



新竹科學園區 Hsinchu Sci. Park

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銅鑼科學園區 Tongluo Sci. Park

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盟英官網
WEBSITE



型錄規格
E-CATALOG



202112_GSS500_A1.TA

諧波減速機及 關節模組專業製造

HARMONIC REDUCERS & ROBOT JOINT MODULES





關於盟英科技 About Main Drive

盟英科技股份有限公司成立於2018年10月，專業生產製造機器人關節模組 (Robot Joint Module) 及諧波減速機，具「高精度、高負載、體積小、傳動穩定」等特色，多應用於多關節機器人與中低荷重的協作機器人及各式自動化設備。且透過垂直整合及合作，朝向諧波減速機機電整合、客製化設計及自動化生產等目標，提供客戶最完整的解決方案。

MAIN DRIVE Corporation was established in October 2018, specializing in the production of Robot Joint Module and Harmonic Reducers. With features of "high precision, high load capacity, small size, and stable transmission", the products are mainly used in Multi-Joint Robot Arms, collaborative robots with medium and low loading, and various automatic equipment. Through vertical integration and collaboration, MAIN DRIVE Corporation will march towards fulfilling the goals of mechatronic intergration for Harmonic Reducer integration, customized design, and intelligent production for customers with complete solutions.



ISO-9001:2015品質管理系統 ISO-9001 Certified.



INTRODUCTION

盟英創立歷程 Main Drive Milestone

- 2018**
 - 04/02 工研院技轉合約簽約完成。
 - 05/01 核准入駐新竹科學園區。
 - 08/01 工研院技轉團隊正式加入。
 - 09/02 申請通過符合「高風險新創事業公司」。
 - 09/10 召開成立盟英科技籌備處會議。
 - 10/22 公司設立登記完成，實收資本額台幣1億5,000萬元。
 - 10/25 公司英文名稱登記完成 (Main Drive Corporation)。
 - 09/10 Convened and established Main Drive Corporation preparation office meeting.
 - 10/22 Company establishment registration completed, paid in capital 150 million TWD.
 - 10/25 Registered company English name as Main Drive Corporation.
- 2019**
 - 04/02 Industrial Technology Research Institution (ITRT) technology transfer contract completed.
 - 05/01 Approved to settle in Hsinchu Science Park.
 - 08/01 Industrial Technology Research Institution (ITRT) technology transfer team joined.
 - 09/02 Application passed and meet "High-risk Innovative Startups".
- 2020**
 - 02/03 搬遷標準廠房11號2F辦公室。
 - 05/09 第1次增資完成，達實收資本額台幣2億6,176萬元。
 - 07/01 盟英圖文商標完成註冊。
 - 09/07 完成ISO9001認證。
 - 12/15 交運首批AGV輪驅動模組。
 - 02/03 Moved to standard factory located in Hsinchu Science Park.
 - 05/09 First capital increased, paid in capital 261.76 million TWD.
 - 07/01 Main Drive trade mark registered.
 - 09/07 Obtained ISO 9001 certification.
 - 12/15 Delivered the first batch of AGV wheel driving module.
- 2021**
 - 04/26 第2次增資完成，實收資本額台幣3億6,176萬元。
 - 06/08 完成機器人關節模組產創計畫。
 - 04/26 Second capital increased, paid in capital 361.76 million TWD.
 - 06/08 Accomplished Taiwan Industry Innovation Platform Robot Joint Module Program.

