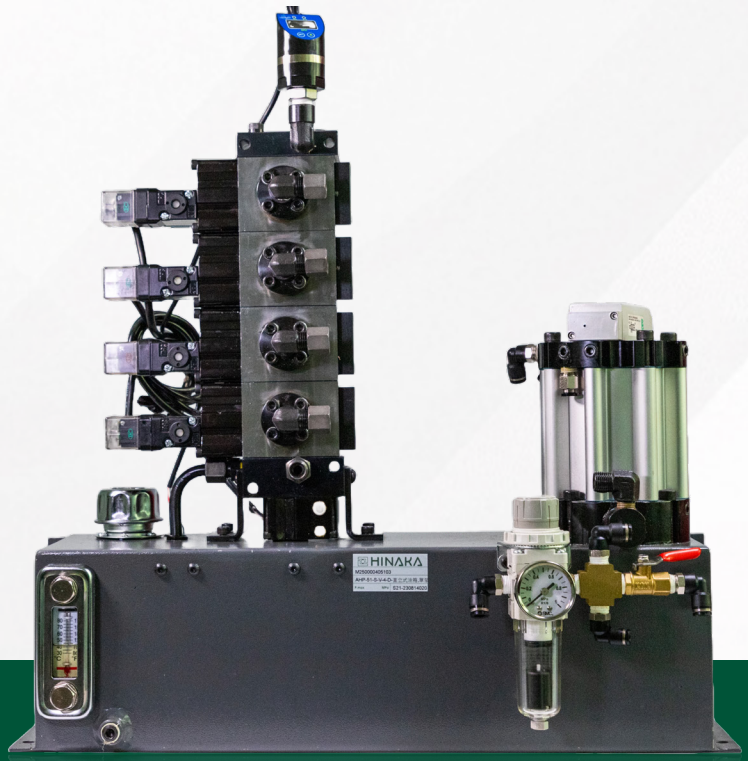
HINAKA

AHP 氣動油壓增壓泵浦單元

AHP Air-driven Hydraulic Power Unit

- 節能 Silent. Energy
- 零洩漏 Efficient. Zero-Leakage
- 高效保壓 High-Pressure Holding with Peak Performance



中日流體傳動股份有限公司 HINAKA FLUID POWER CO., LTD.

Your Trusted Partner in Fluid Power & Transmission Control

2025 GEEA

榮獲台灣流體傳動公會金質獎，您的流體動力節能領航者

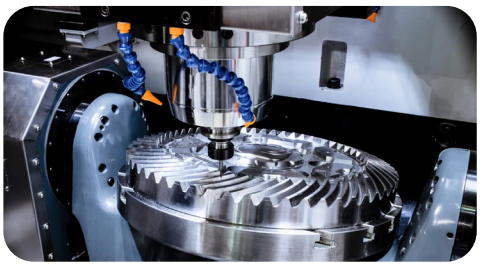
Winner of the Taiwan Fluid Power Association's Gold Award. Your Leader in Fluid Power Energy Efficiency.

Company Profile
公司簡介

HINAKA

中日流體傳動股份有限公司創立於 1988 年，三十餘年來深耕流體傳動領域，作為業界專家，我們持續精進，為全球客戶提供從高品質油壓、氣動元件到完整的流體動力解決方案。HINAKA 立足台灣，憑藉堅實的研發製造實力及遍佈全球的經銷網絡，致力於為各產業提供最優化、最可靠的流體動力與傳動控制技術，協助客戶實現高效營運與永續發展。

Founded in 1988, HINAKA Fluid Power Co., Ltd. has dedicated over three decades to cultivating expertise in the fluid power sector. As an industry specialist, we continuously advance, providing global clients with comprehensive fluid power solutions, from high-quality hydraulic and pneumatic components to complete systems. Based in Taiwan, HINAKA leverages robust R&D and manufacturing capabilities, alongside a widespread global distribution network, to deliver optimal and reliable fluid power and transmission control technologies across various industries, assisting our clients in achieving efficient operations and sustainable development.



