



打造純德國技術的中國機電品牌



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Planetary Reducers **CONTENTS**

行星減速機產品目錄

經銷商
Distributor



Create Chinese Electromechanical Products Brand
From The Professional Germany Technology

SCIENCE AND TECHNOLOGY FROM GERMANY FOCUS ON THE WORLD POWER

源自德國科技 專註世界動力

萬鑫精工(湖南)有限公司(以下簡稱: 萬鑫精工)是一家集產品研發、生產銷售、市場運營于一體的高精密減速機的集團化公司。旗下在廣東和山東擁有兩家全資子公司。

萬鑫精工九十年代創建於臺灣，源自于德國技術，為滿足國內市場的快速增長以及“WANHSIN”品牌未來在大陸市場的競爭力，于2009年毅然將總部從臺灣整廠遷移至廣東東莞，并重新布局走“精鑫”強國之路，得益于公司團隊多年的共同努力，“WANHSIN”品牌在市場上迅速崛起并得到客戶的一致好評，為了更好的服務國內客戶和應對國際化戰略布局，公司先後于2012年成立山東分公司，并在2014年將總部從廣東東莞遷移至中國中部核心城市湖南長沙，建立高標準現代化產業園，總部命名為：萬鑫精工（湖南）有限公司，順利實現戰略產業基地轉移。總部占地面積7萬平方米，總投資達3億元人民幣。

萬鑫精工兼具德國先進科技與臺灣精巧細致的特色：精于心，簡于形。始終堅持德國機電尖端研發技術，秉承德國細致考究的生產工藝，與德國多家研究室達成戰略伙伴關係，不斷加強與國際、國內同行的交流，吸收先進的設計思想，利用領先的設計軟件開發研究新產品，實現產品結構更新換代的優化和升級。同時，萬鑫精工借鑒臺灣機電品牌的簡約化、人性化的設計風格，體積更小外觀更精致，性能更加強勁。

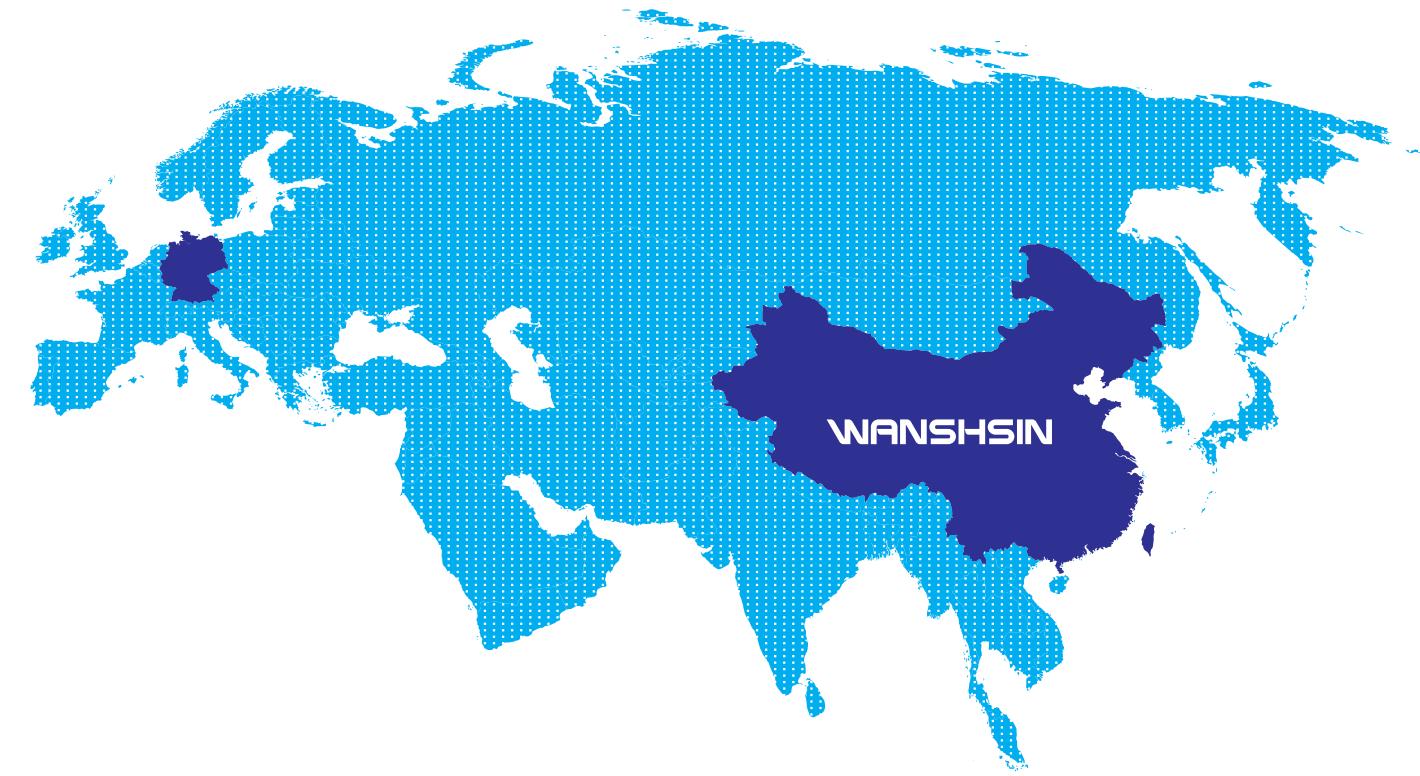
萬鑫精工高薪聘請曾在德國知名企業從事設計研發工作的核心技術人才和掌握最精湛製造工藝的德國技術顧問；生產團隊成員均擁有十年以上的機電行業從業經驗。從研發到生產，嚴格執行國際標準，節能環保理念貫穿每個環節，祇為將產品品質做到極致。

萬鑫精工對市場需求的精準把握根植于與數以百計的中小企業和研究機構的密切聯系，讓中小企業參與尖端技術領域研究，促進研發

和科技成果轉化成真正的生產力，從市場角度研發產品所以更懂企業需求，同時可為靈活多變的客戶提供定制化產品，滿足不同行業的工藝需求，創造非凡價值。

精益求精的品質苛求，世界一流的創新技術，成就了萬鑫精工在機電行業的領導者地位，萬鑫精工立足中國輻射全球，產品覆蓋中國市場全區域，並遠銷東南亞各地，贏得市場一直好評。萬鑫精工成為企業節能減排產業升級的得力助手！

萬鑫精工自始至終重視現有產品的質量和行業所需求新產品的研發，引進國際業界多名頂尖技術工程師加盟，促使萬鑫精工能够一直致力于世界自動化產業的發展，為推動科技智能化社會的進步而不懈努力，秉持“勇擔責任、追求卓越、引領創新”的企業精神，打造純正德國技術的中國機電品牌！



Wanhsin Seikou (Hunan) Co., Ltd. (hereinafter referred to as:Wanhsin Seikou) is a large group integrating R&D, production and sales of high-precision reducer, and has two wholly-owned subsidiaries located in Guangdong and Shandong.

Wanhsin Seikou, originated from the professional Germany technology, was established in Taiwan in 1990s. We resolutely removed our headquarters from Taiwan to Dongguan, Guangdong in 2009, so as to meet the rapid growth of the domestic market and the great competition in mainland market of “WANHSIN” brand in future, and then we rearranged a pursuit of the“Precision WANHSIN”road to a powerful nation. Due to the joint efforts of the company team for many years,“WANHSIN”brand rapidly rises in the market and gets the consistent high praises from customers. In order to offer better service for the domestic clients and the internationalization strategic layout, the company established a subsidiary in Shandong in 2014, and transferred his headquarters from Dongguan, Guangdong to Changsha city in Hunan province, the core city in central China in 2014, and constructed high-standard modern industrial park named as Wanhsin Seikou (Hunan) Co., Ltd. which successfully realized the strategy and industrial base transference. The headquarters covers an area of 70,000 square meters with a total investment of 300 million RMB.

Wanhsin Seikou integrates advanced technologies of Germany and exquisites and delicacies characteristics of Taiwan: sense and simplicity. We always adhere to the electrical and mechanical cutting-edge technologies of Germany, elegant and meticulous production

process, establish strategic cooperation partnership with a number of German research laboratories, strengthen exchanges with international and domestic counterparts, learn advanced design concepts, and use leading design software to develop new products, optimize and upgrade the product structure. At the same time, Wanhsin Seikou Precision learns the simple and humanized design of electromechanical brands from Taiwan, featuring smaller size, more refined appearance and more robust performance.

Wanhsin Seikou offers high salary to hire core technology talents engaged in design and R&D work in well-known companies in Germany and German technology consultants having the most exquisite manufacturing processes; the members of production team have more than a decade of experience in the electromechanical industry. Implement international standards strictly from R&D to production, and run through the energy saving ideas in every aspect to achieve the ultimate product quality.

The accurate grasp of market demand of Wanhsin Seikou is rooted in close contact with hundreds of small and medium enterprises and research institutions, let SMEs participate in cutting-edge technology research, promote the transformation of R&D and technological achievements into real productivity, develop products from the market point of view, so that Wanhsin Seikou knows business needs better, and also can provide customized products for customers to meet the technology needs of different industries and create extraordinary values.

Rigorous quality requirement and world-class innovation contribute to the leading position of Wanhsin Seikou in electromechanical industry. Wanhsin Seikou is based in China and covers the world. The products cover the entire market of China and are exported to Southeast Asia, and have won unanimous acclaim. Wanhsin Seikou has become a favorite assistant in energy saving and industry upgrading!

Wanhsin Seikou attaches great importance to the quality of existing products and new products research and development the industry required from the beginning to end, and brings in many top technical engineers in international industry, making Wanhsin Seikou committed to the development of world automation industry and unremitting efforts to promote the progress of science intelligent society, keeps the industrial spirit of“Assuming responsibility, pursuing excellence and committed to innovation”, and builds Chinese mechanical and electrical brand with pure Germany technology!



VISION

萬鑫願景

打造純德國技術的中國機電品牌。

Create chinese electromechanical products brand
from the Professional germany technology

MISSION

萬鑫使命

為客戶提供高效率、低能耗的全套動力解決方案。

To provide clients with a full set of power solutions of higher efficiency and lower energy consumption.

為員工提供更好工作環境，更大發展平臺；

To provide employees with a better working environment and bigger platform for development.

為社會和諧發展貢獻力量。

To make contributions to the harmonious development of the society.

SERVICE POLICY

萬鑫服務方針

真誠溝通，高效處理，優質服務，顧客滿意。

Sincere communication,
Efficient handling,
Perfect services,
Customer satisfaction.

CONTENTS



WAD系列斜齒行星減速機
WAD SERIES HELICAL SERIES PRECISION PLANETARY GEAR



WVRB系列斜齒行星減速機
WVRB SERIES HELICAL SERIES PRECISION PLANETARY GEAR



WME直齒系列行星減速機
WME CONE GEAR PLANETARY REDUCERS



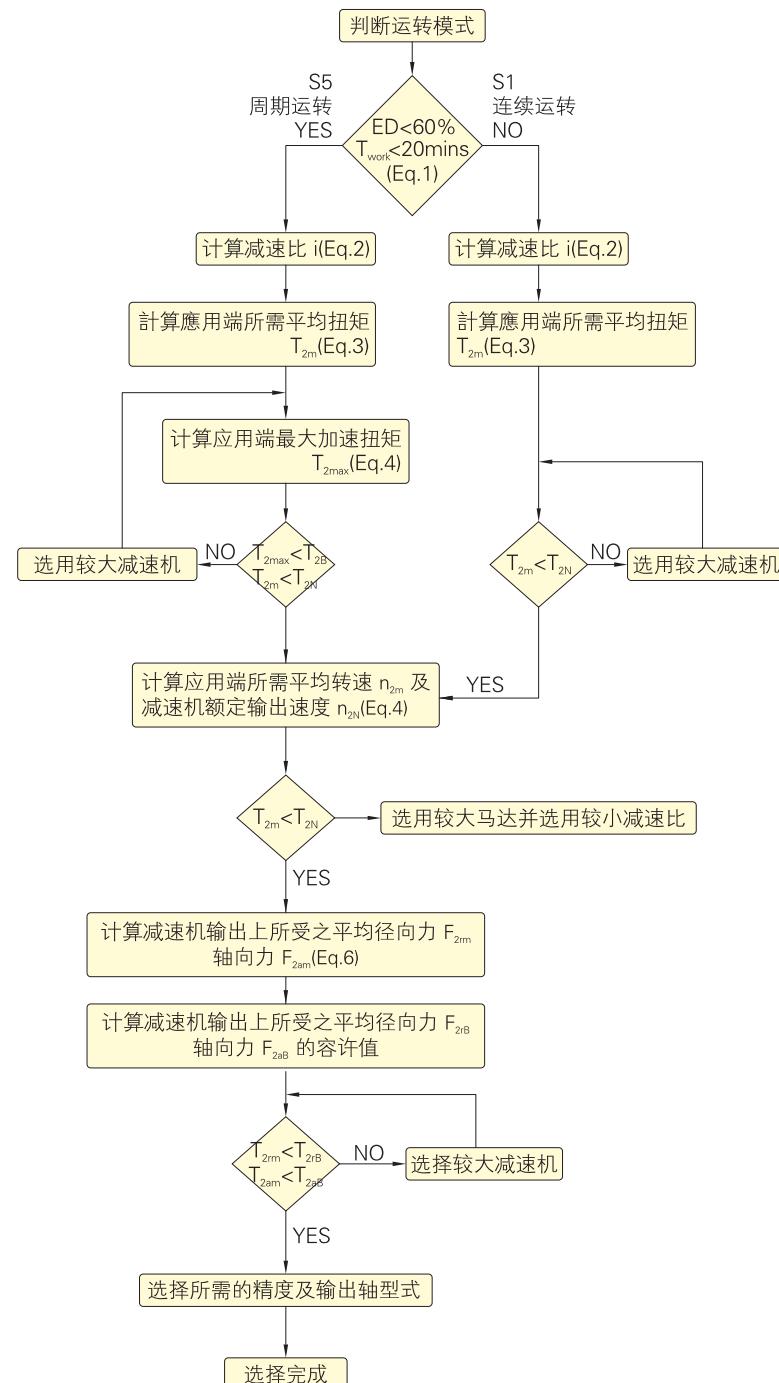
WAB斜齒系列行星減速機
WAB CONE GEAR PLANETARY REDUCERS