品質保證 QUALITY ASSURANCE

完善的測試設備與高精密度測儀器
Complete Testing Equipment &
High Precision Measuring Instrument

測試設備 Testing Equipment



減速機綜合試驗機
HD Universal Test Machine



壽命測試機
Life Test Machine



啟動扭力測試
Torsion Test Machine



重複精度測試機
Repeatability Test Machine



效率測試機
Efficiency Test Machine



傳動誤差測試機
Transmission Error Machine



扭轉剛性測試儀
Rigidity Machine

量測儀器 Measuring Instrument



三次元
Coordinate Measuring Machine



齒輪量測儀
Gear Measuring Instrument



影像光學量測儀
Image Optics Machine

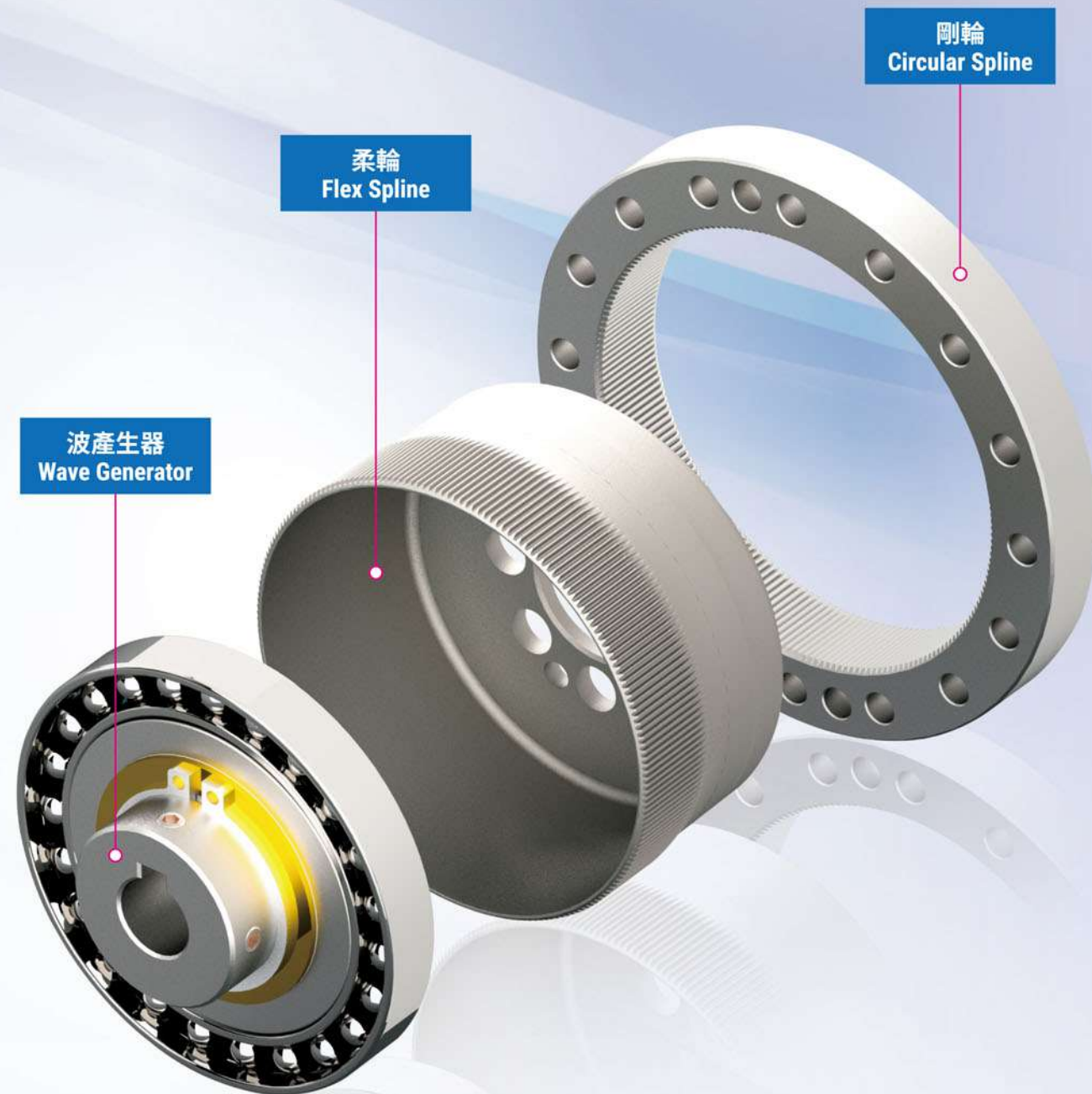


高精度二次元
2D Height Gauge

諧波減速機優點

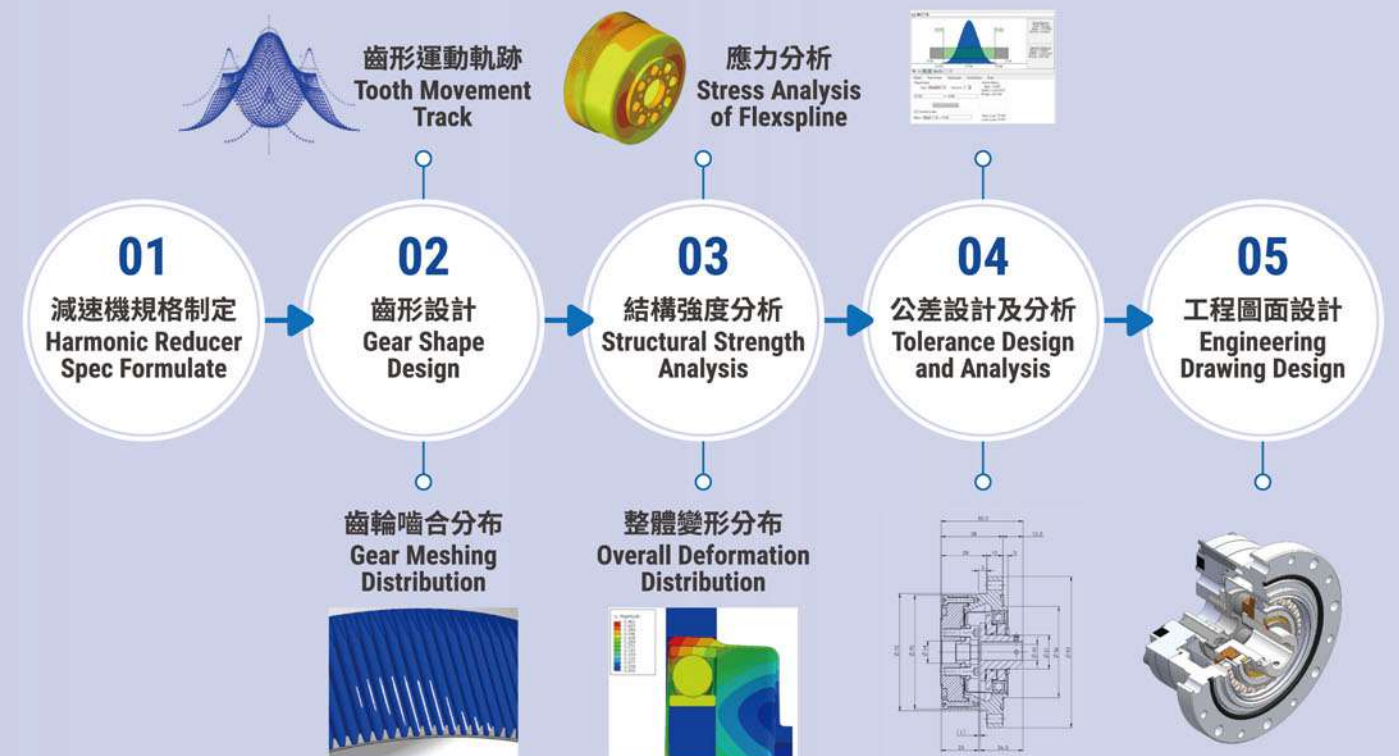
ADVANTAGE OF HARMONIC REDUCER

- 體積小，重量輕。
- 構造簡單，主要由三個組件構成。
- 高減速比，可傳遞大扭力。
- 高傳動精度。
- 高效率、低噪音。
- Compact, light weight.
- Simple structure, with 3 main components.
- High reduction ratio, high torque.
- High transmission accuracy.
- High efficiency, low noise.



