

SAFETY  
安全HIGH EFFICIENCY  
高效DURABLE  
耐用GREEN  
環保PRECISE CONTROL  
精準控制AUTOMATION  
自動化

醫院

煤氣抽濕機

## 醫院與保健設施

醫院一向重視室內空氣質素，避免因通風不善所致的污染物於環境積聚。由於微生物一般經空氣中的水分傳播，因此溫濕度過高將有助細菌、霉菌及病毒繁殖傳播，從而令病人、醫務人員及訪客增加受感染的風險。

## 香港浸信會醫院安裝全港第一部用於醫院病房的綜合抽濕鮮風櫃



### 精準控制

22°C  
設定溫度60%  
設定濕度

450 平方米



1 台 綜合抽濕鮮風櫃

## 抑制細菌滋生及預防冷凝水現象

控制空氣濕度為醫院運作中非常重要的一環，因濕度過高不僅削弱病人的免疫力，還會讓重要的醫療設備受損。當空氣中的水分在設施表面上凝結水珠，便有機會腐蝕設施並減低儀器的精確度。為了將醫療的風險減至最低，病房中的濕度要維持在最佳的範圍內。

香港浸信會醫院（簡稱「浸會醫院」）成立於1963年，是一所基督教全科私家醫院，擁有逾2,200名員工及設有860多張病床。浸會醫院致力實踐「全人醫治、榮神益人」的理念，尤其注重病人身、心、社、靈的需要。浸會醫院多年來積極擴展服務範圍及引入新科技，並於最近與煤氣公司合作在天台安裝綜合抽濕鮮風櫃，以加強七樓護士站及病房區域的濕度控制。



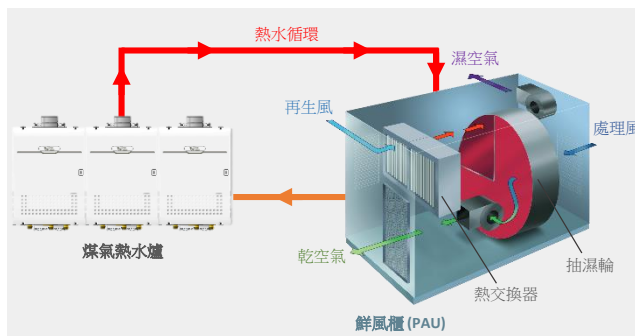
濕度過高會影響醫療設備的精確度

煤氣  
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## 運用抽濕輪以控制濕度

綜合抽濕鮮風櫃將抽濕輪放入鮮風櫃內，並以煤氣熱水爐所產生的熱水取代傳統用燃氣直接烘乾抽濕輪以還原其抽濕能力。此設計不但可避免廢氣與處理風混合而造成污染的可能性；同時因不用安裝獨立抽濕機及連接相關風喉而大大節省機器投資成本及天台上的安裝空間。



■ 綜合抽濕鮮風櫃的原理圖

## 改善養病環境並節省開支

綜合抽濕鮮風櫃令病房不再需要依賴製冷系統來調節濕度，大大減低鮮風櫃負荷，為醫院節省了空調能源開支。

此外，病人亦不會因病房過冷而需要加厚保暖衣物，減少了對額外衫被的需求，進一步為醫院節省洗衣乾衣方面的運行成本。而室內保持濕度適中的空氣流通不僅可提高病房的舒適度，同時有助抑制細菌滋生，確保病人在衛生舒適的環境下接受治療。



■ 醫院病房做到良好濕度控制





SAFETY  
安全



HIGH EFFICIENCY  
高效



DURABLE  
耐用



GREEN  
環保



PRECISE CONTROL  
精準控制



AUTOMATION  
自動化

Hospitals

Dehumidification

## Hospitals and Healthcare Facilities

Hospitals prioritise indoor environmental conditions as inadequately ventilated air can promote the build-up of chemical and biological contaminants. As microbes travel through water vapour in the air, inappropriate temperature and humidity levels in wards can trigger bacterial, fungal and viral infections and pose greater risks to patients, staff and visitors.

## Hong Kong Baptist Hospital Installed the 1<sup>st</sup> Integrated Desiccant System for Wards in Hong Kong Hospitals



### Precise Control



22 °C

Design  
Temperature



60%

Design  
Humidity

### Floor Area



450 m<sup>2</sup>

### Equipment



1 Integrated PAU with  
Desiccant Wheel

## Microbe and Condensation Prevention

Humidity control is extremely important for hospitals, as high humidity not only weakens patients' health, but also causes critical medical equipment to deteriorate. High humidity causes moisture to condense on surfaces, resulting in corrosion or micro-corrosion of equipment, which may lead to inaccurate readings in sensitive devices.

Founded in 1963, Hong Kong Baptist Hospital has more than 2,200 staff and 860 beds. The hospital places great emphasis on holistic care in which patients' physical and emotional well-being are both cared for. As part of its ongoing developments in services and technology, the hospital collaborated with Towngas to install an integrated desiccant system on its rooftop to enhance humidity control at the nurse station and ward area on the seventh floor of the building.

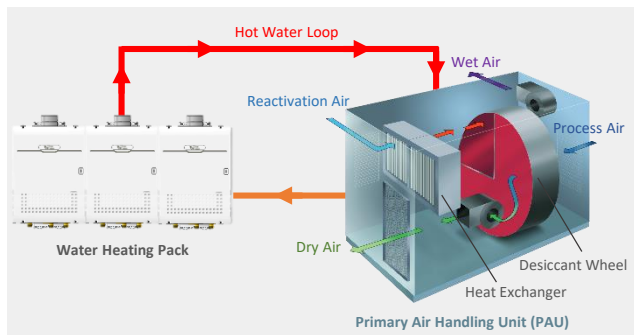


High humidity aggravates critical equipment deterioration



## Desiccant Dehumidification for Humidity Control

By integrating the desiccant wheel into the primary air-handling unit (PAU) and applying a water heating pack to the regeneration process, the desiccant dehumidification system prevents cross-contamination between flue gas exhaust and dry processed air. The compact design also eliminates the need for a stand-alone dehumidifier and the associated air-ducting, thereby significantly economising installation space and equipment investment.



■ Schematic diagram of integrated PAU with desiccant wheel

## Improve Patient Comfort while Reducing Costs

With desiccant dehumidification now available, the ward no longer relies on the chiller system for humidity control. Thus, the burden on the PAU and the cost of running the heating, ventilation and air-conditioning system are greatly reduced.

Meanwhile, maintaining high-quality indoor air not only improves the comfort level of the ward, but also suppresses microbe growth, thus providing a comfortable and hygienic environment for patients. Effective humidity control also avoids over-cooling in wards and reduces the demand for clothes and linen, which further brings about savings in laundry and other operational costs for the hospital.



■ Humidity control is improved in wards