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如何選用減速機

INTERNAL STRUCTURE



S5 周期运转之建议事项

一般的应用惯量须符合以下公式：

$$J_L \leq 4 \times J_m$$

最适当的应用惯量须符合以下公式：

$$\frac{J_L}{i^2} \leq J_m$$

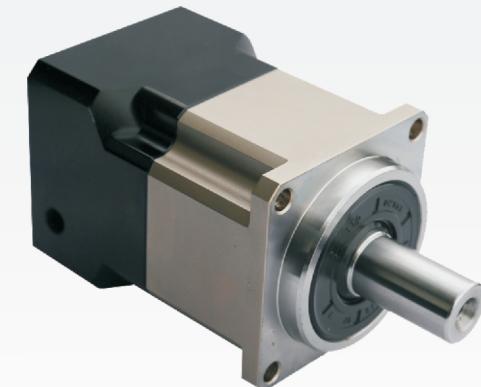
J_L : 负载惯量 J_m : 马达惯量

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WAB 系列斜齒行星減速機 WAB060~WAB220

WAB SERIES PRECISION PLANETARY SPUR GEAR

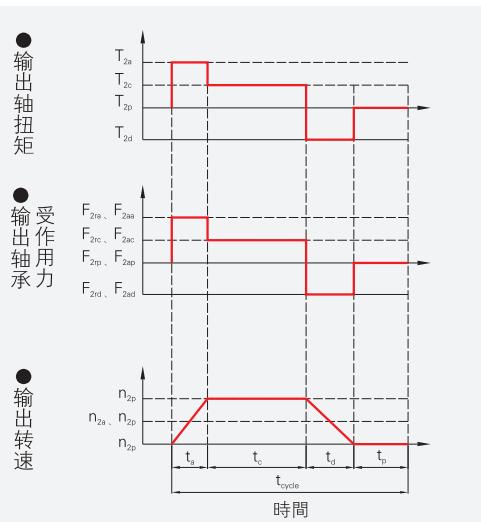


■ 低背隙
Low backlash

■ 超安静
Ultra-quiet

■ 高效率
High efficiency

■ 長壽命
Long life



1 $ED = \frac{t_a + t_c + t_d}{t_{cycle}} \times 100\%$, $t_{work} = t_a + t_c + t_d$
下标说明:
a. 加速, c. 等速, d. 减速, p. 停止 (Eq.1)

2 $i \approx \frac{n_m}{n_{work}}$
 n_m : 马达输出速度 n_{work} : 实际应用速度 (Eq.2)

3 $T_{2m} = \sqrt[3]{\frac{n_{2a}xt_a \times T_{2a}^3 + n_{2c}xt_c \times T_{2c}^3 + n_{2d}xt_d \times T_{2d}^3}{n_{2a}xt_a + n_{2c}xt_c + n_{2d}xt_d}}$ (Eq.3)

4 $T_{2max} = T_{mb} \times i \times k_s \times \eta$

Ks	Ks	周期次数 / 小时
1.0		0~1000
1.1		1000~1500
1.3		1500~2000
1.6		2000~3000
1.8		3000~5000

 T_{mb} : 马达最大输出扭矩
 η : 减速机运转效率 (Eq.4)

5 $n_{2a} = \frac{1}{2}xn_{2c}$
 $n_{2m} = \frac{n_{2a}xt_a + n_{2c}xt_c + n_{2d}xt_d}{T_a + t_c + t_d}$
 $n_{2N} = \frac{n_{IN}}{i}$ (Eq.5)

6 $F_{2m} = \sqrt[3]{\frac{n_{2a}xt_a \times F_{2aa}^3 + n_{2c}xt_c \times F_{2cc}^3 + n_{2d}xt_d \times F_{2dd}^3}{n_{2a}xt_a + n_{2c}xt_c + n_{2d}xt_d}}$ (Eq.6)
 $F_{2am} = \sqrt[3]{\frac{n_{2a}xt_a \times F_{2aa}^3 + n_{2c}xt_c \times F_{2cc}^3 + n_{2d}xt_d \times F_{2dd}^3}{n_{2a}xt_a + n_{2c}xt_c + n_{2d}xt_d}}$ (Eq.6)

■ 型號命名 MODEL NAME

W AB 060 010 K P2

1 2 3 4 5 6

1 萬鑫標記
Wanshsin mark

3 框號: 060、090、115、142、180、220
Box no.: 060、090、115、142、180、220

2 AB: 方形法蘭
AB:Square fange

4 速比:3、4、5、6、7、8、10……100
Ratio: 3、4、5、6、7、8、10……100

5 K: 出力軸帶鍵槽
S: 出力軸不帶鍵槽,光軸
K: Output shaft is key
S: Output shaft smooth solid shaft

6 背隙: P0:超精密 P1:精密 P2:標準 P3:經濟型 P4:普通型
Back lash:P0:ultraprecise
P1:precision
P2:standard
P3: economical
P4: general

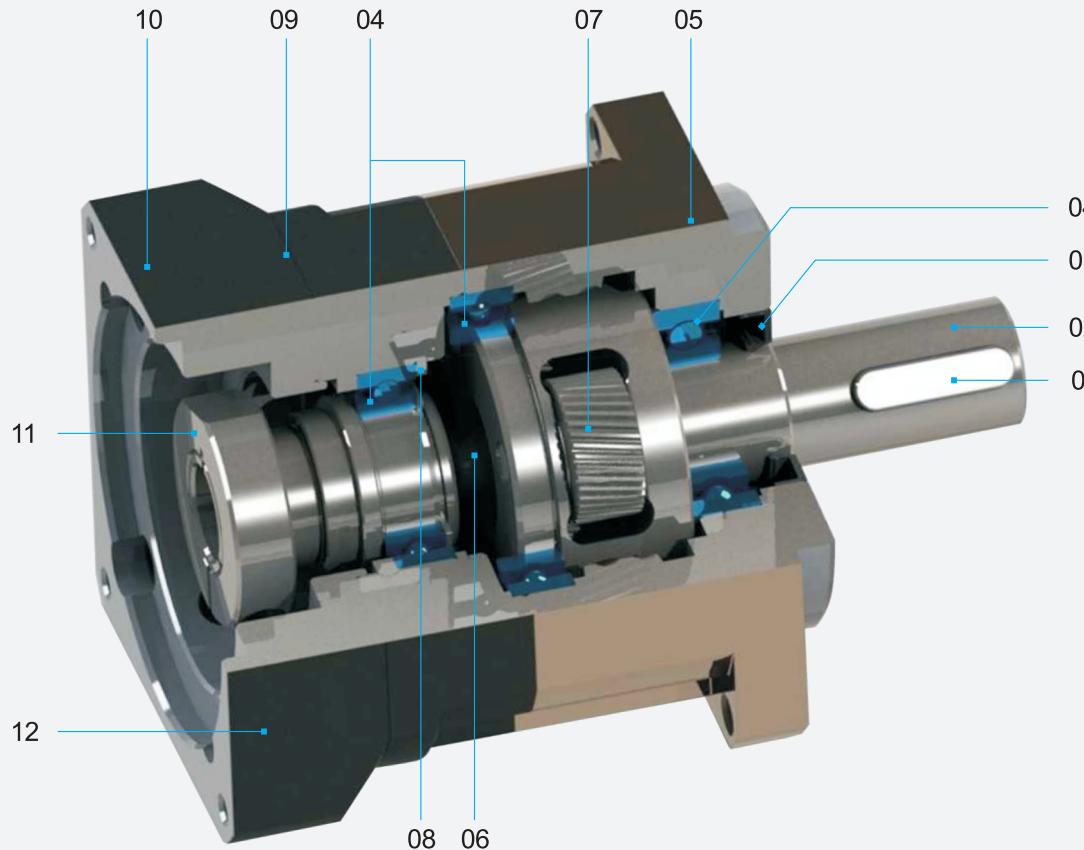
■ 背隙表 BACK LASH TABLE

型號	WAB060		WAB090		WAB115		WAB142		WAB180		WAB220	
段位	L1	L2										
P4	≤12	≤15	≤12	≤15	≤12	≤15	≤12	≤15	≤12	≤15	≤12	≤15
P3	≤8	≤10	≤8	≤10	≤8	≤10	≤8	≤10	≤8	≤10	≤8	≤10
P2	≤5	≤8	≤5	≤8	≤5	≤8	≤5	≤8	≤5	≤8	≤5	≤8
P1	≤3	≤5	≤3	≤5	≤3	≤5	≤3	≤5	≤3	≤5	≤3	≤5
P0	-	-	1	-	1	-	≤1	-	≤1	-	≤1	-

■ 產品特性 PRODUCT FEATURES

- 精密的斜齒制造、體積小，結構緊湊，高精度，確保長壽命與超低噪音。
- 全密封式結構，確保潤滑油脂不泄露，免維護。
- 產品都通過效率測試系統，傳動效率高達97%以上。
- 高精度設計，超低背隙可做到1弧分。
- Precision spur manufacturing, small, compact, high-precision, ensuring long life and ultra-low noise.
- Fully sealed structure to ensure that grease does not leak, maintenance-free.
- Products have passed the test system efficiency, transmission efficiency up to 97%.
- Precision design, ultra low backlash can be done 1 radians.

內部構造 INTERNAL STRUCTURE



01	鍵 KEY	05	法蘭內齒環一體 FLANGE	09	後蓋 REAR COVER
02	出力軸 OUTPUT SHAFT	06	太陽輪一體式 SUN GEAR	10	底座 BASE
03	油封 SEAL	07	行星輪 PLANETARY GEAR	11	鎖緊套 LOCKING SLEEVE
04	軸承 BEARING	08	擋圈 C RING	12	堵頭 PLUG

性能表 PERFORMANCE TABLE

規格 SPECIFICATIONS	單位 UNIT	段數 NUMBER OF SEGMENTS	減速比 REDUCTION RATIO(I)	WAB060 WAB090 WAB115 WAB142 WAB180 WAB220							
				WAB060	WAB090	WAB115	WAB142	WAB180	WAB220		
一段 (L1)	Nm	3	55	130	208	342	588	1140			
		4	50	140	290	542	1050	1700			
		5	60	160	330	650	1200	2000			
		6	50	140	300	550	1100	1800			
		7	50	140	300	550	1100	1800			
		8	40	100	230	450	900	1500			
		10	40	100	230	450	900	1500			
		12	55	130	208	342	588	1140			
		15	55	130	208	342	588	1140			
		16	50	140	290	542	1050	1700			
二段 (L2)	Nm	20	50	140	290	542	1050	1700			
		25	60	160	330	650	1200	2000			
		28	50	140	290	542	1050	1700			
		30	55	150	310	600	1100	1900			
		35	50	140	300	550	1100	1800			
		40	45	120	260	500	1000	1600			
		50	60	160	330	650	1200	2000			
		60	50	140	300	550	1100	1800			
		70	50	140	300	550	1100	1800			
		80	40	100	230	450	900	1500			
裝置馬達軸孔徑 DEVICE MOTOR SHAFT	mm	L1-L2	3-100	6-14	14-19	16-24	19-35	19-42	35-55		
		最大輸出扭矩 MAXIMUM OUTPUT TORQUE	Nm	L1-L2	3-100	三倍額定輸出扭矩 3times the rated output torque					
		額定輸入轉速 RATED INPUT SPEED	rpm	L1-L2	3-100	5000	4000	4000	3000		
		P2背隙 BACKLASH (參見背隙表)	arcmin	L1	3-10	≤5					
				L2	12-100	≤8					
		扭轉剛性 TORSIONAL RIGIDAL FORCE	Nm/arcmin	L1-L2	3-100	7	14	25	50		
		容許軸向力 F _{2B} TORSIONAL RIGIDITY	N	L1-L2	3-100	765	1625	3350	4700		
		容許徑向力 F _{2B} ALLOW STEERING FORCE	N	L1-L2	3-100	1530	3250	6700	9400		
		使用壽命	hr	L1-L2	3-100	10000					
		效率 EFFICIENCY(%)	%	L1	3-10	≥97					
重量 WEIGHT	kg	L2	12-100	≥94							
		使用溫度 TEMPERATURE	°C	L1-L2	3-100	-10°C~80°C					
		防護等級 PROTECTION CLASS		L1-L2	3-100	IP65					
		潤滑油 MOUNTING DIRECTION		合成潤滑油脂 Full synthetic lubncants							
		安裝方向 MOUNTING DIRECTION		L1-L2	3-100	任意方向 In any direction					
		噪音值 NOISE	dB(A)	L1-L2	3-100	≤58	≤60	≤63	≤65		
						≤67	≤70				

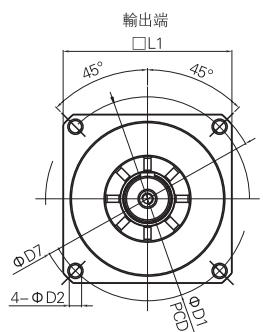
上述單段減速機 (未指定比數) 相關規格，主要為使用各型號 5 比減速機所測得之數據。減速比：1=輸入轉速/輸出轉速。背隙值：為在 2% 額定輸出扭矩下測試所得之數據。最大徑向力及最大軸向力：施力於出軸中心位置，周期負載時間 50%，輸出轉速 100rpm，條件下所測得之數據。運轉負載周期 < 60% 狀況下，平均使用壽命如例表數據：負載周期 ≥ 60% 之連續運轉下，平均使用壽命可能會降低至正常的 50% 以下。噪音值：距離 50cm，空載運轉，額定輸入轉速，條件下所測得之數據。

The above single-stage gear ratio unspecified number related specifications, mainly for the use of each model 5 gear ratio of the measured data. Reduction ratio: 1 = input speed / output speed. Times the gap values: for testing at 2% of rated output torque. Data obtained from. The maximum radial force and maximum axial force: force on the shaft center position, cycle time 50% load, speed 100rpm, under the conditions of the data. Under operating duty cycle < 60%, average Ordered data values as shown in Example Table: continuous operation duty cycle ≥ 60%, the average was ordered may be reduced to below 50% of normal. Noise level: distance of 50cm, the no-load operation, the rated input speed, measured conditions the data.