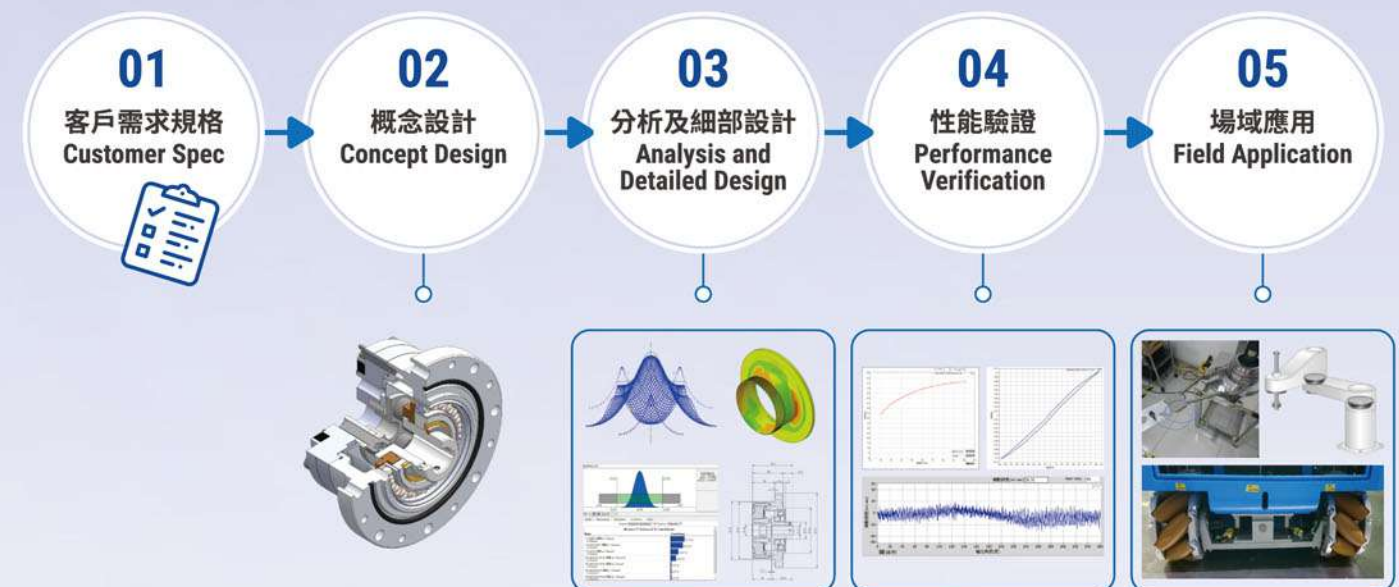
減速機設計開發

Design & Development of Harmonic Reducer



客製化減速機開發能力

Tailor Made Harmonic Reducer Development Abilities



諧波減速機系列 Harmonic Reducer Series

- 杯型諧波減速機
- 帽型諧波減速機
- 杯型超薄型諧波減速機
- Cup Type Series
- Hollow Type Series
- Cup Type Super Flat Series

查看更多規格
See more specifications.



產品介紹

- **減速機柔輪形狀：**
柔輪形狀主要分成標準杯狀、帽型及直筒型三種。
- **減速機速比：**
減速比一般為30、50、80、100、120、160。
- **減速機組成方式：**
諧波減速機的結構主要分為三件式、一體式具有交叉軸承或中空軸、一體式具輸入軸、簡易式具帽型柔杯結合十字滑塊聯軸器、簡易式具帽型柔杯結合中空軸等幾種構型。

PRODUCT DESCRIPTION

- **The Shape of Flexspline:** Flexspline shapes are mainly divided into 3 types: standard cup shape, hollow type and straight tube type.
- **Reduction Ratio:** The reduction ratios of harmonic reducer are generally 30, 50, 80, 100, 120 and 160.
- **Composition of Harmonic Reducer:** The structures of harmonic reducers are mainly divided into: component type, unit type with cross roller bearing or hollow shaft, unit type with input shaft, simple type with hollow type flexible cup combined with oldham coupling and simple type with hollow type flexible cup combined with hollow shaft.

尺寸規格代號 Size Specification Code	14	17	20	25	32
諧波齒輪節圓直徑 Harmonic Gear Pitch Circle Diameter	35.6 mm	43.2 mm	50.8 mm	63.5 mm	81.3 mm

產品編碼原則 PRODUCT CODING



編號 No.	表示 Mean	說明 Description
1	產品類別 Product Category	HD
2	柔輪形式 Flexspline Form	C : 杯型 Cup / H : 帽型 Hollow type / S : 直筒型 Straight
3	柔輪強度 Flexspline Strength	N : Normal / D : Ultra-flat / G : Normal + 高負載齒形 High load tooth profile
4	組合方式 Combination Method	AA : 三件式 Component type / UJ : 輸入軸式 Input shaft type UH : 一體式, 具有交叉軸承或中空軸 Unit type, with cross roller bearing or hollow shaft UF : 中空軸超薄系 Hollow shaft ultra-flat SO : 簡易式, 帽型柔輪結合十字滑塊聯軸器 Simple type, hollow type flexspline combined with oldham coupling SH : 簡易式, 帽型柔輪結合中空軸 Simple type, hollow type flexspline combined with hollow shaft
5	柔輪大小 Flexspline Size	
6	減速比 Speed Reducing Ratio	
7	特殊規格 Special Specification	LW : 輕量化 Lightweight / A1 : 特殊 Special



諧波減速機體積小、重量輕。
Harmonic Reducer:
Compact, light weight.



