



六星機械工業股份有限公司 Six Star Machinery Industry Co., Ltd. http://www.sixstar.com.tw E-mail: info@sixstar.com.tw

## **Taichung Site**

No.9, Jingke E. Rd., Nantun Dist, Taichung City, Taiwan R.O.C. Tel: +886-4-2350-2268 Fax: +886-4-2350-9268

## **Changhua Site**

No.69, Lane 8, Sec. 1, Changmei Rd., Changhua City, Taiwan R.O.C. Tel: +886-4-7268-268 Fax: +886-4-7255-527

## 台中精密機械園區廠

台灣台中市南屯區精科東路 9 號電話: +886-4-2350-2268 傳真: +886-4-2350-9268

## 彰化廠

台灣彰化市彰美路一段 8 巷 69 號電話: +886-4-7268-268 傳真: +886-4-7255-527





# Overview公司簡介

# Provide high quality customized gear solutions to global customers.

Founded in 1975 by six brothers, Six Star has 35 years of experience and has become one of the top five gear manufacturers in Taiwan. With a focus on precision gears and gearboxes, Six Star offers solutions for a wide range of industries, including machine tools, aerospace, robotics, transportation, and industrial machines such as pumps, compressors, textile machines, printing machines, and more.

Because Six Star places great importance on building trusting, longterm relationships with our customers, we include our clients in the entire design and engineering process. The level of care and dedication shown to each customer has given Six Star a reputation that has led to partnerships with well-known companies such as Boeing, Bosch, and Toshiba.

Customers who need high precision gears can rely on Six Star. Our manufacturing process ensures every detail is well planned and executed, and our precision measuring machines are used to produce products that comply with DIN, AGMA, JIS, and GB quality standards. To produce gears of this level, Six Star uses machines from established companies in America, Europe, and Japan.

In order to meet capacity demands, Six Star has completed the new manufacturing plant and headquarters in Taichung. From 2014 it has been mass production stage and with more and more facilities installed Six Star can offer increased capacity and more advanced manufacturing processes using the latest equipments.

▲ 台中精密機械園區廠 | Taichung Site

# 提供客製化且高品質的 齒輪方案給全球客戶!

六星機械於 1975 年由六兄弟白手起家,目前已擁有 35 年齒輪經驗並且是台灣前五大齒輪廠。由於專注於精密 齒輪及齒輪箱發展,六星目前所生產的齒輪其應用非常 廣泛,包括工具母機、航空、機器手臂、運輸工具以及 泵浦、空壓機、紡織機械、印刷機械…等產業機械。

六星機械非常重視與客戶建立「長期互信」的關係,我 們不只生產也參與客戶產品設計及開發流程 (concurrent engineering)。由於對每位客戶需求及細節的重視, 使得六星建立值得信任的聲譽並且擁有與知名公司如 Boeing、Bosch 及 Toshiba 的合作關係。

「所有需要高精度齒輪及齒輪箱的客戶可以放心交給六 星!」,我們對製程的要求讓每一個環節都被檢視到,並

且採用高精度的齒輪檢驗設備以確保 我們的產品可以符合 DIN、AGMA、 JIS 及大陸 GB 標準。同時為達到客 戶要求,六星引進來自美國,歐洲及 日本最先進的生產設備。

隨著客戶需求的不斷增加, 六星機 械已打造完成在台中精密機械科技 創新園區的新企業總部及工廠。從 2014年起已經正式進入量產階段, 隨著更多設備的持續引進,六星可 提供給客戶更高的產能以及更先進 的齒輪製程。



• 彰化廠 | Changhua Site



Six Star President

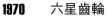












六星機械工業股份有限公司正式在台

羿晨機械股份有限公司(機械部門) 於台灣成立

Allstar Precision Machinery Co., 1988 Ltd. 成立

1989 Summoon Co., Ltd. 泰國分公司成立

六星集團正式成立 (目前集團裡擁有超過7家公司)

1992 Rollform Tools Co., Ltd. 英國分公司 成立

ISO 9002 認證通過 1995

Chin-Fa Automatic Machinery Co., ltd. 中國大陸分公司成立

正式接獲 Boeing 公司訂單 2006

規劃於「台中市精密機械科技創新園

區」建立新總部及工廠

新總部正式進駐並通過 AS9100 2014

Six Star Machinery Industry Co., Ltd. 1975

Yieh Chen Machinery Co., Ltd. (Machinery Department) founded in Taiwan

Six Star Gears Co., Ltd.

founded by Six Brothers in Taiwan

Allstar Precision Machinery Co., Ltd.

