

織物結構分析和外觀評估系統-FabricEye™ Fabric Structure Analysis and Appearance Evaluation System-FabricEye™

紡織品結構分析和外觀評估的智能數碼化解決方案

Intelligent and digital solution for the structure analysis and appearance evaluation of textile products

專利申請編號及國家：61/129.964(美國), 61/129.965(美國), 61/129.966(美國)

特色與優點

- 先進客觀的質量評估與測量解決方案
- 降低勞工成本和測試時間
- 易於使用和安裝
- 高成本效益
- 可靠耐用
- 高生產力
- 支持國際ASTM和其它測試標準

應用

FabricEye™可應用範圍廣泛，從工廠到洗房，從測試實驗室到海關。它能夠提供用於紡織品質量評估和分析的數字化測試手段，測試範圍包括：織物組織類型，經緯紗線密度，紗線的細度，顏色分析，尺寸穩定性，扭曲度，起毛度。

獎項

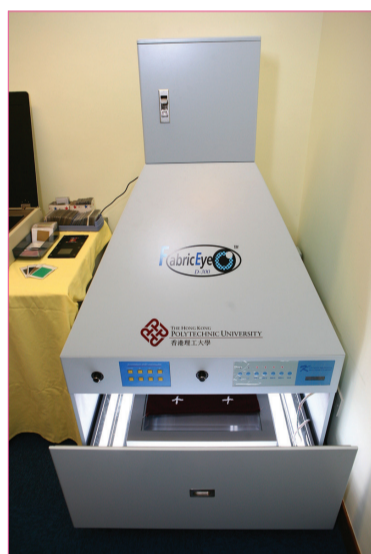
- 第14屆中國國家發明展覽會 - 金獎 (2003年10月)
- 第6屆國際發明展覽會 - 金獎(2008年10月)

人工檢查布料在紡織行業已普遍採用超過半世紀，但是這種方法費時、主觀和不準確。FabricEye™研製成功有利於提高行業標準的制定，是採購優質布料的一種經濟和有效的方法，從而將更好的產品帶給消費者。FabricEye™能夠以一個可靠而具成本效益的方法捕捉織物表面的形象及評估級別，希望最終將取代傳統的人工檢查。

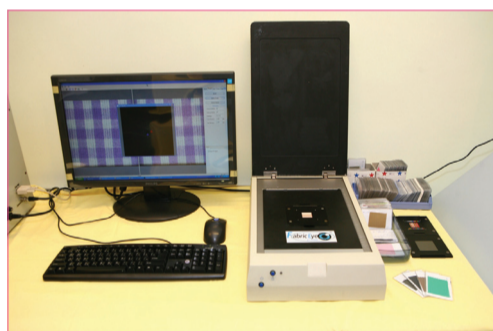
測試原理的特色

- 先進的數字成像和人工智能技術
- 世界上首次開發雙面掃描技術來識別織物組織
- 先進的適用與軟柔性材料三維表面輪廓成像技術
- 先進基於數字成像設備的顏色分析技術

計劃的經費由創新及科技委員會和香港紡織及成衣研發中心贊助，目標是開發一套織物結構分析和外觀評估體系的雛形以評估和控制質量。這套系統將提升香港紡織製衣業的競爭優勢，在國際紡織品市場支持香港的工業，提高其產品的質量控制和創新產品設計等。



FabricEye™ D-3000, 針織物外觀數字評估儀
FabricEye™ D-3000, Digital system for the appearance evaluation of knitted fabrics



FabricEye™ D-2000, 機織物結構數字分析儀
FabricEye™ D-2000, Digital system for the structure analysis of woven fabrics

Manual inspection has been commonly adopted in the textile industry for more than half a century, yet it is time-consuming, subjective and far from accurate. FabricEye™ can capture the surface image and grade a fabric in a reliable and cost effective way which is hoped to replace traditional manual inspection eventually.

Highlight of Testing Principles

- Advanced digital imaging and artificial intelligence technology
- World-first dual-side scanning technology for weave pattern analysis
- Advanced 3D surface profiling technology for soft-flexible materials
- Advanced color evaluation technology based on digital imaging device

Funded by Innovation and Technology Commission (ITC) and coordinated by The Hong Kong Research Institute of Textiles and Apparel (HKRITA), the main goal of this project is to develop one set of Fabric Structure Analysis and Appearance Evaluation System for the purpose of quality evaluation and control.

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FabricEye™ D-1000, 紡織品表面形態數字分析儀
FabricEye™ D-1000, Digital surface profiler of textile products

Patent Application No: 61/129.964(USA), 61/129.965(USA), 61/129.966(USA)

Special Features and Advantages

- Advanced objective solution for quality assessment and measurement
- Reduces labour cost and testing time
- Easy to use and install
- Cost effective
- Robust and reliable
- High productivity
- Supports international American Society for Testing and Material (ASTM) and other standards

Applications

FabricEye™ can be applied to a wide range of settings, from factories to laundries, testing laboratories and customs. It can be used for the quality evaluation and analysis of textile products in terms of density, weave pattern, yarn thickness, colour, dimensional change, spirality and hairiness.

Awards

- Gold Award - 14th National Inventions Exhibition of China (October 2003)
- Gold Award - The 6th International Exhibition of Inventions (October 2008)

香港紡織及成衣研發中心研發項目
A research project of HKRITA