1008	0.53	6	2000	4000	50
	1275	1920	1920	1680	1632	1296	1056	0.46	6	2000	4000	50
	1383	1632	1392	1248	1248	1248	1008	0.43	6	2000	4000	50
	1591	1920	1920	1680	1632	1296	1056	0.37	6	2000	4000	50
	1725	1632	1392	1248	1248	1248	1008	0.34	6	2000	4000	50
	2153	1632	1392	1248	1248	1248	1008	0.27	6	2000	4000	50
	2687	1104	1104	1104	1104	1104	902	0.13	6	2000	4000	50

$$M_{2max} = 1.2 \cdot M_{n2} \text{ (}n_2 \cdot h = 10000\text{)} \qquad M2 = 1750 N.m$$

TP503	i 1:	Mn2[N.m]						P_1 [kW]	Pt [kW]	n_1 [min⁻¹]	n_{1max} [min⁻¹]	M_b [Nm]
		$n_2 \cdot h$ 10 000	$n_2 \cdot h$ 25 000	$n_2 \cdot h$ 50 000	$n_2 \cdot h$ 100 000	$n_2 \cdot h$ 500 000	$n_2 \cdot h$ 1 000 000					
L1	3.60	2208	2112	2064	2016	2016	1680	40	11	1800	3800	800
	4.25	2784	2640	2544	2496	2064	1680	40	11	1800	3800	800
	5.33	2736	2352	2112	2112	2016	1632	40	11	1800	3800	630
	6.20	2208	1920	1728	1728	1680	1344	40	11	1800	3800	500
	7.50	1920	1680	1584	1584	1584	1440	36	11	1800	3800	400
L2	12.5	2208	2112	2064	2016	1776	1440	20	9	2000	4000	260
	15.3	2208	2112	2064	2016	1728	1392	20	9	2000	4000	260
	18.1	2784	2640	2544	2496	1920	1584	20	9	2000	4000	260
	20.8	2208	2112	2064	2016	1632	1344	17.0	9	2000	4000	160
	22.7	2736	2352	2112	2112	2016	1632	16.2	9	2000	4000	160
	24.5	2640	2592	2544	2496	1824	1488	17.8	9	2000	4000	160
	26.4	2208	1920	1728	1728	1680	1344	11.4	9	2000	4000	160
	30.8	2736	2352	2112	2112	2016	1632	12.0	9	2000	4000	160
	35.8	2208	1920	1728	1728	1680	1344	8.5	9	2000	4000	100
	38.4	2736	2352	2112	2112	1920	1536	10.0	9	2000	4000	100
	44.6	2208	1920	1728	1728	1680	1344	7.0	9	2000	4000	100
	54.0	1920	1680	1584	1584	1584	1440	5.3	7.5	2000	4000	50
L3	43.6	2208	2112	2064	2016	1824	1440	8.6	7.5	2000	4000	100
	53.4	2208	2112	2064	2016	1728	1392	7.1	7.5	2000	4000	100
	63.1	2771	2592	2544	2496	2016	1632	7.3	7.5	2000	4000	100
	72.3	2208	2112	2064	2016	1824	1440	5.3	7.5	2000	4000	50
	77.2	2784	2640	2544	2496	1920	1584	6.2	7.5	2000	4000	50
	90.2	2208	2112	2064	2016	1824	1440	4.3	7.5	2000	4000	50
	105	2784	2640	2544	2496	1920	1584	4.7	7.5	2000	4000	50
	113	2208	1920	1728	1728	1680	1344	3.4	7.5	2000	4000	50
	124	2208	1920	1728	1728	1680	1344	3.1	7.5	2000	4000	50
	141	2640	2592	2544	2496	1824	1488	3.3	7.5	2000	4000	50
	152	2208	1920	1728	1728	1680	1344	2.6	7.5	2000	4000	50
	164	2736	2352	2112	2112	2016	1632	3.0	7.5	2000	4000	50
	178	2736	2352	2112	2112	2016	1632	2.8	7.5	2000	4000	50
	190	2208	1920	1728	1728	1680	1344	2.2	7.5	2000	4000	50
	220	2160	2112	2160	2160	1632	1344	1.9	7.5	2000	4000	50
	258	2208	1920	1728	1728	1680	1344	1.7	7.5	2000	4000	50
	276	2736	2352	2112	2112	1920	1536	1.9	7.5	2000	4000	50
	312	1920	1680	1584	1584	1584	1440	1.2	7.5	2000	4000	50
	389	1920	1680	1584	1584	1584	1440	1.0	7.5	2000	4000	50
L4	413	2736	2352	2112	2112	2016	1632	2.0	6	2000	4000	50
	446	2784	2640	2544	2496	1920	1584	2.0	6	2000	4000	50
	492	2640	2592	2544	2496	1824	1488	1.6	6	2000	4000	50
	556	2784	2640	2544	2496	1920	1584	1.6	6	2000	4000	50
	649	2208	2112	2064	2016	1776	1440	1.1	6	2000	4000	50
	718	2208	1920	1728	1728	1680	1344	1.1	6	2000	4000	50
	816	2640	2592	2544	2496	1824	1488	1.1	6	2000	4000	50
	896	2208	1920	1728	1728	1680	1344	0.94	6	2000	4000	50
	1018	2640	2592	2544	2496	1824	1488	0.91	6	2000	4000	50
	1098	2208	1920	1728	1728	1680	1344	0.79	6	2000	4000	50
	1278	2736	2352	2112	2112	2016	1632	0.74	6	2000	4000	50
	1370	2208	1920	1728	1728	1680	1344	0.66	6	2000	4000	50
	1586	2160	2160	2160	2160	1632	1296	0.58	6	2000	4000	50
	1854	2208	1920	1728	1728	1680	1344	0.51	6	2000	4000	50
	1991	2736	2352	2112	2112	1920	1536	0.48	6	2000	4000	50
	2243	1920	1680	1584	1584	1584	1440	0.37	6	2000	4000	50
	2799	1920	1680	1584	1584	1584	1440	0.30	6	2000	4000	50

$$M_{2max} = 1.2 \cdot M_{n2} \quad (n_2 \cdot h = 10000) \qquad M2 = 2500 \text{N.m}$$

TP504	i 1:	Mn2[N.m]						P_1 [kW]	Pt [kW]	n_1 [min⁻¹]	n_{1max} [min⁻¹]	M_b [Nm]
		$n_2 \cdot h$ 10 000	$n_2 \cdot h$ 25 000	$n_2 \cdot h$ 50 000	$n_2 \cdot h$ 100 000	$n_2 \cdot h$ 500 000	$n_2 \cdot h$ 1000 000					
L1	3.60	3562	3379	3360	3302	2995	2434	50	12	1800	3800	800
	4.25	3802	3562	3504	3398	2947	2400	50	12	1800	3800	800
	5.33	3360	2957	2688	2717	2640	2333	50	12	1800	3800	630
	6.57	2640	2304	2198	2208	2870	2093	50	12	1800	3800	500
L2	12.5	3562	3379	3360	3302	2995	2434	30	9	2000	4000	260
	15.3	3562	3379	3360	3302	2995	2434	30	9	2000	4000	260
	18.1	3802	3562	3504	3398	2947	2400	30	9	2000	4000	260
	20.8	3562	3379	3360	3302	2995	2434	30	9	2000	4000	160
	22.7	3360	2957	2688	2717	2640	2333	28	9	2000	4000	160
	24.5	3802	3562	3504	3398	2947	2400	30	9	2000	4000	160
	30.8	3360	2957	2688	2717	2640	2333	20	9	2000	4000	160
	38.4	3360	2957	2688	2717	2640	2333	16.2	9	2000	4000	160
	47.3	2640	2304	2198	2208	2870	2093	10.9	9	2000	4000	100
	59.1	2640	2304	2198	2208	2870	2093	8.9	9	2000	4000	100
L3	43.6	3562	3379	3360	3302	2995	2434	18.4	7.5	2000	4000	50
	53.4	3562	3379	3360	3302	2995	2434	15.1	7.5	2000	4000	50
	63.1	3802	3562	3504	3398	2947	2400	13.4	7.5	2000	4000	50
	72.3	3562	3379	3360	3302	2995	2434	11.2	7.5	2000	4000	50
	77.2	3802	3562	3504	3398	2947	2400	11.0	7.5	2000	4000	50
	90.2	3562	3379	3360	3302	2724	2212	9.0	7.5	2000	4000	50
	105	3802	3562	3504	3398	2947	2400	8.4	7.5	2000	4000	50
	111	3562	3379	3360	3302	2995	2434	7.5	7.5	2000	4000	50
	130	3802	3562	3504	3398	2947	2400	6.8	7.5	2000	4000	50
	141	3802	3562	3504	3398	2947	2400	6.3	7.5	2000	4000	50
	150	3562	3379	3360	3302	2995	2434	5.6	7.5	2000	4000	50
	165	2640	2304	2198	2208	2870	2093	3.8	7.5	2000	4000	50
	178	3360	2957	2688	2717	2640	2333	4.5	7.5	2000	4000	50
	202	2640	2304	2198	2208	2870	2093	3.1	7.5	2000	4000	50
	220	3802	3562	3504	3398	2947	2400	4.1	7.5	2000	4000	50
	273	2640	2304	2198	2208	2870	2093	2.3	7.5	2000	4000	50
	341	2640	2304	2198	2208	2870	2093	1.8	7.5	2000	4000	50
	426	2640	2304	2198	2208	2870	2093	1.5	7.5	2000	4000	50
L4	413	3360	2957	2688	2717	2640	2333	2.0	6	2000	4000	50
	446	3802	3562	3504	3398	2947	2400	2.1	6	2000	4000	50
	492	3802	3562	3504	3398	2947	2400	1.9	6	2000	4000	50
	556	3802	3562	3504	3398	2947	2400	1.7	6	2000	4000	50
	649	3562	3379	3360	3302	2995	2434	1.4	6	2000	4000	50
	702	2640	2304	2198	2208	2870	2093	0.93	6	2000	4000	50
	816	3802	3562	3504	3398	2947	2400	1.1	6	2000	4000	50
	1018	3802	3562	3504	3398	2947	2400	0.92	6	2000	4000	50
	1164	2640	2304	2198	2208	2870	2093	0.56	6	2000	4000	50
	1271	3802	3562	3504	3398	2947	2400	0.74	6	2000	4000	50
	1344	3562	3379	3360	3302	2724	2212	0.65	6	2000	4000	50
	1586	3802	3562	3504	3398	2947	2400	0.59	6	2000	4000	50
	1815	2640	2304	2198	2208	2870	2093	0.36	6	2000	4000	50
	1991	3360	2957	2688	2717	2640	2333	0.42	6	2000	4000	50
	2269	2640	2304	2198	2208	2870	2093	0.29	6	2000	4000	50
	2453	2640	2304	2198	2208	2870	2093	0.27	6	2000	4000	50

$$M_{2max} = 1.2 \cdot M_{n2} \quad (n_2 \cdot h = 10000)$$

M2=3600N.m

TP游星減速機選型參數表
Selection parameters for TP planetary reducer

TP505	i 1:	Mn2[N.m]						P₁ [kW]	Pt [kW]	n₁ [min⁻¹]	n₁max [min⁻¹]	Mb [Nm]
		n₂·h 10 000	n₂·h 25 000	n₂·h 50 000	n₂·h 100 000	n₂·h 500 000	n₂·h 1 000 000					
L1	3.60	4512	4272	4128	4032	3600	2928	60	13	1800	3800	1000
	4.25	5568	5280	5088	4992	3552	2880	60	13	1800	3800	1000
	5.33	5376	4704	4224	4224	3456	2832	60	13	1800	3800	1000
	6.20	4416	3792	3456	3456	3408	2784	60	13	1800	3800	800
	7.50	3648	3168	2976	2976	2880	2304	60	13	1800	3800	630
L2	12.5	4512	4272	4128	4032	3120	2544	30	9	2000	4000	400
	15.3	4512	4272	4128	4032	3120	2544	30	9	2000	4000	330
	18.1	5568	5280	5088	4992	3504	2832	30	9	2000	4000	400
	20.8	4512	4272	4128	4032	2976	2400	30	9	2000	4000	260
	22.7	5376	4704	4224	4224	3456	2832	30	9	2000	4000	330
	24.5	5280	5184	5088	4992	3312	2688	30	9	2000	4000	330
	26.4	4416	3792	3456	3456	3408	2784	23	9	2000	4000	260
	30.8	5376	4704	4224	4224	3456	2832	24	9	2000	4000	260
	35.8	4416	3792	3456	3456	3408	2784	17.0	9	2000	4000	160
	38.4	5376	4704	4224	4224	3456	2784	19.8	9	2000	4000	160
	44.6	4416	3792	3456	3456	3408	2784	14.1	9	2000	4000	160
	54.0	3648	3168	2976	2976	2880	2304	10.0	9	2000	4000	100
L3	43.6	4512	4272	4128	4032	3120	2544	17.3	7.5	2000	4000	160
	53.4	4512	4272	4128	4032	3120	2544	14.3	7.5	2000	4000	100
	63.1	5568	5136	5088	4992	3504	2880	14.6	7.5	2000	4000	160
	72.3	4512	4272	4128	4032	3120	2544	10.7	7.5	2000	4000	100
	77.2	5568	5280	5088	4992	3504	2832	12.5	7.5	2000	4000	100
	90.2	4512	4272	4128	4032	3120	2544	8.7	7.5	2000	4000	100
	105	5568	5280	5088	4992	3504	2832	9.4	7.5	2000	4000	100
	113	4416	3792	3456	3456	3408	2784	6.7	7.5	2000	4000	100
	124	4416	3792	3456	3456	3408	2784	6.2	7.5	2000	4000	50
	141	5280	5136	5088	4992	3312	2688	6.6	7.5	2000	4000	100
	152	4416	3792	3456	3456	3408	2784	5.2	7.5	2000	4000	50
	164	5376	4704	4224	4224	3456	2832	6.0	7.5	2000	4000	50
	178	5376	4704	4224	4224	3456	2832	5.6	7.5	2000	4000	50
	190	4416	3792	3456	3456	3408	2784	4.3	7.5	2000	4000	50
	220	4560	4560	4560	4560	2928	2400	3.7	7.5	2000	4000	50
	258	4416	3792	3456	3456	3408	2784	3.4	7.5	2000	4000	50
	276	5376	4704	4224	4224	3456	2784	3.7	7.5	2000	4000	50
	312	3648	3168	2976	2976	2880	2304	2.4	7.5	2000	4000	50
	389	3648	3168	2976	2976	2880	2304	2.0	7.5	2000	4000	50
L4	413	5376	4704	4224	4224	3456	2784	4.0	6	2000	4000	50
	446	5568	5280	5088	4992	3504	2832	4.0	6	2000	4000	50
	492	5280	5136	5088	4992	3312	2688	3.2	6	2000	4000	50
	556	5568	5280	5088	4992	3504	2832	3.2	6	2000	4000	50
	649	4512	4272	4128	4032	3120	2544	2.2	6	2000	4000	50
	718	4416	3792	3456	3456	3408	2784	2.2	6	2000	4000	50
	816	5280	5136	5088	4992	3312	2688	2.2	6	2000	4000	50
	896	4416	3792	3456	3456	3408	2784	1.9	6	2000	4000	50
	1018	5280	5136	5088	4992	3312	2688	1.7	6	2000	4000	50
	1098	4416	3792	3456	3456	3408	2784	1.6	6	2000	4000	50
	1278	5376	4704	4224	4224	3456	2832	1.4	6	2000	4000	50
	1370	4416	3792	3456	3456	3408	2784	1.3	6	2000	4000	50
	1586	4560	4560	4560	4560	2928	2400	0.88	6	2000	4000	50
	1854	4416	3792	3456	3456	3408	2784	0.96	6	2000	4000	50
	1991	5376	4704	4224	4224	3456	2784	0.88	6	2000	4000	50
	2243	3648	3168	2976	2976	2880	2304	0.71	6	2000	4000	50
	2799	3648	3168	2976	2976	2880	2304	0.59	6	2000	4000	50

$$M_{2max} = 1.2 \cdot M_{n2} \; (n_2 \cdot h = 10000) \qquad M_2 = 5000 \, N.m$$

TP506	i 1:	Mn2[N.m]						P_1 [kW]	Pt [kW]	n_1 [min⁻¹]	n_{1max} [min⁻¹]	M_b [Nm]
		$n_2 \cdot h$ 10 000	$n_2 \cdot h$ 25 000	$n_2 \cdot h$ 50 000	$n_2 \cdot h$ 100 000	$n_2 \cdot h$ 500 000	$n_2 \cdot h$ 1 000 000					
L1	3.60	7968	7584	7392	7200	6432	5184	75	18	1500	3000	2600
	4.25	9600	9216	9024	8928	5760	4656	75	18	1500	3000	2600
	5.33	9120	8160	7488	7488	5472	4416	75	18	1500	3000	2100
	6.20	8160	6912	6240	6240	5472	4464	75	18	1500	3000	1500
	7.50	6720	5664	5280	5280	4512	3696	75	18	1500	3000	1100
L2	13	7296	7008	7008	7008	4896	3984	40	13	1800	3800	800
	15.3	7968	7584	7392	7200	4896	3984	40	13	1800	3800	800
	18.1	9600	9216	9024	8928	5568	4512	40	13	1800	3800	630
	22.7	8928	8736	8736	8736	5472	4416	40	13	1800	3800	500
	26.4	7200	7104	7104	7104	4464	3600	40	13	1800	3800	400
	28.4	9120	8160	7488	7488	5472	4416	40	13	1800	3800	400
	33.1	8928	8160	7488	7488	5184	4224	40	13	1800	3800	400
	38.4	8160	6912	6240	6240	5520	4464	29	13	1800	3800	400
	46.5	8160	6912	6240	6240	5520	4464	25	13	1800	3800	400
	56.3	6720	5664	5280	5280	4512	3696	17.3	13	1800	3800	400
L3	45.1	7296	7008	7008	6912	4272	3456	20.0	7.5	2000	4000	260
	53.2	7968	7584	7392	7200	4800	3888	20.0	7.5	2000	4000	260
	65.2	7968	7584	7392	7200	4608	3744	20.0	7.5	2000	4000	160
	77.0	9600	9216	9024	8352	5184	4224	20.0	7.5	2000	4000	160
	81.9	7776	7392	7392	7200	4800	3936	16.2	7.5	2000	4000	160
	88.3	8544	8352	8352	7104	4368	3552	17.0	7.5	2000	4000	160
	104	9600	9216	9024	7968	4896	3984	16.3	7.5	2000	4000	160
	112	7200	7104	7104	7104	4416	3600	11.4	7.5	2000	4000	160
	121	9120	8160	7488	7488	5472	4416	13.1	7.5	2000	4000	100
	141	8928	8160	7488	7488	5184	4224	11.4	7.5	2000	4000	100
	152	7200	7104	7104	7104	4464	3600	8.5	7.5	2000	4000	100
	184	6528	6528	6528	6528	4656	3792	6.4	7.5	2000	4000	100
	205	9120	8160	7488	7488	5472	4416	8.3	7.5	2000	4000	100
	222	8160	6912	6240	6240	5472	4464	7.1	7.5	2000	4000	50
	238	8928	8160	7488	7488	5184	4224	7.0	7.5	2000	4000	50
	268	6720	5664	5280	5280	4512	3696	5.0	7.5	2000	4000	50
	288	6720	5664	5280	5280	4512	3696	4.7	7.5	2000	4000	50
	325	6720	5664	5280	5280	4512	3696	4.3	7.5	2000	4000	50
	405	6720	5664	5280	5280	4512	3696	3.6	7.5	2000	4000	50
L4	444	9600	9216	9024	7968	4896	3984	6.8	6	2000	4000	50
	509	8544	8352	8352	7104	4368	3552	5.3	6	2000	4000	50
	589	9120	8160	7488	7488	5472	4416	4.7	6	2000	4000	50
	636	8544	8352	8352	7104	4368	3552	4.3	6	2000	4000	50
	700	9120	8160	7488	7488	5472	4416	4.3	6	2000	4000	50
	809	7200	7104	7104	7104	4464	3600	3.3	6	2000	4000	50
	877	7200	7104	7104	7104	4464	3600	3.1	6	2000	4000	50
	1015	8928	8160	7488	7488	5184	4224	3.0	6	2000	4000	50
	1095	7200	7104	7104	7104	4464	3600	2.6	6	2000	4000	50
	1279	8160	6912	6240	6240	5472	4464	2.4	6	2000	4000	50
	1475	9120	8160	7488	7488	5472	4416	2.0	6	2000	4000	50
	1597	8160	6912	6240	6240	5472	4464	1.9	6	2000	4000	50
	1872	6720	5664	5280	5280	4512	3696	1.6	6	2000	4000	50
	2074	6720	5664	5280	5280	4512	3696	1.5	6	2000	4000	50
	2337	6720	5664	5280	5280	4512	3696	1.3	6	2000	4000	50
	2916	6720	5664	5280	5280	4512	3696	1.0	6	2000	4000	50

