

紡織能源科技創新前瞻計畫

執行單位

紡織所

計畫主持人

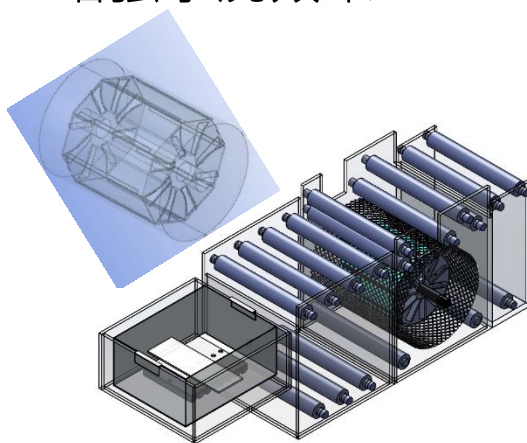
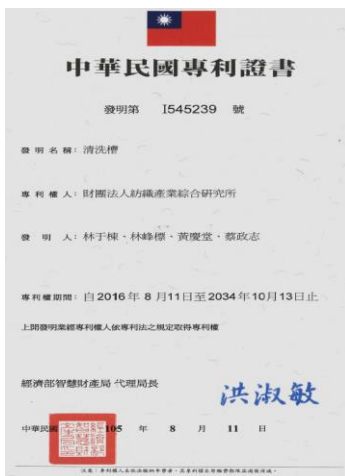
蔡政志

- 紡織業水洗作業每年耗水量超過九千多萬噸，耗電量超過2.5億度，本計畫主要的標的是大量用水的水洗作業如何增益能源效益的研究，透過「離心噴流強化水洗節能模組」探究圓周運動取代傳統往復式水洗運動的可行性，作為未來產業改善的參考依據。

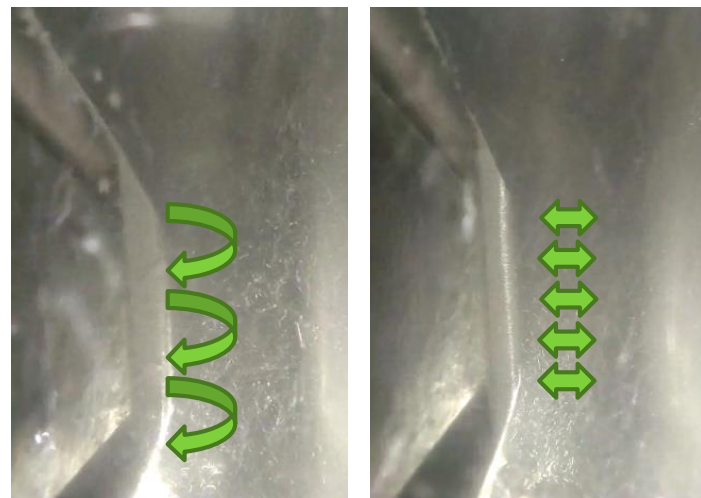
專利名稱：清洗槽

專利號：I545239

專利特徵：藉由圓周運動與自動產生噴流與震動效應，增強水洗效果。

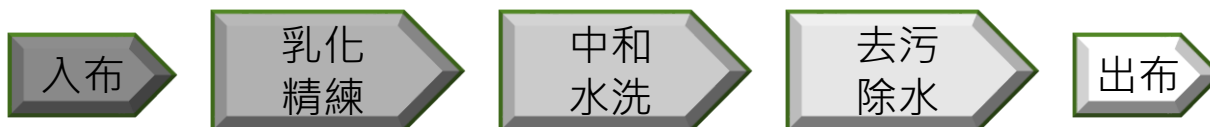


【專利證書與模擬機構】



【噴流與震頻研究】

- 紡織業中常使用大量熱水處理，本計畫旨在研究如何讓此能源可以被最有效運用，所以研究兩項關鍵技術，包括唧水渦流引水技術、噴流與震頻技術，結合改良的超音波清洗技術，研究噴流與震頻影響水洗處理的效果，處理效果需要維持原織物強度達90.688%，梭織物退漿率聚酯布5.82%，尼龍布6.22%，針織物退漿率聚酯布1.56%，尼龍布2.11%，本研究蒸氣用量估算約為1560kg/hr（具有22%的節能潛力）。



【離心噴流強化水洗節能模組】

Textile Energy Technology Innovation & Forward-looking Program

Execution Unit

Taiwan Textile Research Institute

Project Director

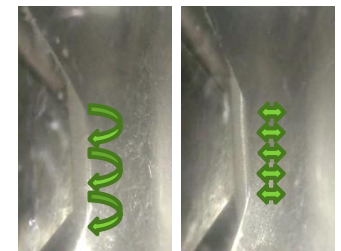
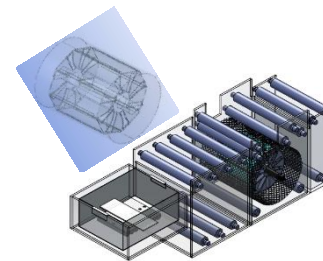
Tsai, Cheng-chih

- Textile industry consumed water exceeds 90 million tons and power more than 250 million degrees per year in the washing operation. This program studied how to increase the efficiency of energy in a large amount of washing operation. Through "centrifugal jet enhanced washing energy-saving module" to explore the feasibility of the circular motion to replace the traditional reciprocating washing motion. As a reference for improvement of the industry in the future.

Patent Name: Washing tank

Patent number: I545239

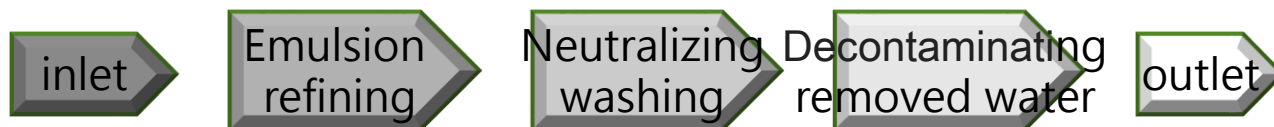
Patent Features: By circular motion and automatically generate jet and vibration effects, enhance the washing effect.



【 Jet Flow and Vibration 】

【 patent certificate and Simulation mechanism 】

- FY105 introduces intelligent energy-saving technology integrated the key energy-saving technologies of finishing process. Including the optimal inference, intelligent control, scheduling, heat source control and drying chamber invalid space shielding. energy efficiency up to 21.1%, and completed the first finishing intelligent energy-saving control system in Taiwan. This system successfully entered the market already.



【 Centrifugal jet enhanced washing energy-saving module 】