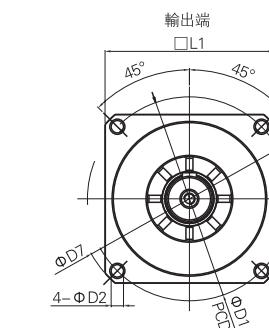
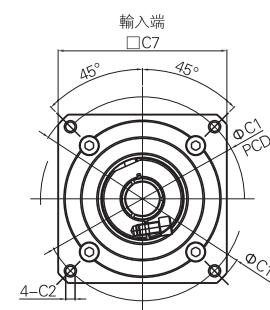
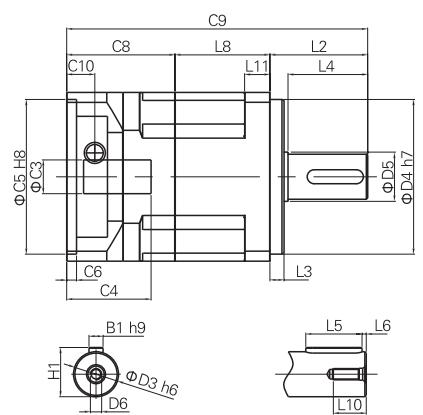


尺寸圖/表L1 SIZE CHART L1

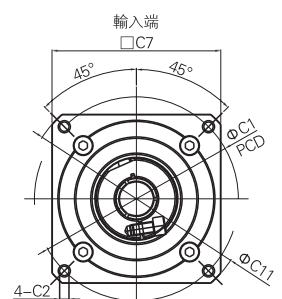
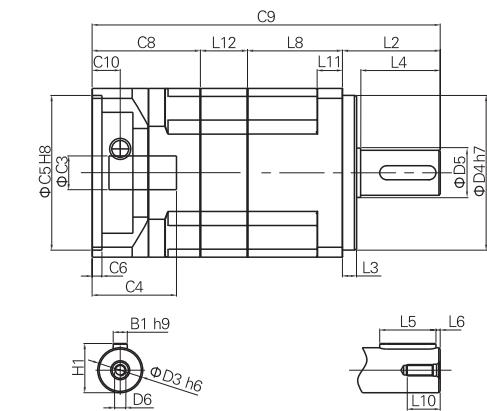
尺寸SIZE	WAB060-L1	WAB090-L1	WAB115-L1	WAB142-L1	▲WAB180-L1	▲WAB220-L1
※D1	70	100	130	165	215	250
※D2	5.5	6.5	9	11	13	17
※D3	16	22	32	40	55	75
※D4	50	80	110	130	160	180
D5	17	30	40	50	60	80
D6	M5×0.8P	M8×1.25P	M12×1.5P	M16×2.0P	M20×2.5P	M20×2.5P
D7	80	116	152	185	240	292
L1	60	90	115	142	180	220
※L2	37	48	65	97	105	138
※L3	7	10	12	15	20	30
L4	28.5	36.5	51	79	82	105
※L5	25	32	40	63	70	90
L6	2	3	5	5	6	7
L8	39.5	50	67.5	77.5	93	116.5
L10	12.5	19	28	26	42	42
L11	6	8	10	12	15	20
*C1	70	90	145	200	200	235
*C2	M4	M5	M8×1.25P	M12	M12×1.5P	M12×1.5P
*C3	≤14/ ≤16	≤19/ ≤24	≤32	≤38	≤48	≤55
*C4	34	41	56	81	85	125
*C5	50	70	110	114.3	114.3	200
*C6	3.5	4	8	6	6	6
C7	60	80	130	180	180	220
C8	45.5	58.5	71.5	83	90	110
C9	122	156.5	204	257.5	288	364.5
C10	10.5	14.3	16.5	15	20.75	53
C11	80	116	152	185	240	292
※B1	5	6	10	12	16	20
※H1	18	24.5	35	43	59	79.5



▪ “※”此符號為標準出力安裝尺寸。
▪ “*”此符號為標準馬達安裝尺寸。
▪ ▲如需訂購此產品請聯繫銷售人員。



▪ “※”此符號為標準出力安裝尺寸。
▪ “*”此符號為標準馬達安裝尺寸。
▪ ▲如需訂購此產品請聯繫銷售人員。



WAD 系列斜齒行星減速機 WAD064~WAD255

WAD SERIES PRECISION PLANETARY SPUR GEAR



■低背隙

Low backlash

■超安静

Ultra-quiet

■高效率

High efficiency

■長壽命

Long life

■ 型號命名 MODEL NAME

W A D 0 6 4 0 1 0 P 2

1 2 3 4 5

1 萬鑫標記
Wanshsin mark

3 框號: 064、090、110、140、200、255
Box no.: 064、090、110、140、200、255

2 AD: 圓形法蘭
AD: Circular flange

4 速比:4、5、7、10、……100
Ratio: 4、5、7、10、……100

5 背隙: P0:超精密 P1:精密 P2:標準
Back lash: P0: ultraprecise
P1: precision
P2: standard

6 背隙: P0:超精密 P1:精密 P2:標準 P3:經濟型 P4:普通型
Back lash: P0: ultraprecise
P1: precision
P2: standard
P3: economical
P4: general

■ 背隙表 BACK LASH TABLE

型號	WAD064		WAD090		WAD110		WAD140		WAD200		WAD255	
段位	L1	L2										
P4	≤12	≤15	≤12	≤15	≤12	≤15	≤12	≤15	≤12	≤15	≤12	≤15
P3	≤8	≤10	≤8	≤10	≤8	≤10	≤8	≤10	≤8	≤10	≤8	≤10
P2	≤5	≤8	≤5	≤8	≤5	≤8	≤5	≤8	≤5	≤8	≤5	≤8
P1	≤3	≤5	≤3	≤5	≤3	≤5	≤3	≤5	≤3	≤5	≤3	≤5
P0	—	—	1	—	1	—	≤1	—	≤1	—	≤1	—

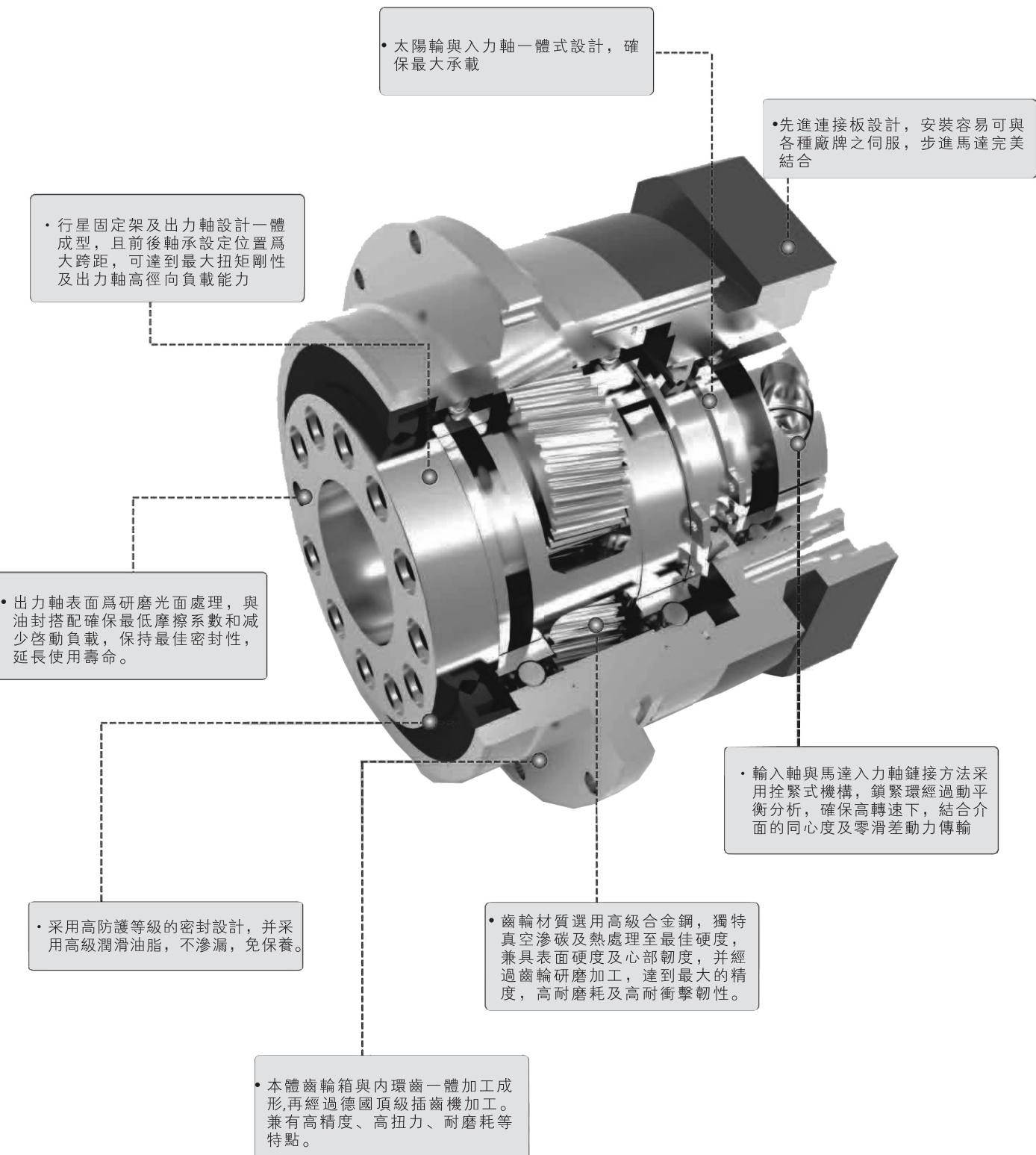
■ 產品特性 PRODUCT FEATURES

- 精密的斜齒制造、體積小，結構緊湊，高精度，確保長壽命與超低噪音。
- 全密封式結構，確保潤滑油脂不泄露，免維護。
- 產品都通過效率測試系統，傳動效率高達97%以上。
- 高精度設計，超低背隙可做到1弧分。
- Precision spur manufacturing, small, compact, high-precision, ensuring long life and ultra-low noise.
- Fully sealed structure to ensure that grease does not leak, maintenance-free.
- Products have passed the test system efficiency, transmission efficiency up to 97%.
- Precision design, ultra low backlash can be done 1 radians.

WAD系列一產品特徵

精密盤式行星減速機

- 整體設計可容許伺服馬達高轉速的輸入，達到最大扭矩輸出。
可搭配圓形法蘭面連接，大幅縮小安裝的空間。精密齒輪設計加工，具備低運轉背隙、高效率、低噪音及長壽命的特點。





性能表 PERFORMANCE TABLE

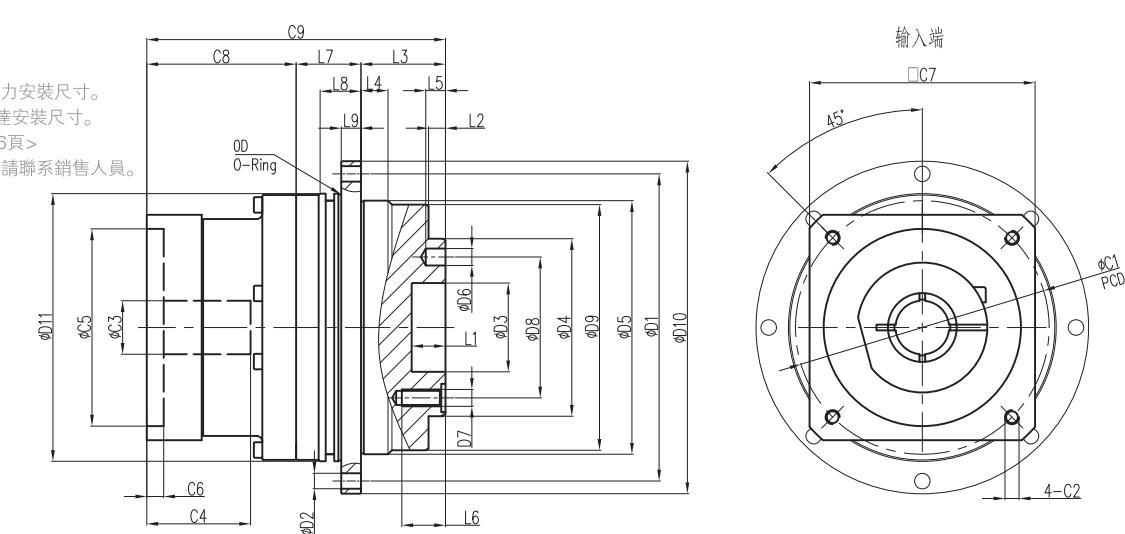
規格 SPECIFICATIONS	單位 UNIT	段數 NUMBER OF SEGMENTS	減速比 REDUCTION RATIO(1)	WAD064	WAD090	WAD110	WAD140	WAD200	WAD255
額定輸出扭矩 RATED OUTPUT TORQUE	Nm	一段 (L1)	4	48	130	270	560	1100	1700
			5	60	160	330	650	1200	2000
			7	50	140	300	550	1100	1800
			10	40	100	230	450	900	1500
		二段 (L2)	20	48	130	270	560	1100	1700
			25	60	160	330	650	1200	2000
			35	50	140	300	550	1100	1800
			40	48	130	270	560	1100	1700
			50	60	160	330	650	1200	2000
			70	50	140	300	550	1100	1800
			100	40	100	230	450	900	1500
裝置馬達軸孔徑 DEVICE MOTOR SHAFT	mm	L1-L2	4-100	6-14	14-19	16-24	19-35	19-42	35-55
最大輸出扭矩 MAXIMUM OUTPUT TORQUE	Nm	L1-L2	4-100	三倍額定輸出扭矩 3times the rated output torque					
額定輸入轉速 RATED INPUT SPEED	rpm	L1-L2	4-100	5000	4000	4000	3000	3000	2000
P2背隙 BACKLASH (參見背隙表)	arcmin	L1	4-10	≤5	≤5	≤5	≤5	≤5	≤5
		L2	20-100	≤8	≤8	≤8	≤8	≤8	≤8
扭轉剛性 TORSIONAL RIGIDAL FORCE	Nm/arcmin	L1-L2	4-100	13	31	82	151	440	1006
最大彎曲力矩 M _{2KB}	N	L1-L2	4-100	125	235	430	1300	3064	5900
容許軸向力 F _{2ab}	N	L1-L2	4-100	1050	2850	2990	10590	16660	29430
使用壽命	hr	L1-L2	4-100	15000					
效率 EFFICIENCY(%)	%	L1	4-10	≥97%					
		L2	20-100	≥94%					
重量 WEIGHT	kg	L1	4-10	1.2	3	5.6	11.9	31.6	56.1
		L2	20-100	1.6	3.7	7.3	15.9	36.9	70.4
使用溫度 TEMPERATURE	°C	L1-L2	4-100	-10°C~80°C					
防護等級 PROTECTION CLASS		L1-L2	4-100	IP65					
潤滑油 MOUNTING DIRECTION		L1-L2	4-100	合成潤滑油脂 Full synthetic lubricants					
安裝方向 MOUNTING DIRECTION		L1-L2	4-100	任意方向 In any direction					
噪音值 NOISE	dB(A)	L1-L2	4-100	≤58	≤60	≤63	≤65	≤67	≤70

▪ 上述單段減速機（未指定比數）相關規格，主要為使用各型號5比減速機所測得之數據。減速比：1=輸入轉速/輸出轉速。背隙值：為在2%額定輸出扭矩下測試所得之數據。最大彎曲力矩及容許軸向力：施力於法蘭位置，周期負載時間50%，輸出轉速100rpm，條件下所測得之數據。運轉負載周期<60%狀況下，平均使用壽命如例表數據值：負載周期≥60%之連續運轉下，平均使用壽命可能會降低至正常的50%以下。噪音值：距離50cm，空載運轉，額定輸入轉速，條件下所測得之數據。

The above single-stage(ratio unspecified number)related specifications,mainly for the use of each model 5 gear ratio of the measured data. Reduction ratio:1=input speed/output speed. Times the gap values:for testing at 2% of rated output torque Data obtained from.The maximum radial force and maximum axial force: force on the shaft center position,cycle time 50% load,speed 100rpm,measured under the conditions of the data.Under operating duty cycle < 60%,average Ordered data values as shown in Example Table:continuous operation duty cycle≥60%, the average was ordered may be reduced to below 50% of normal. Noise level:distance of 50cm, the no-load operation, the rated input speed,measured conditions the data.