$$M_{2max} = 1.2 \cdot M_{n2} \quad (n_2 \cdot h = 10000)$$

M2=8500N.m

TP游星减速機選型參數表
Selection parameters for TP planetary reducer

TP507	i 1:	Mn2[N.m]						P₁ [kW]	Pt [kW]	n₁ [min⁻¹]	n₁max [min⁻¹]	Mb [Nm]
		n₂·h 10 000	n₂·h 25 000	n₂·h 50 000	n₂·h 100 000	n₂·h 500 000	n₂·h 1000 000					
L1	3.43	8640	8640	8640	8640	7680	6240	100	22	1500	2500	3200
	4.09	14400	13248	12384	12000	7584	6144	100	22	1500	2500	3200
	5.25	13440	11520	10272	10080	7392	5952	100	22	1500	2500	3200
	6.23	10560	9216	8352	8352	7392	5952	100	22	1500	2500	2100
L2	12.3	8640	8640	8640	8640	7680	6240	60	18	1800	3800	1000
	14.7	14400	13248	12384	12000	7584	6144	60	18	1800	3800	800
	17.4	14400	13248	12384	12000	7584	6144	60	18	1800	3800	1000
	21.8	14400	13248	12384	12000	7584	6144	60	18	1800	3800	800
	25.4	13920	13248	12384	12000	7584	6144	60	18	1800	3800	630
	28.0	13440	11520	10272	10080	7392	5952	60	18	1800	3800	500
	30.7	11808	11808	11808	11808	7488	6048	60	18	1800	3800	500
	32.6	13440	11520	10272	10080	7392	5952	56	18	1800	3800	500
	38.6	10560	9216	8352	8352	7392	5952	39	18	1800	3800	400
	46.7	10560	9216	8352	8352	7392	5952	33	18	1800	3800	400
L3	51.3	14400	13248	12384	12000	7584	6144	30	11	2000	4000	330
	60.5	14400	13248	12384	12000	7584	6144	30	11	2000	4000	330
	74.1	14400	13248	12384	12000	7584	6144	30	11	2000	4000	260
	80.6	13440	11520	10272	10080	7392	5952	27	11	2000	4000	260
	93.0	14400	13248	12384	12000	7584	6144	26	11	2000	4000	260
	100	14400	13248	12384	12000	7584	6144	25	11	2000	4000	260
	113	13440	11520	10272	10080	7392	5952	20	11	2000	4000	160
	126	14400	13248	12384	12000	7584	6144	20	11	2000	4000	160
	139	13440	11520	10272	10080	7392	5952	17.1	11	2000	4000	160
	153	10560	9216	8352	8352	7392	5952	12.3	11	2000	4000	160
	162	13440	11520	10272	10080	7392	5952	15.1	11	2000	4000	100
	177	11808	11808	11808	11808	7488	6048	12.0	11	2000	4000	100
	202	13440	11520	10272	10080	7392	5952	11.9	11	2000	4000	100
	223	10560	9216	8352	8352	7392	5952	9.0	11	2000	4000	100
	239	10560	9216	8352	8352	7392	5952	8.5	11	2000	4000	50
	284	13440	11520	10272	10080	7392	5952	9.3	11	2000	4000	50
	336	10560	9216	8352	8352	7392	5952	6.4	11	2000	4000	50
L4	349	14400	13248	12384	12000	7584	6144	12.9	7.5	2000	4000	50
	406	13440	11520	10272	10080	7392	5952	10.2	7.5	2000	4000	50
	465	13440	11520	10272	10080	7392	5952	9.7	7.5	2000	4000	50
	509	14400	13248	12384	12000	7584	6144	8.4	7.5	2000	4000	50
	579	14400	13248	12384	12000	7584	6144	7.8	7.5	2000	4000	50
	654	13440	11520	10272	10080	7392	5952	6.9	7.5	2000	4000	50
	722	14400	13248	12384	12000	7584	6144	6.2	7.5	2000	4000	50
	801	13440	11520	10272	10080	7392	5952	5.6	7.5	2000	4000	50
	906	14400	13248	12384	12000	7584	6144	5.0	7.5	2000	4000	50
	999	13440	11520	10272	10080	7392	5952	4.5	7.5	2000	4000	50
	1149	10560	9216	8352	8352	7392	5952	3.6	7.5	2000	4000	50
	1274	11808	11808	11808	11808	7488	6048	3.5	7.5	2000	4000	50
	1380	10560	9216	8352	8352	7392	5952	3.1	7.5	2000	4000	50
	1605	10560	9216	8352	8352	7392	5952	2.7	7.5	2000	4000	50
	1723	10560	9216	8352	8352	7392	5952	2.5	7.5	2000	4000	50
	2041	13440	11520	10272	10080	7392	5952	2.2	7.5	2000	4000	50
	2423	10560	9216	8352	8352	7392	5952	1.9	7.5	2000	4000	

$$M_{2max} = 1.2 \cdot M_{n2} \quad (n_2 \cdot h = 10000) \qquad M2 = 12500 N.m$$

TP509	i 1:	Mn2[N.m]						P_1 [kW]	Pt [kW]	n_1 [min⁻¹]	n_{1max} [min⁻¹]	M_b [Nm]
		$n_2 \cdot h$ 10 000	$n_2 \cdot h$ 25 000	$n_2 \cdot h$ 50 000	$n_2 \cdot h$ 100 000	$n_2 \cdot h$ 500 000	$n_2 \cdot h$ 1 000 000					
L1	3.43	12480	12480	12480	12480	10752	8736	130	25	1500	2000	3200
	4.09	21600	19776	18240	16128	9984	8064	130	25	1500	2000	3200
	5.25	20160	17376	15552	15360	10272	8352	130	25	1500	2000	3200
	6.23	16320	13824	12480	12480	9984	8160	130	25	1500	2000	3200
L2	12.3	12480	12480	12480	12480	8352	6720	60	18	1800	3800	1000
	14.7	16512	16032	16032	13248	8160	6624	60	18	1800	3800	1000
	17.4	20448	19776	18240	14976	9216	7488	60	18	1800	3800	1000
	21.8	17280	16800	16800	14592	9024	7296	60	18	1800	3800	1000
	25.4	13920	13728	13728	13728	8832	7200	60	18	1800	3800	800
	28.0	20160	17376	15552	15360	10272	8352	60	18	1800	3800	800
	30.7	11808	11808	11808	11808	7488	6048	60	18	1800	3800	630
	32.6	17568	17376	15552	15360	10272	8352	60	18	1800	3800	630
	38.6	16320	13824	12480	12480	9984	8160	57	18	1800	3800	500
	46.7	16320	13824	12480	12480	9984	8160	49	18	1800	3800	400
L3	51.3	16512	16032	16032	13248	8160	6624	30	11	2000	4000	400
	60.5	20448	19776	18240	14880	9120	7392	30	11	2000	4000	400
	74.1	20448	19776	18240	14880	9120	7392	30	11	2000	4000	260
	80.6	20160	17376	15552	15360	9600	7872	30	11	2000	4000	260
	93.0	17280	16800	16800	14592	9024	7296	30	11	2000	4000	260
	100	20448	19776	17280	14016	8640	7008	30	11	2000	4000	260
	113	17568	17376	15552	15360	10272	8352	28	11	2000	4000	260
	126	17280	16800	16800	14592	9024	7296	24	11	2000	4000	260
	139	17568	17376	15552	15360	10272	8352	23	11	2000	4000	160
	162	20160	17376	15552	15360	10272	8352	23	11	2000	4000	160
	177	11808	11808	11808	11808	7488	6048	12.0	11	2000	4000	160
	199	16320	13824	12480	12480	9984	8160	15.5	11	2000	4000	100
	223	16320	13824	12480	12480	9984	8160	14.1	11	2000	4000	100
	239	16320	13824	12480	12480	9984	8160	13.3	11	2000	4000	100
	284	15168	15168	15168	14400	8832	7200	10.0	11	2000	4000	100
	336	16320	13824	12480	12480	9984	8160	10.0	11	2000	4000	100
L4	349	20448	19776	18240	14880	9120	7392	18.0	7.5	2000	4000	100
	411	12480	12480	12480	11040	6816	5568	9.4	7.5	2000	4000	50
	465	20160	17376	15552	15360	9600	7872	14.3	7.5	2000	4000	50
	513	12480	12480	12480	11040	6816	5568	7.5	7.5	2000	4000	50
	579	20448	19776	17280	14016	8640	7008	10.9	7.5	2000	4000	50
	654	17568	17376	15552	15360	10272	8352	9.5	7.5	2000	4000	50
	722	20448	19776	17280	14016	8640	7008	8.7	7.5	2000	4000	50
	801	17568	17376	15552	15360	10272	8352	8.0	7.5	2000	4000	50
	906	17280	16800	16800	14592	9024	7296	7.1	7.5	2000	4000	50
	999	17568	17376	15552	15360	10272	8352	6.6	7.5	2000	4000	50
	1149	16320	13824	12480	12480	9984	8160	5.6	7.5	2000	4000	50
	1274	11808	11808	11808	11808	7488	6048	3.6	7.5	2000	4000	50
	1380	16320	13824	12480	12480	9984	8160	4.8	7.5	2000	4000	50
	1605	16320	13824	12480	12480	9984	8160	4.1	7.5	2000	4000	50
	1723	16320	13824	12480	12480	9984	8160	3.9	7.5	2000	4000	50
	2041	15168	15168	15168	14400	8832	7200	3.0	7.5	2000	4000	50
	2423	16320	13824	12480	12480	9984	8160	2.7	7.5	2000	4000	50

$$M_{2max} = 1.2 \cdot M_{n2} \quad (n_2 \cdot h = 10000)$$

$$M2 = 18500 N.m$$

TP510	i 1:	Mn2[N.m]						P_1 [kW]	Pt [kW]	n_1 [min⁻¹]	n_{1max} [min⁻¹]	M_b [Nm]
		$n_2 \cdot h$ 10 000	$n_2 \cdot h$ 25 000	$n_2 \cdot h$ 50 000	$n_2 \cdot h$ 100 000	$n_2 \cdot h$ 500 000	$n_2 \cdot h$ 1 000 000					
L1	4.09	28800	28800	25152	20448	12576	10272	150	35	1000	1500	
	5.25	28320	24384	21792	19680	12192	9888	150	35	1000	1500	
	6.23	24960	20352	17376	17088	12096	9792	150	35	1000	1500	
L2	14.7	28800	28608	25152	20448	12576	10272	75	22	1500	3000	2100
	17.4	28800	26800	25152	20448	12576	10272	75	22	1500	3000	2100
	21.6	28800	26800	25152	20448	12576	10272	75	22	1500	3000	1500
	25.4	25056	24768	24768	20448	12576	10272	75	22	1500	3000	1500
	28.0	28320	24384	21792	19680	12192	9888	75	22	1500	3000	1500
	30.7	20928	20928	20928	19104	11808	9600	75	22	1500	3000	1050
	32.6	28320	24384	21792	19680	12192	9888	75	22	1500	3000	1050
	38.6	24960	20352	17376	17088	12096	9792	75	22	1500	3000	850
	46.7	24960	20352	17376	17088	12096	9792	71	22	1500	3000	850
L3	53.0	27936	27936	25152	20448	12576	10272	40	18	1800	3800	630
	62.6	28800	28608	25152	20448	12576	10272	40	18	1800	3800	630
	73.9	28800	28800	25152	20448	12576	10272	40	18	1800	3800	500
	80.3	28320	24384	21792	19680	12192	9888	40	18	1800	3800	400
	91.3	23904	23904	20544	16704	10272	8352	40	18	1800	3800	400
	101	28320	24384	21792	19680	12192	9888	40	18	1800	3800	400
	110	21984	21984	21600	17568	10848	8832	36	18	1800	3800	400
	119	28320	24384	21792	19680	12192	9888	40	18	1800	3800	400
	130	25920	25920	24288	19680	12192	9888	36	18	1800	3800	400
	142	28128	24384	21792	19680	12192	9888	35	18	1800	3800	400
	164	28800	28800	25152	20448	12576	10272	32	18	1800	3800	400
	177	24960	20352	17376	17088	12096	9792	26	18	1800	3800	400
	202	28320	24384	21792	19680	12192	9888	26	18	1800	3800	400
	230	20928	20928	20928	19104	11808	9600	17.3	18	1800	3800	400
	249	24960	20352	17376	17088	12096	9792	20	18	1800	3800	400
	295	26880	24384	21792	19680	12192	9888	17.3	18	1800	3800	400
	350	24960	20352	17376	17088	12096	9792	14.7	18	1800	3800	400
L4	389	23904	23904	20544	16704	10272	8352	18.9	11	2000	4000	100
	451	28800	24672	20064	16224	10080	8160	19.7	11	2000	4000	100
	507	28320	24384	21792	19680	12192	9888	17.5	11	2000	4000	100
	556	25920	25920	24288	19680	12192	9888	14.4	11	2000	4000	50
	637	21984	21984	21600	17568	10848	8832	10.6	11	2000	4000	50
	726	28320	24384	21792	19680	12192	9888	12.2	11	2000	4000	50
	818	28128	24384	21792	19680	12192	9888	10.6	11	2000	4000	50
	939	25920	25920	24288	19680	12192	9888	8.5	11	2000	4000	50
	1021	28128	24384	21792	19680	12192	9888	8.5	11	2000	4000	50
	1164	28320	24384	21792	19680	12192	9888	7.6	11	2000	4000	50
	1259	26880	24384	21792	19680	12192	9888	7.0	11	2000	4000	50
	1438	24960	20352	17376	17088	12096	9792	6.2	11	2000	4000	50
	1657	20928	20928	20928	19104	11808	9600	5.4	11	2000	4000	50
	1794	24960	20352	17376	17088	12096	9792	4.9	11	2000	4000	50
	2022	24960	20352	17376	17088	12096	9792	4.4	11	2000	4000	50
	2523	24960	20352	17376	17088	12096	9792	3.5	11	2000	4000	50

$$M_{2max} = 1.2 \cdot M_{n2} \text{ (}n_2 \cdot h = 10000\text{)} \qquad M2 = 25000 N.m$$

TP511	i 1:	Mn2[N.m]						P₁ [kW]	Pt [kW]	n₁ [min⁻¹]	n₁max [min⁻¹]	Mb [Nm]
		$n_2 \cdot h$ 10 000	$n_2 \cdot h$ 25 000	$n_2 \cdot h$ 50 000	$n_2 \cdot h$ 100 000	$n_2 \cdot h$ 500 000	$n_2 \cdot h$ 1000 000					
L1	4.09	43200	43200	35904	29088	17952	14592	180	40	750	1000	
	5.25	41280	35040	31008	30720	18912	15360	180	40	750	1000	
	6.23	32640	28320	25920	25920	17856	14496	180	40	750	1000	
L2	14.0	34272	34272	34272	29088	17952	14592	100	26	1500	2500	3200
	16.7	43200	43200	35904	29088	17952	14592	100	26	1500	2500	3200
	18.0	41280	35040	31008	30720	18912	15360	100	26	1500	2500	2600
	21.5	42336	40032	35904	29088	17952	14592	100	26	1500	2500	2100
	25.5	33792	33120	33120	29088	17952	14592	100	26	1500	2500	1500
	27.6	41280	35040	31008	30720	18912	15360	100	26	1500	2500	2100
	32.7	41280	35040	31008	30720	18912	15360	100	26	1500	2500	1500
	38.8	32640	28320	25920	25920	17856	14496	100	26	1500	2500	850
L3	50.5	34272	34272	34272	29088	17952	14592	60	18	1800	3800	800
	60.2	43200	43200	35904	29088	17952	14592	60	18	1800	3800	800
	71.1	43200	43200	35904	29088	17952	14592	60	18	1800	3800	800
	77.3	42336	40032	35904	29088	17952	14592	60	18	1800	3800	800
	87.0	34272	34272	34272	29088	17952	14592	60	18	1800	3800	500
	104	43200	43200	35904	29088	17952	14592	60	18	1800	3800	500
	115	42336	40032	35904	29088	17952	14592	60	18	1800	3800	400
	126	43200	43200	35904	29088	17952	14592	60	18	1800	3800	400
	133	42336	40032	35904	29088	17952	14592	56	18	1800	3800	400
	147	41280	35040	31008	30720	18912	15360	50	18	1800	3800	400
	161	42336	40032	35904	29088	17952	14592	48	18	1800	3800	400
	171	41280	35040	31008	30720	18912	15360	44	18	1800	3800	400
	191	33792	33120	33120	29088	17952	14592	33	18	1800	3800	400
	203	41280	35040	31008	30720	18912	15360	38	18	1800	3800	400
	245	41280	35040	31008	30720	18912	15360	32	18	1800	3800	400
	291	32640	28320	25920	25920	17856	14496	22	18	1800	3800	400
L4	348	43200	43200	35904	29088	17952	14592	30	11	2000	4000	160
	410	43200	43200	35904	29088	17952	14592	30	11	2000	4000	160
	512	43200	43200	35904	29088	17952	14592	26	11	2000	4000	100
	568	42336	40032	35904	29088	17952	14592	23	11	2000	4000	100
	626	34272	34272	34272	29088	17952	14592	16.9	11	2000	4000	100
	724	43200	43200	35904	29088	17952	14592	18.4	11	2000	4000	100
	825	42336	40032	35904	29088	17952	14592	16.1	11	2000	4000	100
	904	43200	43200	35904	29088	17952	14592	14.7	11	2000	4000	50
	986	41280	35040	31008	30720	18912	15360	13.5	11	2000	4000	50
	1103	33792	33120	33120	29088	17952	14592	11.8	11	2000	4000	50
	1230	41280	35040	31008	30720	18912	15360	10.8	11	2000	4000	50
	1415	41280	35040	31008	30720	18912	15360	9.4	11	2000	4000	50
	1680	32640	28320	25920	25920	17856	14496	7.9	11	2000	4000	50
	1766	41280	35040	31008	30720	18912	15360	7.5	11	2000	4000	50
	2096	32640	28320	25920	25920	17856	14496	6.3	11	2000	4000	50

$$\mathbf{M_{2max}} = \mathbf{1.2 \cdot M_{n2}} \ _{(n_2 \cdot h = 10000)} \qquad M2 = 35000 N.m$$

TP游星减速機選型參數表
Selection parameters for TP planetary reducer

TP513	i 1:	Mn2[N.m]						P₁ [kW]	Pt [kW]	n₁ [min⁻¹]	n₁max [min⁻¹]	Mb [Nm]
		n₂·h 10 000	n₂·h 25 000	n₂·h 50 000	n₂·h 100 000	n₂·h 500 000	n₂·h 1000 000					
L1	4.14	52800	52800	52800	44160	27264	22080	200	45	500	800	
	5.40	52800	46272	43200	43200	26688	21696	200	45	500	800	
	6.50	47040	40704	37440	37440	26688	21600	200	45	500	800	
L2	14.2	49920	49920	49920	44160	27264	22080	130	30	1500	2000	3200
	16.9	52800	52800	51840	42432	26208	21216	130	30	1500	2000	3200
	18.5	52800	46272	43200	43200	26688	21696	130	30	1500	2000	3200
	21.8	52800	52800	52800	43584	26880	21888	130	30	1500	2000	2600
	25.8	50880	49920	49920	42528	26304	21312	130	30	1500	2000	2100
	26.4	52800	46272	43200	43200	26688	21696	130	30	1500	2000	2100
	33.6	52800	46272	43200	43200	26688	21696	130	30	1500	2000	2100
	40.5	47040	40704	37440	37440	26592	21600	130	30	1500	2000	1500
L3	51.1	49920	49920	43584	35424	21888	17760	60	18	1800	3800	1000
	61.0	52800	52800	48960	40032	24672	20064	60	18	1800	3800	1000
	72.0	52800	52800	48000	39168	24192	19680	60	18	1800	3800	1000
	78.3	52800	52800	52800	43584	26880	21888	60	18	1800	3800	1000
	92.4	52800	52800	52800	43584	26880	21888	60	18	1800	3800	800
	110	50880	49920	49920	42528	26304	21312	60	18	1800	3800	500
	120	52800	46272	43200	43200	26688	21696	60	18	1800	3800	500
	135	52800	52800	52800	43584	26880	21888	60	18	1800	3800	500
	151	52800	46272	43200	43200	26688	21696	60	18	1800	3800	400
	163	52800	52800	46464	37728	23232	18912	58	18	1800	3800	400
	176	52800	46272	43200	43200	26688	21696	55	18	1800	3800	400
	194	50880	49920	49920	42528	26208	21312	49	18	1800	3800	400
	209	52800	46272	43200	43200	26688	21696	48	18	1800	3800	400
	252	52800	46272	43200	43200	26688	21696	40	18	1800	3800	400
	304	47040	40704	37440	37440	26592	21600	31	18	1800	3800	400
L4	352	52800	49728	40416	32832	20256	16416	30	11	2000	4000	160
	394	52800	52800	52800	43584	26880	21888	30	11	2000	4000	160
	452	52800	52800	48000	39072	24096	19584	30	11	2000	4000	160
	514	52800	46272	43200	43200	26688	21696	30	11	2000	4000	160
	564	52800	52800	42528	34560	21312	17280	29	11	2000	4000	160
	633	50688	49920	49920	42528	26304	21312	26	11	2000	4000	100
	695	52800	46272	43200	43200	26688	21696	26	11	2000	4000	100
	790	50688	49920	49920	42528	26304	21312	21	11	2000	4000	100
	889	52800	46272	43200	43200	26688	21696	20	11	2000	4000	100
	1014	52800	46272	43200	43200	26688	21696	17	11	2000	4000	100
	1117	50688	49920	49920	42528	26208	21312	15	11	2000	4000	50
	1266	52800	46272	43200	43200	26688	21696	14	11	2000	4000	50
	1394	50688	49920	49920	42528	26208	21312	12	11	2000	4000	50
	1502	52800	46272	43200	43200	26688	21696	12	11	2000	4000	50
	1817	52800	46272	43200	43200	26688	21696	10	11	2000	4000	50
	2187	47040	40704	37440	37440	26592	21600	8	11	2000	4000	50

$$M_{2max} = 1.2 \cdot M_{n2} \quad (n_2 \cdot h = 10000) \qquad M2 = 50000 \, N.m$$

