

政鈺機械股份有限公司
GMA MACHINERY ENTERPRISE CO., LTD.

AIR KNIFE VACUUM BOX

風刀/風箱系列



風刀 Air Knife

- 可提供穩定氣流，以風切型式，將滾輪與成品間產生的熱氣壓縮排出
 - 本體採用鋁合金製造，方便清潔
 - 內建特殊設計導流片，出風量均勻，氣流穩定
 - 風嘴可調整，控制風口狹縫的開口尺寸
 - 適用材質：一般泛用塑膠
 - 適用產品：各項塑料板材類之除水與乾燥及薄膜產品的熱定效果
-
- Stability airflow to discharge the air that generated by the casting roller during high speed production.
 - Made of aluminum alloy, easy to clean and corrosion resistant.
 - Built-stopper plate ensure uniform air flow.
 - Adjustable gap for air flow.
 - Applicable materials: general plastic.
 - Applicable products: water removal and drying of various plastic sheets and heat setting effect of film products.

標準型風刀
Standar



無接口槽縫吹出的空氣，風切壓力均勻分佈(風速偏差精度 $\pm 3\%$)。

The air blown out from the slot without the interface, the wind cutting pressure is evenly distributed (wind speed deviation accuracy $\pm 3\%$).

斜嘴式風刀
Standar



無接口槽縫吹出的空氣，風切壓力均勻分佈(風速偏差精度 $\pm 3\%$)並因有理想的角度，減少周圍空氣捲入得以延長吹出空氣的到達距離。

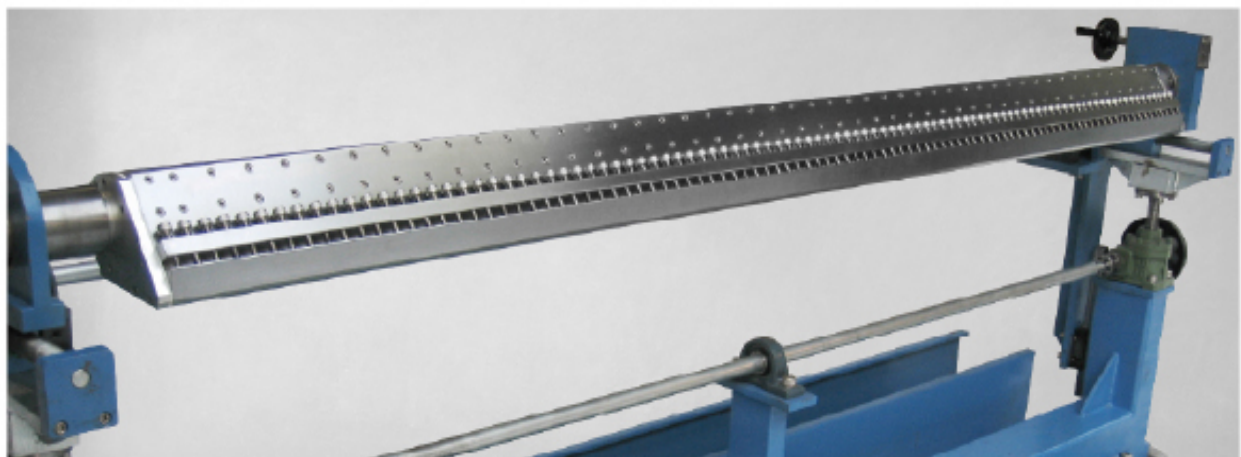
The air blown out without the interface slot, the air cutting pressure is evenly distributed (wind speed deviation accuracy $\pm 3\%$) and due to the ideal angle, reducing the surrounding air entrainment can prolong the reach of the blown air.

精密型風刀
Presision



特殊風道設計，風嘴可精密調整至0，風切壓力均勻分佈(風速偏差精度 $\pm 3\%$)並因有理想的角度，減少周圍空氣捲入得以延長吹出空氣的到達距離。

Special air duct design, the air nozzle can be precisely adjusted to 0, the wind cutting pressure is evenly distributed (wind speed deviation accuracy $\pm 3\%$) and due to the ideal angle, the surrounding air is reduced to extend the reach of the blown air.

