



# VPN-600

## 智慧化真空滲氮爐

綠色 × 安全雙驅動 實現智慧製程永續化  
打造ESG導向的環保製程&智慧防護系統

### 規格一覽表

安裝尺寸	Width	4500 mm
	Length	4500 mm
	Height	4000 mm
加熱區尺寸		Ø 900 x L 1300 mm
工作區尺寸		Ø 600 x L 900 mm
載重限制		600 kg
加熱體功率		鐵鎔鋁加熱器
絕熱系統		外加熱襯套、陶瓷纖維板
最高溫度		650°C(超溫限制700°C)
冷卻		2HP 鼓風機*2
分壓氣體選擇		N <sub>2</sub> / NH <sub>3</sub> / C <sub>2</sub> H <sub>2</sub> / H <sub>2</sub>
備壓氣體選擇		N <sub>2</sub>
均溫性		650°C 九點均溫測試 ±5°C
最終真空度		5 x 10 <sup>-1</sup> Torr
抽氣速率		清潔空爐，精抽 30 min至少達5 x 10 <sup>-1</sup> Torr
腔體漏率		5 x 10 <sup>-8</sup> mbar L / Sec (氦氣測漏)
最大冷卻速率		空爐下650°C冷卻至150°C，150分鐘內
回充分壓設定範圍		微正壓

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## 智慧化功能,讓新手也能像老師傅

- 人機系統直覺式觸控操作使用
- 智慧化資料庫與搜尋系統，讓企業知識得以傳承
- 透過數據庫資料，系統自動運算建議滲氮時間
- 支援 VNC 遠端監控，多機整合於MES系統中心

## 綠色與安全驅動，智慧製程永續化

- Kn系統導入，精準控制氣體避免無效浪費
- 使用變頻抽氣泵與攪拌風扇馬達效率省電
- 尾氣燃燒處理，排放氣體無毒化處理
- 每爐碳排自動統計，精準記錄利於內外稽核

## 在地化售服，專業快速縮短復機時間

- 全程自主研究開發、生產製造
- 模組化零件庫存完整
- 專業材料人才，協助產品製程開發

# 文生真空科技股份有限公司

Vincent Vacuum-Tech Co., LTD

應用知識、技術，提供完整的製程解決方案與設備



VINCENT

Since 2004

## 金屬 射出成型

產品代工、滑塊與夾爪件精密研磨與組裝



## 真空 熱處理

各式真空熱處理、硬鋸、液相燒結

## 真空 熱製程設備

設計開發、生產製造、製程整合



- 地址：桃園市楊梅區民隆路30號
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# VPN-600

## Intelligence Vacuum Nitriding Furnace

**Enviroment & Safe — Making Sustainable Smart Manufacturing  
ESG Eco Process and Intelligent Protection Solutions**

### SPECIFICATIONS

Installation Dimensions	Width	4500 mm
	Length	4500 mm
	Height	4000 mm
Heating Zone		Ø 900 x L 1300 mm
Working Zone		Ø 600 x L 900 mm
Load Capacity		600 kg (Including : fixtures / platters)
Heater		Iron-chromium-aluminum alloy
Insulation System		External Heating Bushing & Ceramic fiberboard
Maximum Temperature		650°C(Over temperature limit : 700°C)
Cooling System		2HP Blower * 2
Partial Pressure System		N <sub>2</sub> / NH <sub>3</sub> / C <sub>2</sub> H <sub>2</sub> / H <sub>2</sub>
Backfill Gas		N <sub>2</sub>
Temperature Uniformity		Temperature uniformity is within ± 5°C by taking 9-point with PTCR at 650°C
Ultimate Vacuum Level		5 × 10 <sup>-1</sup> Torr (The empty furnace is performed at normal temperature during dry run cycles)
Pump Rate		Pump down to 5 × 10 <sup>-1</sup> Torr (During dry run cycles)
Chamber Leak Rate		5 × 10 <sup>-8</sup> mbar x L / Sec (By helium leak detective)
Maximum Cooling rate		150 min (Cool down from 650°C to 150°C during dry runs)
Setting Range of Partial Pressure		Slightly Positive Pressure

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## Intelligence Vacuum Nitriding Furnace

### Intelligent with convenient operation

- User-friendly touchscreen interface with intuitive HMI design.
- Smart database and search functions ensure the sustainable development of the enterprise.
- The system automatically calculate the nitriding time based on data analysis
- Remote monitoring via VNC & MES integration for centralized control.

### ECO Equipment & Sustainable Future

- With the implementation of the Kn system, the equipment can accurately control gas usage.
- Energy-saving design with frequency-controlled vacuum pumps and efficient fan motors.
- Non-toxic treatment of exhaust gases.
- Automatic CO<sub>2</sub> tracking per furnace — full transparency for sustainability reports.

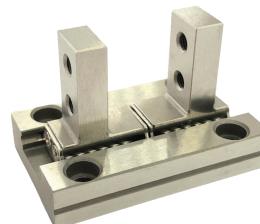
### Reliable Support, Anytime and Anywhere

- Localized service teams ensure fast response and minimal downtime.
- Professional materials experts to support your product development.
- Modular component inventory for fast maintenance and upgrades.

Application of knowledge and technology to provide complete process solutions and equipment.

## Metal Injection Molding (MIM)

OEM services, including precision grinding and assembly of sliders and grippers.



## Vacuum Heatreatment Process

Specialized vacuum heat treatment, brazing, and liquid phase sintering

## Vacuum Thermal Process Equipments Professor

Design & development, manufacturing, and process integration



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