TP514	i 1:	Mn2[N.m]						P₁ [kW]	Pt [kW]	n₁ [min⁻¹]	n₁max [min⁻¹]	Mb [Nm]
		n₂·h 10 000	n₂·h 25 000	n₂·h 50 000	n₂·h 100 000	n₂·h 500 000	n₂·h 1000 000					
L1	4.25	80640	76800	74496	65280	40704	32870	260	55	450	800	
	5.33	76032	66816	60672	59904	37632	30490	260	55	450	800	
	6.20	61440	53760	49920	49920	31488	25574	260	55	450	800	
L2	17.4	80640	76800	74496	60672	37402	30413	175	40	1500	1800	
	22.3	80640	76800	74496	63744	39168	32026	175	40	1500	1800	
	26.5	80640	76800	74496	59904	37171	30259	175	40	1500	1800	
	28.0	76032	66816	60672	59904	37478	30490	175	40	1500	1800	
	33.2	76032	66816	60672	59904	37478	30490	175	40	1500	1800	
	38.6	61440	53760	49920	49920	31488	25574	175	40	1500	1800	
L3	62.6	80640	76800	74496	60672	37402	30413	75	25	1600	3000	2100
	73.9	80640	76800	74496	60672	37402	30413	75	25	1600	3000	2100
	92.7	80640	76800	74496	60672	37402	30413	75	25	1600	3000	1500
	106	80640	76800	74496	60672	37402	30413	75	25	1600	3000	1500
	138	80640	76800	74496	63744	39168	32026	75	25	1600	3000	1500
	164	80640	76800	74496	59904	37171	30259	75	25	1600	3000	1050
	174	76032	66816	60672	59904	37478	30490	75	25	1600	3000	1050
	206	76032	66816	60672	59904	37478	30490	71	25	1600	3000	850
	240	61440	53760	49920	49920	31488	25574	49	25	1600	3000	850
L4	314	80640	76800	74496	60672	37402	30413	40	15	1800	3800	630
	388	80640	76800	74496	60672	37402	30413	40	15	1800	3800	630
	458	80640	76800	74496	60672	37402	30413	39	15	1800	3800	500
	495	80640	76800	74496	60672	37402	30413	36	15	1800	3800	400
	554	80640	76800	74496	60672	37402	30413	32	15	1800	3800	400
	588	80640	76800	74496	63744	39168	32026	30	15	1800	3800	400
	668	80640	76800	74496	60672	37402	30413	27	15	1800	3800	400
	738	80640	76800	74496	63744	39168	32026	24	15	1800	3800	400
	858	80640	76800	74496	63744	39168	32026	21	15	1800	3800	400
	926	76032	66816	60672	59904	37478	30490	18.2	15	1800	3800	400
	1038	80640	76800	74496	63744	39168	32026	17.2	15	1800	3800	400
	1099	76032	66816	60672	59904	37478	30490	15.3	15	1800	3800	400
	1277	76032	66816	60672	59904	37478	30490	13.2	15	1800	3800	400
	1485	61440	53760	49920	49920	31488	25574	9.2	15	1800	3800	400
	1796	61440	53760	49920	49920	31488	25574	7.6	15	1800	3800	400

$$M_{2max} = 1.2 \cdot M_{n2} \text{ (n₂·h = 10000)} \qquad M2 = 80000 N.m$$

TP515	i 1:	Mn2[N.m]						P₁ [kW]	Pt [kW]	n₁ [min⁻¹]	n₁max [min⁻¹]	Mb [Nm]
		n₂·h 10 000	n₂·h 25 000	n₂·h 50 000	n₂·h 100 000	n₂·h 500 000	n₂·h 1 000 000					
L1	4.09	100800	96000	93120	81600	50880	41088	260	60	350	500	
	5.25	95040	83520	74880	74880	47040	38112	260	60	350	500	
	6.23	76800	67200	62400	62400	39360	31968	260	60	350	500	
L2	16.7	100800	96000	93120	75840	46752	38016	180	45	750	100	
	21.5	100800	96000	93120	79680	48960	40032	180	45	750	100	
	25.5	100800	96000	93120	74880	46464	37824	180	45	750	100	
	27.6	95040	83520	75840	74880	46848	38112	180	45	750	100	
	32.7	95040	83520	75840	74880	46848	38112	180	45	750	100	
	38.8	76800	67200	62400	62400	39360	31968	157	45	750	100	
L3	57.4	100800	96000	93120	75840	46752	38016	100	30	1500	2500	2600
	68.5	100800	96000	93120	75840	46752	38016	100	30	1500	2500	2100
	87.9	100800	96000	93120	75840	46752	38016	100	30	1500	2500	1500
	104	100800	96000	93120	75840	46752	38016	100	30	1500	2500	1100
	134	100800	96000	93120	79680	48960	40032	100	30	1500	2500	850
	159	100800	96000	93120	74880	46464	37824	100	30	1500	2500	850
	172	95040	83520	75840	74880	46848	38112	100	30	1500	2500	850
	204	95040	83520	75840	74880	46848	38112	87	30	1500	2500	850
	242	76800	67200	62400	62400	39360	31968	61	30	1500	2500	850
L4	291	100800	96000	93120	75840	46752	38016	60	18	1800	3800	400
	356	100800	96000	93120	75840	46752	38016	60	18	1800	3800	400
	424	100800	96000	93120	75840	46752	38016	59	18	1800	3800	400
	469	100800	96000	93120	75840	46752	38016	53	18	1800	3800	400
	513	100800	96000	93120	75840	46752	38016	48	18	1800	3800	400
	569	100800	96000	93120	79680	48960	40032	44	18	1800	3800	400
	647	100800	96000	93120	75840	46752	38016	38	18	1800	3800	400
	714	100800	96000	93120	79680	48960	40032	35	18	1800	3800	400
	830	100800	96000	93120	79680	48960	40032	30	18	1800	3800	400
	916	95040	83520	75840	74680	46848	38112	27	18	1800	3800	400
	1004	100800	96000	93120	79680	48960	40032	25	18	1800	3800	400
	1087	95040	83520	75840	74880	46848	38112	23	18	1800	3800	400
	1264	95040	83520	75840	74880	46848	38112	19.7	18	1800	3800	400
	1500	76800	67200	62400	62400	39360	31968	16.6	18	1800	3800	400
	1814	76800	67200	62400	62400	39360	31968	13.7	18	1800	3800	400

$$M_{2max} = 1.2 \cdot M_{n2} \quad (n_2 \cdot h = 10000)$$

$$M2 = 80000 N.m$$

TP516	i 1:	Mn2[N.m]						P₁ [kW]	Pt [kW]	n₁ [min⁻¹]	n₁max [min⁻¹]	Mb [Nm]
		$n_2 \cdot h$ 10 000	$n_2 \cdot h$ 25 000	$n_2 \cdot h$ 50 000	$n_2 \cdot h$ 100 000	$n_2 \cdot h$ 500 000	$n_2 \cdot h$ 1000 000					
L1	4.25	129600	120960	108480	96000	63360	51840	280	68	350	500	
L2	17.4	129600	120960	98880	80352	49536	40320	200	50	1400	1800	
	22.3	129600	120960	102720	81888	51168	40992	200	50	1400	1800	
	26.5	119040	110400	94176	76416	47424	38880	200	50	1400	1800	
L3	59.6	129600	120960	98880	80352	49536	40320	115	35	1500	2500	3200
	71.1	129600	120960	98880	80352	49536	40320	115	35	1500	2500	2600
	76.5	129600	120960	102720	81888	51168	40992	115	35	1500	2500	2600
	91.3	129600	120960	98880	80352	49536	40320	115	35	1500	2500	2100
	108	126720	116160	98880	80352	49536	40320	115	35	1500	2500	2100
	117	129600	120960	102720	81888	51168	40992	115	35	1500	2500	1500
	139	126720	116160	98880	80352	49536	40320	115	35	1500	2500	1500
	165	119040	110400	94176	76416	47424	38880	115	35	1500	2500	1100
L4	215	129600	120960	98880	80352	49536	40320	60	18	1800	3800	800
	256	129600	120960	98880	80352	49536	40320	60	18	1800	3800	800
	302	129600	120960	98880	80352	49536	40320	60	18	1800	3800	630
	329	129600	120960	98880	80352	49536	40320	60	18	1800	3800	630
	370	129600	120960	98880	80352	49536	40320	60	18	1800	3800	500
	441	129600	120960	98880	80352	49536	40320	60	18	1800	3800	400
	487	129600	120960	98880	80352	49536	40320	59	18	1800	3800	400
	533	129600	120960	98880	80352	49536	40320	54	18	1800	3800	400
	566	129600	120960	98880	80352	49536	40320	51	18	1800	3800	400
	591	126720	116160	98880	80352	49536	40320	48	18	1800	3800	400
	625	129600	120960	102720	81888	51168	40992	46	18	1800	3800	400
	685	129600	120960	98880	80352	49536	40320	42	18	1800	3800	400
	726	129600	120960	102720	81888	51168	40992	40	18	1800	3800	400
	741	126720	116160	98880	80352	49536	40320	38	18	1800	3800	400
	812	126720	116160	98880	80352	49536	40320	35	18	1800	3800	400
	662	126720	116160	98880	80352	49536	40320	33	18	1800	3800	400
	1043	126720	116160	98880	80352	49536	40320	27	18	1800	3800	400
	1237	119040	110400	94176	76416	47424	38880	21	18	1800	3800	400

$$M_{2max} = 1.2 \cdot M_{n2} \ (n_2 \cdot h = 10000) \qquad M2 = 135000 N.m$$

TP517	i 1:	Mn2[N.m]						P₁ [kW]	Pt [kW]	n₁ [min⁻¹]	n₁max [min⁻¹]	Mb [Nm]
		n₂·h 10 000	n₂·h 25 000	n₂·h 50 000	n₂·h 100 000	n₂·h 500 000	n₂·h 1000 000					
L1	4.09	172800	17280	159360	129600	79680	64320	300	85	200	300	
	5.25	163200	146880	135360	124800	76800	62400	300	85	200	300	
	6.23	139200	120960	110400	110400	74880	61440	300	85	200	300	
L2	16.9	172800	172800	141120	115200	71040	57600	200	55	500	800	
	22.1	171840	169920	138240	112320	69120	56640	200	55	500	800	
	26.6	148800	148800	138240	112320	69120	56640	200	55	500	800	
	28.4	163200	146880	135360	124800	76800	62400	200	55	500	800	
	34.1	163200	146880	135360	124800	76800	62400	200	55	500	800	
	40.5	139200	120960	110400	110400	74880	61440	200	55	500	800	
L3	58.1	172800	172800	141120	115200	71040	57600	130	35	1400	2000	3200
	69.3	172800	167040	135360	110400	68160	55680	130	35	1400	2000	3200
	89.0	172800	171840	139200	113280	70080	56640	130	35	1400	2000	2600
	106	172800	167040	136320	110400	68160	55680	130	35	1400	2000	2100
	116	171840	169920	138240	112320	69120	56640	130	35	1400	2000	1500
	138	171840	169920	138240	112320	69120	56640	130	35	1400	2000	1500
	166	148800	148800	138240	112320	69120	56640	130	35	1400	2000	1100
	179	163200	146880	135360	124800	76800	62400	130	35	1400	2000	1100
	213	163200	146880	135360	124800	76800	62400	130	35	1400	2000	850
	252	139200	120960	110400	110400	74880	61248	115	35	1400	2000	850
L4	310	172800	133440	108480	88320	54720	44160	60	18	1800	3800	630
	360	172800	131520	107520	86400	53760	43200	60	18	1800	3800	500
	449	172800	168000	136320	110400	68160	55680	60	18	1800	3800	500
	493	171840	169920	138240	112320	69120	56640	60	18	1800	3800	400
	552	172800	171840	139200	113280	70080	56640	60	18	1800	3800	400
	619	171840	169920	138240	112320	69120	56640	60	18	1800	3800	400
	719	171840	169920	138240	112320	69120	56640	59	18	1800	3800	400
	792	172800	168000	136320	110400	68160	55680	54	18	1800	3800	400
	904	163200	146880	135360	124800	76800	62400	47	18	1800	3800	400
	1032	171840	169920	138240	112320	69120	56640	41	18	1800	3800	400
	1134	163200	146880	135360	124800	76800	62400	38	18	1800	3800	400
	1318	163200	146880	135360	124800	76800	62400	32	18	1800	3800	400
	1595	163200	146880	135360	124800	76800	62400	27	18	1800	3800	400
	1893	139200	120960	110400	110400	74880	61440	22	18	1800	3800	400

$$M_{2max} = 1.2 \cdot M_{n2} \text{ (n₂·h = 10000)} \qquad M2 = 150000 N.m$$

TP518	i 1:	Mn2[N.m]						P₁ [kW]	Pt [kW]	n₁ [min⁻¹]	n₁max [min⁻¹]	Mb [Nm]
		n₂·h 10 000	n₂·h 25 000	n₂·h 50 000	n₂·h 100 000	n₂·h 500 000	n₂·h 1000 000					
L1	4.4	240000	240000	204480	166080	102720	83520	340	95	200	300	
L2	18.7	240000	240000	204480	166080	102720	83520	260	63	450	800	
	23.5	240000	240000	204480	166080	102720	83520	260	63	450	800	
	27.3	234240	200640	200640	166080	102720	83520	260	63	450	800	
L3	76.5	240000	240000	204480	166080	102720	83520	200	40	1400	1800	
	98.2	240000	240000	204480	166080	102720	83520	200	40	1400	1800	3200
	117	240000	240000	204480	166080	102720	83520	200	40	1400	1800	3200
	123	240000	240000	204480	166080	102720	83520	200	40	1400	1800	2600
	146	240000	240000	204480	166080	102720	83520	200	40	1400	1800	2100
	170	234240	200640	200640	166080	102720	83520	200	40	1400	1800	2100
L4	262	240000	240000	204480	166080	102720	83520	115	22	1500	2500	1500
	313	240000	240000	204480	166080	102720	83520	115	22	1500	2500	1100
	337	240000	240000	204480	166080	102720	83520	115	22	1500	2500	1100
	402	240000	240000	204480	166080	102720	83520	110	22	1500	2500	850
	422	240000	240000	204480	166080	102720	83520	105	22	1500	2500	850
	477	240000	240000	204480	166080	102720	83520	93	22	1500	2500	850
	515	240000	240000	204480	166080	102720	83520	86	22	1500	2500	850
	612	240000	240000	204480	166080	102720	83520	73	22	1500	2500	850
	647	240000	240000	204480	166080	102720	83520	69	22	1500	2500	850
	726	240000	240000	204480	166080	102720	83520	61	22	1500	2500	850
	768	240000	240000	204480	166080	102720	83520	58	22	1500	2500	850
	911	240000	240000	204480	166080	102720	83520	49	22	1500	2500	850
	1059	234240	200640	200640	166080	102720	83520	41	22	1500	2500	850

$$M_{2max} = 1.2 \cdot M_{n2} \quad (n_2 \cdot h = 10000) \qquad M2 = 250000 N.m$$

TP519	i 1:	Mn2[N.m]						P₁ [kW]	Pt [kW]	n₁ [min⁻¹]	n₁max [min⁻¹]	Mb [Nm]
		n₂·h 10 000	n₂·h 25 000	n₂·h 50 000	n₂·h 100 000	n₂·h 500 000	n₂·h 1000 000					
L1	4.88	336000	334080	295680	240000	147840	120000	380	115	200	300	
	5.77	326400	280320	249600	238080	146880	119040	380	115	200	300	
L2	19.9	336000	334080	295680	240000	147840	12000	250	70	350	500	
	23.6	326400	279360	249600	238080	146880	119040	250	70	350	500	
	25.6	336000	334080	274560	223680	138240	112320	250	70	350	500	
	30.4	294720	284160	231360	188160	116160	94080	250	70	350	500	
	35.9	326400	280320	249600	211200	130560	105600	250	70	350	500	
L3	81.6	336000	334080	274560	222720	137280	111360	180	50	750	1000	
	105	336000	334080	288960	235200	144960	118080	180	50	750	1000	
	124	336000	334080	272640	221760	136320	111360	180	50	750	1000	3200
	134	336000	334080	274560	223680	138240	112320	180	50	750	1000	2600
	159	326400	280320	249600	238080	146880	119040	180	50	750	1000	2600
	189	294720	284160	231360	188160	116160	94080	157	50	750	1000	2100
	224	326400	280320	249600	211200	130560	105600	134	50	750	1000	2100
L4	334	336000	334080	274560	222720	137280	111360	100	30	1500	2500	1100
	428	336000	334080	274560	222720	137280	111360	100	30	1500	2500	850
	508	336000	334080	274560	222720	137280	111360	100	30	1500	2500	850
	550	336000	334080	288960	235200	144960	118080	100	30	1500	2500	850
	652	336000	334080	288960	235200	144960	118080	95	30	1500	2500	850
	705	336000	334080	274560	223680	138240	112320	88	30	1500	2500	850
	837	336000	334080	274560	223680	138240	112320	74	30	1500	2500	850
	916	326400	280320	249600	211200	130560	105600	68	30	1500	2500	850
	991	326400	280320	249600	238080	146880	119040	63	30	1500	2500	850
	1179	294720	284160	231360	188160	116160	94080	53	30	1500	2500	850
	1396	326400	280320	249600	211200	130560	105600	44	30	1500	2500	850

$$M_{2max} = 1.2 \cdot M_{n2} \text{ (n₂·h = 10000)} \qquad M2 = 300000 N.m$$

TP521	i 1:	Mn2[N.m]						P₁ [kW]	Pt [kW]	n₁ [min⁻¹]	n₁max [min⁻¹]	Mb [Nm]
		n₂·h 10 000	n₂·h 25 000	n₂·h 50 000	n₂·h 100 000	n₂·h 500 000	n₂·h 1000 000					
L1	4.44	518400	447360	398400	323520	199680	162240	540	115	200	300	
L2	18.2	518400	447360	398400	323520	199680	162240	350	95	200	300	
	23.3	518400	441600	393600	321600	201600	165120	350	95	200	300	
	27.7	478080	447360	398400	323520	199680	162240	350	95	200	300	
L3	75.3	518400	447360	389760	315840	194880	158400	200	60	500	800	
	98.2	518400	447360	381120	309120	191040	155520	200	60	500	800	
	118	518400	447360	380160	309120	191040	154560	200	60	500	800	
	126	518400	441600	393600	321600	201600	165120	200	60	500	800	
	152	518400	441600	393600	321600	201600	165120	200	60	500	800	
	180	478080	447360	398400	323520	199680	162240	180	60	500	800	
L4	258	518400	447360	389760	315840	194880	158400	130	35	1400	2000	2100
	308	518400	447360	374400	303360	187200	152640	130	35	1400	2000	2100
	395	518400	447360	384960	312000	192960	156480	130	35	1400	2000	2100
	469	518400	447360	375360	305280	188160	152640	130	35	1400	2000	1500
	515	518400	447360	381120	309120	191040	155520	130	35	1400	2000	1500
	612	518400	447360	381120	309120	191040	155520	130	35	1400	2000	1100
	736	518400	447360	380160	309120	191040	154560	130	35	1400	2000	850
	796	518400	441600	393600	321600	201600	165120	123	35	1400	2000	850
	945	518400	441600	393600	321600	201600	165120	103	35	1400	2000	850
	1122	478080	447360	398400	323520	199680	162240	87	35	1400	2000	850

$$M_{2max} = 1.2 \cdot M_{n2} \; (n_2 \cdot h = 10000)$$ M2=450000N.m

圖 I

圖 II

圖 III

圖 IV

圖 IX (此圖尺寸詳見附表1)

圖 X

圖 V

圖 VI

圖 XI
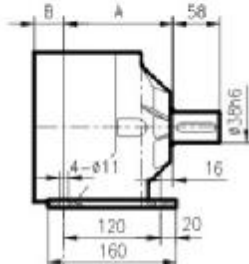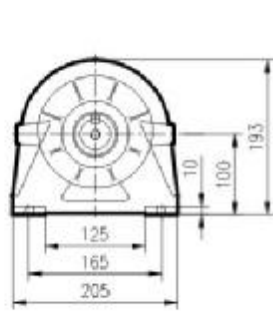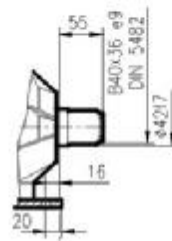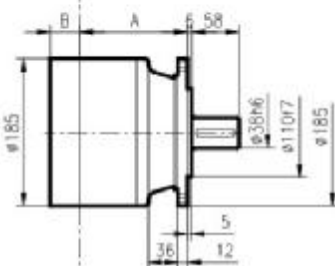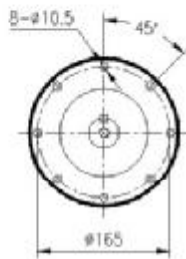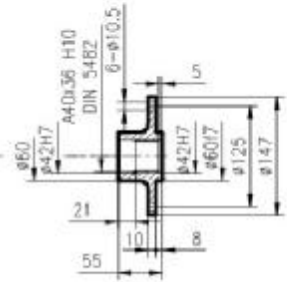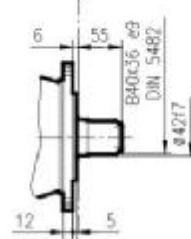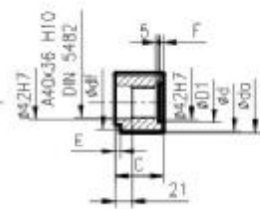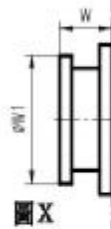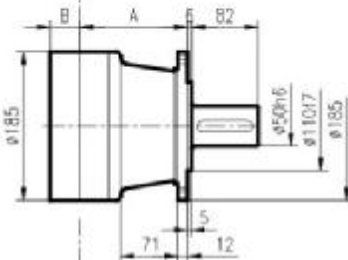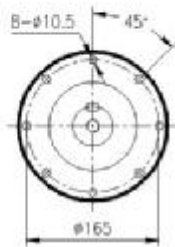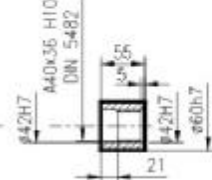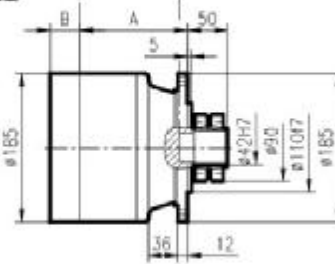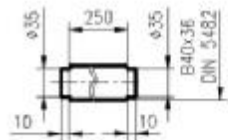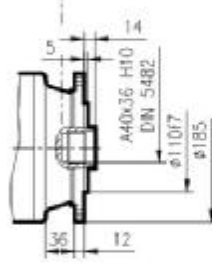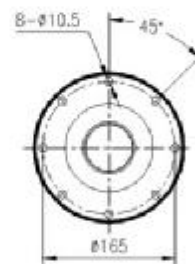
圖 VII

圖 VIII

TP500出力端/OUTPUT SIDE
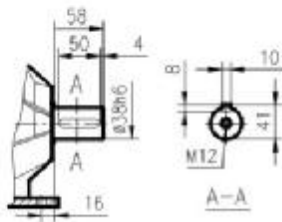
圖 I
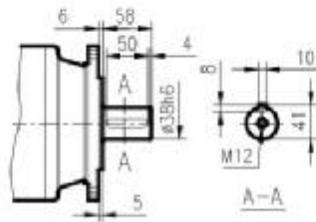
圖 III
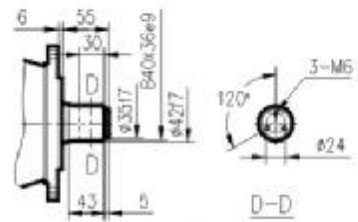
圖IV、VI
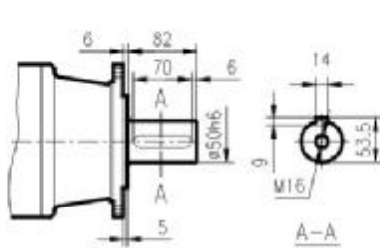
圖V
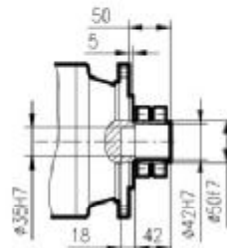
圖VII
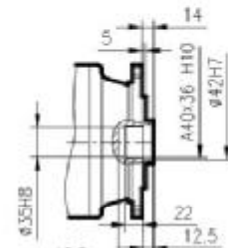
圖VIII