尺寸圖/表 L1 SIZE CHART L1

尺寸SIZE	WAD064-L1	WAD090-L1	WAD110-L1	▲WAD140-L1	▲WAD200-L1	▲WAD255-L1
※D1	79	109	135	168	233	280
※D2	8x4.5	8x5.5	8x5.5	12x6.6	12x9	16x13.5
※D3 H7	20	31.5	40	50	80	100
※D4 h7	40	63	80	100	160	180
※D5 h7	64	90	110	140	200	255
※D6	5	6	6	8	10	12
※D7	7xM5*0.8P	7xM6*1.0P	11xM6*1.0P	11xM8*1.25P	11xM10*1.5P	12xM16*2.0P
※D8	31.5	50	63	80	125	140
D9	62	89.2	109.2	139.2	199.2	254.2
D10	86	118	145	179	247	300
※D11 h7	70	95	120	152	212	255
※L1	8	12	12	12	16	20
※L2	3	6	6	8	12	12
※L3	19.5	30	29	38	50	66
※L4	7	10	10	14.6	15	20
L5	6	7	7	10	10	10
L6	8	13	13	17	22	30
L7	21	23	27	40	50	70
L8	7.7	8	10	12	15	20
L9	4	7	8	10	12	18
*C1	70	90	145	200	200	235
*C2	M4x0.7P	M5x0.8P	M8x1.25P	M12x1.5P	M12x1.5P	M12x1.5P
*C3	≤14/ ≤16	≤19/ ≤24	≤32	≤38	≤48	≤55
*C4	37.5	40	51	82	82	120
*C5	50	70	110	114.3	114.3	200
*C6	6	6	6	15	15	15
C7	60	80	130	180	180	250
C8	49.5	57	72.5	97	100	121
C9	90	110	128.5	175	199.5	256.5
OD	66x2	90x3	110x3	145x3	200x5	238x5

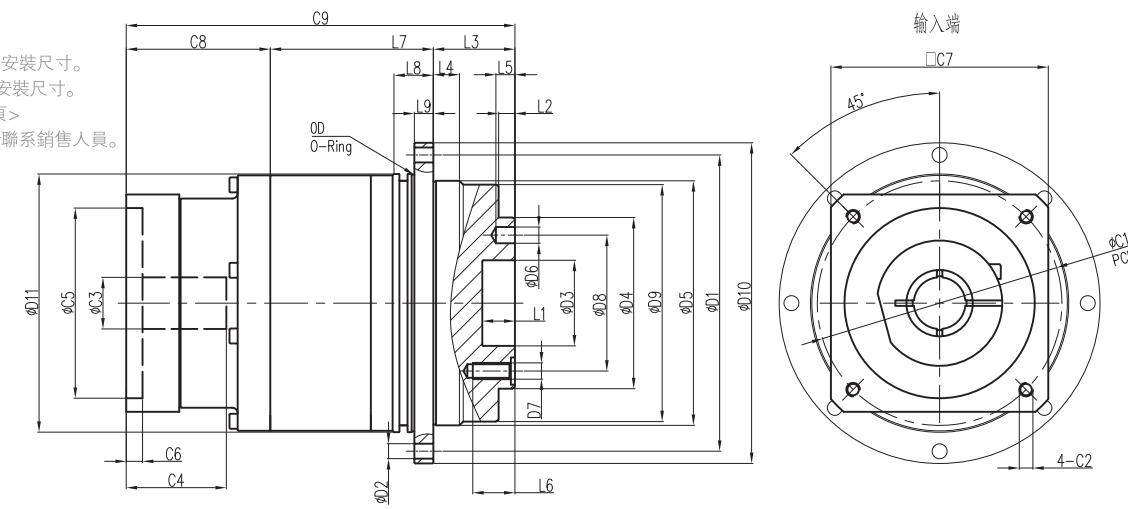




尺寸圖/表L2 SIZE CHART L2

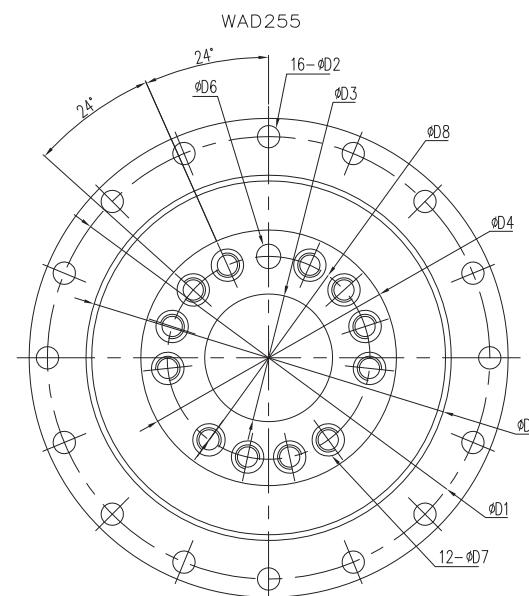
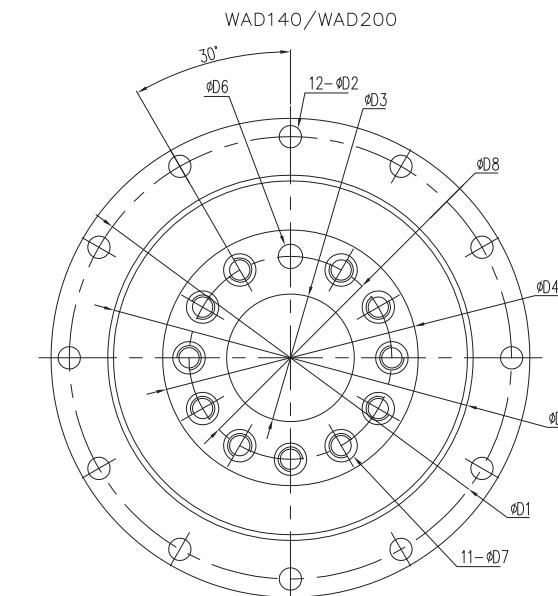
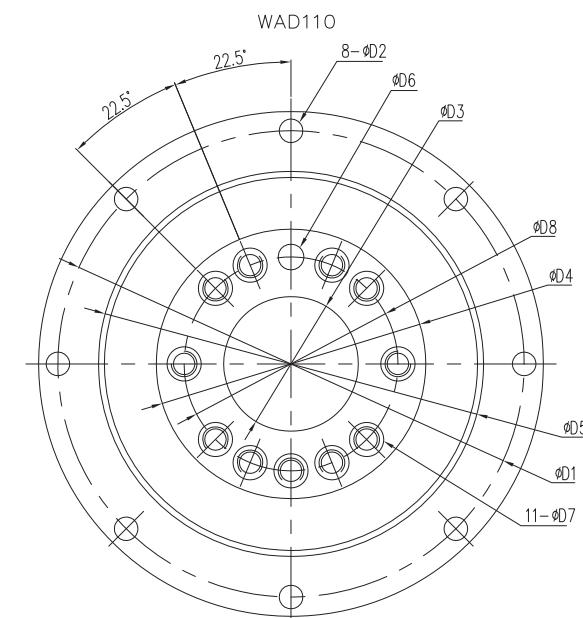
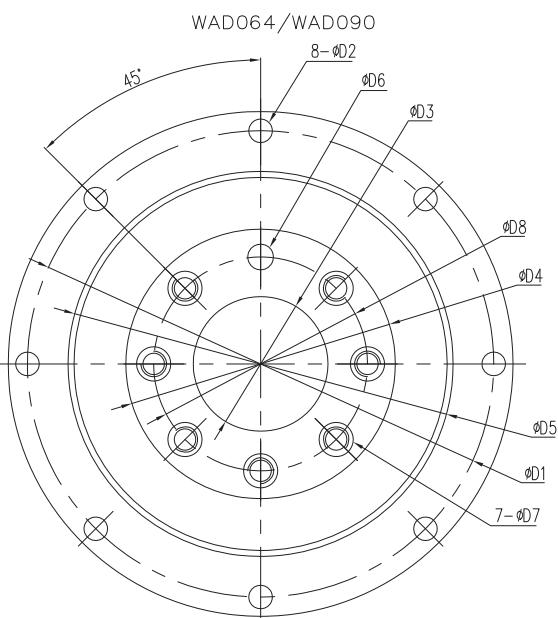
尺寸SIZE	WAD064-L2	WAD064A-L2	WAD090-L2	WAD090A-L2	WAD110-L2	▲WAD140-L2	▲WAD200-L2	▲WAD255-L2
※D1	79	79	109	109	135	168	233	280
※D2	8x4.5	8x4.5	8x5.5	8x5.5	8x5.5	12x6.6	12x9	16x13.5
※D3 h7	20	20	31.5	31.5	40	50	80	100
※D4 h7	40	40	63	63	80	100	160	180
※D5 h7	64	64	90	90	110	140	200	255
※D6	5	5	6	6	8	10	12	
※D7	7xM5*0.8P	7xM5*0.8P	7xM6*1.0P	7xM6*1.0P	11xM6*1.0P	11xM8*1.25P	11xM10*1.5P	12xM16*2.0P
※D8	31.5	31.5	50	50	63	80	125	140
D9	62	62	89.2	89.2	109.2	139.2	199.2	254.2
D10	86	86	118	118	145	179	247	300
※D11 h7	70	70	95	95	120	152	212	255
※L1	8	8	12	12	12	12	16	20
※L2	3	3	6	6	6	6	8	12
※L3	19.5	19.5	30	30	29	38	50	66
※L4	7	7	10	10	10	14.6	15	20
L5	6	6	7	7	7	7	10	10
L6	8	8	13	13	13	17	22	30
L7	51.5	51.5	60.5	60.5	73.5	93	98	15
L8	7.7	7.7	8	8	10	12	15	20
L9	4	4	7	7	8	10	12	18
*C1	70	46	90	70	145	200	200	235
*C2	M4x0.7P	M4x0.7P	M5x0.8P	M5x0.8P	M8x1.25P	M12x1.5P	M12x1.5P	M12x1.5P
*C3	≤14/ ≤16	≤11/ ≤12	≤19/ ≤24	≤14/ ≤16	≤32	≤38	≤48	≤55
*C4	37.5	37.5	40	40	51	82	82	120
*C5	50	30	70	50	110	114.3	114.3	200
*C6	6	6	6	4	6	15	15	15
C7	60	42	80	60	130	180	180	250
C8	49.5	49.5	57	57	72.5	97	100	121
C9	120.5	120.5	167.5	167.5	174	228	248	311.5
OD	66x2	66x2	90x3	90x3	110x3	145x3	200x5	238x5

- “※”此符號為標準出力安裝尺寸。
- “*”此符號為標準馬達安裝尺寸。
- 出力尺寸詳細查閱<16頁>
- ▲如需訂購此產品請聯繫銷售人員。



出力尺寸圖/表 output SIZE CHART

尺寸SIZE	WAD064	WAD090	WAD110	▲WAD140	▲WAD200	▲WAD255
※D1	79	109	135	168	233	280
※D2	8x4.5	8x5.5	8x5.5	12x6.6	12x9	16x13.5
※D3 H7	20	31.5	40	50	80	100
※D4 h7	40	63	80	100	160	180
※D5 h7	64	90	110	140	200	255
※D6	5	6	6	8	10	12
※D7	7xM5*0.8P	7xM6*1.0P	11xM6*1.0P	11xM8*1.25P	11xM10*1.5P	12xM16*2.0P
※D8	31.5	50	63	80	125	140

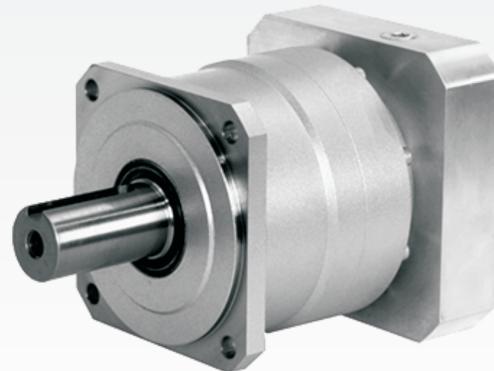


“※”此符號為標準出力安裝尺寸。
▲如需訂購此產品請聯繫銷售人員。



WVRB 系列斜齒行星減速機 WVRB060~WVRB220

WVRB SERIES PRECISION PLANETARY SPUR GEAR



■ 低背隙

Low backlash

■ 超安静

Ultra-quiet

■ 高效率

High efficiency

■ 長壽命

Long life

■ 型號命名 MODEL NAME

W VRB 060 010 K P2

1 2 3 4 5 6

1 萬鑫標記
Wanshin mark

3 框號: 060、090、115、140、180、220
Box no.: 060、090、115、140、180、220

2 VRB: 方形法蘭
VRB:Square fange

4 速比:3、4、5、6、7、8、10……100
Ratio: 3、4、5、6、7、8、10……100

5 K: 出力軸帶鍵槽
S: 出力軸不帶鍵槽,光軸
K: Output shaft is key
S: Output shaft smooth solid shaft

6 背隙: P0:超精密 P1:精密 P2:標準 P3:經濟型 P4:普通型
Back lash:P0:ultraprecise
P1:precision
P2:standard
P3:economical
P4:general

■ 背隙表 BACK LASH TABLE

型號	WVRB060		WVRB090		WVRB115		WVRB140		WVRB180		WVRB220	
段位	L1	L2										
P4	≤12	≤15	≤12	≤15	≤12	≤15	≤12	≤15	≤12	≤15	≤12	≤15
P3	≤8	≤10	≤8	≤10	≤8	≤10	≤8	≤10	≤8	≤10	≤8	≤10
P0	≤5	≤8	≤5	≤8	≤5	≤8	≤5	≤8	≤5	≤8	≤5	≤8
P1	≤3	≤5	≤3	≤5	≤3	≤5	≤3	≤5	≤3	≤5	≤3	≤5
P0	-	-	1	-	1	-	≤1	-	≤1	-	≤1	-

■ 產品特性 PRODUCT FEATURES

- 精密的斜齒制造，體積小，結構緊湊，高精度，確保長壽命與超低噪音。
- 全密封式結構，確保潤滑油脂不泄露，免維護。
- 產品都通過效率測試系統，傳動效率高達97%以上。
- 高精度設計，超低背隙可做到1弧分。
- Precision spur manufacturing, small, compact, high-precision, ensuring long life and ultra-low noise.
- Fully sealed structure to ensure that grease does not leak, maintenance-free.
- Products have passed the test system efficiency, transmission efficiency up to 97%.
- Precision design, ultra low backlash can be done 1 radians.