AHP 卓越性能：高效、節能、保壓

HINAKA

AHP Excellence: Efficient, Smart, Sustainable Holding

AHP 氣動油壓增壓泵浦單元採用壓縮空氣驅動，將空氣壓力高效轉化為高壓油壓輸出，實現無馬達、無持續能耗的精準液壓控制，為您的應用帶來革新性效益 。

The **AHP Air-driven Hydraulic Power Unit** uses compressed air to efficiently convert air pressure into high-pressure hydraulic output, achieving precise, motor-free hydraulic control with no continuous energy consumption, bringing benefits to your applications.

核心亮點與智能機制 (Core Highlights & Intelligent Mechanisms)

◎ 極致節能．永續運行 Ultimate Energy Saving. Sustainable Operation.

每年節省用電 **4,000-6,000 kWh**（單台估算）。獨特的氣動驅動設計，相較傳統電動馬達液壓站，大幅降低能耗與產熱。

Saves **4,000-6,000 kWh annually** (per unit estimation). Its unique air-driven design significantly reduces energy consumption and heat generation compared to conventional motor-driven hydraulic

◎ 長效零洩漏保壓 (Extended Zero-Leakage Holding)

專利零洩漏油壓方向閥 設計，確保保壓期間無能量損耗，**168 小時內壓力衰減低於 10%**，實現真正「停機保壓」

Our patented zero-leakage hydraulic directional valve ensures no energy loss during holding, with less than **10% pressure drop after 168 hours,** achieving true "off-cycle pressure holding."

◎ 智能自動補壓 (Smart Automatic Compensation)

氣動式油壓增壓幫浦具備智能補壓邏輯，僅在系統壓力下降時透過氣動平衡閥自動補壓，避免不必要的頻繁啟動，延長元件壽命。

The air-driven hydraulic intensifier features intelligent compensation logic, automatically replenishing pressure via a pneumatic balance valve only when the system pressure drops, preventing unnecessary frequent activation and extending component life.

◎ 強勁高壓輸出 (Powerful High-Pressure Output)

最高可達 **350 kg/cm²** 以上 的穩定高壓，適用於嚴苛的重載夾持與壓合需求

Provides stable high-pressure output of **up to 350 kg/cm²+,** suitable for demanding heavy-duty clamping and pressing applications.

◎ 模組化．靜音．低維護 (Modular. Quiet. Low Maintenance.)

模組化設計支援多缸彈性配置，無電機、無冷卻系統，實現低維護需求 與僅有空壓排氣聲的靜音運行，提升工作環境品質。

Modular design supports flexible multi-cylinder configurations. With no motor or cooling system, it offers low maintenance and quiet operation (only air exhaust sound), enhancing the working environment.

AHP 應用典範：高效、精準、節能

HINAKA

AHP Application Excellence: Efficient, Precise, Energy-Saving

CNC 夾治具 / 沖床快速換模
CNC Clamping Fixtures / Quick Die Change Systems

挑戰： 傳統系統油溫高、能耗大、體積受限。

Challenge: Conventional systems suffer from high oil temperatures, high energy consumption, and size limitations.

AHP 解決方案： AHP 無需馬達與冷卻裝置，保壓期間無能耗。實現快速夾持與釋放，安全、快速又節能，確保加工精度與模具穩定。

AHP Solution: AHP eliminates motors and cooling, ensuring zero energy consumption during pressure holding. It enables safe, rapid clamping and release, enhancing precision and mold stability while significantly saving energy.

汽車合金鋼鑄件 / 鍛件夾持
Automotive Alloy Steel Casting/Forging Clamping

挑戰： 重件夾持需高壓穩定輸出及長時間保壓，傳統液壓站耗電高、產熱大。

Challenge: Heavy workpiece clamping demands stable high-pressure output and prolonged holding; however, conventional hydraulic units consume high power and generate excessive heat.

AHP 解決方案： 可選配 64~100 倍增壓比，提供 400~500kg/cm^2 高壓輸出 。專利零洩漏閥確保長時間穩壓不洩壓 ，適用於高壓夾持長效保壓。

AHP Solution: Optional 64-100x booster ratios provide 400-500 kg/cm^2 high-pressure output. Our patented zero-leakage valve ensures stable, long-term, leak-free pressure holding, ideal for high-pressure clamping.