工業用多關節機器人
Articulated Robot



水平移動機器人 (SCARA)
Selective Compliance Assembly
Robot Arm (SCARA)



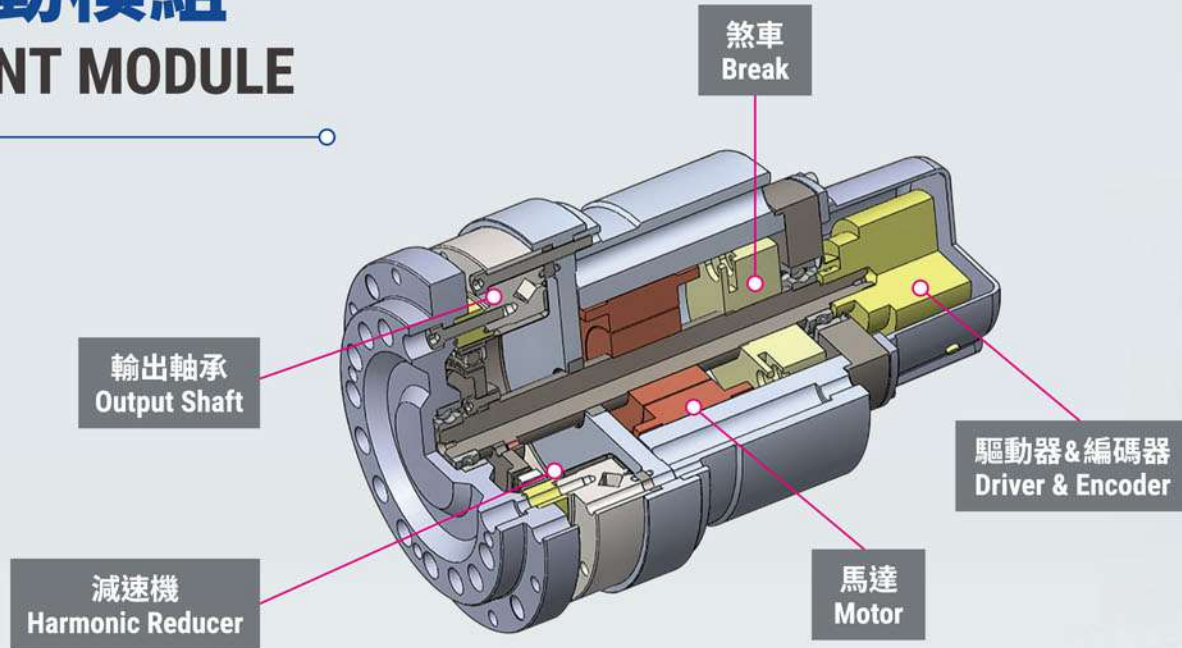
協作機器人
Collaborative Robot

特殊規格 SPECIAL SPECIFICATION

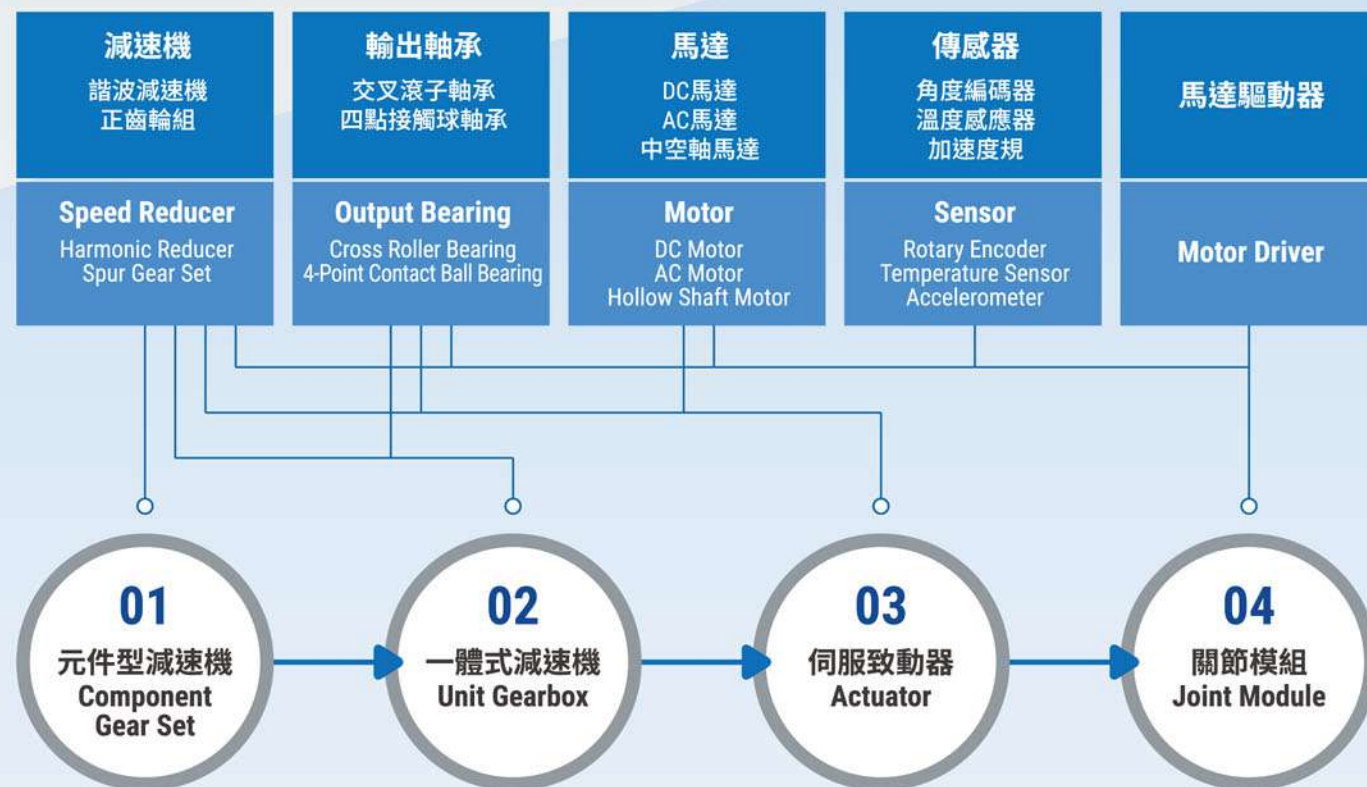
- 結構輕量化版本或可針對客戶需求進行客製化的設計。
- Lightweight structure design or customized design can be made according to customers' requirements.