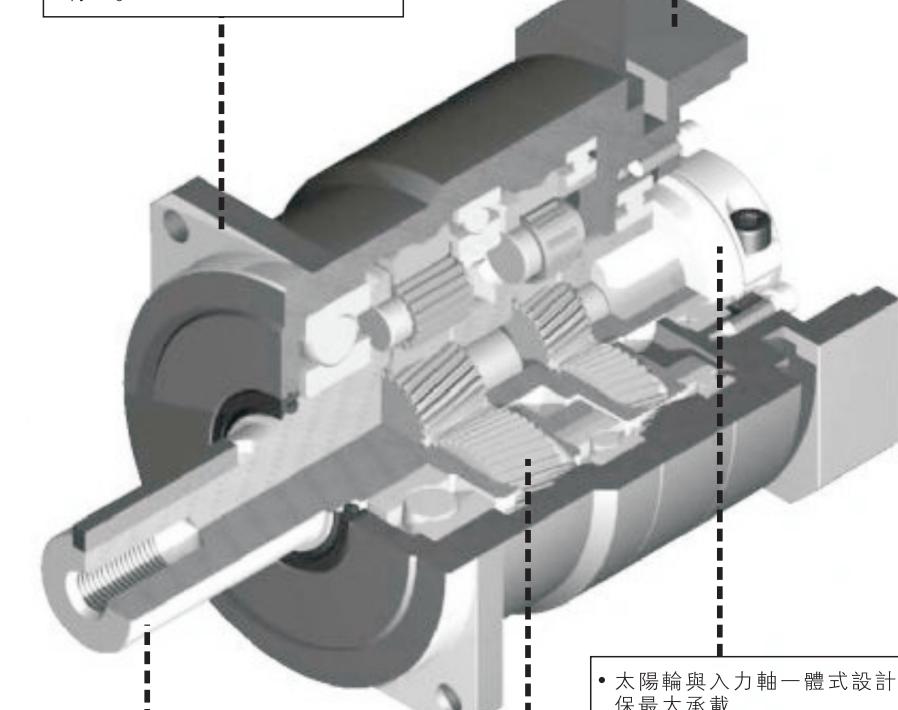
WVRB系列—產品特徵

精密行星減速機

- 整體設計可容許伺服馬達高轉速的輸入，達到最大扭矩輸出。精密齒輪設計加工，具備低運轉背隙、高效率、低噪音及長壽命的特點。
- 馬達功率小型化，同時提高慣性負載的安定性與降低震動的優點。

• 先進連接板設計，安裝容易可與各種廠牌之伺服，步進馬達完美結合

• 本體齒輪箱與內環齒一體加工成形，再經過德國頂級插齒機加工。兼有高精度、高扭力、耐磨耗等特點。



• 太陽輪與入力軸一體式設計，確保最大承載

• 出力軸表面為研磨光面處理，與油封搭配確保最低摩擦系數和減少啟動負載，保持最佳密封性，延長使用壽命。

• 齒輪材質選用高級合金鋼，獨特真空滲碳及熱處理至最佳硬度，兼具表面硬度及心部韌度，并經過齒輪研磨加工，達到最大的精度，高耐磨耗及高耐衝擊韌性。



性能表 PERFORMANCE TABLE

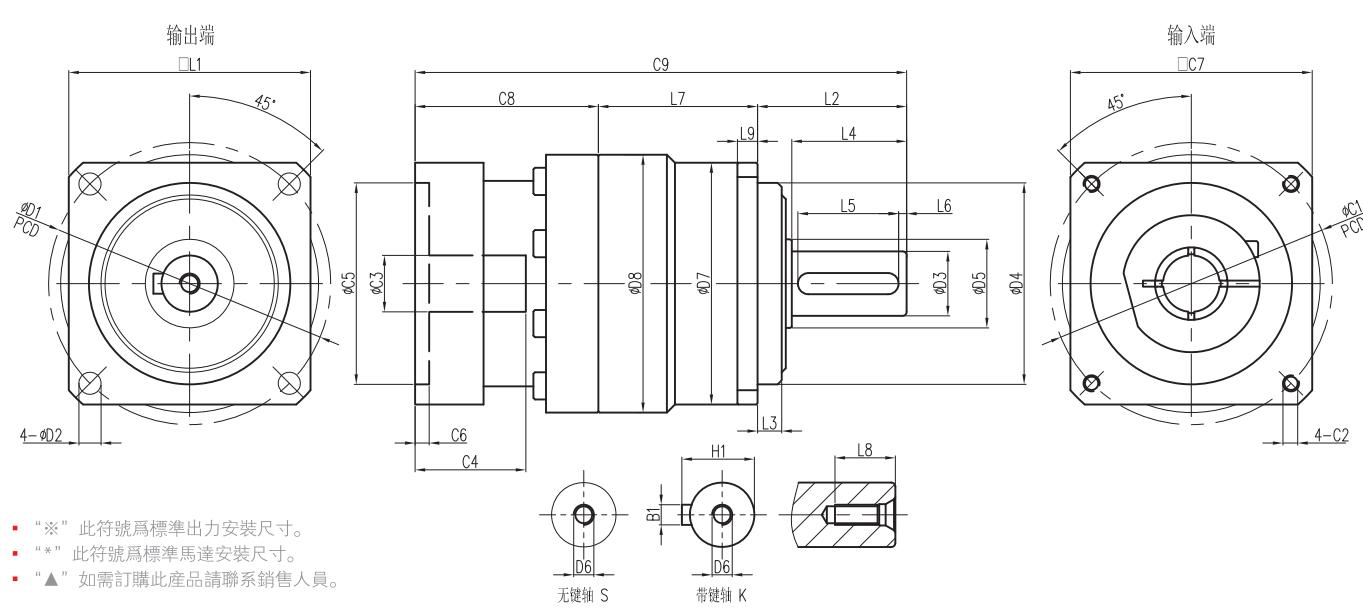
規格 SPECIFICATIONS	單位 UNIT	段數 NUMBER OF SEGMENTS	減速比 REDUCTION RATIO(I)	WVRB060	WVRB090	WVRB115	WVRB140	WVRB180	WVRB220
額定輸出扭矩 RATED OUTPUT TORQUE	Nm	一段 (L1)	3	18	50	225	240	500	1000
			4	27	75	330	240	750	1500
			5	27	75	330	360	750	1500
			6	27	75	330	360	750	1500
			7	27	75	330	360	750	1500
			8	27	75	330	360	750	1500
		二段 (L2)	10	18	50	225	240	500	1000
			12	27	75	330	240	500	1000
			15	27	50	225	240	500	1000
			16	18	75	330	360	750	1500
			20	27	75	330	360	750	1500
			25	27	75	330	360	750	1500
			28	27	75	330	360	750	1500
			30	27	50	225	240	500	1000
			35	18	75	330	360	750	1500
			40	27	75	330	360	750	1500
			50	18	75	330	360	750	1500
			60	27	75	330	360	750	1500
			70	27	75	330	360	750	1500
			80	27	75	330	360	750	1500
			100	18	50	225	240	500	1000
裝置馬達軸孔徑 DEVICE MOTOR SHAFT	mm	L1-L2	3-100	6-14	14-19	16-24	19-35	19-42	35-55
最大輸出扭矩 MAXIMUM OUTPUT TORQUE	Nm	L1-L2	3-100	三倍額定輸出扭矩 3times the rated output torque					
額定輸入轉速 RATED INPUT SPEED	rpm	L1-L2	3-100	3000	3000	3000	2000	1500	1000
P2背隙 BACKLASH (參見背隙表)	arcmin	L1	3-10	≤5	≤5	≤5	≤5	≤5	≤5
		L2	12-100	≤8	≤8	≤8	≤8	≤8	≤8
扭轉剛性 TORSIONAL RIGID FORCE	Nm/arcmin	L1-L2	3-100	7	14	25	50	145	225
容許徑向力 F _{2ab} ALLOW STEERING FORCE	N	L1-L2	3-100	1200	2400	4300	9100	15000	15000
容許軸向力 F _{2ba} TORSIONAL RIGIDITY	N	L1-L2	3-100	1100	2200	3900	8200	14000	14000
使用壽命	hr	L1-L2	3-100	10000					
效率 EFFICIENCY(%)	%	L1	3-10	≥97					
		L2	12-100	≥94					
重量 WEIGHT	kg	L1	3-10	1.5	3.8	8	16	36	53
		L2	12-100	1.7	4.3	9	17	37	54
使用溫度 TEMPERATURE	°C	L1-L2	3-100	-10°C~80°C					
防護等級 PROTECTION CLASS		L1-L2	3-100	IP65					
潤滑油 MOUNTING DIRECTION				合成潤滑油脂 Full synthetic lubricants					
安裝方向 MOUNTING DIRECTION		L1-L2	3-100	任意方向 In any direction					
噪音值 NOISE	dB(A)	L1-L2	3-100	≤58	≤60	≤63	≤65	≤67	≤70

■ 上述單段減速機 (未指定比數) 相關規格，主要為使用各型號 5 比減速機所測得之數據。減速比：1=輸入轉速/輸出轉速。背隙值：為在 2% 額定輸出扭矩下測試所得之數據。最大徑向力及最大軸向力：施力於出軸中心位置，周期負載時間 50%，輸出轉速 100rpm，條件下所測得之數據。運轉負載周期 < 60% 條件下，平均使用壽命如例表數據：負載周期 ≥ 60% 之連續運轉下，平均使用壽命可能會降低至正常的 50% 以下。噪音值：距離 50cm，空載運轉，額定輸入轉速，條件下所測得之數據。

The above single-stage(ratio unspecified number)related specifications,mainly for the use of each model 5 gear ratio of the measured data. Reduction ratio:1=input speed/output speed,Times the gap values:for testing at 2% of rated output torque Data obtained from.The maximum radial force and maximum axial force:force on the shaft center position,cycle time 50% load,speed 100rpm,measured under the conditions of the data.Under operating duty cycle < 60%,average Ordered data values as shown in Example Table:continuous operation duty cycle ≥ 60%, the average was ordered may be reduced to below 50% of normal. Noise level:distance of 50cm, the no-load operation, the rated input speed,measured conditions the data.

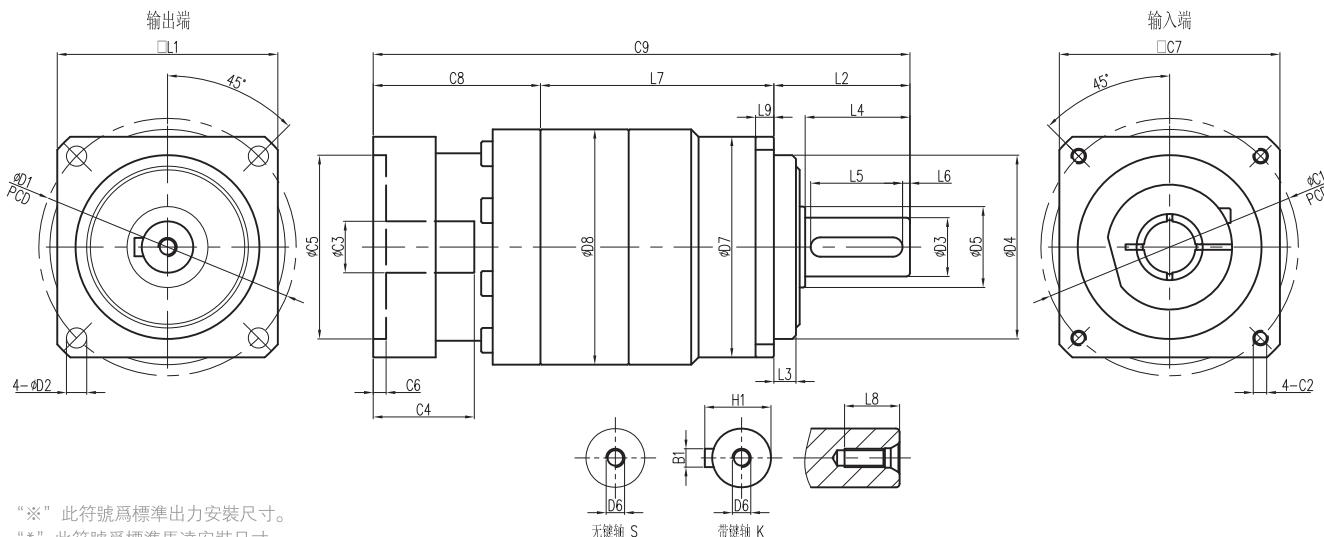
尺寸圖/表 L1 SIZE CHART L1

尺寸SIZE	WVRB060-L1	WVRB090-L1	WVRB115-L1	▲WVRB140-L1	▲WVRB180-L1	▲WVRB220-L1
※D1	70	100	130	165	215	250
※D2	5.5	6.6	9	11	13.5	17
※D3	16	22	32	40	55	75
※D4	50	80	110	130	160	180
D5	17	25	35	45	60	80
D6	M5×0.8P	M8×1.25P	M12×1.5P	M16×2.0P	M20×2.5P	M20×2.5P
D7	60	90	115	140	180	220
D8	63	95	126	150	200	225
L1	60	90	115	140	180	220
※L2	37	48	65	97	105	138
※L3	6	9	4	12	20	30
L4	28.5	36	58	82	82	105
※L5	25	28	45	65	65	85
L6	2	3	5	5	7	7
L7	39.5	46	65	77	100	114
L8	12	19	28	36	42	42
L9	6	8	10	12	15	20
*C1	70	90	145	200	200	235
*C2	M4×0.7P	M5×0.8P	M8×1.25P	M12×1.5P	M12×1.5P	M12×1.5P
*C3	≤14/ ≤16	≤19/ ≤24	≤32	≤38	≤48	≤55
*C4	34.5	50	64	82	82	120
*C5	50	70	110	114.3	114.3	200
*C6	3.5	6	18.5	15	15	15
C7	65	80	130	180	180	250
C8	45.5	61	79.5	90	118	120
C9	122	155	209.5	264	322.5	371.5
※B1	5	6	10	12	16	20
※H1	18	24.5	35	43	59	79.5