TP500入力端/INPUT SIDE
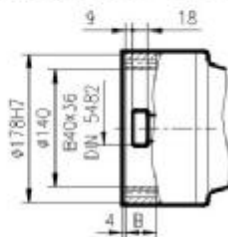
圖 I - VIII
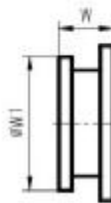
圖 X
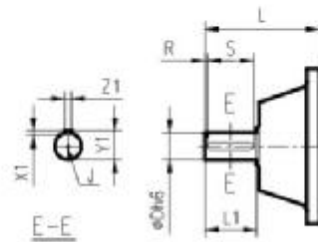
圖XI

TP500尺寸規格表 / DIM. TABLE

傳動級數 Stage	圖號 Drawing No.	機身/The Body								入力端/Input Side										重量 Wt. Kg
		I/II	III/IV	V/VI	VII/VIII	I/II	III/IV	V/VI	VII/VIII	I-VIII	XI									
		A				重量/Wt. Kg				B	D	L1	L	R	J	S	X1	Y1	Z1	
500L1	XI	86	80	115	80	23	18	20	16	37	24	36	137.5	3	M8	30	7	27	8	6
											38	58	158	4	M12	50	8	41	10	7
500L2		139	133	168	133	27	22	24	20	37	24	36	137.5	3	M8	30	7	27	8	6
											38	58	158	4	M12	50	8	41	10	7
500L3		192	186	221	186	31	26	28	24	37	24	36	137.5	3	M8	30	7	27	8	6
											38	58	158	4	M12	50	8	41	10	7
500L4		245	239	274	239	35	30	32	28	37	24	36	137.5	3	M8	30	7	27	8	6
											38	58	158	4	M12	50	8	41	10	7

傳動級數 Stage	圖號 Drawing No.	電機安裝法蘭/Flange of the Motor																		
		P71		P80		P90		P100		P112		P132		P160		P180		P200		P225
		W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1
500L1	X	65	160	84	200	84	200	94	250	94	250	114	300	*	*	*	*	*	*	*	*
500L2		65	160	84	200	84	200	94	250	94	250	114	300	*	*	*	*	*	*	*	*
500L3		65	160	84	200	84	200	94	250	94	250	114	300	*	*	*	*	*	*	*	*
500L4		65	160	84	200	84	200	94	250	94	250	114	300	*	*	*	*	*	*	*	*

圖 I

圖 II

圖 III

圖 IV

圖 IX (此圖尺寸詳見附表1)

圖 X

圖 V

圖 VI

圖 XI

圖 VII

圖 VIII

TP501出力端/OUTPUT SIDE

圖I   圖III   圖V

圖IV、VI   圖VII   圖VIII
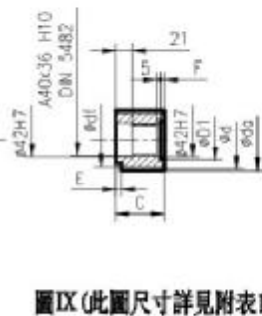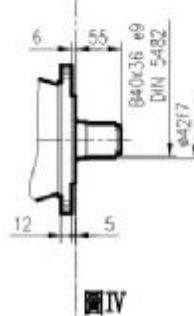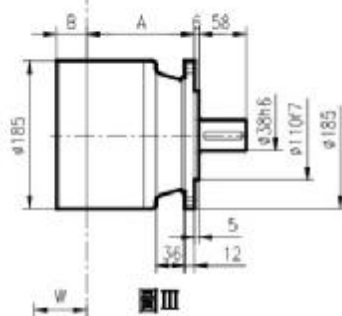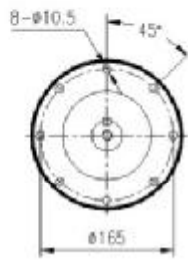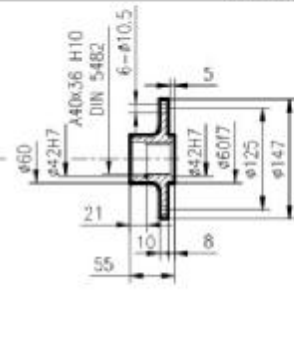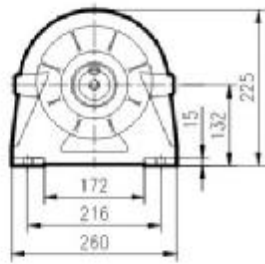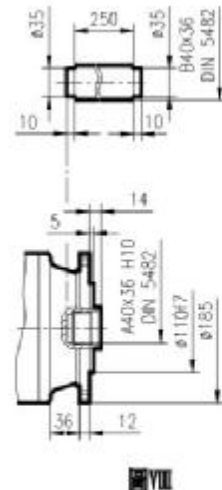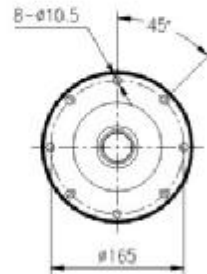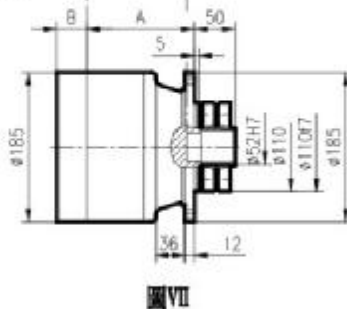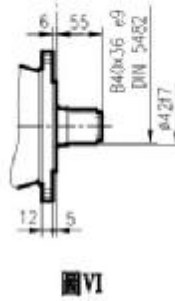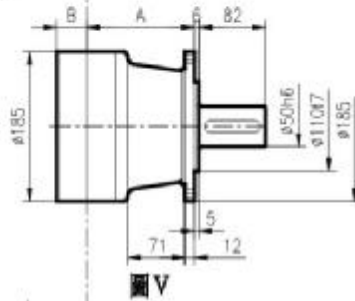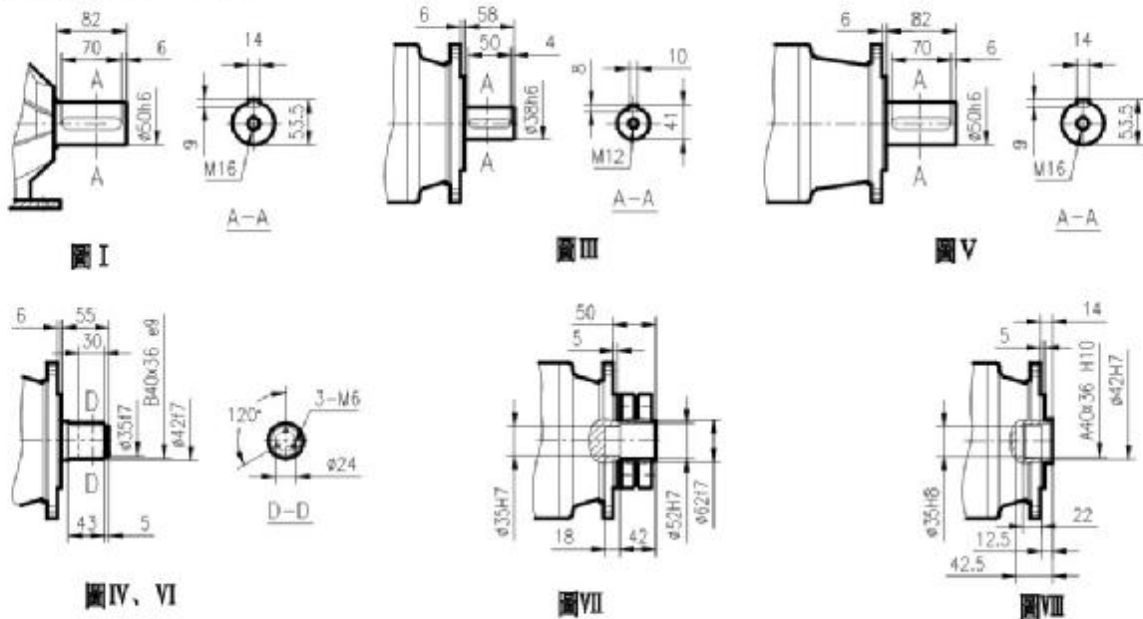
TP501入力端/INPUT SIDE

圖I－VIII   圖X   圖XI

TP501尺寸規格表 / DIM.TABLE

傳動級數 Stage	圖號 Drawing No.	機身/The Body								入力端 /Input Side											重量 Wt. Kg
		I / II	III/ IV	V/ VI	VII/ VIII	I / II	III/ IV	V/ VI	VII/ VIII	I－VIII	XI										
		A				重量/Wt. Kg				B	D	L1	L	R	J	S	X1	Y1	Z1		
501L1	XI	133	92	127	92	26	21	23	19	37	24	36	137.5	3	M8	30	7	27	8		6
											38	58	158	4	M12	50	8	41	10		7
501L2		186	145	180	145	30	25	27	23	37	24	36	137.5	3	M8	30	7	27	8		6
											38	58	158	4	M12	50	8	41	10		7
501L3		239	198	233	198	34	29	31	27	37	24	36	137.5	3	M8	30	7	27	8		6
											38	58	158	4	M12	50	8	41	10		7
501L4		292	251	286	251	38	33	35	31	37	24	36	137.5	3	M8	30	7	27	8		6
											38	58	158	4	M12	50	8	41	10		7

傳動級數 Stage	圖號 Drawing No.	電機安裝法蘭/Flange of the Motor																					
		P71		P80		P90		P100		P112		P132		P160		P180		P200		P225	
		W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1
501L1	X	65	160	84	200	84	200	94	250	94	250	114	300	144	350	*	*	*	*	*	*
501L2		65	160	84	200	84	200	94	250	94	250	114	300	144	350	*	*	*	*	*	*
501L3		65	160	84	200	84	200	94	250	94	250	114	300	144	350	*	*	*	*	*	*
501L4		65	160	84	200	84	200	94	250	94	250	114	300	144	350	*	*	*	*	*	*

圖 I

圖 II

圖XI

圖III

圖IV

圖IX (此圖尺寸詳見附表1)

圖X

圖V

圖VI
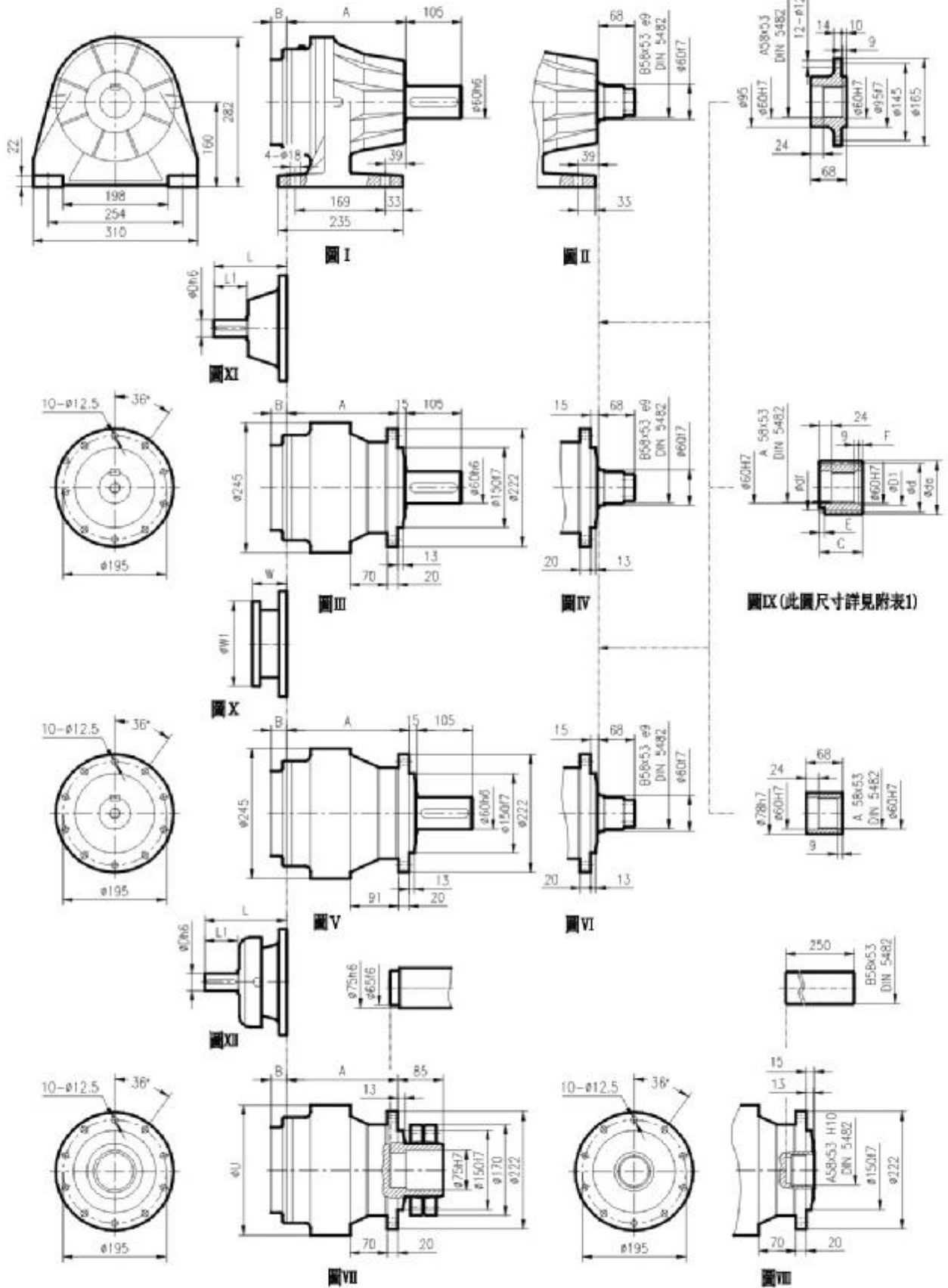
圖XII

圖VII

圖VIII

TP503/504/505出力端 /OUTPUT SIDE

圖I
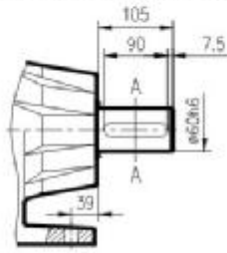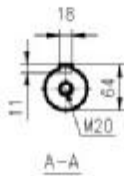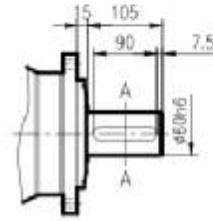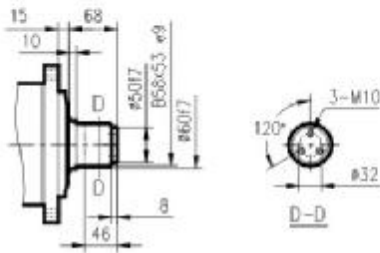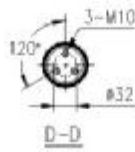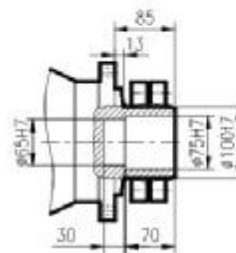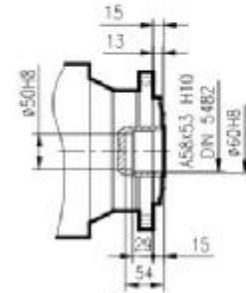
圖III、V
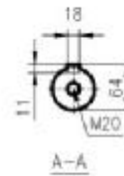
圖IV、VI

圖VII

圖VIII

TP503/504/505入力端 /INPUT SIDE

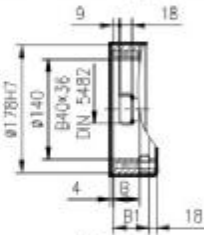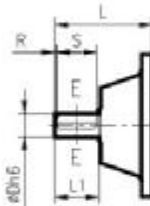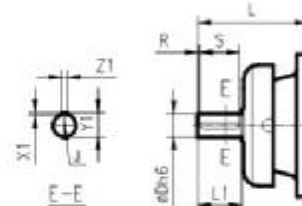

圖I－VIII

圖X

圖XI

圖XII

TP503尺寸規格表 / DIM.TABLE

傳動級數 Stage	圖號 Drawing No.	機身/The Body A				機身/The Body 重量/Wt.Kg				I－VIII		入力端/Input Side XI－XII									重量 Wt.Kg
		I/II	III/IV	V/VI	VII/VIII	I/II	III/IV	V/VI	VII/VIII	B	B1	D	L1	L	R	J	S	X1	Y1	Z1	
503L1	XI	165	125	150	125	40	31	35	31	37	*	48	82	239	6	M16	70	9	51.5	14	15
	XII											48	82	276	6	M16	70	9	51.5	14	17
503L2		218	178	203	178	44	35	39	35	37	53	24	36	137.5	3	M8	30	7	27	8	6
												38	58	158	4	N12	50	8	41	10	7
503L3	XI	271	231	256	231	48	39	43	39	37	106	24	36	137.5	3	M8	30	7	27	8	6
												38	58	158	4	N12	50	8	41	10	7
503L4		324	284	309	284	52	43	47	43	37	159	24	36	137.5	3	M8	30	7	27	8	6
												38	58	158	4	N12	50	8	41	10	7

傳動級數 Stage	圖號 Drawing No.	電機安裝法蘭/Flange of the Motor																		
		P71		P80		P90		P100		P112		P132		P160		P180		P200		P225
		W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1
503L1	X	*	*	*	*	*	*	*	*	*	*	114	300	144	350	144	350	174	400	*	*
503L2		65	160	84	200	84	200	94	250	94	250	114	300	144	350	144	350	*	*	*	*
503L3		65	160	84	200	84	200	94	250	94	250	114	300	144	350	144	350	*	*	*	*
503L4		65	160	84	200	84	200	94	250	94	250	114	300	144	350	144	350	*	*	*	*

TP504尺寸規格表 / DIM. TABLE

傳動級數 Stage	圖號 Drawing No.	機身/The Body A				機身/The Body 重量/Wt.Kg				入力端/Input Side I-VIII		XI-XII									重量 Wt.Kg
		I/II	III/IV	V/VI	VII/VIII	I/II	III/IV	V/VI	VII/VIII	B	B1	D	L1	L	R	J	S	X1	Y1	Z1	
504L1	XI	165	125	150	125	40	31	35	31	37	*	48	82	239	6	M16	70	9	51·5	14	15
	XII											48	82	276	6	M16	70	9	51·5	14	17
504L3		230	190	215	190	44	35	39	35	37	65	24	36	137.5	3	M8	30	7	27	8	6
												38	58	158	4	M12	50	8	41	10	7
504L4	XI	283	243	268	243	48	39	43	39	37	118	24	36	137.5	3	M8	30	7	27	8	6
												38	58	158	4	M12	50	8	41	10	7
504L4		336	296	321	296	52	43	47	43	37	171	24	36	137.5	3	M8	30	7	27	8	6
												38	58	158	4	M12	50	8	41	10	7

傳動級數 Stage	圖號 Drawing No.	電機安裝法蘭/Flange of the Motor																		
		P71		P80		P90		P100		P112		P132		P160		P180		P200		P225
		W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1
504L1		*	*	*	*	*	*	*	*	*	*	114	300	144	350	144	350	174	400	*	*
504L2	X	65	160	84	200	84	200	94	250	94	250	114	300	144	350	*	*	*	*	*	*
504L3		65	160	84	200	84	200	94	250	94	250	114	300	144	350	*	*	*	*	*	*
504L4		65	160	84	200	84	200	94	250	94	250	114	300	144	350	*	*	*	*	*	*

TP505尺寸規格表 / DIM. TABLE

傳動級數 Stage	圖號 Drawing No.	機身/The Body A				機身/The Body 重量/Wt.Kg				入力端/Input Side I-VIII		XI-XII									重量 Wt.Kg
		I/II	III/IV	V/VI	VII/VIII	I/II	III/IV	V/VI	VII/VIII	B	B1	D	L1	L	R	J	S	X1	Y1	Z1	
505L1	XI	183	143	168	143	45	36	40	36	37	*	48	82	239	6	M16	70	9	51·5	14	15
	XII											48	82	276	6	M16	70	9	51·5	14	17
505L2		248	208	233	208	52	43	47	43	37	65	24	36	137.5	3	M8	30	7	27	8	6
												38	58	158	4	M12	50	8	41	10	7
505L3	XI	301	261	286	261	56	47	51	47	37	118	24	36	137.5	3	M8	30	7	27	8	6
												38	58	158	4	M12	50	8	41	10	7
505L4		354	314	339	314	60	51	55	51	37	171	24	36	137.5	3	M8	30	7	27	8	6
												38	58	158	4	M12	50	8	41	10	7

傳動級數 Stage	圖號 Drawing No.	電機安裝法蘭/Flange of the Motor																		
		P71		P80		P90		P100		P112		P132		P160		P180		P200		P225
		W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1
505L1		*	*	*	*	*	*	*	*	*	*	114	300	144	350	144	350	174	400	*	*
505L2	X	65	160	84	200	84	200	94	250	94	250	114	300	144	350	*	*	*	*	*	*
505L3		65	160	84	200	84	200	94	250	94	250	114	300	144	350	*	*	*	*	*	*
505L4		65	160	84	200	84	200	94	250	94	250	114	300	144	350	*	*	*	*	*	*

圖I

圖II

圖XI

圖III

圖IV

圖IX (此圖尺寸詳見附表1)