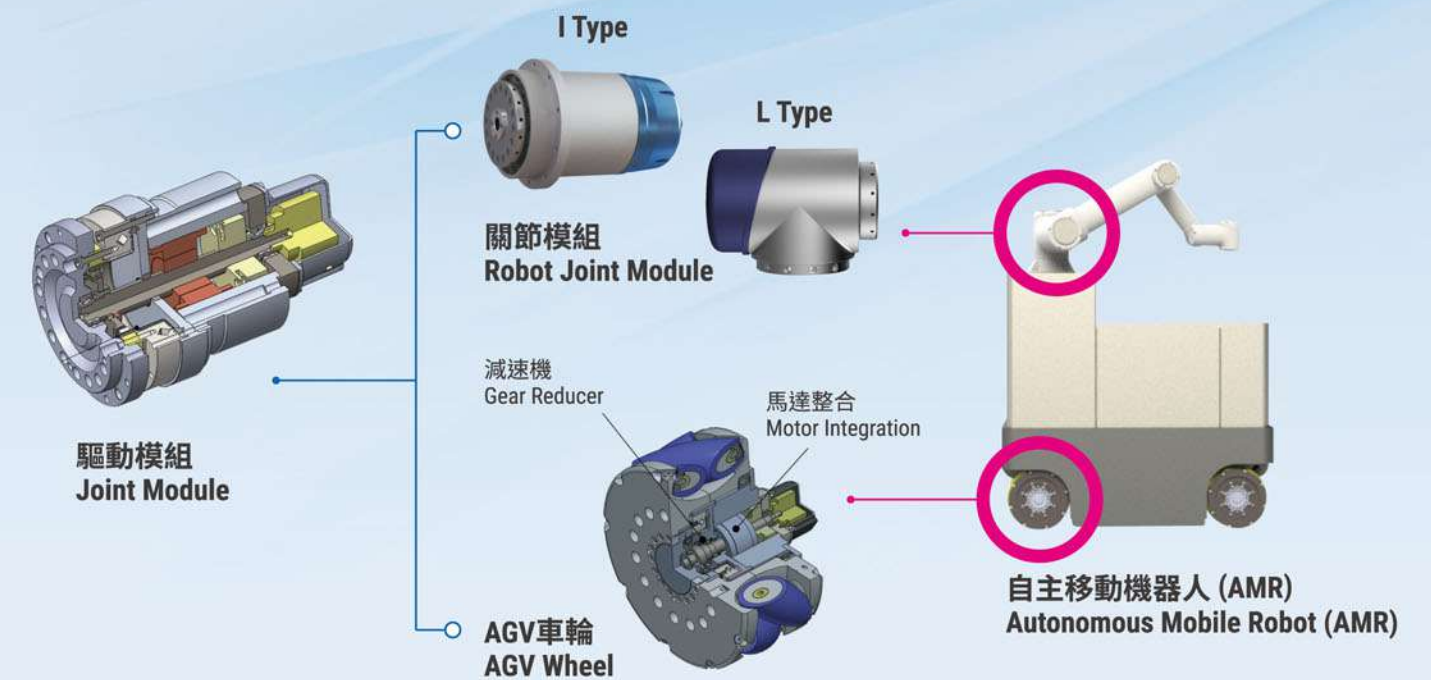
驅動模組 JOINT MODULE



客製化驅動模組開發能力 Tailor Made Joint Module Development Abilities



驅動模組應用在AMR Joint Module Application in AMR



關節模組系列 Robot Joint Module Series

- JM-14
- JM-17
- JM-20
- JM-25
- JM-32

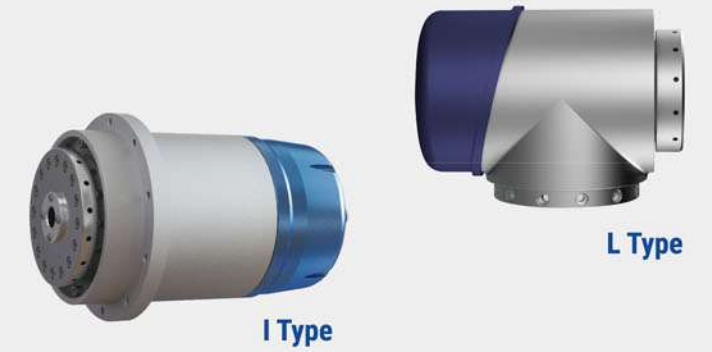


產品規格 PRODUCT SPECIFICATION

系列	型號	減速機		馬達			輸出			精度		基本尺寸與重量			
		尺寸規格	減速比	功率	額定轉速	額定扭矩	額定轉速	額定扭矩	瞬間最大扭矩	編碼器解析度	精確度	外徑	長度	高度	重量
Series	Model No.	Harmonic Reducer		Motor			Output			Accuracy		Dimension & Weight			
		Size	Ratio	Power	Nominal Speed	Nominal Torque	Nominal Speed	Nominal Torque	Max Torque	Encoder Resolution	Accuracy	External Diameter	Length	Height	Weight
單位 Unit		-	-	w	rpm	Nm	rpm	Nm	Nm	Bit	Arc-min	mm	mm	mm	kg
JM-14	JM-1450W150	#14	51	150	5000	0.29	98	8	20	19	1.5	78	126	92	1.5
	JM-14800W150	#14	81	150	5000	0.29	62	13	31	19	1.5	78	126	92	1.5
	JM-14100W150	#14	101	150	5000	0.29	50	16	39	19	1.5	78	126	92	1.5