Summoon Co., Ltd. (Thailand Branch)

Six Star Group Founded (Currently with more than 7 business units)

Rollform Tools Co., Ltd. (U.K. Branch)

ISO 9002 certification

Chin-Fa Automatic Machinery Co., Itd. (China Branch)

Formally received first Boeing orders

Planning started on new headquarter and factory in Taichung PMTI Park

Completion date of new headquarter and AS9100 certification



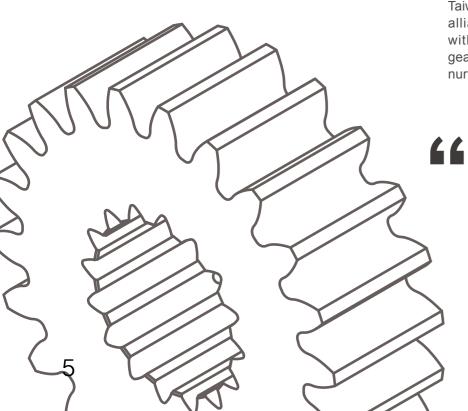
40 年的投入積累出六星的齒輪深度!





六星機械知道許多客戶在尋求符合他們獨特需求 的齒輪。他們需要製造夥伴來提供客製化的設計 及協助解決技術上的困難。六星設計人員與客戶 討論轉速、扭力、所需馬力、負載、減速比及其 他規格,並協助客戶縮短開發時間、達到更實用 的設計及降低整體成本。

為持續研發動力,六星機械逐年增加研發預算並 與國內外研究單位進行合作,透過這些合作聯盟, 六星可以發展高精度、低背隙、高減速比以及非 漸開線齒輪。同時我們也不斷在為台灣齒輪業孕 育人才。



# Tomorrow's requirements are today's challenge.

Six Star knows that many customers are searching for gears that are unique to their product or machine. They need a manufacturing partner that can provide custom design services and overcome technical difficulties to create gears for any application. Six Star's gear engineers work with customers to discuss speed requirements, torque, horsepower, load, mechanical ratings and other specifications with the added benefits of shortening development time, achieving more practical designs, and lowering overall costs.

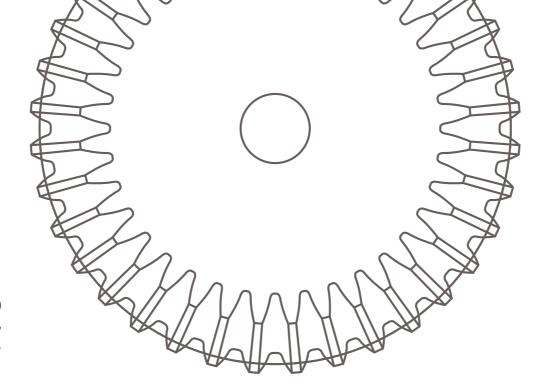
To keep on the forefront of gear innovation, Six Star increases its R&D budget annually and cooperates with top research institutes in Taiwan and around the world. Through these alliances, Six Star develops precise gears with lower backlash, higher reducing ratio gearboxes, and non-involute drives while also nurturing talent for Taiwan's gear industry.

明日的市場需求就是 今日的挑戰 Innovation / 創新

# 精密

# **Precision**

六星機械的生產製程採用最先進的設備,也因此可以生產達到 DIN2、 JISO 以及 AGMA15 的水準。六星已經擁有 ISO9001 的認證及 AS 9100 的航空認證,另外也是美國 AGMA 的會員。由於對每一個細節的重視包含齒形、導程、節距、偏擺及效率以及使用精密的量測設備,六星可以確保我們所生產的齒輪達到國際標準。



Use of the cutting edge machines in conjunction with Six Star's manufacturing process allows the production of gears that meet DIN-2, JIS 0 and AGMA 15 qualification standards.

Six Star has received ISO9001 certification and AS9100 certification for stricter aerospace quality standards, and is also a member of the American Gear Manufacturers Association (AGMA). By paying close attention to every aspect of the gears and gearboxes produced—including profile, lead, pitch, run out, and efficiency—and using measuring facilities, Six Star can ensure that the gears we produce will meet or exceed international standards.

44

在齒輪的世界, 差一點就差很大!

77





In the gear world, a deviation of mere micrometers can mean the difference between performance success and failure.

# AS9100









# **Main Application**

應用領域

# 工具機 Machine Tools

您想提供最精密的工具母機給您的客戶嗎?不管是旋轉台、主軸、刀庫及減速機都需要精密的傳輸系統。自 1975 年以來,六星機械就致力於設計及製造供傳動系統及整機使用的齒輪及齒輪箱。我們的齒輪適用於車床、銑床、CNC 立式加工中心機、CNC 臥式加工中心機、龍門機、鑽床及其他工具機。此外六星所生產供工具機使用的齒輪包含正齒輪、螺旋(斜)齒輪、人字齒、傘齒輪、蝸輪&蝸桿、軸件類及行星式減速機。今天六星已經可以提供「客製化、精密且低噪音」的產品供您使用。

Do you want to offer excellent machine tools to your customers? Precise drive systems are vital parts on rotary tables, spindles, ATCs and gear reducers. Since 1975, Six Star has designed and manufactured gear components and gearboxes for drive systems or for the whole machine. We have produced items to be used in a wide range of products, such as milling machines, turning machines, CNC vertical machine centers, CNC horizontal machine centers, heavy-cutting machine centers, drilling machines, and other precision machine tools. In addition, Six Star produces spur gears, helical gears, double helical gears, bevel gears, worm and worm gears, and shaft and planetary gearboxes. Today, Six Star can provide precise, low-noise custom products within a range of specifications.

