

織物導濕方向性測試儀

Directional Water Transport Tester (DWTT) for Fabrics

量度紡織面料中水分吸收及傳輸的方法和裝置

Method and instrument for measuring water absorption and transport properties of fabrics

專利編號: 201610180551X (中國)

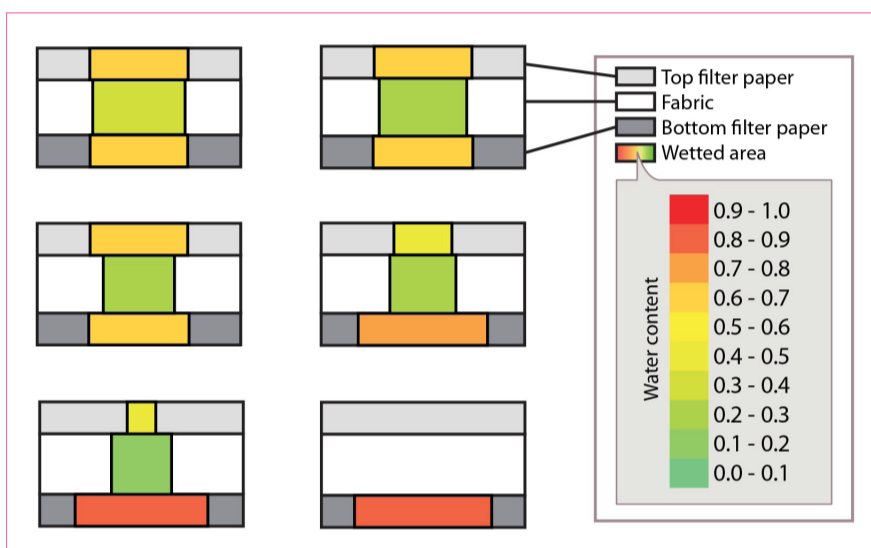
織物導濕方向性測試儀是一個敏感，準確又可靠的儀器，用以量度織物吸濕和導濕性能。根據織物吸收水份的重量和圖像分析，追蹤水份擴散的面積和方向，並能預測殘留在皮膚表面的水量。測試儀可以連續不斷釋放水份，亦可調節水量，以模擬不同的出汗率。此嶄新的測試快速，儀器成本低，業界能輕易分析各種布料的特性，方便產品開發人員挑選合適的布料，開發具有不同功能的服裝。

特色與優點

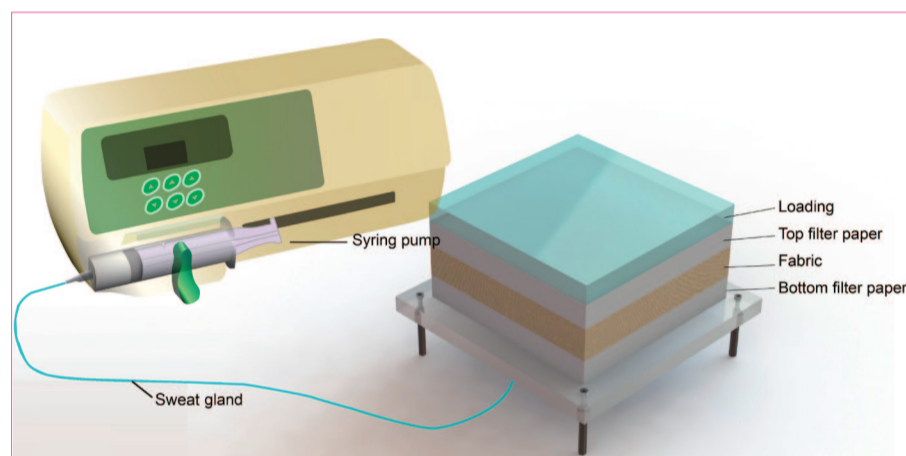
- 可調節釋出的水量，模擬不同的出汗率
- 追蹤水份擴散的面積和方向
- 預測出汗時殘留在皮膚表面的水量
- 能測試不同物料
- 模擬織物實際穿著情況進行測試

應用

- 測試各物料在不同出汗率下的吸濕和導濕性能
- 開發運動服裝，醫療用品和衛生用品



其中6個實驗樣本的濕水面積和濕潤度(可視化影像)
Visualized wetted area and water content of 6 tested fabrics and filter papers



織物導濕方向性測試儀的設計圖
Experimental set up of the Directional Water Transport Tester

Patent No. 201610180551X (China)

Special Features and Advantages

- Capable of simulating the sweating condition under different metabolic levels
- Capable of tracing the direction of water transport
- Possible to differentiate the amount of water left on skin when sweated
- Versatile in terms of the types of fabrics could be tested
- Possible to investigate wicking within a clothing ensemble

Applications

- Measurement of water absorption and transport properties of fabrics under different sweating levels
- Product development of sportswear, medical textiles and hygiene products

This Directional Water Transport Tester(DWTT) is a sensitive, accurate and reliable instrument for fabrics' water absorption and transport measurements. DWTT's measurements are based on gravimetric and image analysis of water absorbed by a fabric. Then it can trace the direction of water spread and measure the amount of water transported on the skin. The DWTT can release water continuously and controllably to simulate different sweating levels. The DWTT measurement is fast and cost-effective. With this instrument, textile industry can characterize fabrics efficiently. It helps product developers to select suitable fabrics for different garments.

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