尺寸圖/表L2 SIZE CHART L2

尺寸SIZE	WVRB060-L2	WVRB060A-L2	WVRB090-L2	WVRB090A-L2	WVRB115-L2	▲WVRB140-L2	▲WVRB180-L2	▲WVRB220-L2
※D1	70	70	100	100	130	165	215	250
※D2	5.5	5.5	6.6	6.5	9	11	13.5	17
※D3	16	16	22	22	32	40	55	75
※D4	50	50	80	80	110	130	160	180
D5	17	17	25	29.5	35	45	60	80
D6	M5×0.8P	M5*0.8P	M8×1.25P	M8*1.25P	M12×1.5P	M16×2.0P	M20×2.5P	M20×2.5P
D7	60	60	90	89	115	140	180	220
D8	63	64	95	94	126	150	200	225
L1	60	60	90	90	115	140	180	220
※L2	37	27	48	48	60	97	105	138
※L3	6	6	9	10	7	12	20	30
L4	28.5	28.5	36	36.5	51	82	82	105
※L5	25	25	28	32	40	65	65	85
L6	2	2	3	3	5	5	5	7
L7	63.5	71.5	76	87.5	113	112	144	145
L8	12	12.5	19	16.5	28	36	42	42
L9	6	6	8	8	10	12	15	20
*C1	70	46	90	70	145	200	200	235
*C2	M4*0.7P	M5*0.8P	M5*0.8P	M5*0.8P	M8*1.25P	M12*1.5P	M12*1.5P	M12*1.5P
*C3	6~14	≤11/≤12	14~19	≤14/≤16	16~24	19~35	19~42	35~55
*C4	34.5	35	50	46	64	82	82	120
*C5	50	30	70	50	110	114.3	114.3	200
*C6	3.5	3.5	6	6	18.5	15	15	15
C7	60	60	80	80	130	180	180	250
C8	45.5	46	61	58.5	79.5	90	118	120
C9	146	154	185	194	257.5	298.5	367	402.5
※B1	5	5	6	6	10	12	16	20
※H1	18	18	24.5	24.5	35	43	59	79.5



“※”此符號為標準出力安裝尺寸。
“*”此符號為標準馬達安裝尺寸。
“▲”如需訂購此產品請聯繫銷售人員。

WME 系列行星減速機 WME060~WME220

WME SERIES PRECISION PLANETARY SPUR GEAR



■低背隙
Low backlash

■超安静
Ultra-quiet

■高效率
High efficiency

■長壽命
Long life

■型號命名 MODEL NAME

W M E 0 6 0 0 1 0 K P 2 I 1 0 1

1 2 3 4 5 6 7 8

- | | | |
|---|--|--|
| 1 萬鑫標記
Wanshsin mark | 4 速比:3、4、5、6、7、8、10……100
Ratio: 3、4、5、6、7、8、10……100 | 7 馬達標記 “詳細查閱<本版27~28頁>”
Motor marked "detailed refer to
<This edition, pp. 27~28>" |
| 2 ME: 方形法蘭
ME: Square flange | 5 K: 出力軸帶鍵槽
S: 出力軸不帶鍵槽,光軸
K: Output shaft is key
S: Output shaft smooth solid shaft | 8 出力標記: 01代表標準尺寸、02代表SXPGE、
03代表SXPEL、04代表SXPGL、05代表LMSB、
06代表PHDH “詳細查閱<本版29~30頁>”
The output tag "detailed refer to
<This edition, pp. 29~30>" |
| 3 框號: 060、090、120、150、180、220
Box no.: 060、090、120、150、180、220 | 6 背隙: P1:精密 P2:標準
Back lash: P1:precision
P2 : standard | |

■背隙表 BACK LASH TABLE

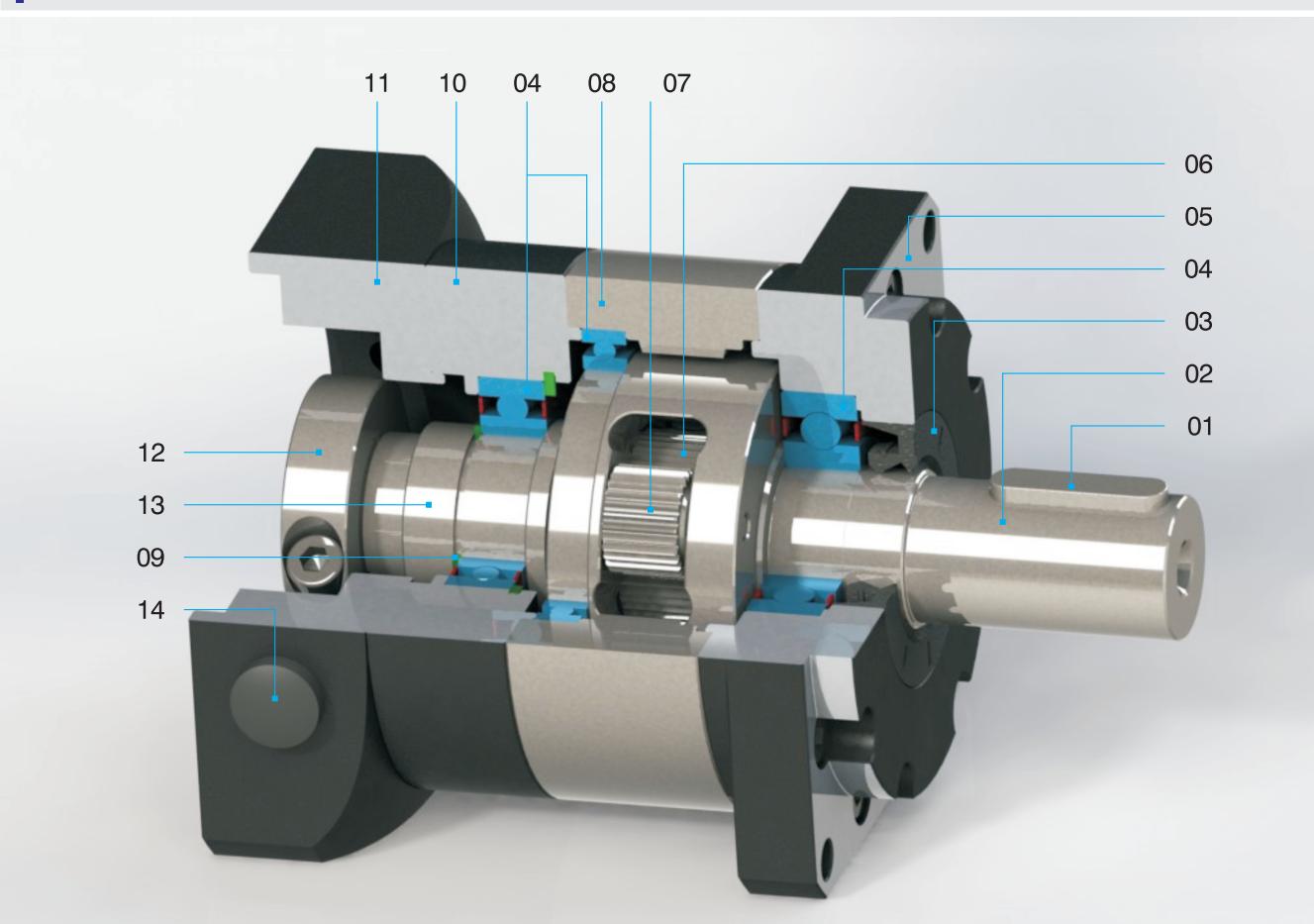
型號	WME060	WME090	WME120	WME150	WME180	WME220
段位	L1 L2					
P2	≤10 ≤12	≤10 ≤12	≤10 ≤12	≤10 ≤12	≤10 ≤12	≤10 ≤12
P1	≤8 ≤10	≤8 ≤10	≤8 ≤10	≤8 ≤10	≤8 ≤10	≤8 ≤10

■產品特性 PRODUCT FEATURES

- 精密的直齒製造、體積小，結構緊湊，高精度，確保長壽命與超低噪音。
- 全密封式結構，確保潤滑油脂不泄露，免維護。
- 產品都通過效率測試系統，傳動效率高達96%以上。
- 產品替代性強，外形尺寸可完全替代同類系列產品，能够完成和高精度伺服馬達相匹配。
- Precision spur manufacturing, small, compact, high-precision, ensuring long life and ultra-low noise.
- Fully sealed structure to ensure that grease does not leak, maintenance-free.
- Products have passed the test system efficiency, transmission efficiency up to 96%.
- Product substitution and strong, can completely replace similar dimensions series, and can be completed with high precision servo motors alert match.



內部構造 INTERNAL STRUCTURE



01	鍵 KEY	06	太陽輪 SUN GEAR	11	底座 BASE
02	出力軸 OUTPUT SHAFT	07	行星輪 PLANETARY GEAR	12	鎖緊套 LOCKING SLEEVE
03	油封 SEAL	08	內齒環 INTERNAL GEAR	13	入力軸 INPUT SHAFT
04	軸承 BEARING	09	擋圈 C RING	14	堵頭 PLUG
05	法蘭 FLANGE	10	後蓋 REAR COVER		

■ WME060、WME090、WME120入力端為太陽輪、入力軸一體式結構。

■ WME060 WME090、WME120 端子為太陽輪，入力軸一體式結構。

性能表 PERFORMANCE TABLE

規格 SPECIFICATIONS	單位 UNIT	段數 NUMBER OF SEGMENTS	減速比 REDUCTION RATIO(I)	WME060 WME090 WME120 WME150 WME180 WME220					
				WME060	WME090	WME120	WME150	WME180	WME220
一段 (L1)	Nm	3	50	125	208	342	588	1140	
		4	45	110	290	542	1050	1700	
		5	50	100	330	650	1200	2000	
		6	50	100	300	550	1100	1750	
		7	50	100	300	550	1100	1750	
		8	35	75	230	450	900	1750	
		10	35	75	230	450	900	1750	
		12	40	125	208	342	588	1140	
		15	40	125	208	342	588	1140	
		16	45	110	290	542	1050	1700	
二段 (L2)	Nm	20	50	100	290	542	1050	2000	
		25	50	100	330	650	1200	2000	
		28	50	110	290	542	1050	1800	
		30	40	100	330	342	588	1750	
		35	40	100	330	650	1200	1800	
		40	40	75	290	542	1050	1750	
		45	-	-	-	-	-	-	
		50	35	75	330	650	1200	1750	
		60	35	75	300	550	1100	1750	
		70	35	75	300	550	1100	1750	
裝置馬達軸孔徑 DEVICE MOTOR SHAFT	mm	L1、L2	3-100	6-14	14-19	16-24	19-35	19-42	35-55
		L1、L2	3-100	3倍額定輸出轉矩 3 times the rated output torque					
		L1、L2	3-100	3000	3000	3000	2000	2000	1500
		L1	3-10	≤10	≤10	≤10	≤10	≤10	≤10
		L2	12-100	≤12	≤12	≤12	≤12	≤12	≤12
		L1、L2	3-100	5	18	28	51	142	296
		N	3-100	1300	2800	5500	9000	14200	27000
		N	3-100	650	1400	2750	4500	7100	13500
		L1	3-10	96%					
		L2	12-100	92%					
重量 WEIGHT	kg	L1	3-10	1.6	4.5	8.0	17.0	35.0	48.0
		L2	12-100	2.0	6.0	11.0	22.0	43.0	55.0
使用溫度 TEMPERATURE		L1、L2	3-100	-10°C~80°C					
		L1、L2	3-100	IP65					
防護等級 PROTECTION CLASS		L1、L2	3-100	全合成的潤滑油 Fully synthetic lubricants					
		L1、L2	3-100	任意方向 In any direction					
潤滑油 MOUNTING DIRECTION		L1、L2	3-100	任意方向 In any direction					
		L1、L2	3-100	10000					
安裝方向 MOUNTING DIRECTION		L1、L2	3-100	10000					
		L1、L2	3-100	10000					
噪音值 NOISE	dB(A)	L1、L2	3-100	≤58	≤60	≤63	≤65	≤68	≤72
		L1、L2	3-100	10000					
使用壽命	hr	L1、L2	3-100	10000					

■ 上述單段減速機（未指定比數）相關規格，主要為使用各型號5比減速機所測得之數據。減速比：1=輸入轉速/輸出轉速。背隙值：為在2%額定輸出扭矩下測試所得之數據。最大徑向力及最大軸向力：施力於出軸中心位置，周期負載時間50%，輸出轉速100rpm，條件下所測得之數據。運轉負載周期<60%狀況下，平均使用壽命如例表數據值：負載周期≥60%之連續運轉下，平均使用壽命可能會降低至正常的50%以下。噪音值：距離50cm，空載運轉，額定輸入轉速，條件下所測得之數據。

■ The above single-stage/ratio unspecified number related specifications, mainly for the use of each model 5 gear ratio of the measured data. Reduction ratio: 1 = input speed / output speed. Times the gap values: for testing at 2% of rated output torque Data obtained from. The maximum radial force and maximum axial force: force on the shaft center position, cycle time 50% load, speed 100rpm, measured under the conditions of the data. Under operating duty cycle < 60%, average Ordered data values as shown in Example Table: continuous operation duty cycle ≥ 60%, the average was ordered may be reduced to below 50% of normal. Noise level: distance 50cm, no-load operation, the rated input speed, measured conditions the data.