JM-17	JM-1780W200	#17	81	200	3000	0.64	37	29	71	19	1.5	88	136	101	2.0
	JM-17100W200	#17	101	200	3000	0.64	30	35	88	19	1.5	88	136	101	2.0
	JM-17120W200	#17	121	200	3000	0.64	25	42	110	19	1.5	88	136	101	2.0
JM-20	JM-2080W300	#20	81	300	3000	0.95	37	44	108	19	1.5	98	143	112	3.0
	JM-20100W300	#20	101	300	3000	0.95	30	54	135	19	1.5	98	143	112	3.0
	JM-20120W300	#20	121	300	3000	0.95	25	65	162	19	1.5	98	143	112	3.0
JM-25	JM-2580W450	#25	81	450	3000	1.43	37	67	168	20	1.5	118	166	137	4.5
	JM-25100W450	#25	101	450	3000	1.43	30	87	210	20	1.5	118	166	137	4.5
	JM-25120W450	#25	121	450	3000	1.43	25	101	251	20	1.5	118	166	137	4.5
JM-32	JM-32100W1000	#32	101	1000	3000	3.18	30	196	490	20	1.5	150	180	170	8.0
	JM-32120W1000	#32	121	1000	3000	3.18	25	235	587	20	1.5	150	180	170	8.0
	JM-32160W1000	#32	161	1000	3000	3.18	19	313	782	20	1.5	150	180	170	8.0

應用範例 APPLICATION

- 可組合成各式機械手臂等旋轉機構。
- Can be combined into various types of rotating mechanisms such as robotic arms.