AHP 拓展應用：輕巧、高效、超越傳統

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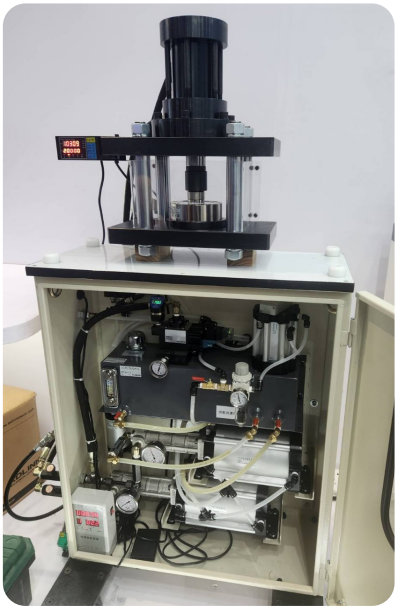
AHP Expanded Applications: Compact, Efficient, Beyond Conventional Systems

精密壓合系統（例如晶圓貼合）
Precision Pressing Systems (e.g., Wafer Bonding)



挑戰： 電動缸在相同高壓下，體積較大且需持續通電易發熱，導致能耗高、佔用空間。

Challenge: Conventional electric cylinders, at similar high pressures, are typically bulkier and require continuous power, leading to heat generation, high energy consumption, and significant space occupation.

AHP 解決方案： 在提供高穩定壓力的同時，無需持續通電維持壓力，大幅降低能耗與產熱。其模組化、無冷卻設計縮小安裝空間，完美替代傳統電動缸於精密壓合應用，提升效率與可靠度。

AHP Solution: AHP delivers highly stable pressure without continuous power consumption, significantly reducing energy use and heat generation, unlike conventional electric cylinders. Its modular, cooling-free design minimizes footprint, making it an ideal replacement for electric cylinders in precise pressing applications, enhancing efficiency and reliability.

移動式 / 空間受限夾持系統
Mobile / Space-Constrained Clamping Systems

挑戰： 傳統液壓站體積大、重量重且發熱，難以整合於移動設備或空間受限的應用。

Challenge: Conventional hydraulic power units are bulky, heavy, and generate heat, making them difficult to integrate into mobile equipment or space-constrained applications.

AHP 解決方案： AHP 無冷卻系統設計，體積輕巧且可彈性安裝於龍門橫樑等移動設備上，提供高壓穩定夾持力。其模組化優勢使其適用於各種空間受限、需輕量化的產業夾持應用。

AHP Solution: AHP's cooling-free and lightweight design allows flexible installation on mobile equipment like gantry beams, providing stable high-pressure clamping force. Its modularity makes it ideal for various industrial clamping applications with space constraints or weight limitations.

AHP 核心競爭力：超越傳統，引領未來

HINAKA

AHP Core Competitiveness: Beyond Conventional, Leading the Future

AHP 氣動油壓增壓泵浦單元專為解決傳統流體傳動方案的痛點而生，以創新技術提供卓越性能。

The AHP Air-driven Hydraulic Power Unit is designed to address the pain points of conventional fluid power solutions, offering superior performance through innovative technology.