減速比的選用表 GEAR RATIO SELECTION TABLE

容量Capacity	型號Model	1/3	1/4	1/5	1/6	1/7	1/8	1/10	1/12	1/15	1/16	1/20	1/25	1/28	1/30	1/35	1/40	1/50	1/60	1/70	1/80	1/100
100W/3000RPM	WME060	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
200W/3000RPM	WME060	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	WME090	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
400W/3000RPM	WME060	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	WME090	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
500W/2000RPM	WME090	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	WME120	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
750W/3000RPM	WME090	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	WME120	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
1.0KW/2000RPM	WME120	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	WME150	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	WME090	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
1.5KW/2000RPM	WME120	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	WME150	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
2.0KW/3000RPM	WME120	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	WME150	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	WME180	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
3.5KW/3000RPM	WME120	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	WME150	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	WME180	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
3.5KW/2000RPM	WME150	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	WME180	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
5.0KW/2000RPM	WME180	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	WME220	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
7.0KW/2000RPM	WME180	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	WME220	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
11KW/2000RPM	WME180	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	WME220	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
12KW/2000RPM	WME220	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
15KW/2000RPM	WME220	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

- 此“●”記號為可選用之減速比。
- 三段減速比不在上表中，若需用到請告知銷售人員。
- 慣性距較大的場合減速機型需大一級使用。

- This “●” make of the reduction ratio can be selected.
- Three sections of the reduction ratio is not on the table, For use please inform the sales staff.
- The moment of inertia larger occasions reducer models require the use of a large one.

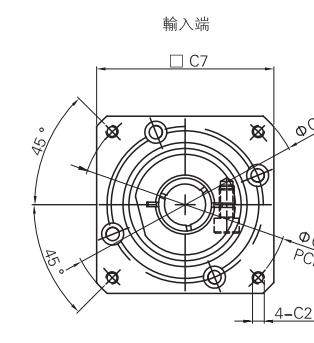
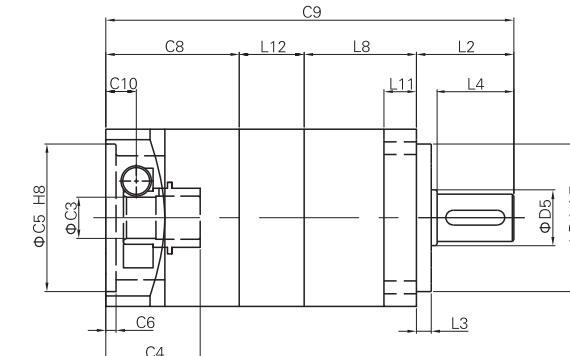
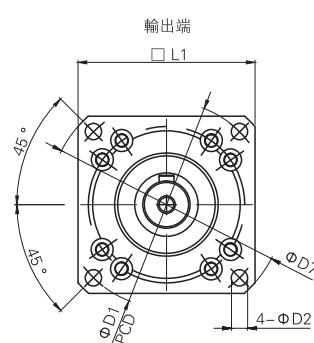
尺寸圖/表L1 SIZE CHART L1

尺寸SIZE	WME060-L1	WME090-L1	WME120-L1	WME150-L1	WME180-L1	▲WME220-L1
※D1	70	100	145	165	215	250
※D2	5.5	6.5	8.8	10.5	12.5	17
※D3	16	22	32	40	50	75
※D4	50	80	110	130	160	180
D5	17	25	35	45	60	80
D6	M5 × 0.8P	M6 × 1.0P	M8 × 1.25P	M12 × 1.5P	M12 × 1.5P	M20 × 2.5P
D7	80	118	160	190	245	292
L1	60	94	120	142	182	220
※L2	33	46	69.5	75	95	123
※L3	5	5	10	4	10	15
L4	26.5	40	59	68	83	3
※L5	20	25	40	45	70	90
L6	3	3	3	5	6	7
L8	38	53.5	67.5	87	109	136.5
L10	12	15	20	26	42	
L11	11	10	18	20	26	35
*C1	70	90	145	200	200	235
*C2	M4 × 0.7P	M5 × 0.8P	M8 × 1.25P	M12 × 1.5P	M12 × 1.5P	M12 × 1.5P
*C3	6~14	14~19	16~24	19~35	19~42	35~55
*C4	32	41	60	81	81	125
*C5	50	70	110	114.3	114.3	200
*C6	3.5	5	8	6	10	10
C7	60	94	130	180	182	220
C8	42	54.4	71	111.2	106	148
C9	113	153.9	208	273.2	310	407.5
C10	10	17	20	22.5	34	42
C11	80	118	165	230	230	292
※B1	5	6	10	10	14	20
※H1	18	24.5	35	43	53.5	79.5



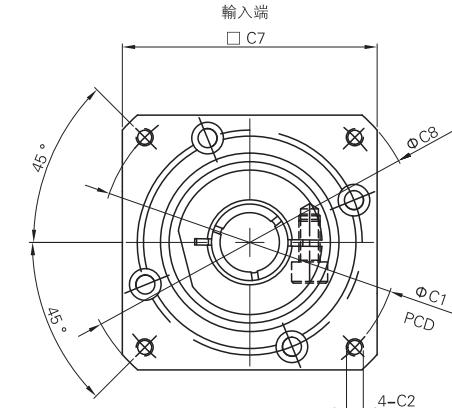
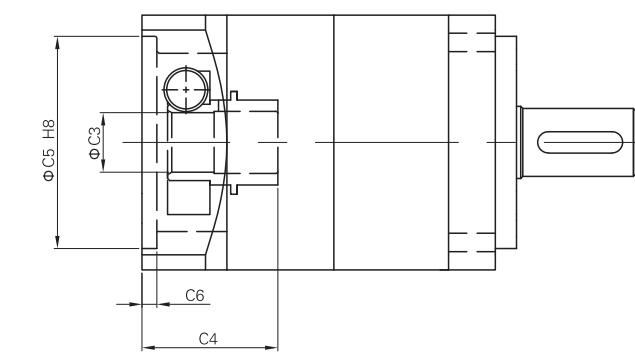
尺寸圖/表L2 SIZE CHART L2

尺寸SIZE	WME060-L2	WME090-L2	WME120-L2	WME150-L2	WME180-L2	▲WME220-L2
※D1	70	100	145	165	215	250
※D2	5.5	6.5	8.8	10.5	12.5	17
※D3	16	22	32	40	50	75
※D4	50	80	110	130	160	180
D5	17	25	35	40	60	80
D6	M5 × 0.8P	M6 × 1.0P	M8 × 1.25P	M12 × 1.5P	M12 × 1.5P	M20 × 2.5P
D7	80	118	160	190	245	292
L1	60	94	120	142	182	220
※L2	33	46	69.5	75	95	123
※L3	5	5	10	4	10	15
L4	26.5	40	59	68	83	3
※L5	20	25	40	45	70	90
L6	3	3	3	5	6	7
L8	38	53.5	67.5	87	109	136.5
L10	12	15	20	26	26	42
L11	11	10	18	20	26	35
L12	22	24.5	33.5	46	51.5	56
*C1	70	90	145	200	200	235
*C2	M4 × 0.7P	M5 × 0.8P	M8 × 1.25P	M12 × 1.5P	M12 × 1.5P	M12 × 1.5P
*C3	6~14	14~19	16~24	19~35	19~42	35~55
*C4	32	41	60	81	81	125
*C5	50	70	110	114.3	114.3	200
*C6	3.5	5	8	6	10	10
C7	60	94	130	180	182	220
C8	45.2	65	81.2	107.5	106	148
C9	138.2	189	251.7	315.5	361.5	463.5
C10	10	17	20	22.5	34	42
C11	80	118	160	230	230	292
※B1	5	6	10	10	14	20
※H1	18	24.5	35	43	53.5	79.5



- “※”此符號為標準出力安裝尺寸。
- “01”標記為標準件、詳細尺寸見出力標記。
- “*”此符號為標準馬達安裝尺寸。
- “I1”標記為標準件、詳細尺寸見馬達標記。
- “▲”如需訂購此產品請聯繫銷售人員。

馬達標記 MOTOR DIMENSION TABL



- 若入力尺寸不在表格中，需提供馬達尺寸才確認。
- *表示特殊加大馬達入力法蘭或馬達軸心加大、加長。
- If the input dimensions are not the form, please provide the motor size before confirmation.
- *Indicates a special increase motor flange or motor shaft into force increase,longer.

■ WME060系列

馬達記號MOTOR MARK	ΦC1(H7)	4-C2	ΦC3(H7)	C4	ΦC5(H7)	C6	C7
I1	70	4-M4	14	31	50	3.5	60
I2	46	4-M4	8	31	30	3.5	60
I3	70	4-M4	11	31	50	3.5	60
I4	45	4-M3	8	31	30	3.5	60
I5	70	4-M5	14	31	50	3.5	60
I6	90	4-M5	14	31	70	3.5	60
I7	90	4-M6	14	31	70	3.5	60
I8	66.7	4-M4	6.35	31	38.1	3.5	60

■ WME090系列

馬達記號MOTOR MARK	ΦC1(H7)	4-C2	ΦC3(H7)	C4	ΦC5(H7)	C6	C7
I1	90	4-M5	19	41	70	5	94
I2	70	4-M4	14	41	50	5	94
I3	70	4-M5	14	41	50	5	94
I4	90	4-M5	14	41	70	5	94
I5	90	4-M6	14	41	70	5	94
I6	90	4-M6	16	41	70	5	94
I7	90	4-M6	19	41	70	5	94
I8	70	4-M4	11	41	50	5	94
I9	100	4-M6	16	41	80	5	94
I10	145	4-M8	19	60	110	5	*130



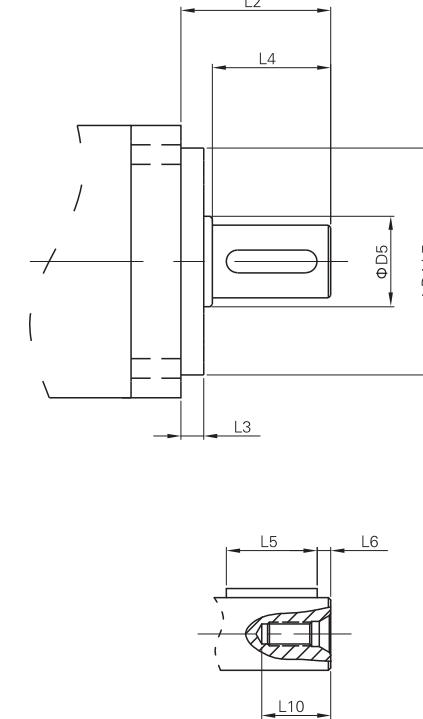
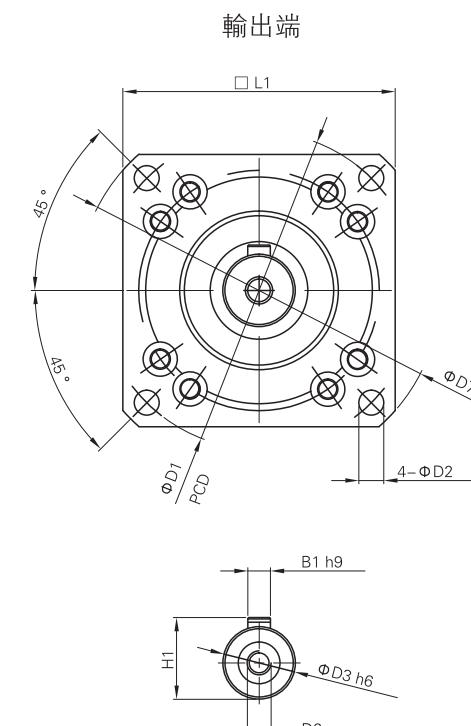
■ WME120系列							
馬達記號MOTOR MARK	ΦC1(H7)	4-C2	ΦC3(H7)	C4	ΦC5(H7)	C6	C7
I1	145	4-M8	24	60	110	7	130
I2	90	4-M6	19	54	70	7	130
I3	100	4-M6	16	54	80	7	130
I4	115	4-M6	24	54	95	7	130
I5	115	4-M8	24	54	95	7	130
I6	130	4-M8	19	60	110	7	130
I7	145	4-M8	19	60	110	7	130
I8	145	4-M8	22	60	110	7	130
I9	90	4-M6	16	54	70	7	130

■ WME150							
馬達記號MOTOR MARK	ΦC1(H7)	4-C2	ΦC3(H7)	C4	ΦC5(H7)	C6	C7
I1	200	4-M12	35	81	114.3	6	180
I2	115	4-M8	24	60	95	6	142
I3	145	4-M8	19	65	110	6	142
I4	145	4-M8	22	65	110	6	142
I5	145	4-M8	24	65	110	6	142
I6	145	4-M8	28	65	110	6	142
I7	115	4-M6	24	60	95	6	142
I8	165	4-M10	32	81	130	6	142

■ WME180系列							
馬達記號MOTOR MARK	ΦC1(H7)	4-C2	ΦC3(H7)	C4	ΦC5(H7)	C6	C7
I1	200	4-M12	42	81	114.3	8	182
I2	145	4-M8	22	75	110	8	182
I3	145	4-M8	24	75	110	8	182
I4	145	4-M8	28	75	110	8	182
I5	200	4-M12	35	81	114.3	8	182
I6	145	4-M8	19	75	110	8	182
I7	165	4-M10	32	81	130	8	182
*I8	215	4-M12	38	*116	180	8	196
*I9	235	4-M12	42	*116	200	8	*220
*I10	235	4-M12	*55	*116	200	8	*220
*I11	265	4-M12	*55	*116	230	8	*250