單軸 Single Axis



二軸 Two Axis



六軸 Six Axis

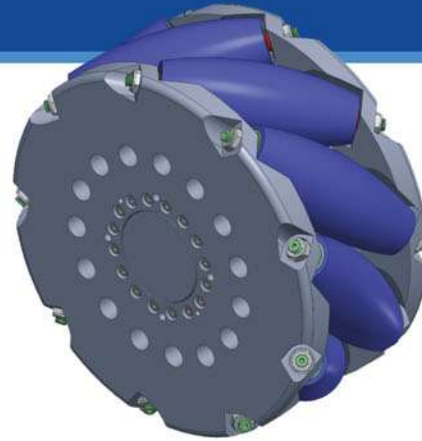


可組任意軸數 Multiple Axis



AGV車輪系列 AGV Wheel Series

- 差速輪型
- 萬向輪型
- AGV Traction Wheel
- AGV Mecanum Wheel



差速輪型產品規格 AGV TRACTION WHEEL SPECIFICATION

型號 Model No.			WD-HN2050W150	WD-HN2550W200	WD-HN32120W450
最大容許載重	Max Load Capacity	kg	140	200	550
最大容許徑向負載	Max Radial Load Per Driving Wheel	N	8,600	12,700	14,600
最大容許傾斜彎矩	Tilting Moment	Nm	172	254	578
最高車速	Max AGV Speed	m/s	0.8	1	0.5
輪徑	Wheel Diameter	mm	160	200	250
額定扭力	Nominal Wheel Torque	Nm	25	39	137
最大瞬間扭力	Max Wheel Torque	Nm	56	98	353
額定輪組轉速	Nominal Wheel Speed	rpm	60	60	25
最大輪組轉速	Max Wheel Speed	rpm	100	100	40
減速比	Gear Ratio	-	50	50	120
馬達功率	Nominal Wheel Power	W	150	200	450
減速機傳動效率	Efficiency	%	75	75	75
壽命	Lifetime	hrs	10,000	10,000	10,000
噪音	Noise	dB	<60	<60	<60

萬向輪型產品規格 AGV MECANUM WHEEL SPECIFICATION

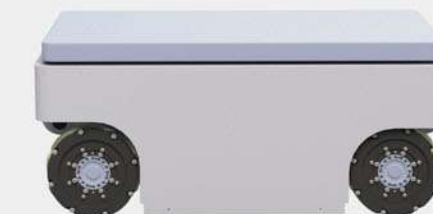
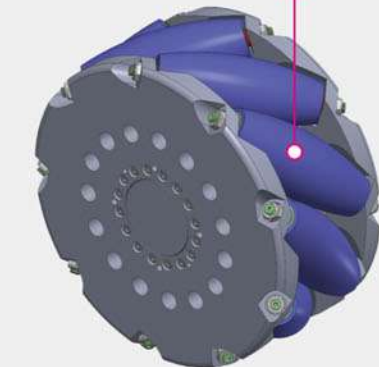
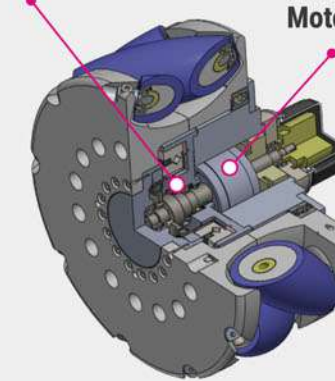
型號 Model No.			WD-HN2050W150MC	WD-HN2550W200MC	WD-HN32120W450MC
最大容許載重	Max Load Capacity	kg	140	200	550
最大容許徑向負載	Max Radial Load Per Driving Wheel	N	8,600	12,700	14,600
最大容許傾斜彎矩	Tilting Moment	Nm	172	254	578
最高車速	Max AGV Speed	m/s	0.8	1	0.7
輪徑	Wheel Diameter	mm	152.4	254	304.8
額定扭力	Nominal Wheel Torque	Nm	25	39	137
最大瞬間扭力	Max Wheel Torque	Nm	56	98	353
額定輪組轉速	Nominal Wheel Speed	rpm	60	60	25
最大輪組轉速	Max Wheel Speed	rpm	100	100	40
減速比	Gear Ratio	-	50	50	120
馬達功率	Nominal Wheel Power	W	150	200	450
減速機傳動效率	Efficiency	%	75	75	75
壽命	Lifetime	hrs	10,000	10,000	10,000
噪音	Noise	dB	<60	<60	<60



減速機
Gear Reducer

馬達整合
Motor Integration

麥克拉姆輪
Mecanum Wheel



減速機
Gear Reducer

馬達整合
Motor Integration

減速機
Gear Reducer

市售馬達
Commercial Motor