# 齒輪及軸件製成範圍 Gear and Shaft Capabilities製造精度 Quality LevelDIN 2 Grade / JIS 0 Grade / AGMA 15 Grade製程範圍 Manufacture Range齒輪 Gear最大外徑: 2000mm Max. Outside Diameter: 2000mm最大模數: 34mm Max. Module: 34mm軸件 Shaft最大外徑: 350mm Max. Outside Diameter: 350mm

最大長度: 1500mm Max. Module: 1500mm





Six Star can provide precise, low-noise custom products within a range of specifications.



今天六星已經可以提供「客製化、 精密且低噪音」的產品供您使用。

77-7

# 產業機械 Industrial Machines

累積超過35年設計及製造產業機械用之齒輪及齒輪箱經驗, 六星機械在這個領域有相當深入且廣泛的經驗。同時我們透 過持續與學術單位合作、購買最先進設備以及客製化的齒輪 設計軟體,六星可以提供「低噪音、高效率且高輸出扭力」 的齒輪及齒輪箱給客戶,並保證精密、安全而可靠。



六星齒輪及齒輪箱產品之主要應用:

・泵浦 ・天車

• 空壓機

• 追日系統

• 紡織機械

・沖床

• 印刷機

• 彎管機及鋸床

・農機

• 醫療設備

Over 35 years of designing and manufacturing gears and gearboxes for industrial machines, has given Six Star thorough knowledge and extensive experience in this field. When this is coupled with our cooperation with research institutes, our state-of-the-art equipment, and our customized computer-aided design software, Six Star is able to provide low-noise, high-efficiency, high torque gears and gearboxes that are guaranteed to be precise, safe, and reliable.

Primary applications of Six Star gears and gearboxes include:

- Pump

- Crane - Solar tracking system

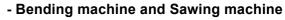
- Compressor

- Press machine

- Textile machine

- Printing machine - Agriculture machine

- Medical Equipment











# 自動化機械手臂 Robotics

驅動系統在機器人的移動及定位上扮演關鍵的角色並且能帶動機器人產業的成長。尤其是 產業用機器人需要藉由齒輪減速機來增加輸出扭力及精準度,然而也是這幾年來突破上的 挑戰。藉由與國際客戶的合作開發,六星機械投入時間及資源來研究機器人用齒輪,希望 透過持續投入開發出更高傳輸扭力及效率的齒輪組。

擺線減速機正是六星機械提供給機器人使用的解決方案之一。擺線減速機結構及空間都比一般齒輪簡單同時可以達到所需要的扭力、效率及空間尺寸。另外它們也具有成本上的優勢。透過合作開發,六星持續在這方面為客戶改善精度及效率。





Drive systems for robot movement and positioning will play a key role in improving robotic performance and driving market growth in this area. Industrial robots in particular require increased torque and precision by gear reducers but will also pose the main challenge in the coming years. Through work in international open innovation projects, Six Star has dedicated time and resources to study gears used in robotics, and we continue to make progress in the development of gear reducers with higher transmission torque and efficiency while keeping dimensions to a minimum.

Cycloid gear reducers are one of the exciting solutions Six Star provides for robotics. The structure of the cycloid gear reducer is simpler and smaller than traditional gears, allowing for the unique torque, efficiency, and size requirements of modern robotics. They also provide a cost advantage over other gears. Through constant research and innovation, Six Star continues to improve precision and efficiency to the benefit of our customers.

# 航空設備 Aerospace

六星機械製造航空用齒輪已超過 20 年。此外從 2006 開始,我們就為波音公司提供合格的齒輪產品,而 2014 年也已經通過 AS9100 的航空認證。六星所生產的航空齒輪包括正齒輪、螺旋齒輪、蝸輪&蝸桿及栓槽軸。這些齒輪可以被用在控制系統、泵浦、行星式減速、著地機構及其他航空應用。

為緊密與我們的航空客戶合作,六星機械計畫在台中新廠增設新的生產線。隨著產能的擴充,我們將可以提供更佳的服務且更好的交期給我們的客戶。 具有「彈性、多樣且批量訂單」生產的能力使得六星成為航空客戶非常理想的合作對象!



Six Star has manufactured gears for aerospace applications for more than 20 years. Since 2006, we have provided gears to Boeing as a qualified vendor for their aircraft, and Six Star get the AS 9100 certification in 2014. Aerospace gears manufactured by Six Star include spur gears, helical gears, worm and worm gears, and splined shafts. These gears can be used in control systems, pumps, planetary gears, landing mechanisms, and other aerospace applications.

In order to increase cooperation with our aerospace partners, Six Star plans to set up production lines in the new manufacturing plant and headquarters currently under construction in Taichung, Taiwan. With this expansion, Six Star will be able to offer even better service and shorter production time to our valued customers. The ability to produce diverse gear types in small batches to fit our aerospace partners' needs makes Six Star the ideal manufacturer for gears in the aerospace industry.

