

LABORATORY MINI-DRYER

自動定型烘乾機

for Drying/Curing/Setting/Baking and Thermofixation Tests



- 烘乾 / 定型 / 樹脂加烘焙 / 壓染烘焙及熱固色



樹脂加工配方或藥劑試驗/手感樣板制作 染整加工的變色情況/正確的色樣板及組織

由長期的經驗，本公司研發此定型烘箱(MINI-DRYER)以供在化驗室中模擬現場染整加工 (Finishing) 及熱熔染色 (Thermosoling Process) 的利器。

此等設備對樹脂加工前後變色的預防及預知是極好的設備，往往因在樹脂加工的藥劑及熱的影響造成色相的差異而功虧一簣的遺憾。

尤其是特殊的進樣設備，及固定樣布的針板架(Pin Frame)是極重要且特別的設計，在進料的自動及小的門的設計可使溫度精確，而上述的各種試驗溫度是極其重要的要求，不若傳統機種10°C以上的溫差。尤其我們備有張布的針板架；此等張布針架，可四面隨意張伸，一直到符合現場生產的外觀及尺寸，對於針織品及伸縮性 (Elongation)大的組織有極大的幫助。

用途

1. 可模擬及預測工程中樹脂加工或烘乾染料變色程度，以進一步來防止。
2. 可預先試驗染料、助劑或整理助劑以現場的條件對堅牢度或品質的影響。
3. 提供正確樹脂加工或樹脂加工中微量套色 (Topping) 配方。
4. 可利用此機，選擇整理助劑濃度，品質好壞。
5. 可模擬現場的條件，如溫度、時間、助劑及相同的伸張度制作出手感樣本 (Feeling Sample) (22×22cm)大小以利現場生產的依據，及研發用。
6. 可提供撥水 (Water repellent) 防火 (Flame resistant) 及被覆 (Coating) 等，特殊加工模擬試驗用。
7. 提供平整及正確組織的試片，提高電腦測色精度及客戶正確成品組織及平整的色樣。

機械特性

1. 自動進出料：控制作用時間。
自動進料 → 自動計時 → 自動退料并叫鈴
2. 精確溫度
 - a) 熱風循環，進料口小，故溫度不會因開門而驟降溫度
 - b) 熱風直烘試布，溫度精確，分布均勻，最高溫250°C 精度 ± 1%
3. 特別針板設計，對於平織布及針織布都能適用，尤其是有伸縮性或針織品，特別對試驗後要求有正確組織就是利用這種針板架賦予張力而達成。平整正確的組織再現 (如附相片)



A DRYING, CURING, FIXATION APPARATUS & SETTING, BAKING AND THERMOFIXATION

Machine Designation

Having gained long term experience, RAPIDCO develop and produce the MINI-DRYER which now becomes an indispensable apparatus in laboratories to perform and assist dyeing/finishing tests and thermosoling processes.

The "RAPID" MINI-DRYER allows tests to be carried out for recipe evaluation during resin finishing, chemical tests, production for hand feeling samples, and to check degree of colour change during dyeing and finishing processes and to prepare fabric samples with the correct colour shade and structure.

The MINI-DRYER has special designs of the sample feeding device and its holding pin-frame. It is important when feeding in test samples automatically, and with a small entry to the drying chamber, that precision in temperature control should be assured, unlike conventional models which have a temperature tolerance of ± 10°C or above.

With the sample holder, the pin frame can be stretched dimensionally in all directions to meet requirements as in the pilot plant. This of course offers more advantages with knitted fabrics or other delicate samples with much elongation characteristics.

Special Features

- (1) Automatic feeding and delivery of test samples, control of dwell time also automatic.
Automatic Feeding-Time Control - Delivery (with Call signal).
- (2) Precision in Temperature Control.
 - Because of a small entry to the chamber, inside with hot-air circulation, temperature constant is maintained very stably and will not be affected when feeding in test samples.
 - Hot air applies directly to the sample through nozzles which therefore ensures precise temperature control and distribution.
Maximum working temperature 250°C (tolerance ± 1%)
- (3) Specially-designed pin frame holds all types of sample fabrics, both woven and knitted. It offers more advantages to those with much elongation characteristics and can resume the correct structure by pulling with the pin frame then results in a smooth and accurate piece.