與傳統液壓站及電動缸的關鍵差異

Key Differentiators from Conventional Hydraulic Power Units & Electric Cylinders

項目 Feature	HINAKA AHP	傳統液壓站 Conventional Hydraulic Power Unit	電動缸 Electric Cylinder
保壓邏輯 Pressure Holding Logic 差異優勢：真正實現靜止保壓零能耗，大幅節省電力消耗。Advantage: Achieves true zero energy consumption during static pressure holding, significantly reducing power consumption.	零洩漏閥＋自動補壓（無能耗） Zero-leakage valve +automatic compensation (no energy consumption)	馬達須持續運轉、系統需油冷 Motor continuous operation, system requires oil cooling	需持續通電維持推力（易發熱） Requires continuous power for force maintenance (prone to heating)
節能效益 Energy Saving 差異優勢：顯著降低年度電費與碳排放，直接貢獻企業 ESG 目標。Advantage: Substantially lowers annual electricity costs and carbon emissions, directly contributing to corporate ESG goals.	高（每年省 4,000~6,000 kWh High (Saves 4,000-6,000 kWh annually)	低 Low	中（持續通電保壓易耗能） Medium (Continuous power for holding easily consumes energy)
安裝體積 Installation Size 差異優勢：無需大型油箱與冷卻器，大幅節省寶貴廠房空間。Advantage: Eliminates the need for large oil tanks and coolers, significantly saving valuable factory space.	小（模組化） Small (Modular)	大（需大容量油箱、冷卻器 Large (Requires large oil tank, cooler)	小（線性缸＋控制器） Small (Linear cylinder + controller)
維護需求 Maintenance Needs 差異優勢：系統設計簡潔，維護頻率與成本顯著降低。Advantage: Simplified system design leads to significantly reduced maintenance frequency and costs.	低（無電機、無冷卻） Low (No motor, no cooling)	高（需冷卻、換油） High (Requires cooling, oil change)	中（需驅動器與參數維護） Medium (Requires driver and parameter maintenance)
噪音表現 Noise Performance 差異優勢：提供安靜的工作環境，提升操作人員舒適度與安全性。Advantage: Provides a quiet working environment, enhancing operator comfort and safety.	靜音（僅空壓聲） Quiet (Air exhaust sound only)	高噪音（馬達＋泵浦） High noise (Motor + pump)	中低（依馬達運轉狀況） Medium-low (Depends on motor operation)

AHP 精準掌握：彈性多元、靈活配置

HINAKA

AHP Modular: Versatile & Flexible Configuration

型式 Mode	AHP 氣動油壓泵浦（連續式） AHP Air-driven Hydraulic Power Unit					
	0804	0810	0825	0844	0864	10100
增壓比 Booster Ratio	5:1	10:1	25:1	44:1	64:1	100:1
吐出量 Output Capacity (L/min)	12	5	2.5	1.4	0.9	0.6
油壓壓力 Oil Pressure (Max)	25	50	125	220	320	500
使用油品 Operating Oil	CPC-R32, ISO VG32 viscosity grade or equivalent					
最大作動壓力 Max. Operating Pressure	0.2MPa~0.7MPa (kgf/cm2 ~ 7kgf/cm2) 之清潔壓縮空氣 Clean compressed air at 0.2 MPa ~ 0.7 MPa (2~7 kgf/cm^2)					
工作溫度 Working Temperature	-10° C~60° C					

系統特色與控制優勢

System Features & Control Advantages

雙增壓器配置

支援高壓（如 64 倍）與低壓（如 5 倍）氣動增壓器並用，實現靈活的壓力和流量控制。

Dual Intensifier Configuration:

Supports simultaneous use of high-pressure (e.g., 64x) and low-pressure (e.g., 5x) air-driven intensifiers for flexible pressure and flow control.

多缸獨立控制

每缸對應獨立電磁閥，支援常開 / 常閉 (NO/NC) 設定。

Multi-Cylinder Independent Control

Each cylinder is controlled by a dedicated solenoid valve, supporting Normally Open (NO) or Normally Closed (NC) settings.

自動補壓邏輯

系統壓力下降時透過氣動平衡閥，自動啟動增壓器補壓，確保壓力穩定不間斷。

Automatic Pressure Compensation Logic

The system automatically activates the intensifier to replenish pressure via a pneumatic balance valve when pressure drops, ensuring continuous and stable pressure.

中央油壓母管

整合高壓與低壓輸出，可支援多缸同步或分缸動作。

Central Hydraulic Manifold

Integrates high and low pressure outputs, allowing for synchronous or individual cylinder operations.

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聯絡資訊 / Contact Us

中日流體傳動股份有限公司 HINAKA Fluid Power Co., Ltd.

Address: No. 9-38, Neikeng Rd., Daliao Dist., Kaohsiung, Taiwan

Tel: +886-7-788-5090

Email: hinaka@ms28.hinet.net

Website: www.hinakaorg.com

歡迎與我們聯繫，探索更多客製化解決方案與合作機會。

Contact us for customized solutions and partnerships.

HINAKA，持續以創新技術與專業服務，與您攜手邁向高效、永續的未來。
HINAKA: Driving innovation and delivering expert solutions for an efficient and sustainable future, together with you

感謝您的關注與支持 Thank you for your attention and support.