1109

DA1109 高速旋轉接頭
1109 High-Speed Rotary Joint

DA-E

產品外觀 PRODUCT APPEARANCE



- 標準化規格，嚴格品質管控，確保產品穩定可靠
  Standardized Specifications, Strict Quality Control, Ensuring Consistent and Reliable Performance

訂購代號 ORDER NO.

DA1109 - 020 - 212

系列
DA1109

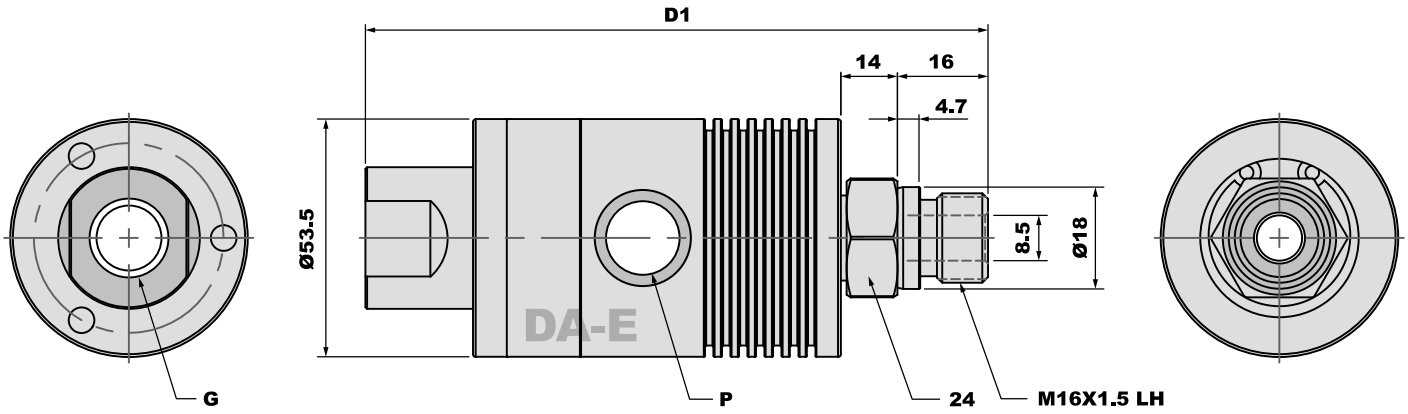
供液接口		
020	G 3/8	側向 Radial
021	G 3/8	軸向 Axial
040	PT 3/8	側向 Radial
044	PT 1/4	軸向 Axial

選型	Ø	壓力
188	Ø18	標準 Standard
212	Ø18	高壓 High Pressure
220	Ø16	高壓 High Pressure

特點 FEATURES

- 單通道設計，適用於冷卻液及微量潤滑 (MQL)
  Single-passage design for coolant and Minimum Quantity Lubrication (MQL).
- 採用 **Pop-Off** 密封技術，無介質壓力時可進行高速乾運轉
  Pop-Off seal technology allows high-speed dry running without media pressure.
- 全流量流道設計，減少切屑及異物於流道內堆積
  Full-flow design minimizes the accumulation of swarf and debris.
- 採用雙角接觸球軸承支撐，適合高速旋轉運行
  Dual angular contact ball bearings provide stable support for high-speed rotation.
- 迷宮式結構搭配大型洩流孔，有助於保護內部軸承
  Labyrinth system with large vents helps protect the internal bearings.
- 採用碳化矽平衡式機械密封，具良好的耐磨性及使用壽命
  Balanced silicon carbide mechanical seals provide excellent wear resistance and long service life.

尺寸圖 DIMENSION



機 型 TYPE	G	D1	P	轉子接口 Rotor Connection
DA1109-020-188	G 3/8	135	G 1/4	M16 X 1.5 LH
DA1109-021-188	G 3/8	129	G 1/4	
DA1109-040-188	PT 3/8	135	PT 1/4	
DA1109-044-212	PT 1/4	129	PT 1/4	

Coolant / MQL

冷卻液最大流量 Coolant Max. Flow	冷卻液最高壓力 Coolant Max. Pressure	MQL 最大流量 MQL Max. Flow	MQL 最高壓力 MQL Max. Pressure	MQL / 冷卻液 最高溫度 MQL / Coolant Max. Temperature
24.3 L/min	Stadard - 69 bar High Pressure - 140 bar	2040 L/min	10 bar	71°C