Applications

- (1) To perform baking and thermofixation tests.
- (2) To perform and evaluate the degree of colour change and to further avoid it happens during resin finishing and/or drying processes after dyeing.
- (3) To perform dyestuff tests, auxiliary and chemical tests, and to offer similar conditions as the pilot plant to evaluate influences on fastness and product quality.

規格

1. 樣布尺寸: (Sample Size) 36x42cm
2. 溫度控制: a. 全指示自動控制, 精度 $\pm 1\%$
b. 使用溫度 $20^{\circ}\text{C} \sim 250^{\circ}\text{C}$
c. 電氣加熱 6KW 電力
3. 控 時: 從 10 秒 ~ 6 分 自行選擇自動退出
4. 風扇方面: 使用三相馬達
5. 風口上下可調風量
6. 針板方面: 單向針板 (針只放在布的兩端 (如圖一))
雙向針板 (針放在四面各方向可拉伸 30% (如圖二)) 特殊尺寸針板 (特別要求)
7. 電 力: 380V \times 3PH
8. 機械尺寸: (76+56)cm 長 \times 66cm 寬 \times 80cm 高

規格指定方法

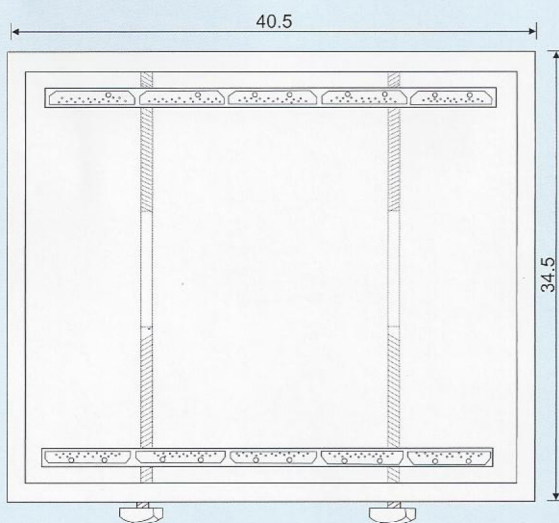
R-3 為本機型號



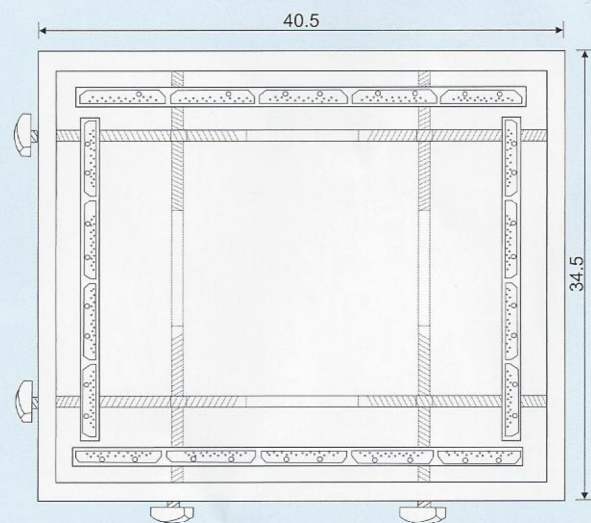
- (4) To evaluate precise resin finishing and its topping formulation.
- (5) To assist selection of chemicals and auxiliaries and to determine their concentration and quality.
- (6) To offer exactly similar conditions as for temperature, time control, and with equal elongation to prepare feeling samples to facilitate production of the pilot plant and also assist further Research & Development.
- (7) To perform water repellent, flame resistant and/or coating tests as required.
- (8) To offer a smooth and accurate test sample for higher precision obtained with computerized colour systems, to give to customers the correct fabric structure and precise and smooth colour cards.