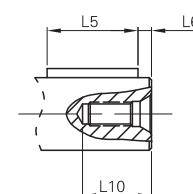
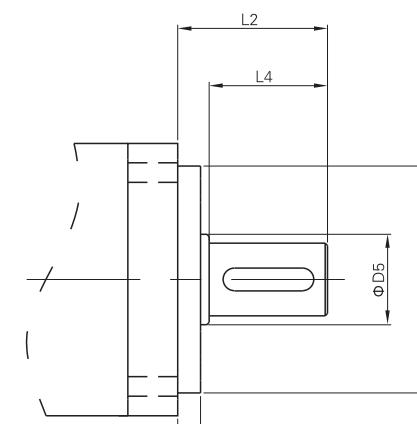
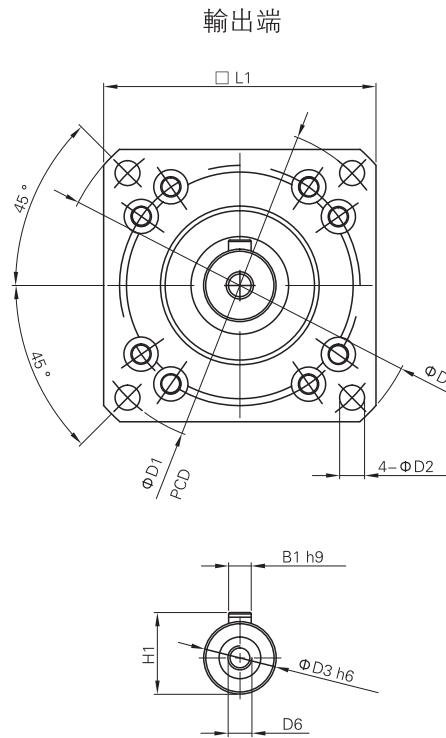
■ WME220系列							
馬達記號MOTOR MARK	ΦC1(H7)	4-C2	ΦC3(H7)	C4	ΦC5(H7)	C6	C7
I1	235	4-M12	55	116	200	6	220
I2	200	4-M12	42	116	114.3	6	220
I3	215	4-M12	38	116	180	6	220
I4	215	4-M12	42	116	180	6	220
I5	235	4-M12	42	116	200	6	220
I6	200	4-M12	35	116	114.3	6	220
*I7	235	4-M12	55	116	200	6	*250

WME出力標記 WME FLANGE INSTALLATION TAG



■ 出力記號

記號	L2	L3	L4	L5	L6	L10	D1	D2	D3	D4	D5	D6	B1	H1
WME 060	01	33	5	26.5	20	3	12	70	5.5	16	50	17	M5×0.8P	5
	02								6					
	03	37	7	28.5	25	2	12	70	5.5	16	50	—	M5×0.8P	5
	04								5.5					
	05	36	7	28	20	—	—	70	5.5	16	50	—	M5×0.8P	5
	06	35	7	27	20	3	15	70	5.2	16	50	—	M4×0.7P	5
記號	L2	L3	L4	L5	L6	L10	D1	D2	D3	D4	D5	D6	B1	H1
WME 090	01	46	5	40	25	3	15	100	6.5	22	80	25	M6×1.0P	6
	02	43	5											
	03	48	10	36.5	32	3	18	100	6.5	22	80	—	M8	6
	04		10											
	05	48	10	36	30	—	—	100	6.8	22	80	—	M8×1.25P	6
	06	55	5	49	25	5	20	105	6.5	20	80	—	M6×1.5P	6
記號	L2	L3	L4	L5	L6	L10	D1	D2	D3	D4	D5	D6	B1	H1
WME 120	01	69.5	10	59	40	3	20	145	8.8	32	110	35	M8×1.25P	10
	02	60	6											
	03	62	8	51	40	5	26	130	8.5	32	110	—	M12	10
	04													
	05	65	12	50	40	—	—	130	9	32	110	—	M10	10
	06	58	5	52	40	5	27	130	8.5	32	110	—	M8×1.25P	10



■ 出力記號

	記號	L2	L3	L4	L5	L6	L10	D1	D2	D3	D4	D5	D6	B1	H1
WME 150	01	75	4	68	45	5	32	165	10.5	40	130	40	M12×1.5P	10	43
	02	93													
	03	93	8	79	60	5	34	165	10.5	40	130	—	M16	12	43
	04	93	8	79	65	5	34	165	11	40	130	—	M16	12	43
	05	92	15	74	65	—	32	165	10.5	40	130	—	M12	12	43
	06	74	4	67	45	5	32	165	10.5	42	130	—	M12×1.5P	12	45
	記號	L2	L3	L4	L5	L6	L10	D1	D2	D3	D4	D5	D6	B1	H1
WME 180	01	95	10	83	70	6	42	215	12.5	50	160	60	M12×1.5P	14	53.5
	02														
	03	104.5	20	82	70	6	42	215	13	55	160	—	M20	16	59
	04														
	05	106	20	82	70	—	—	215	13	55	160	—	M14×2.0P	16	59

※ 01代表標準尺寸、02代表SXPGE、03代表SXPEL、04代表SXPGL、05代表LMSB、06代表PHDH

■ 減速機安裝方法 Installation of Planetary Reducers

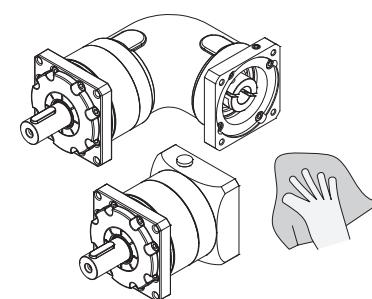
減速機如由貴司安裝，請遵守以下要求。

行星減速機馬達安裝法蘭部的尺寸因伺服馬達而異，有可能無法安裝指定的伺服馬達。(請務必安裝訂購時所指定的伺服馬達)
伺服馬達的輸出軸可能塗有防銹劑等。

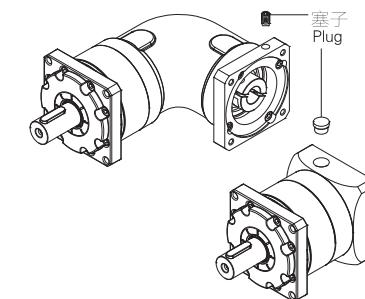
If the Planetary Reducers is installed by your company, please comply with the following requirement.

The size of the motor mounting flange of the planetary reducer differs according to the servo motor, the designated servo motor may not be able to be installed.(Please be sure to install the designated servo motor when purchased)
There may be rust inhibitor on the output shaft of the servo motor.

- 1 將馬達軸安裝面的防銹劑，油等擦拭幹淨。
Clean up the rust inhibitor and grease on the installing side of the motor shaft.

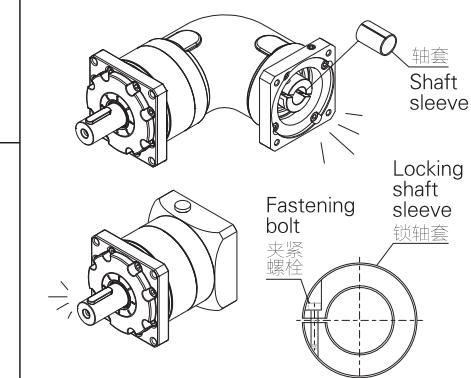


- 2 取下塞子。
Take off the plug.



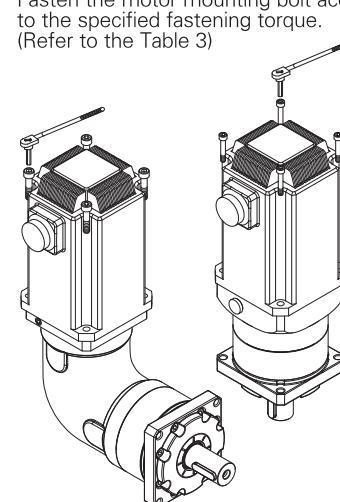
- 3 轉動輸入軸，使夾緊螺栓的頭部對準塞孔。
此時請確認夾緊螺栓處於鬆弛狀態。將減速機垂直放置在平整場所，使減速機的馬達安裝面朝上。(如有軸套，請按圖示進行安裝。)

Rotate the input shaft, and align the top of the fastening bolt at the plug hole. Make sure that the fastening bolt is loose at the time. Lay the reducer vertically on the flat place, and face up the installing side of the motor. (If there is a shaft sleeve, please install it as the picture shows.)



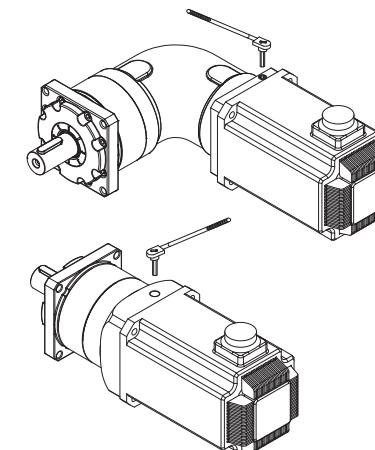
- 4 請將馬達軸緩緩地插入輸入軸中以免造成撞擊，確認馬達法蘭面與減速機法蘭面緊貼。按規定的緊固扭矩緊固馬達安裝螺栓。(參見表3)

Please insert the motor shaft slowly into the input shaft to avoid impact, and make sure the surfaces of the motor flange and the reducer flange are stick together. Fasten the motor mounting bolt according to the specified fastening torque. (Refer to the Table 3)



- 5 使用扭矩扳手等工具，按規定的緊固扭矩緊固輸入軸的夾緊螺栓。(參見表3)

Follow the specified fastening torque, and fasten the fastening bolt of the input shaft with the tools such as torque spanner.



- 6 安裝塞子，至此作業完成。
Install the plug, and the work is done.

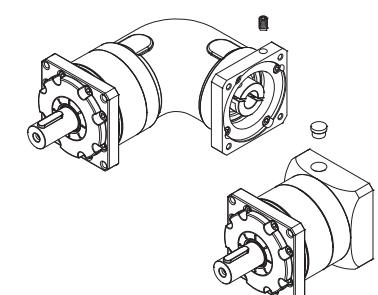


表3 螺栓緊固扭矩
Diagram 3 Bolt fastening torque

螺栓大小 Bolt size	M3	M4	M5	M6	M8	M10	M12	M16	
馬達 安裝螺栓 Motor mounting bolt	N·m	1.0	2.5	5.1	8.7	21	42	72	134
	kgf·m	0.11	0.26	0.52	0.89	2.1	4.3	7.3	14
夾緊螺栓 Fastening bolt	N·m	1.9	4.3	8.7	15	36	71	125	—
	kgf·m	0.18	0.44	0.89	1.5	3.7	7.2	13	—



安裝到輸出法蘭部（限法蘭型）

Install it to the output flange (limited to the flange model)

- 將裝置部件等安裝到輸出法蘭部時，請使用扭矩扳手等工具按規定的緊固扭矩進行緊固。
- When installing the device component to the output flange, please follow the specified fastening torque, and use the tools such as torque spanner.

螺栓大小 Bolt size	M3	M4	M5	M6	M8	M10	M12	M16	M20	
夾緊螺栓 Fastening bolt	N · m kgf · m	1.9 0.18	4.3 0.44	8.7 0.89	15 1.5	36 3.7	71 7.2	125 13	310 32	603 62

※ 推薦螺栓強度分類12.9級以上 Recommended Strength level of the bolt is above 12.9

安裝與設置

Installation and setting up

- 避免在直接接觸雨水的場所使用（如需在戶外或接觸粉塵，水滴的場所使用，請事先向我公司諮詢）。
- 請設置在0°C~40°C的環境中。
- 請安裝在牢固無振動的臺面，用螺栓等切實固定。
- 設置時，應保證便於保養和檢查。
- Avoid using it in places that are exposed to rain directly. (Please consult to our company first when using it outside or in places exposed to dust and water)
- Please fit it in the temperature between zero and forty.
- Please install it on the stable and firm surface, and fasten it tightly with bolt.

輸出軸側連接

Output shaft connecting

- 在輸出法蘭型上安裝齒輪，皮帶輪，鏈輪等時，請采用帶凸緣的安裝設計，嵌入輸出法蘭凸緣部。安裝時請注意避免施加過大推力載荷。
- 在輸出軸型上安裝聯軸器，鏈輪等時，請注意避免向輸出軸施加過大推力荷載。嵌入時不得大力敲擊輸出軸，否則會導致軸承與減速機內部受損。
- 聯軸器等部位的軸與鍵間隙過大會導致燒結，因此安裝時請注意。
- 連接時請準確定心。
- When installing gear wheels, belt pulley and chain wheels on the output flange model, please use the installing design with bulged edges, and implant them into it. Avoid applying too much strength when installing.
- When installing couplings, chain wheels on the output shaft, please do not apply too much strength onto it. Do not knock too hard on the output shaft when implanting, or it may cause damages to the axletree and the interior part of the reducer.
- Too much gap between shaft and key in the coupling may cause firing, so please be careful when installing.

開機前的注意事項

Matters that need attention before shutting down

- 出廠時已按規定量加入潤滑油，因此到貨後可直接使用。
- 首次運轉時，請先確認輸出軸的轉向，讓後逐漸增加負荷。
- The specified amount of lubricant has been added before delivery, so the machine can be used directly when arrived.
- Confirm the rolling direction of the output shaft and increase the load gradually the first time operating.

運轉中的注意事項

Matters that need attention during operating

- 請注意不得過載。
- 輸出軸的轉速不得大于規定轉速。
- 出現以下情況時，請停機檢查。
 - 1、溫度突然開始升高
 - 2、突然發出很大異響
 - 3、轉速突然開始不穩定
- 可能的原因如下，請及時處理。
 - 1、是否處于過載狀態？
 - 2、軸承，齒輪，轉動面又無損傷？
 - 3、機器連接條件有無異常？
- Do not overloaded.
- The rolling speed of the output shaft should not be faster than the specified one.
- Please shut the machine down when following situation shows.
 1. The temperature rise suddenly
 2. Strange noise are emerged
 3. The rolling speed becomes unstable
- The possible reasons are as follows, and please make sure to deal with it in time.
 1. Whether it is overloaded or not?
 2. Are the axletrees, gear wheels and the rolling side damaged?
 3. Is the connecting condition abnormal?

潤滑油管理

The lubricant managing

- 油脂不能更換
- The grease can not be replaced.

每日檢查

Daily check

- 運轉中減速機外殼溫度有無異常上升？(最高不大于90°C)
- 軸承、齒輪等部位有無異響？
- 減速機有無異常振動？(出現此類異常時，請立即停機并聯系我公司。)
- 有無潤滑油漏油？(出現油脂泄漏時，請聯系我公司)
- Whether the temperature of the reducer shell rises abnormally? (Maximum 90 degree)
- Are there any abnormal conditions on axletrees or chainwheels?
- Is the reducer vibrating abnormally? (If it happens, please shut down the machine and contact our company)
- Is the lubricant leaking? (If it happens, please contact our company)

定期檢查

Regular check

- 有無過載狀態，有無異常旋轉？
- 皮帶輪、鏈輪、減速機安裝螺栓等有無鬆動？
- 主要部件的檢查與維護(出現異常現象時，請立即停機并聯系我公司)。
- Whether it is overloaded or rolling abnormally?
- Is the belt pulley, chain wheel, the installation bolt of the reducer loose?
- The check and maintenance of main components. (When abnormal