規格表 SPECIFICATIONS

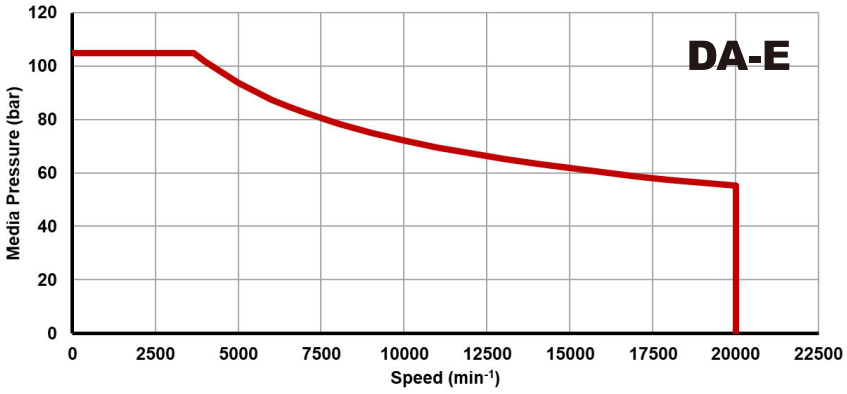
型 號 TYPE	使用介質 Applicable Fluid	材質 Meterial	壓力 Pressure	溫度範圍 Temperature Range	最高轉速 Maximum Speed
DA1109	冷卻液 / MQL Coolant / MQL	鋁 / 不鏽鋼 Aluminum / Stainless Steel	7.0 MPa	-30~80°C / -22 ~ 176°F	8000 r/min

適用範圍 APPLICATIONS

- 適用於工具機主軸中心出水及高速旋轉流體傳輸，特別適合需要無介質壓力乾運轉的加工環境。可應用於 **CNC** 加工中心、銑削、鑽孔及其他透過旋轉主軸輸送冷卻液或微量潤滑的設備

  Suitable for through-spindle coolant and high-speed rotary fluid transfer applications, particularly where dry running without media pressure is required. Ideal for CNC machining centers, milling, drilling, and other machine tool applications requiring coolant or MQL delivery through a rotating spindle.

技術圖表 TECHNICAL CHARTS





注意事項 PRECAUTIONS

- 安裝前請確認旋轉接頭型號、螺紋規格、旋轉方向及使用介質符合設備需求
  Before installation, verify that the model, thread specification, rotation requirements, and operating media are suitable for the equipment.
- 安裝時應保持旋轉接頭與主軸同心，避免偏心、歪斜或外力拉扯，以免造成軸承及密封件異常磨耗
  Ensure proper alignment between the rotary union and spindle. Avoid eccentricity, misalignment, or external loading that may cause premature bearing or seal wear.
- 僅限使用產品規格所允許的冷卻液或微量潤滑 **(MQL)**，不得超過規定的最高壓力、溫度、流量及轉速。不同型號的允許值可能不同，應依各型號規格表使用
  Use only approved coolant or Minimum Quantity Lubrication (MQL) media and do not exceed the specified pressure, temperature, flow, or speed limits. Refer to the specifications of each model.
- **902 / 1109** 採用 **Pop-Off™** 密封設計，在無介質壓力時可進行高速乾運轉；介質加壓後密封面進入工作狀態
  The 902 / 1109 Series incorporates Pop-Off™ seal technology, allowing high-speed dry running when there is no media pressure.
- 啟動設備前應確認各接口及配管連接牢固，並檢查是否有異常洩漏
  Before starting the equipment, ensure that all connections and piping are securely installed and check for abnormal leakage.
- 使用中若發現異常洩漏、振動、噪音或溫升，應立即停機檢查，不可持續運轉有洩漏的旋轉接頭
  Stop operation immediately if abnormal leakage, vibration, noise, or temperature rise occurs.
- 維修或拆卸前，應先停止設備運轉並完全釋放管路內的壓力及殘留介質，確認設備處於安全狀態後再進行作業
  Before maintenance or disassembly, stop the equipment and completely release pressure and residual media from the piping. Ensure the equipment is in a safe condition before servicing.
- 運轉時應確保密封面獲得適當潤滑，避免在無介質潤滑的狀態下長時間運轉
  Ensure adequate lubrication of the sealing surfaces during operation. Avoid prolonged operation without proper media lubrication.

實際使用條件及性能限制依各型號規格為準。安裝及使用前請確認介質、壓力、溫度、流量、轉速及接口規格，避免超出產品允許範圍

Actual operating conditions and performance limits vary by model. Before installation and operation, verify the media, pressure, temperature, flow rate, speed, and connection specifications to ensure operation within the allowable range.