圖X

圖V

圖VI
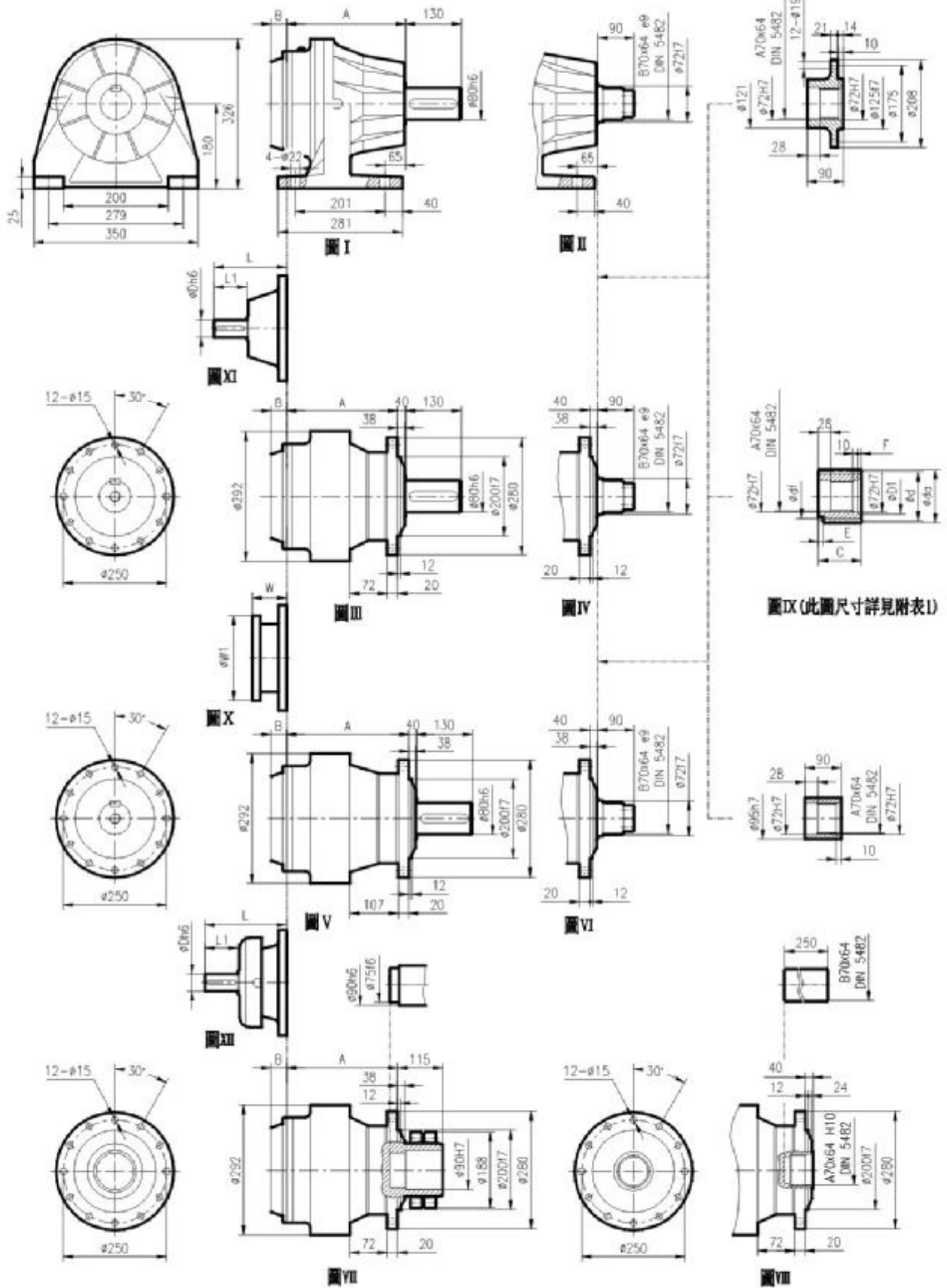
圖XII

圖VII

圖VIII

TP506出力端/OUTPUT SIDE

圖I

圖Ⅲ、Ⅴ

圖Ⅳ、Ⅵ

圖Ⅶ

圖Ⅷ
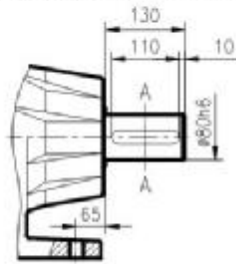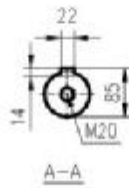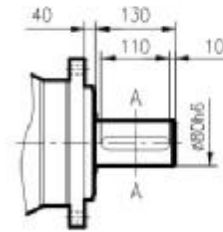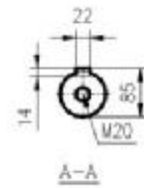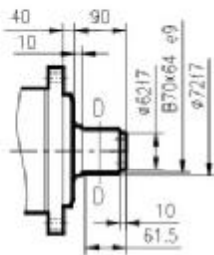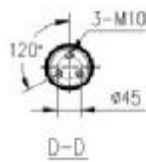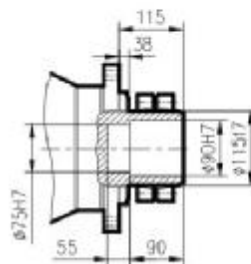
TP506入力端/INPUT SIDE

圖I-Ⅷ

圖X

圖XI

圖XⅡ

506L尺寸規格表 / DIM. TABLE

傳動級數 Stage	圖號 Drawing No.	機身/The Body								入力端/Input Side																	重量 Wt. Kg
		I/II	III/IV	V/VI	VII/VIII	I/II	III/IV	V/VI	VII/VIII	I-VIII												XI-XII						
		A				重量/Wt. Kg				B	B1	B2	U	M×D	V	P	T	D	L1	L	R	J	S	X1	Y1	Z1	
506L1	XI	235	160	195	160	80	65	70	65	45	*	*	236	58×53	195	11	22	60	105	307	7·5	M16	90	11	64	18	23
	XII																	60	105	357	7·5	M16	90	11	64	18	28
506L2	XI	300	225	260	225	89	74	79	74	37	*	*	178		140	9	18	48	82	239	6	M16	70	9	51·5	14	15
	XII																	48	82	276	6	M16	70	9	51·5	14	17
506L3	XI	353	278	313	278	93	78	83	78	37	53	18	178	40×36	140	9	18	24	36	137.5	3	M8	30	7	27	8	6
																		38	58	158	4	M12	50	8	41	10	7
506L4		406	331	366	331	97	82	87	82	37	106	18	178		140	9	18	24	36	137.5	3	M8	30	7	27	8	6
																		38	58	158	4	M12	50	8	41	10	7

傳動級數 Stage	圖號 Drawing No.	電機安裝法蘭/Flange of the Motor																									
		P71		P80		P90		P100		P112		P132		P160		P180		P200		P225		P250		P280		P315	
		W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1
506L1	X	*	*	*	*	*	*	*	*	*	*	*	*	152	350	152	350	182	400	212	450	193	550	*	*	*	*
506L2		*	*	*	*	*	*	*	*	*	*	114	300	144	350	144	350	174	400	*	*	*	*	*	*	*	*
506L3		65	160	84	200	84	200	94	250	94	250	114	300	144	350	*	*	*	*	*	*	*	*	*	*	*	*
506L4		65	160	84	200	84	200	94	250	94	250	114	300	144	350	*	*	*	*	*	*	*	*	*	*	*	*

圖 I

圖 II

圖 XI

圖 III

圖 IV

圖 IX (此圖尺寸詳見附表1)

圖 X

圖 V

圖 VI

圖 XII

圖 VII

圖 VIII

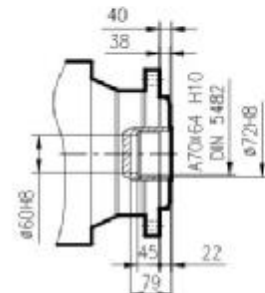# TP游星減速機外形尺寸圖
TP planetary reducer Size Chart

TP507出力端/OUTPUT SIDE

圖 I

圖 III、V

圖 IV、VI

圖 VII

圖 VIII

TP507入力端/INPUT SIDE

圖 I - VIII

圖 X

圖 XI

圖 XII

507L尺寸規格表 / DIM. TABLE

傳動級數 Stage	圖號 Drawing No.	機身/The Body								入力端/Input Side																		重量 Wt. Kg
		I/II	III/IV	V/VI	VII/VIII	I/II	III/IV	V/VI	VII/VIII	I-VIII								XI-XII										
		A				重量/Wt. Kg				B	B1	B2	U	M×D	V	P	T	D	L1	L	R	J	S	X1	Y1	Z1	
507L1	XI	246	165	210	165	120	95	105	85	51	*	*	236	58×53	195	11	22	80	130	315	10	M16	110	14	85	22	35
																		60	105	313	7·5	M16	90	11	64	18	28
	XI																	80	130	375	10	M16	110	14	85	22	48
																		60	105	363	7·5	M16	90	11	64	18	34
507L2	XI	335	254	299	254	132	107	117	97	37	*	*	178		140	9	18	48	82	239	6	M16	70	9	51·5	14	15
	XI														140	9	18	48	82	276	6	M16	70	9	51·5	14	17
507L3	XI	400	319	364	319	139	114	124	104	37	65	18	178	40×36	140	9	18	24	36	137·5	3	M8	30	7	27	8	6
															140	9	18	38	58	158	4	M12	50	8	41	10	7
507L4		453	372	417	372	143	118	128	108	37	118	18	178		140	9	18	24	36	137·5	3	M8	30	7	27	8	6
															140	9	18	38	58	158	4	M12	50	8	41	10	7

傳動級數 Stage	圖號 Drawing No.	電機安裝法蘭/Flange of the Motor																											
		P71		P80		P90		P100		P112		P132		P160		P180		P200		P225		P250		P280		P315	
		W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1
507L1	X	*	*	*	*	*	*	*	*	*	*	*	*	*	*	195	350	186	400	216	450	215	550	*	*	*	*
507L2		*	*	*	*	*	*	*	*	*	*	114	300	144	350	144	350	174	400	*	*	*	*	*	*	*	*
507L3		65	160	84	200	84	200	94	250	94	250	114	300	144	350	*	*	*	*	*	*	*	*	*	*	*	*
507L4		65	160	84	200	84	200	94	250	94	250	114	300	144	350	*	*	*	*	*	*	*	*	*	*	*	*

圖I

圖II

圖VII

圖III

圖IV

圖VIII

圖IX（此圖尺寸詳見附表1）

圖V

圖X

圖VI

TP游星减速機外形尺寸圖
TP planetary reducer Size Chart

TP509出力端/OUTPUT SIDE

圖 I

圖 III

圖 IV

圖 V

圖 VI
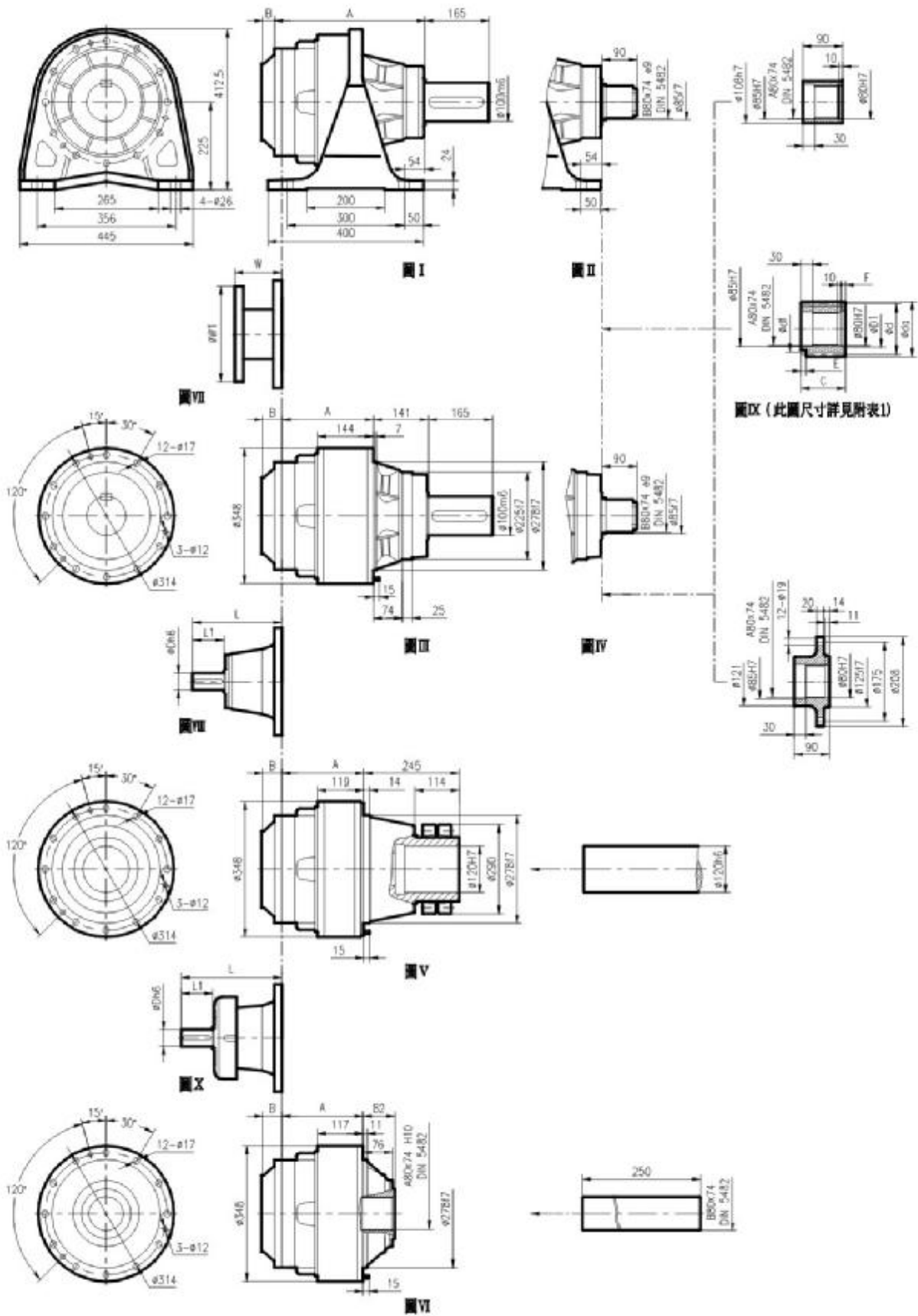
TP509入力端/INPUT SIDE

圖 I - VI

圖 VII

圖 VIII

圖 X

509L尺寸規格表 / DIM. TABLE

傳動級數 Stage	圖號 Drawing No.	機身/The Body								入力端/Input Side																	重量 Wt.Kg
		I/II	III/IV	V	VI	I/II	III/IV	V	VI	I -VI							VII、X										
		A				重量/Wt.Kg				B	B1	B2	U	M×D	V	P	T	D	L1	L	R	J	S	X1	Y1	Z1	
509L1	VII	267	126	101	99	130	115	100	95	51	*	*	236	58 × 53	195	11	22	80	130	315	10	M16	110	14	85	22	35
																		60	105	313	7- 5	M16	90	11	64	18	28
	X																	80	130	375	10	M16	110	14	85	22	48
																		60	105	363	7- 5	M16	90	11	64	18	34
509L2	VII	356	215	190	188	142	127	112	107	37	*	*	178		140	9	18	48	82	239	6	M16	70	9	51- 5	14	15
	X																	48	82	278	6	M16	70	9	51- 5	14	17
509L3	VII	421	280	255	253	149	134	119	114	37	65	18	178	40 × 36	140	9	18	24	36	137.5	3	M8	30	7	27	8	6
																		38	58	158	4	M12	50	8	41	10	7
509L4		474	333	308	306	153	138	123	118	37	118	18	178		140	9	18	24	36	137.5	3	M8	30	7	27	8	6
																		38	58	158	4	M12	50	8	41	10	7

傳動級數 Stage	圖號 Drawing No.	電機安裝法蘭/Flange of the Motor																							
		P71		P80		P90		P100		P112		P132		P160		P180		P200		P225		P250		P280		P315
		W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1
509L1	VII	*	*	*	*	*	*	*	*	*	*	*	*	*	*	195	350	186	400	216	450	215	550	*	*	*	*
509L2		*	*	*	*	*	*	*	*	*	*	114	300	144	350	144	350	174	400	*	*	*	*	*	*	*	*
509L3		65	160	84	200	84	200	94	250	94	250	114	300	144	350	*	*	*	*	*	*	*	*	*	*	*	*
509L4		65	160	84	200	84	200	94	250	94	250	114	350	*	*	*	*	*	*	*	*	*	*	*	*	*	*

圖 I

圖 II

圖VIII

圖IX（此圖尺寸詳見附表1）

圖III

圖IV

圖VII

圖V

圖X

圖VI

TP游星減速機外形尺寸圖
TP planetary reducer Size Chart TP510

TP510出力端/OUTPUT SIDE

圖I 　圖III

圖IV 　圖V 　圖VI
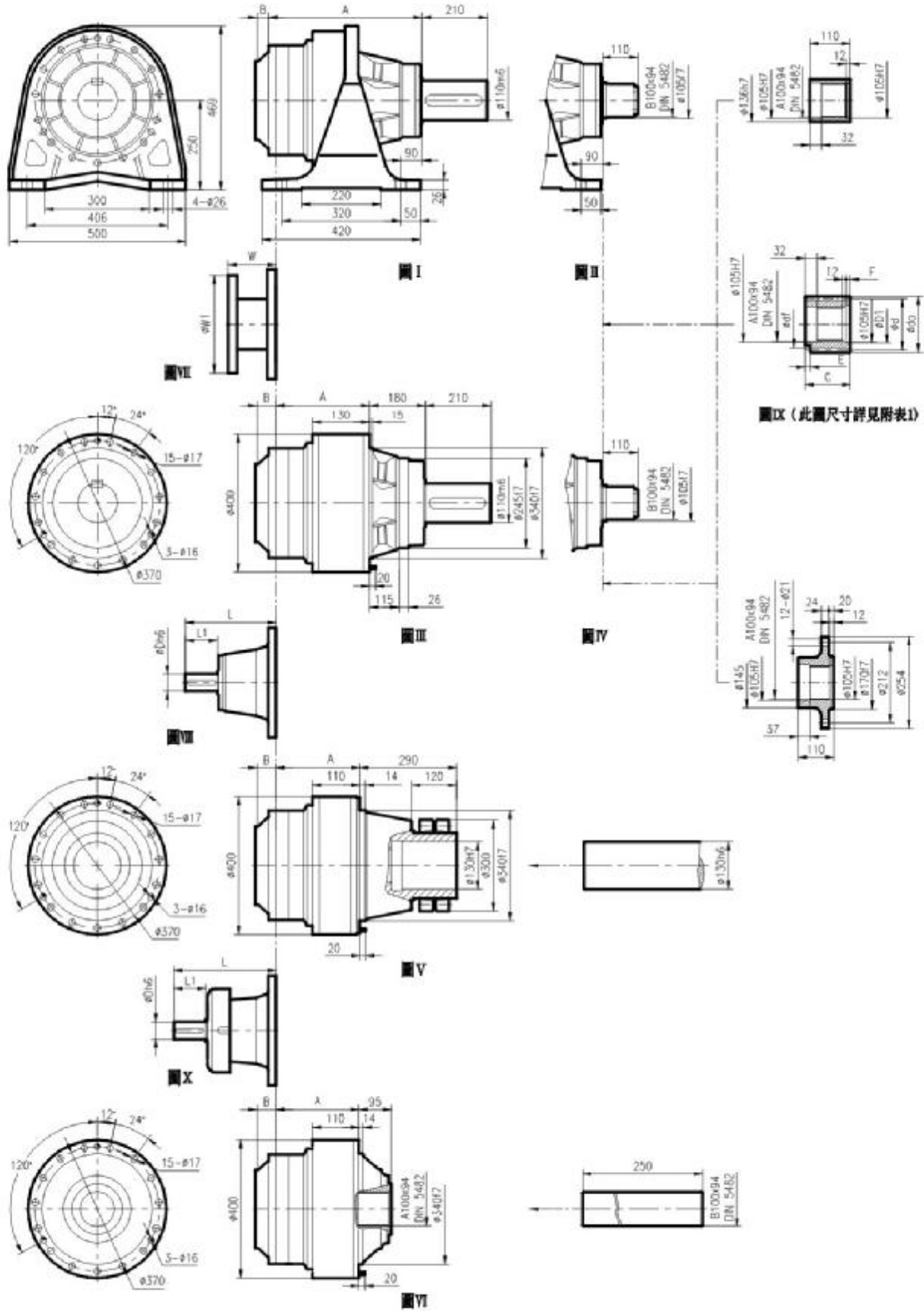
TP510入力端/INPUT SIDE

圖I - VI 　圖VII 　圖VIII 　圖X

510L尺寸規格表 / DIM.TABLE

傳動級數 Stage	圖號 Drawing No.	機身/The Body A — I/II	III/IV	V	VI	機身 重量/Wt.Kg — I/II	III/IV	V	VI	B	B1	B2	U	M×D	V	P	T	D	L1	L	R	J	S	X1	Y1	Z1	重量 Wt.Kg
510L1	VII	288	108	88	88	155	135	115	110	88	*	*	282	70×64	200	11	32	80	130	377	10	M16	110	14	85	22	50
	X																	80	130	457	10	M16	110	14	85	22	63
510L2	VII	424	244	224	224	185	165	145	140	45	*	*	238	58×53	195	11	22	60	105	307	7.5	M16	90	11	64	18	23
	X																	60	105	357	7.5	M16	90	11	64	18	28
510L3	VII	489	309	289	289	194	174	154	149	37	*	*	178	40×36	140	9	18	48	82	239	6	M16	70	9	51.5	14	15
	X																	48	82	276	6	M16	70	9	51.5	14	17
510L4	VII	542	362	342	342	198	178	158	153	37	53	18	178	40×36	140	9	18	24	36	137.5	3	M8	30	7	27	8	6
																		38	58	158	4	M12	50	8	41	10	7

傳動級數 Stage	圖號 Drawing No.	電機安裝法蘭/Flange of the Motor P71 W	W1	P80 W	W1	P90 W	W1	P100 W	W1	P112 W	W1	P132 W	W1	P160 W	W1	P200 W	W1	P225 W	W1	P250 W	W1	P280 W	W1	P315 W	W1
510L1	VII	*	*	*	*	*	*	*	*	*	*	*	*	*	*	271	400	301	450	281	550	*	*	*	*
510L2		*	*	*	*	*	*	*	*	*	*	*	*	152	350	182	400	212	450	193	550	*	*	*	*
510L3		*	*	*	*	*	*	*	*	*	*	114	300	144	350	144	350	174	400	*	*	*	*	*	*
510L4		65	160	84	200	84	200	94	250	94	250	114	300	144	350	*	*	*	*	*	*	*	*	*	*