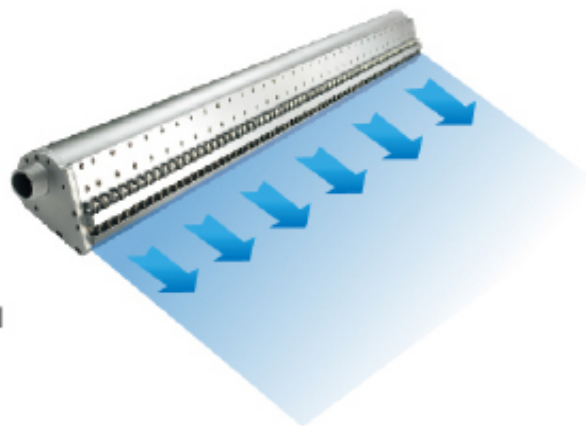


模擬分析

Simulation Analysis

政鈺通過模擬分析，對風刀結構的流場進行計算和校核，在不同入風方向皆可達到均勻度差異小於 $\pm 3\%$ 的模擬結果，根據實際經驗提供適合客戶的方案！

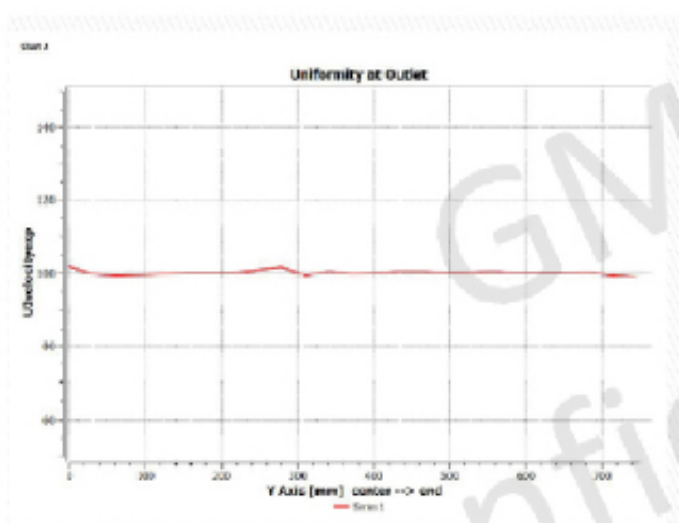
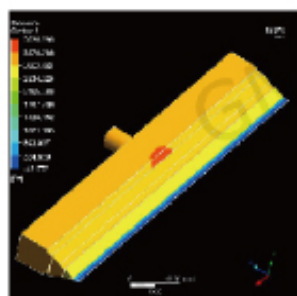
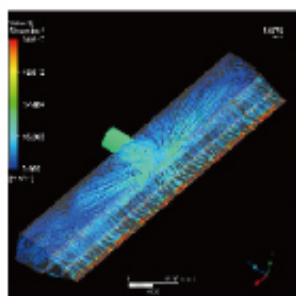
Through simulation analysis, the political plaque calculates and checks the flow field of the air knife structure, and can achieve simulation results with uniformity difference less than $\pm 3\%$ in different directions of entering the wind, and provide solutions suitable for customers according to actual experience!



模擬條件 Simulation conditions

風刀寬 width :1500mm

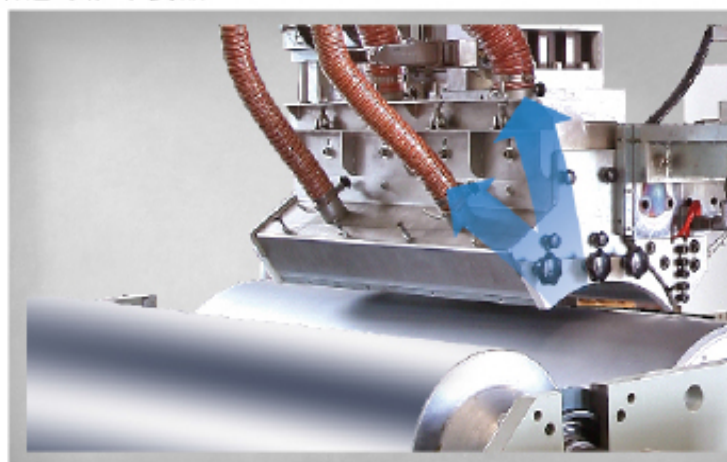
入口風量 Inlet air volume : 5.2m³/min



產品類型 Type	標準型風刀 Standard	鋁合金風刀 Standard	精密型風刀 Precision
寬幅範圍 Width range	300~2650mm	300~2650mm	300~2650mm
開口範圍 Lip opening	0.5~1mm	0.5~1mm	0~2mm
出口型式 outlet type	直吹式 vertical	45度 45 degree	直吹式 vertical
風量調整方式 Air flow control	鼓風機 blower	鼓風機 blower	螺栓調整開口 Adjusting bolts
建議鼓風機規格 Blower model	3HP for 300~1000mm 5HP for 1001~2000mm 7.5HP for 2001~3000mm	3HP for 300~1000mm 5HP for 1001~2000mm 7.5HP for 2001~3000mm	3HP for 300~1000mm 5HP for 1001~2000mm 7.5HP for 2001~3000mm
建議鼓風機型式 Proposed blowing type	環型式 Ring blower	環型式 Ring blower	環型式 Ring blower
其他 Other information	應用於薄膜(流涎)及乾燥, 可客制化設計制作 Application on film extrusion line, provide custom-made		

風箱 Vacuum Box

- 於輪面作抽氣造成腔內負壓力，使塑料與輪面可以緊密貼合不會因高速生產下與滾輪間產生包風現象
- 薄膜高速生產狀態，膜與輪之間不易有空氣產生，故不易產生不良品
- 提供一個穩定的生產環境與條件，降低氣泡或荷葉邊等的不良品
- 適用材質：一般泛用塑膠
- 適用產品：塑料薄膜類產品
- Suck air out on the casting roller, so that the plastic and the roller can be tightly fitted without air entrapment.
- The film is produced at a high speed, and there is no air generated between the film and the wheel, so it is not easy to produce defective products.
- Provide stability of film forming area to reduce air generation and strengthen film edges.
- Applicable material: general plastic
- Applicable products: plastic film products



寬幅範圍 Width range	500~2500mm
對應滾輪直徑 Roll diameter	Ø350~ Ø1200
出風口調整方式 Air suction	閘門調整 By blower
風量調整方式 Air flow control	閘門調整 變頻器 Blower and adjusting valve
建議鼓風機規格 Proposed blowing spec.	500 ↓ 1HP 1000 ↓ 3HP 1001~2000 5HP 2001~3000 7.5HP
建議鼓風機型式 Proposed blowing type	環型式 Ring blower
其他 Other information	應用於薄膜(流涎)生產線上, 可客制化設計制作 Application on film extrusion line, provide custom-made



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