圖I

圖II

圖VII

圖III

圖IV

圖VIII

圖IX（此圖尺寸詳見附表1）

圖V

圖X

圖XI

TP游星减速機外形尺寸圖
TP planetary reducer Size Chart
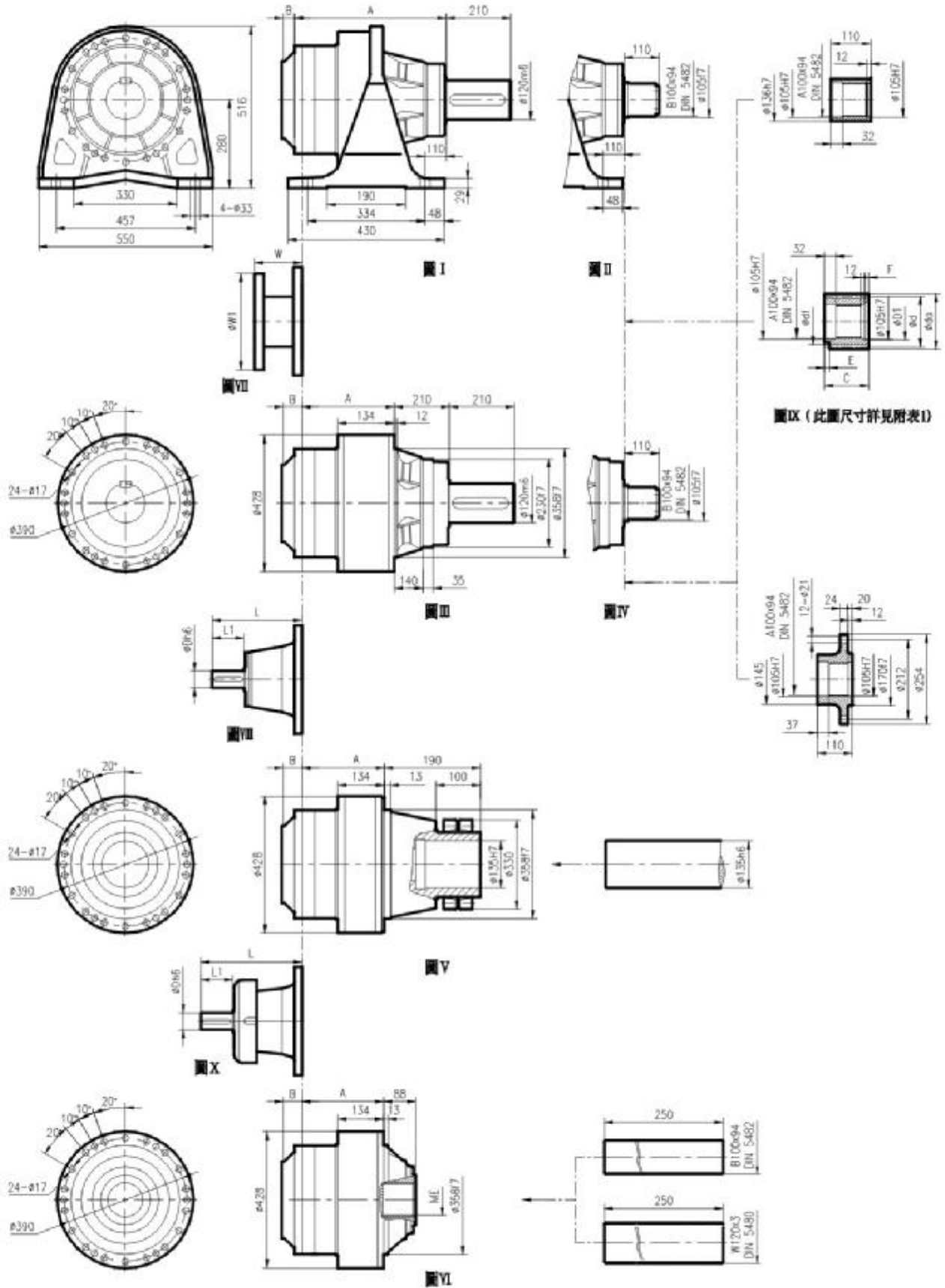
TP511出力端/OUTPUT SIDE
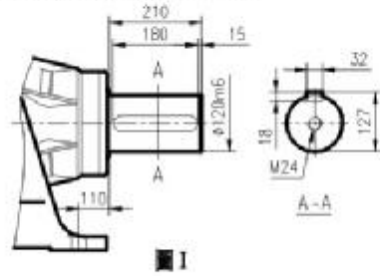
圖 I
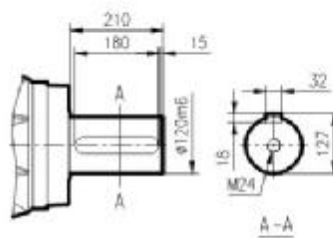
圖 III

圖 V

圖 IV

圖 VI

TP511入力端/INPUT SIDE

圖 I - VI

圖 VII

圖 VIII

圖 X

511L尺寸規格表 / DIM.TABLE

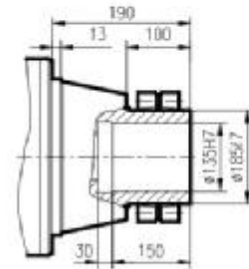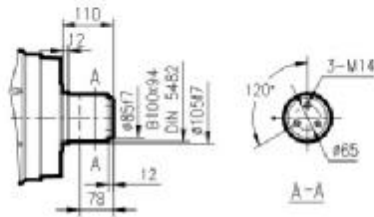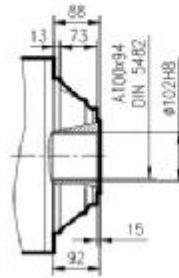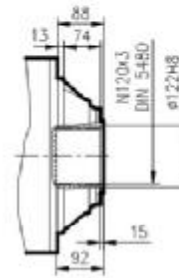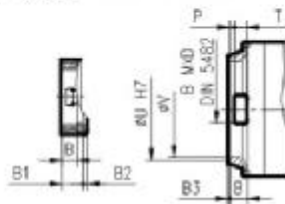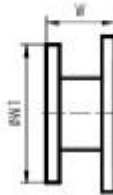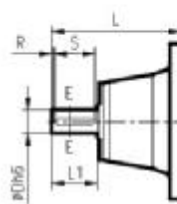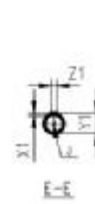| 傳動級數 Stage	圖號 Drawing No.	機身/The Body								入力端/Input Side																		重量 Wt.Kg
		I/II	III/IV	V	VI	I/II	III/IV	V	VI	I-VI										VII、X								
		A				重量/Wt.Kg				B	B1	B2	B3	U	M×D	V	P	T	D	L1	L	R	J	S	X1	Y1	Z1	
511L1	VII	325	115	115	115	250	180	170	160	81	*	*	5	335	80×74	270	8.5	40	80	130	348	10	M16	110	14	85	22	55
	X																		80	130	456	10	M16	110	14	85	22	85
511L2	VII	458	248	248	248	295	225	215	205	51	*	*	4	236	58×53	195	11	22	80	130	315	10	M16	110	14	85	22	35
																			60	105	313	7.5	M16	90	11	64	18	28
	X																		80	130	375	10	M16	110	14	85	22	48
																			60	105	363	7.5	M16	90	11	64	18	34
511L3	VII	547	337	337	337	307	237	227	217	37	*	*	4	178	40×36	140	9	18	48	82	239	6	M16	70	9	51.5	14	15
	X																		48	82	276	6	M16	70	9	51.5	14	17
511L4	VII	612	402	402	402	314	244	234	224	37	65	18	4	178		140	9	18	24	36	137.5	3	M8	30	7	27	8	6
																			38	58	158	4	M12	50	8	41	10	7

傳動級數 Stage	圖號 Drawing No.	電機安裝法蘭/Flange of the Motor																										
		P71		P80		P90		P100		P112		P132		P160		P180		P200		P225		P250		P280		P315	
		W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	
511L1	VII	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
511L2		*	*	*	*	*	*	*	*	*	*	*	*	*	*	195	350	186	400	216	450	215	550	*	*	*	*	
511L3		*	*	*	*	*	*	*	*	*	*	114	300	144	350	144	350	174	400	*	*	*	*	*	*	*	*	
511L4		65	160	84	200	84	200	94	250	94	250	114	300	144	350	*	*	*	*	*	*	*	*	*	*	*	*	

圖I

圖II

圖VII

圖III

圖IV

圖VIII

圖IX（此圖尺寸詳見附表1）

圖V

圖X

圖VI
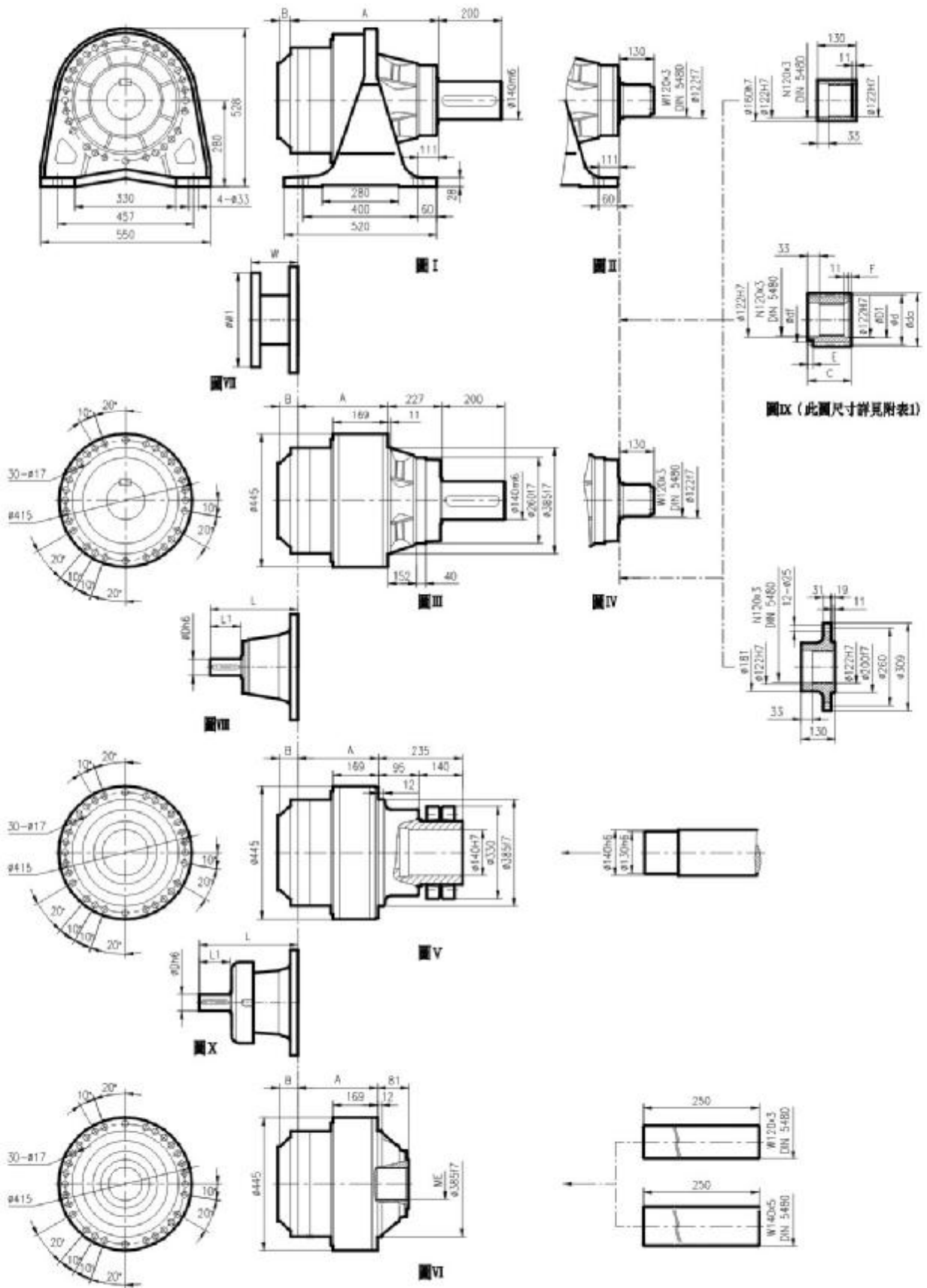
TP513出力端/OUTPUT SIDE

圖Ⅰ　　　圖Ⅲ　　　圖Ⅴ

圖Ⅳ　　　圖Ⅵ

TP513入力端/INPUT SIDE

圖Ⅰ-Ⅵ　　　圖Ⅶ　　　圖Ⅷ　　　圖Ⅹ

513L尺寸規格表 / DIM.TABLE

傳動級數 Stage	圖號 Drawing No.	機身/The Body								入力端/Input Side																		重量 Wt.Kg
		A				重量/Wt.Kg				I-Ⅵ									Ⅶ、Ⅹ									
		I/II	III/IV	V	VI	I/II	III/IV	V	VI	B	B1	B2	B3	U	M×D	V	P	T	D	L1	L	R	J	S	X1	Y1	Z1	
513L1	Ⅶ	381	154	154	154	320	230	200	200	76	*	*	5	335	80×74	270	9.5	40	80	130	343	10	M16	110	14	85	22	55
	Ⅹ																		80	130	451	10	M16	110	14	85	22	71
513L2	Ⅶ	531	304	304	304	380	290	280	260	51	*	*	4	236	58×53	195	11	22	80	130	315	10	M16	110	14	85	22	35
																			60	105	313	7.5	M16	90	11	64	18	28
	Ⅹ																		80	130	375	10	M16	110	14	85	22	48
																			60	105	363	7.5	M16	90	11	64	18	34
513L3	Ⅶ	620	393	393	393	392	302	292	272	37	*	*	4	178	40×36	140	9	18	48	82	239	6	M16	70	9	51.5	14	15
	Ⅹ																		48	82	276	6	M16	70	9	51.5	14	17
513L4	Ⅶ	685	458	458	458	399	309	299	279	37	65	16	4	178		140	9	18	24	36	137.5	3	M8	30	7	27	8	6
																			38	58	158	4	M12	50	8	41	10	7

傳動級數 Stage	圖號 Drawing No.	電機安裝法蘭/Flange of the Motor																								
		P71		P80		P90		P100		P112		P132		P160		P180		P200		P225		P250		P280		P315	
		W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1
513L1	Ⅶ	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
513L2		*	*	*	*	*	*	*	*	*	*	*	*	*	*	195	350	188	400	216	450	215	550	*	*	*	*
513L3		*	*	*	*	*	*	*	*	*	*	114	300	144	350	144	350	174	400	*	*	*	*	*	*	*	*
513L4		65	160	84	200	84	200	94	250	94	250	114	300	144	350	*	*	*	*	*	*	*	*	*	*	*	*

TP514/515出力端/OUTPUT SIDE

圖 I

圖Ⅲ

圖Ⅱ、Ⅳ

圖Ⅴ

圖Ⅵ
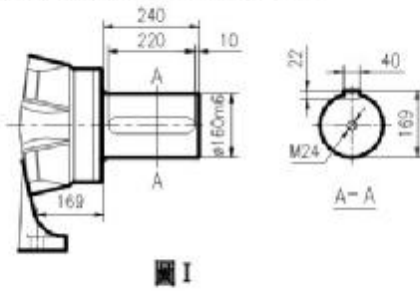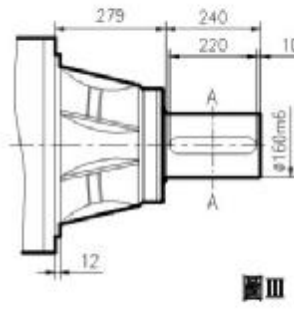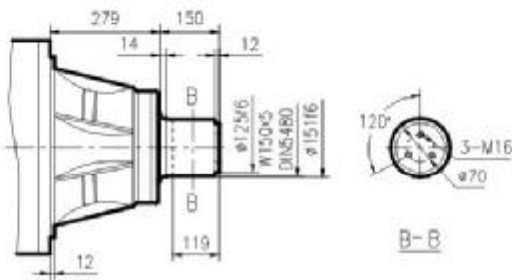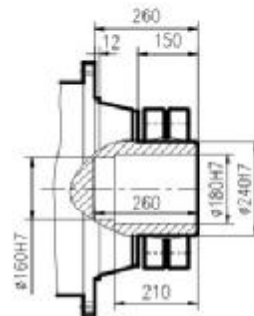
TP514/515入力端/INPUT SIDE

圖Ⅰ - Ⅵ

圖Ⅶ

圖Ⅷ

圖Ⅹ

514L尺寸規格表 / DIM. TABLE

傳動級數 Stage	圖號 Drawing No.	機身/The Body A I/II	III/IV	V	VI	重量/Wt.Kg I/II	III/IV	V	VI	入力端/Input Side I-VI B	B1	B2	B3	U	M×D	V	P	T	VII、X D	L1	L	R	J	S	X1	Y1	Z1	重量 Wt.Kg
514L1	VII、X	453	174	174	174	500	370	330	280	120	*	*	8	336	100×94	295	13	55	*	*	*	*	*	*	*	*	*	*
514L2	VII	631	362	362	362	535	405	365	345	88	*	*	4	282	70×64	200	11	32	80	130	377	10	M16	110	14	85	22	50
	X																		80	130	457	10	M16	110	14	85	22	63
514L3	VII	777	498	498	498	580	450	410	360	45	*	*	4	236	58×53	195	11	22	60	105	307	7.5	M16	90	11	64	18	23
	X																		60	105	357	7.5	M16	90	11	64	18	28
514L4	VII	842	563	563	563	592	462	422	372	37	*	*	4	178	40×36	140	9	18	48	82	239	6	M16	70	9	51·5	14	15
	X																		48	82	276	6	M16	70	9	51·5	14	17

傳動級數 Stage	圖號 Drawing No.	電機安裝法蘭/Flange of the Motor P71 W	W1	P80 W	W1	P90 W	W1	P100 W	W1	P112 W	W1	P132 W	W1	P160 W	W1	P180 W	W1	P200 W	W1	P225 W	W1	P250 W	W1	P280 W	W1	P315 W	W1
514L1	VII	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
514L2		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	301	450	281	550	*	*	*	*
514L3		*	*	*	*	*	*	*	*	*	*	*	*	*	*	152	350	182	400	212	450	193	550	*	*	*	*
514L4		*	*	*	*	*	*	*	*	*	*	114	300	144	350	144	350	174	400	*	*	*	*	*	*	*	*

515L尺寸規格表 / DIM. TABLE

傳動級數 Stage	圖號 Drawing No.	機身/The Body A I/II	III/IV	V	VI	重量/Wt.Kg I/II	III/IV	V	VI	入力端/Input Side I-VI B	B1	B2	B3	U	M×D	V	P	T	VII、X D	L1	L	R	J	S	X1	Y1	Z1	重量 Wt.Kg
515L1	VII、X	453	174	174	174	500	370	330	280	116	*	*	7	412	100×94	340	8	55	*	*	*	*	*	*	*	*	*	*
515L2	VII	665	386	386	386	585	455	415	365	81	*	*	5	335	80×74	270	8.5	40	80	130	348	10	M16	110	14	85	22	35
	X																		80	130	456	10	M16	110	14	85	22	85
515L3	VII	798	519	519	519	630	500	460	410	51	*	*	4	236	58×53	195	11	22	80	130	315	10	M16	110	14	85	22	35
																			60	105	313	7.5	M16	90	11	64	18	28
	X																		80	130	375	10	M16	110	14	85	22	48
																			60	105	363	7.5	M16	90	11	64	18	34
515L4	VII	887	608	608	608	642	512	472	422	37	*	*	4	178	40×36	140	9	18	48	82	239	6	M16	70	9	51.5	14	15
	X																		48	82	276	6	M16	70	9	51.5	14	17

傳動級數 Stage	圖號 Drawing No.	電機安裝法蘭/Flange of the Motor P71 W	W1	P80 W	W1	P90 W	W1	P100 W	W1	P112 W	W1	P132 W	W1	P160 W	W1	P180 W	W1	P200 W	W1	P225 W	W1	P250 W	W1	P280 W	W1	P315 W	W1
515L1	VII	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
515L2		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
515L3		*	*	*	*	*	*	*	*	*	*	*	*	*	*	195	350	186	400	216	450	215	550	*	*	*	*
515L4		*	*	*	*	*	*	*	*	*	*	114	300	144	350	144	350	174	400	*	*	*	*	*	*	*	*

圖 I

圖 II

圖 VII

圖 III

圖 IV

圖 VIII

圖 V

圖 X

圖 VI

TP游星減速機外形尺寸圖
TP planetary reducer Size Chart

TP516出力端/OUTPUT SIDE

圖 I

圖 III
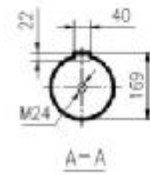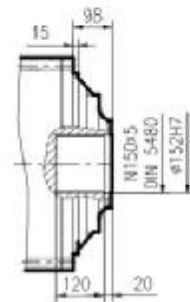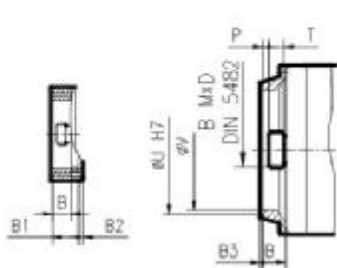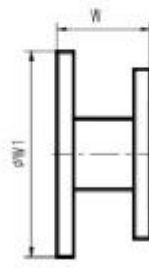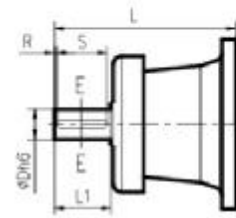

圖 II、IV

圖 V

圖 VI
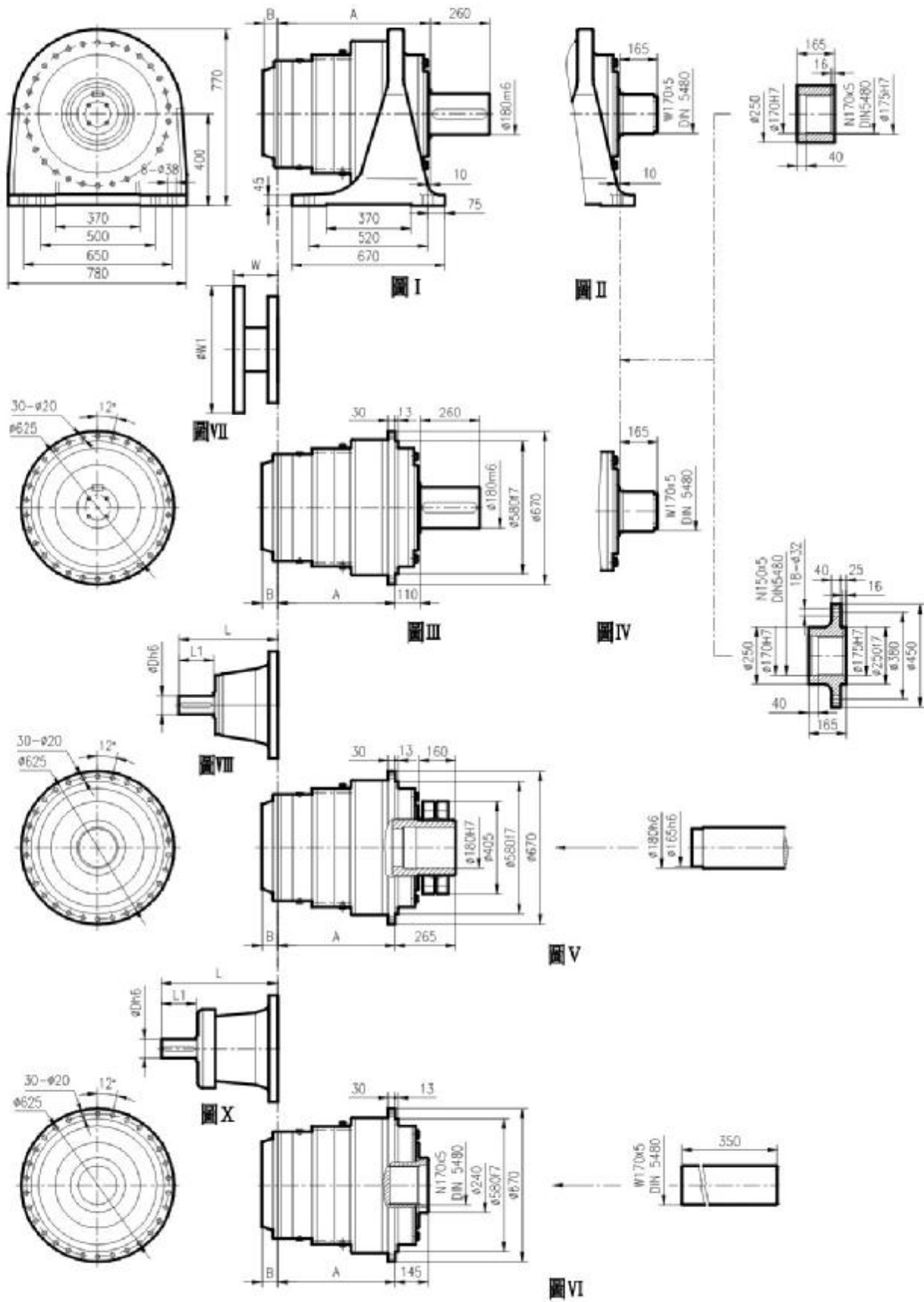
TP516入力端/INPUT SIDE

圖 I - VI

圖 VII

圖 VIII

圖 X

516L尺寸規格表 / DIM. TABLE

傳動級數 Stage	圖號 Drawing No.	機身/The Body								入力端/Input Side																重量 Wt. Kg
		I/II	III/IV	V	VI	I/II	III/IV	V	VI	I-VI								VII、X								
		A				重量/Wt. Kg				B	B1	B2	B3	U	M×D	V	P	T	D	L1	L	R	J	S	X1	Y1	Z1	
516L1	VII、X	289	179	179	179	700	500	450	430	156	*	*	7	412	100×94	340	8	55	*	*	*	*	*	*	*	*	*	*
516L2	VII	541	431	431	431	790	590	540	520	81	*	*	5	335	80×74	270	8.5	40	80	130	348	10	M16	110	14	85	22	35
	X																		80	130	456	10	M16	110	14	85	22	85
516L3	VII	674	564	564	564	840	640	590	570	51	*	*	4	236	58×53	195	11	22	60	130	315	10	M16	110	14	85	22	35
																			60	105	313	7.5	M16	90	11	64	18	28
	X																		80	130	375	10	M16	110	14	85	22	48
																			60	105	363	7.5	M16	90	11	64	18	34
516L4	VII	763	653	653	653	860	660	610	590	37	*	*	4	178	40×36	140	9	18	48	82	239	6	M16	70	9	51-5	14	15
	X																		48	82	276	6	M16	70	9	51-5	14	17

傳動級數 Stage	圖號 Drawing No.	電機安裝法蘭/Flange of the Motor																										
		P71		P80		P90		P100		P112		P132		P160		P180		P200		P225		P250		P280		P315	
		W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1
516L1	VII	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
516L2		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
516L3		*	*	*	*	*	*	*	*	*	*	*	*	*	*	195	350	186	400	216	450	215	550	*	*	*	*
516L4		*	*	*	*	*	*	*	*	*	*	114	300	144	350	144	350	174	400	*	*	*	*	*	*	*	*

TP517出力端/OUTPUT SIDE

圖 I

A－A

圖 III

A－A

圖 II、IV

圖 V

圖 VI
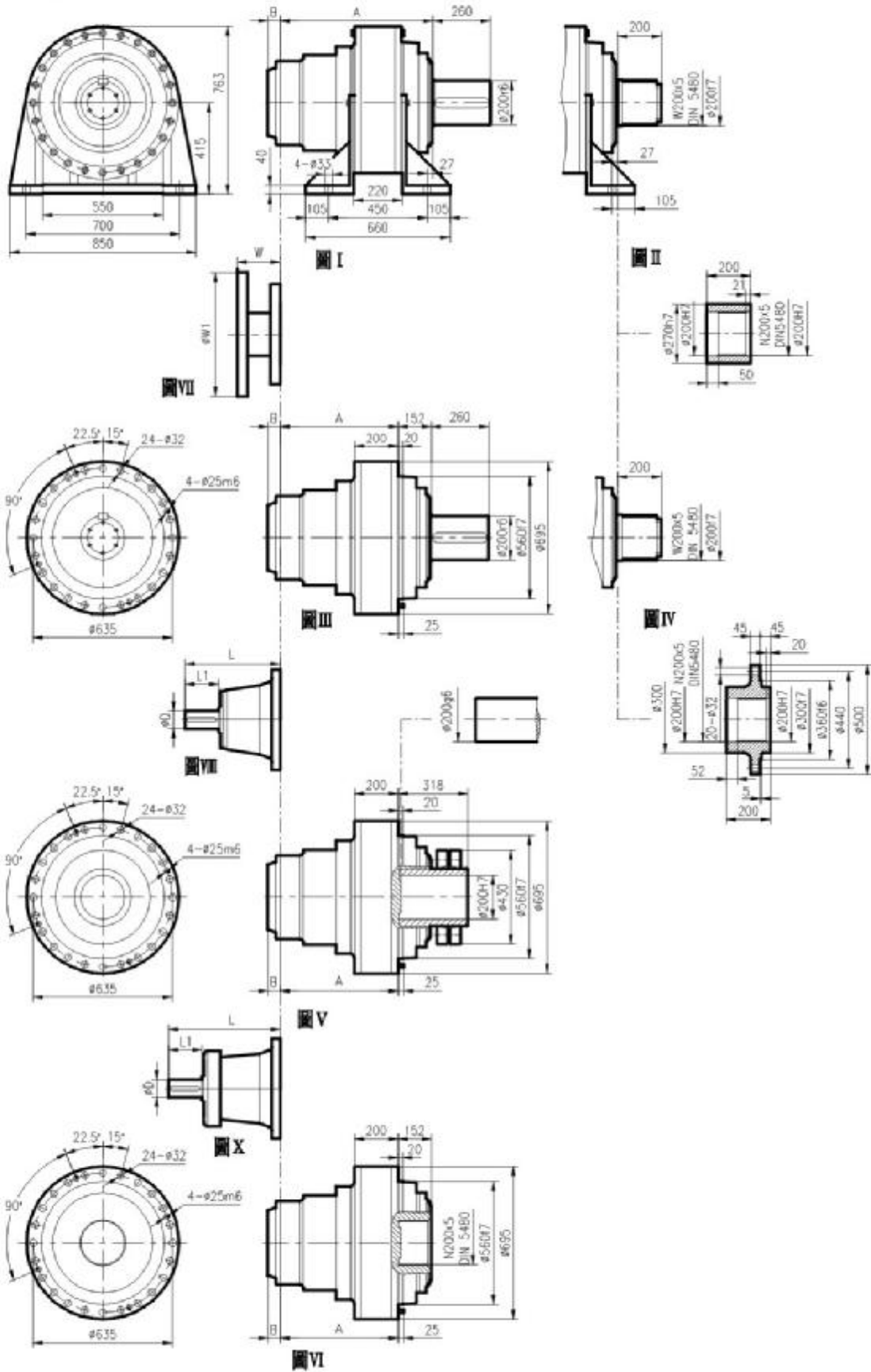
TP517入力端/INPUT SIDE

圖 I－VI

圖VII

圖VIII

圖X

517L尺寸規格表 / DIM.TABLE

傳動級數 Stage	圖號 Drawing No.	電機安裝法蘭/Flange of the Motor												機身/The Body							
		P132		P160		P180		P200		P225		P250		I / II	III/ IV	V	VI	I / II	III/ IV	V	VI
		W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	A				重量/Wt.Kg			
517L1	VII	*	*	*	*	*	*	*	*	*	*	*	*	315	163	163	163	950	800	800	750
517L2		*	*	*	*	*	*	*	*	*	*	*	*	624	472	472	472	1080	930	930	880
517L3		*	*	*	*	195	350	186	400	216	450	215	550	773	621	621	621	1140	990	990	940
517L4		114	300	144	350	144	350	174	400	*	*	*	*	862	710	710	710	1152	1002	1002	952

傳動級數 Stage	圖號 Drawing No.	入力端/Input Side																	重量 Wt.Kg
		I－VI									VII、X								
		B	B1	B2	B3	U	M×D	V	P	T	D	L1	L	R	J	S	X1	Y1	Z1
517L1	VII、X	181	*	*	4	390 G7	120 ×3 DIN 5480	365	3	65	*	*	*	*	*	*	*	*	*	*
517L2	VII	75	*	*	5	335 H7	80× 74 DIN 5482	270	9.5	40	80	130	343	10	M16	110	14	85	22	35
	X										80	130	451	10	M16	110	14	85	22	71
517L3	VII	51	*	*	4	236 H7	58× 53 DIN 5482	195	11	22	80	130	315	10	M16	110	14	85	22	35
											60	105	313	7.5	M16	90	11	64	18	28
	X										80	130	375	10	M16	110	14	85	22	48
											60	105	363	7.5	M16	90	11	64	18	34
517L4	VII	37	*	*	4	178 H7	40× 36 DIN 5482	140	9	18	48	82	239	6	M16	70	9	51.5	14	15
	X										48	82	276	6	M16	70	9	51.5	14	17

圖 I

圖 II

圖VII

圖III

圖IV

圖VIII

圖V

圖X

圖VI

TP518出力端/OUTPUT SIDE

圖 I

圖III

圖II、IV

圖V

圖VI

TP518入力端/INPUT SIDE

圖 I－VI

圖VII

圖VIII

圖X

518L尺寸規格表 / DIM. TABLE

傳動級數 Stage	圖號 Drawing No.	機身/The Body								入力端/Input Side																			重量 Wt. Kg
		I/II	III/IV	V	VI	I/II	III/IV	V	VI	I－VI								VIII、X									
		A				重量/Wt. Kg				B	B1	B2	B3	U	M×D	V	P	T	D	L1	L	R	J	S	X1	Y1	Z1	
518L1	VIII、X	332	202	202	202	1250	950	830	800	208	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
518L2	VIII、X	677	547	547	547	1500	1200	1080	1050	116	*	*	7	412	100×94	340	8	55	*	*	*	*	*	*	*	*	*	*
518L3	VIII	889	759	759	759	1600	1300	1180	1150	81	*	*	5	335	80×74	270	8.5	40	80	130	348	10	M16	110	14	85	22	35
	X																		80	130	456	10	M16	110	14	85	22	85
518L4	VIII	1022	892	892	892	1650	1350	1230	1200	51	*	*	4	236	58×53	195	11	22	80	130	315	10	M16	110	14	85	22	35
																			60	105	313	7.5	M16	90	11	64	18	28
	X																		80	130	375	10	M16	110	14	85	22	48
																			60	105	363	7.5	M16	90	11	64	18	34

傳動級數 Stage	圖號 Drawing No.	電機安裝法蘭/Flange of the Motor																											
		P71		P80		P90		P100		P112		P132		P160		P180		P200		P225		P250		P280		P315	
		W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	W	W1
518L1	VII	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
518L2		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
518L3		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
518L4		*	*	*	*	*	*	*	*	*	*	*	*	*	195	350	186	400	216	450	215	550	*	*	*	*	*

圖 I

圖 II

圖VII

圖III

圖IV

圖VIII

圖V

圖X

圖VI

TP519出力端/OUTPUT SIDE

圖 I

圖Ⅲ

圖Ⅳ

圖 V

圖Ⅵ

TP519入力端/INPUT SIDE

圖 I - Ⅵ

圖Ⅶ

圖Ⅷ

圖Ⅹ

519L尺寸規格表 / DIM.TABLE

傳動級數 Stage	圖號 Drawing No.	電機安裝法蘭/Flange of the Motor												機身/The Body							
		P132		P160		P180		P200		P225		P250		I/Ⅱ	Ⅲ/Ⅳ	V	Ⅵ	I/Ⅱ	Ⅲ/Ⅳ	V	Ⅵ
		W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	A				重量/Wt. Kg			
519L1	Ⅶ	*	*	*	*	*	*	*	*	*	*	*	*	395	185	185	185	2100	1800	1700	1700
519L2		*	*	*	*	*	*	*	*	*	*	*	*	778	568	568	568	2350	2050	1950	1950
519L3		*	*	*	*	*	*	*	*	*	*	*	*	990	780	780	780	2435	2135	2035	2035
519L4		*	*	*	*	195	350	186	400	216	450	215	550	1123	913	913	913	2480	2180	2080	2080

傳動級數 Stage	圖號 Drawing No.	入力端/Input Side																重量 Wt. Kg
		I-Ⅵ									Ⅶ、Ⅹ							
		B	B1	B2	B3	U	M×D	V	P	T	D	L1	L	R	J	S	X1	Y1	Z1	
519L1	Ⅶ、Ⅹ	245	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
519L2	Ⅶ、Ⅹ	116	*	*	7	412	100×94	340	8	55	*	*	*	*	*	*	*	*	*	*
519L3	Ⅶ	31	*	*	5	335	80×74	270	8.5	40	80	130	348	10	M16	110	14	85	22	35
	Ⅹ										80	130	456	10	M16	110	14	85	22	85
519L4	Ⅶ	51	*	*	4	236	58×53	195	11	22	80	130	315	10	M16	110	14	85	22	35
											60	105	313	7.5	M16	90	11	64	18	28
	Ⅹ										80	130	375	10	M16	110	14	85	22	48
											60	105	363	7.5	M16	90	11	64	18	34

圖I

圖II

圖VII

圖III

圖IV

圖VIII

圖V

圖X

圖VI

TP游星减速機外形尺寸圖
TP planetary reducer Size Chart

TP521出力端/OUTPUT SIDE

圖I   圖III

圖IV   圖V   圖VI

TP521入力端/INPUT SIDE

圖I - VI   圖X

521L尺寸規格表 / DIM. TABLE

傳動級數 Stage	圖號 Drawing No.	電機安裝法蘭/Flange of the Motor												機身/The Body							
		P132		P160		P180		P200		P225		P250		I/II	III/IV	V	VI	I/II	III/IV	V	VI
		W	W1	W	W1	W	W1	W	W1	W	W1	W	W1	A				重量/Wt.Kg			
521L1	VII	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
521L2		*	*	*	*	*	*	*	*	*	*	*	*	795	595	595	595	3000	2700	2600	2600
521L3		*	*	*	*	*	*	*	*	*	*	*	*	1104	904	904	904	3120	2820	2720	2720
521L4		*	*	*	*	195	350	186	400	216	450	215	550	1253	1053	1053	1053	3180	2880	2780	2780

傳動級數 Stage	圖號 Drawing No.	入力端/Input Side																	重量 Wt.Kg
		I - VI									VII、X								
		B	B1	B2	B3	U	M×D	V	P	T	D	L1	L	R	J	S	X1	Y1	Z1	
521L1	VII、X	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
521L2	VII、X	181	*	*	4	390 F7	120×3 DIN 5480	365	3	65	*	*	*	*	*	*	*	*	*	*
521L3	VII	75	*	*	5	335 H7	80×74 DIN 5482	270	9.5	40	80	130	343	10	M16	110	14	85	22	35
	X										80	130	451	10	M16	110	14	85	22	71
521L4	VII	51	*	*	4	236 H7	58×53 DIN 5482	195	11	22	80	130	315	10	M16	110	14	85	22	35
											60	105	313	7·5	M16	90	11	64	18	28
	X										80	130	375	10	M16	110	14	85	22	48
											60	105	363	7·5	M16	90	11	64	18	34

TP游星風力發電減速機簡介及型號表示方法
TP planetary reducer for Wind Power and Nomenclature Model Designation

TP游星風力發電減速機簡介
TP PLANETARY REDUCER FOR WIND POWER

　　我公司風力發電用減速機有偏航和變槳兩種類型，其采用抗衝擊力強的行星齒輪減速機構。減速機輸出齒輪與風力發電機的控制齒輪嚙合聯結，用以實現調控風力發電機槳葉的方向和角度，確保風力發電機在風力大小、方向復雜多變的條件下，仍能穩定運轉發電。爲此，該減速機具有結構簡單、承載能力强、減速比範圍大、變速靈活及抗衝擊力强的優點。

We have yaw and pitch speed reducer for wind turbine generators, which adopts Strong impact of the planetary gear reducer structure. To control the direction and angle of the wind turbine blades,the output gear of reducer and the control gear of the wind turbine mesh connected, which ensure a stable operating power generation no matter of the Wind power and the changable wind direction, Therefore, this speed reducer has features of simple structure, high loading capacity, wide range of reduction, Speed–changing flexibly and strong impact resistance.

變槳 Yaw Drives

偏航 Pitch Drives

TP游星風力發電減速機型號表示方法
Nomenclature-Model Designation for TP planetary reducer which is used for Wind Power
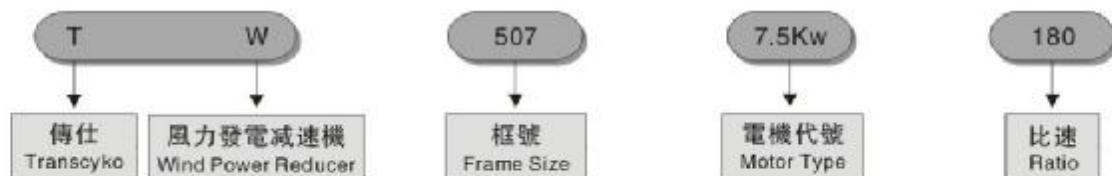
T	W	507	7.5Kw	180
傳仕 Transcyko	風力發電減速機 Wind Power Reducer	框號 Frame Size	電機代號 Motor Type	比速 Ratio

机型：风力发电减速机 应用：偏航

Machine type：Wind Turbines Application：Yaw Drives

机型参数 Machine Type	齿轮箱参数 Gearbox Data			
风力发电减速机功率 Turbine Wind Power(Kw)	型号 Type	最大输出扭矩（N.m） Max output Torque(N.m)	比速 Ratios	电机类型 Motor type
1500	4×511T	80，000	600/2200	
	4×512T	100，000	600/2200	
	4×507T	25，000	600/2200	
1650～1750	6×509T	37，000	600/2200	
	4×509T	37，000	600/2200	
2000	4×509T（4P1）	45，000	600/2200	电动机 Electric motor
	4×511T	80，000	600/2200	
	3×512T	100，000	600/2200	
2500～2750	2×515T	130，000	600/2200	
	6×501T	55，000	600/2200	
3000	4×509T	37，000	600/2200	
4500	4×515T	130，000	600/2200	
5000	4×516T	160，000	600/2200	
润滑 Lubrication	IND-EP220（CognisEMGARD）& HD220（ShellOmala HD oil）			

机型：风力发电减速机 应用：变浆

Machine type：Wind Turbines Application：Pitch Drives

机型参数 Machine Type	齿轮箱参数 Gearbox Data			
风力发电减速机功率 Turbine Wind Power(Kw)	型号 Type	最大输出扭矩（N.m） Max output Torque(N.m)	比速 Ratios	电机类型 Motor type
1500～2000	506T	13，000	90/240	
3000	507T	20，000	90/240	电动机 Electric motor
4500	509T	30，000	90/240	
5000	511T	47，000	90/240	
润滑 Lubrication	IND-EP220（CognisEMGARD）& HD220（ShellOmala HD oil）			

TP游星風力發電減速機外形尺寸圖
The Size Chart of TP planetary reducer for wind power

WTG-511-5.5kW-1816
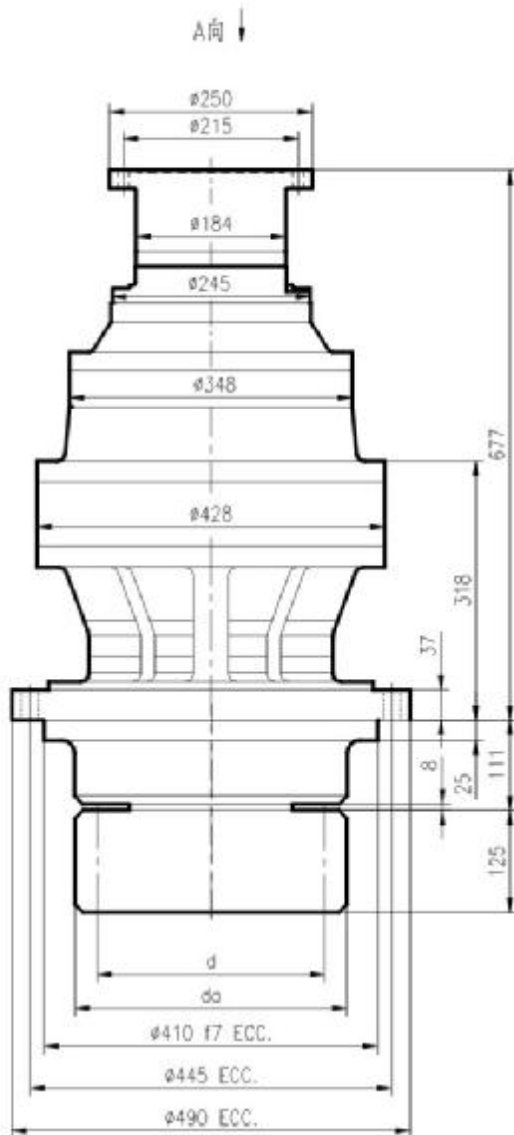
齒 輪 / GEAR			
模數/Moddle	m	20
齒數/No.of Teeth	z	17
壓力角/Pressure Angle	α	20°
變位係數/Stand-off Error	x	+0.5
分度圓直徑/Pitch Diameter	d	340
齒頂圓直徑/Major Diameter	da	396
齒厚/Tooth Thickness	b	125

A向↓

ø250
ø215
ø184
ø245
ø348
ø428

677
318
37
8
25
111
125

d
da
ø410 f7 ECC.
ø445 ECC.
ø490 ECC.

24-ø21
P.C.Dø445

8
31⁺⁰·²₀
ø28E8

2 ECC.

A向

1.5MW偏航游星減速機

減速機	額定扭矩	14500 Nm
	最大扭矩	29000 Nm
	減速比	1816
電 機	功率	5.5kW
	額定轉速	1420pm

1.5MW Yaw Planetary Reducer

Reducer	Rated Torque	14500 Nm
	Maximum Torque	29000 Nm
	Ratio	1816
Motor	Power	5.5kW
	Rated Speed	1420rpm

文字

WTG-514-7.5kW-6P-1000

齒 輪 / GEAR		
模數/Moddle	m	16
齒數/No.of Teeth	z	16
變位係數/Stand-off Error	x	+0.5
分度圓直徑/Pitch Diameter	d	256
齒頂圓直徑/Major Diameter	da	304
齒厚/Tooth Thickness	b	145

3MW偏航游星減速機

減速機	額定扭矩	70000 Nm
	最大扭矩	140000 Nm
	減速比	1000
電機	功率	7.5kW
	額定轉速	1000rpm

3MW Yaw Planetary Reducer

Reducer	Rated Torque	70000 Nm
	Maximum Torque	140000 Nm
	Ratio	1000
Motor	Power	7.5kW
	Rated Speed	1000rpm

WTG-506-5.5kW-104

齒 輪 / GEAR		
模數/Moddle	m	20
齒數/No of Teeth	z	14
壓力角/Pressure Angle	α	20°
變位係數/Stand-off Error	x	+0.5
分度圓直徑/Pitch Diameter	d	280
齒頂圓直徑/Major Diameter	da	335
齒厚/Tooth Thickness	b	160

B向

A向
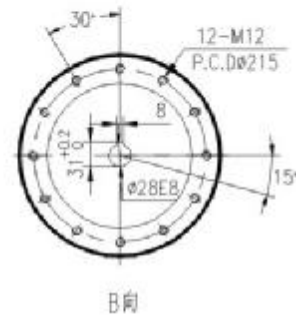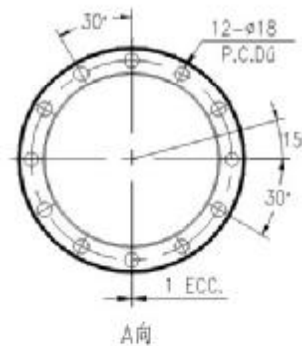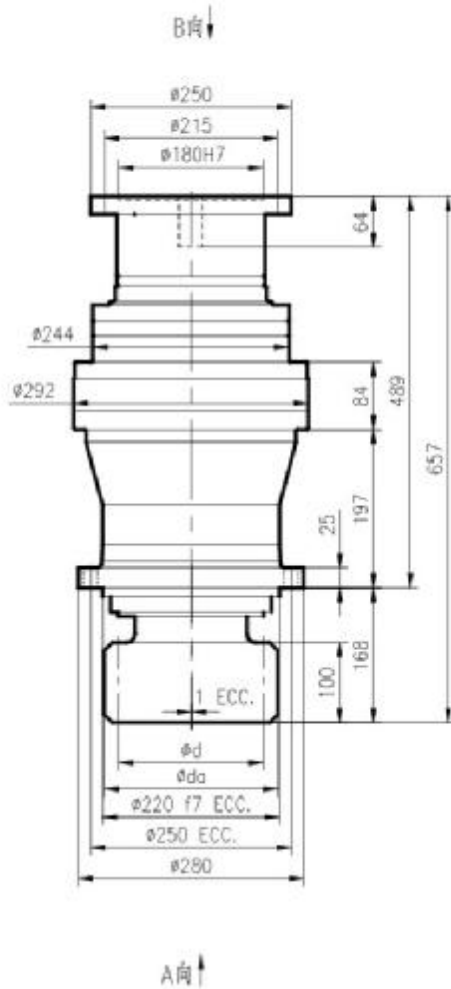
1.5MW變槳游星減速機

減速機	額定扭矩	3200 Nm
	最大扭矩	6754 Nm
	減速比	104
電機	功率	5.5kW
	額定轉速	1420pm

1.5MW Variable Pitch Propeller Planetary Reducer

Reducer	Rated Torque	3200 Nm
	Maximum Torque	6754 Nm
	Ratio	104
Motor	Power	5.5kW
	Rated Speed	1420rpm

WTG-507-7.5kW-180

A向

∅250
P.C.D∅215
∅180H7

∅245

∅245

∅348

130
<384
30
95
<790
20
98
400
5
145

2.5 ECC
∅256
∅304
∅310h7 ECC
∅320h7 ECC
∅365±0.2 ECC
∅395 ECC

齒 輪 / GEAR			
模數/Moddle	m	16
齒數/No of Teeth	z	16
變位係數/Stand-off Error	x	+0.5
分度圓直徑/Pitch Diameter	d	256
齒頂圓直徑/Major Diameter	da	304
齒厚/Tooth Thickness	b	145

4-M12
24-∅18
∅365
8
∅28E8
31 +0.2 0
2.5 ECC

A向

3MW Variable Pitch
Propeller Planetary Reducer

3MW變槳游星減速機

減速機	額定扭矩	5000 Nm
	最大扭矩	10000 Nm
	減速比	180
電機	功率	7.5kW
	額定轉速	2500rpm

Reducer	Rated Torque	5000 Nm
	Maximum Torque	10000 Nm
	Ratio	180
Motor	Power	7.5kW
	Rated Speed	2500rpm

水泥攪拌用游星減速機
The Cement Mixing-using Speed Reducer

水泥攪拌用減速機是我公司另一種結構形式的游星減速機，可滿足容量爲1.5m³～4.0 m³攪拌機使用場合，具有高效率、低背隙、高扭力、耐衝擊等優點。

Our cement mixing–using speed reducer is another structural form of planetary reducer, which can meet mixer capacity of 1.5m³～4.0m³. It has virtue of high efficiency, low backlash, high torque, impact resistance and so on.
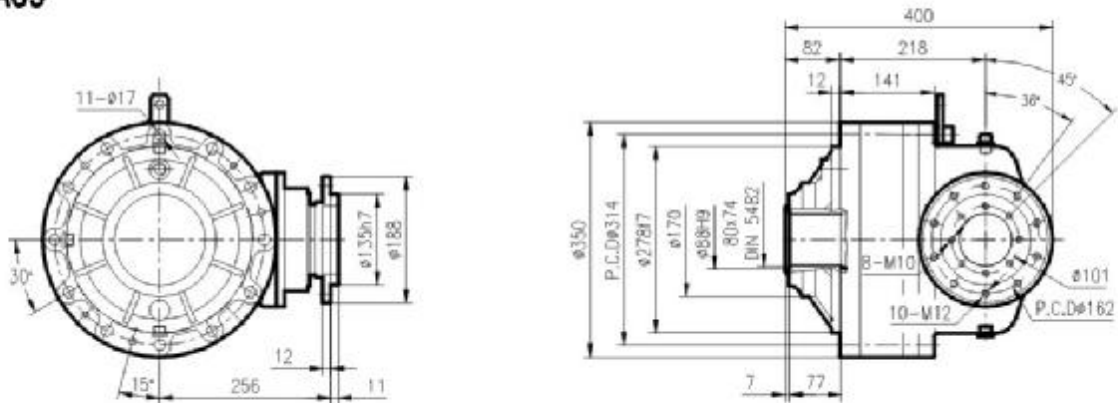
TP游星水泥攪拌減速機型號表示方法
NomenclatureModel Designation for TP
planetary reducer which is used for cement mixing

T	P	A	09	L2	23.54	RL
傳仕 Transcyko	游星減速機 planetary reducer	水泥攪拌 Cement Mixing	框號 Frame Size	傳動級數 Transmission stage	比速 Ratio	軸心分布 The Layout of Axis
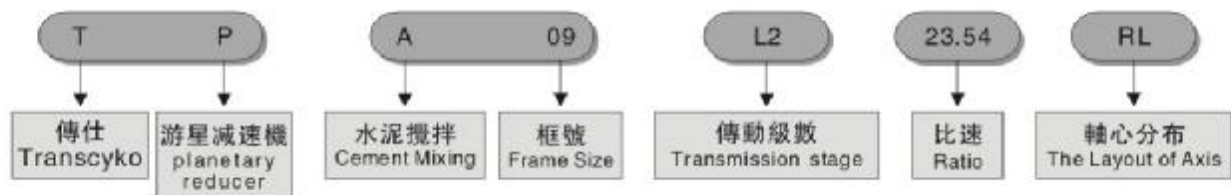
TP游星水泥攪拌減速機外形尺寸圖
The Size Chart of TP planetary reducer for cement mixing

TP-A09

參數表 DIM TABLE

額定扭矩 Rated Torque	17500Nm	加油量 Oil Quantity	8 L
最大輸出扭矩 Maximum Output Torque	22500Nm	重量 Weight	132kg
速比 Ratio	1:23.5	應用場合 Applications	1.5m³

TP-A10
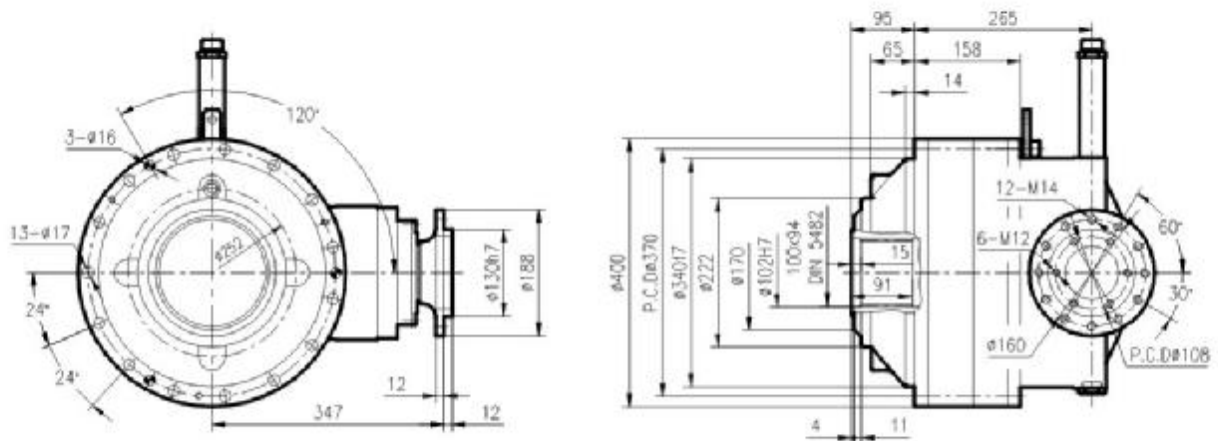
參數表 DIM TABLE

額定扭矩 Rated Torque	25000Nm	加油量 Oil Quantity	8 L
最大輸出扭矩 Maximum Output Torque	30000Nm	重量 Weight	150kg
速比 Ratio	1:27	應用場合 Applications	2m³

TP-A11
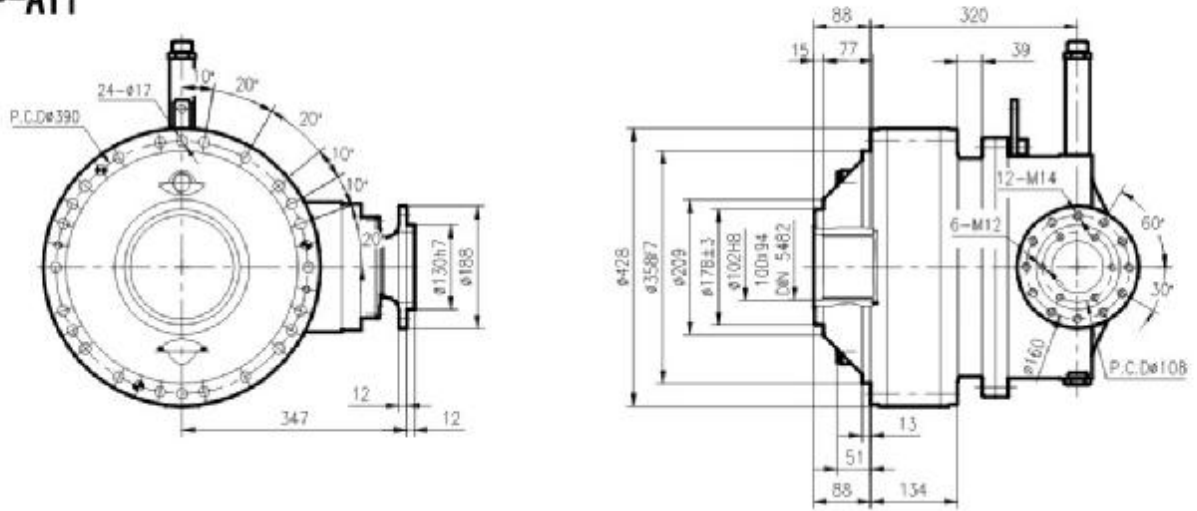
參數表 DIM TABLE

額定扭矩 Rated Torque	30000Nm	加油量 Oil Quantity	12.5 L
最大輸出扭矩 Maximum Output Torque	34000Nm	重量 Weight	220kg
速比 Ratio	1:26.9	應用場合 Applications	2～3m³

TP-A13
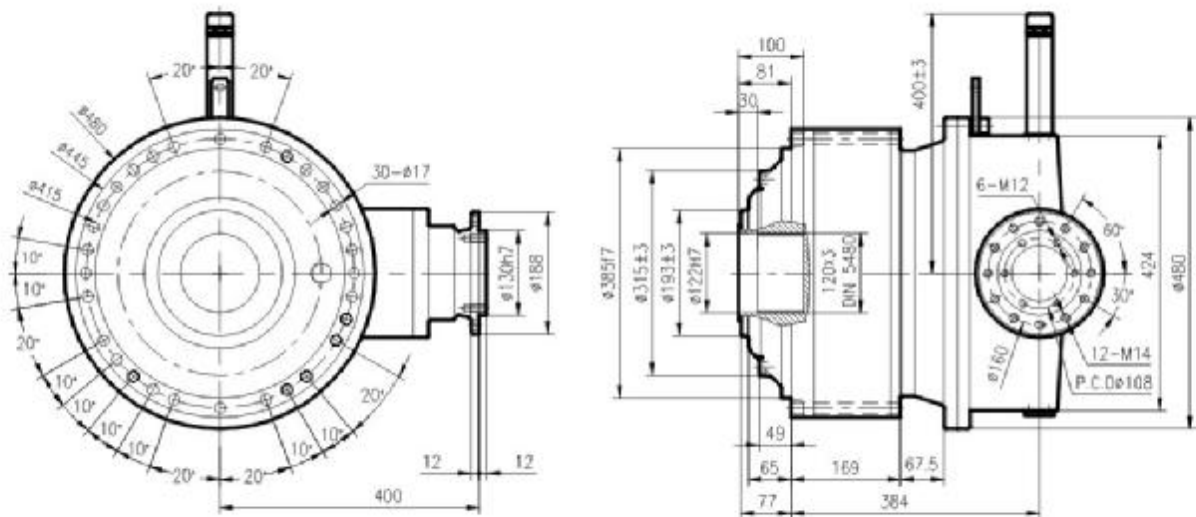
參數表 DIM TABLE

額定扭矩 Rated Torque	39000Nm	加油量 Oil Quantity	18 L
最大輸出扭矩 Maximum Output Torque	50000Nm	重量 Weight	340kg
速比 Ratio	1:26.43	應用場合 Applications	3～4m³

小齒輪參數表——配用花鍵出力軸
Appendix 1　Parameter table - Output shaft with spline

框號 Size	參數表/DIM.TABLE										圖號 Drawing No.
	m	z	x	d	df	da	C	E	F	D1	
500L、501L	4.5	14	0.507	63	56	75.5	55	0	0	0	IX
	5	14	0.5	70	62.5	84.8	65	0	10	53	
	6	12	0.25	72	61	84.8	59	14	4	54	
	6	14	0.5	84	73	99.6	65	0	10	54	
503L、504L、506L	5	19	0	95	82	104	77	12	9	72	IX
	5	19	0	95	82	104	68	0	0	0	
	5	20	0	100	87.5	110	68	18	0	0	
	5	22	0	110	97.5	120	68	18	0	0	
	6	14	0.5	84	75	99.6	68	0	0	0	
	6	18	0.5	108	99	123.6	68	0	0	0	
	6	20	0.833	120	115	140	68	0	0	0	
	8	13	0.675	104	95	127.6	68	0	0	0	
	8	14	0	112	92	126	68	0	0	0	
	8	14	0	112	92	126	80	0	12	72	
	8	15	0	120	100	136	68	0	0	0	
	8	22	0	176	156	190	77	12	10	71	
	10	16	0.5	160	145	188	75	0	7	72	
506L	8	15	0	120	100	134	90	0	0	0	IX
	8	15	0.5	120	108	141	90	0	0	0	
	10	11	0.5	110	95	135	90	10	0	0	
	10	12	0.45	120	104	145	90	0	0	0	
	10	12	0.32	120	100	144.2	90	0	0	0	
	10	12	0.35	120	101	144	90	0	0	0	
	10	13	0.95	130	124	165	90	0	0	0	
	10	13	0.5	130	115	159	90	0	0	0	
	10	14	0	140	115	160	90	0	0	0	
	10	14	0.5	140	125	166	90	0	0	0	
	10	15	0	150	127	167	90	24	0	0	
	10	17	0.48	170	154	197.5	90	10	0	0	
	10	20	0	200	175	220	90	10	0	0	
507L、509L	8	16	0.5	128	117	149.5	90	0	0	0	IX
	10	12	0.45	120	104	145	90	0	0	0	
	10	14	0.32	140	121	165	116	13	26	95	
	10	15	0.15	150	130	171.5	107	20	17	100	
	10	16	0.5	160	145	186	90	0	0	0	
	10	17	0	170	145	190	90	0	0	0	
	10	17	0.5	170	154	198	90	0	0	0	
	12	13	0.5	156	138	192	102	0	12	95	
	12	14	0.5	168	150	199.2	90	0	0	0	
	12	18	0.5	216	198	249.6	107	7	17	95	
	12	26	0	312	282	336	90	10	0	0	
510L、511L	12	23	0	276	246	300	110	0	0	0	IX
	16	13	0.5	208	184	252.5	145	0	35	116	
	16	15	0.45	240	215	280	125	0	15	120	
513L	16	17	0.5	272	247	315	135	0	5	136	IX
	18	18	0.333	324	294	365	140	0	10	140	
514L、515L	18	16	0.5	288	261	342	160	0	10	166	IX
	18	16	0.617	288	271	339	150	30	0	0	

許用徑向力
Allowable Radial Load
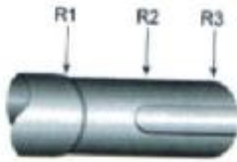
許用軸向力
Allowable Axial Load

框號 Size	出力軸許用徑向力 Allowable Radial Load on Output Shaft（Kgf）			出力軸許用軸向力 Allowable Axial Load on Output Shaft（Kgf）		圖號 Drawing No.
	R1	R2	R3	F1	F2	
TP500	1900	1100	750	2000	1500	I、II、III、IV
	5000	3200	2250	4000	4000	V、VI
		800		800	800	VII
TP501	5000	3200	2250	4000	4000	I、II、V、VI
	1900	1100	750	2000	1500	III、IV
		800		800	800	VII
TP503	11000	6400	4400	5500	4400	I、II、V、VI
	6000	3800	2800	5500	4400	III、IV
		2400		2500	2500	VII
TP504	11000	6400	4400	5500	4400	I、II、V、VI
	6000	3800	2800	5500	4400	III、IV
		2400		2500	2500	VII
TP505	11000	6400	4400	5500	4400	I、II、V、VI
	6000	3800	2800	5500	4400	III、IV
		2400		2500	2500	VII
TP506	16900	10400	7000	12000	6000	I、II、V、VI
	7400	5000	3600	7000	4400	III、IV
		3500		3500	3500	VII
TP507	20000	11500	7200	16000	8000	I、II、V、VI
	9000	5400	3800	9000	5000	III、IV
		4500		4500	4500	VII
TP509	20000	11500	7200	16000	8000	I、II、III、IV
		3600		3700	3700	VI
TP510	23000	13500	9000	17000	10000	I、II、III、IV
		6500		5200	5200	VI
TP511	26500	15200	12000	20000	14000	I、II、III、IV
		6500		6000	6000	VI
TP513	32000	19000	13500	25000	16000	I、II、III、IV
		8000		7500	7500	VI
TP514	33500	21500	15500	28000	21000	I、II、III、IV
		9000		9000	9000	VI
TP515	33500	21500	15500	28000	21000	I、II、III、IV
		9000		9000	9000	VI
TP516	48000	35500	27000	36000	30000	I、II、III、IV
		15000		15000	15000	VI
TP517	60000	45000	35500	36000	30000	I、II、III、IV
		15000		15000	15000	VI
TP518	72000	50000	38500	50000	45000	I、II、III、IV
		20000		20000	20000	VI
TP519	90000	63000	49500	50000	45000	I、II、III、IV
		20000		20000	20000	VI
TP521	120000	78000	60000	18000	24000	I、II、III、IV
		120000		18000	18000	VI

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● TSG齿轮箱
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