Technical Specifications

- (1) Sample Size: 36cm \times 42cm (Maximum)
- (2) Temperature Control
 - a. Full Range Automatic Temperature Controller (Accuracy: $\pm 1\%$)
 - b. Working Temperature: 20°C to 250°C
 - c. Electric Heating: 6 kw (8 kw optional)
- (3) Dwell Time: from 10 seconds to 6 min. Preset for Automatic delivery.
- (4) Fan Motor: 3 Phase
- (5) With Damper to adjust air velocity through nozzles.
- (6) Pin Frames: Single direction latitudinal stretching 2 sides (Fig. 1)
All directions dimensional stretching to 4 sides allows 30% elongation (Fig. 2)
*Special design of pin frames available on request.
- (7) Electric connection: 380V \times 3Phase
- (8) Machine Dimensions: (76+56) \times 66 \times 80cm (L \times W \times H)



單向針板 Single Direction Pin Frame

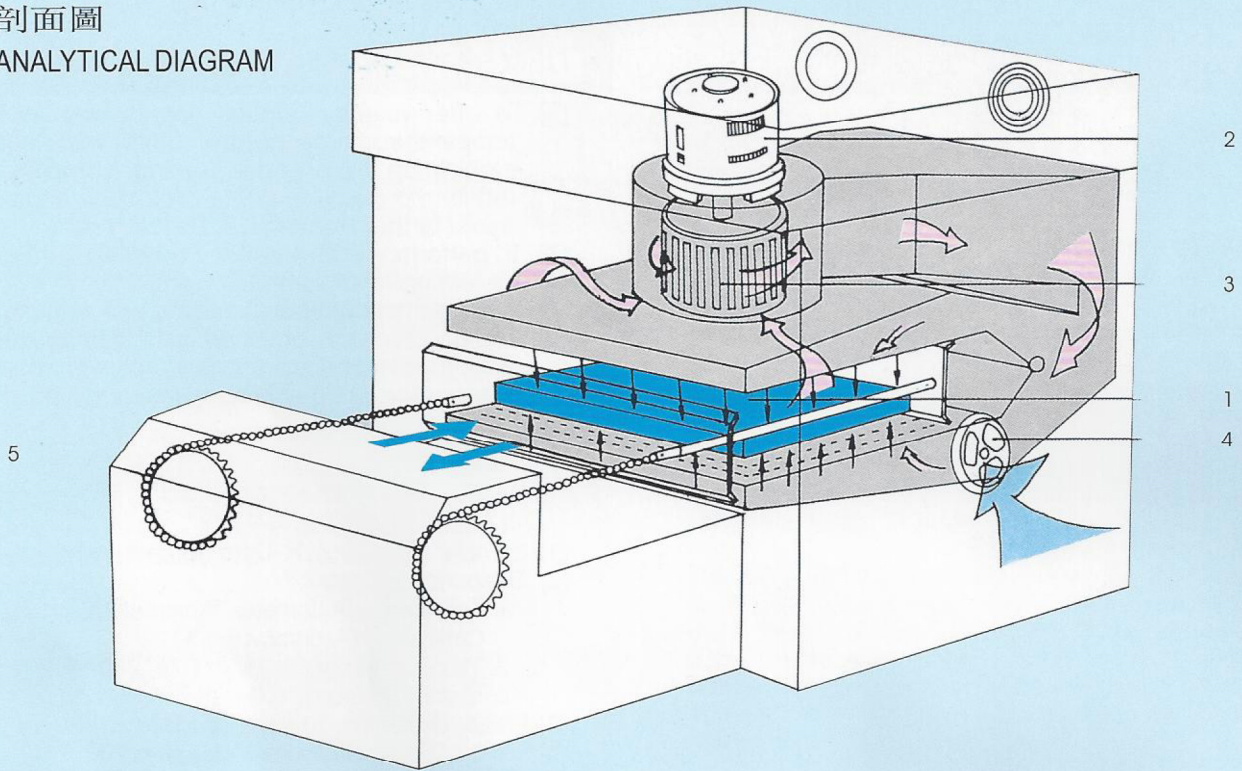


雙向針板 All Direction Pin Frame

(圖一) Fig-1

(圖二) Fig-2

剖面圖
ANALYTICAL DIAGRAM



(1) TEST FABRIC 試布

(2) FAN MOTOR 風扇馬達

(3) FAN IMPELLER 風扇葉片

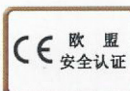
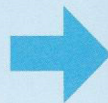
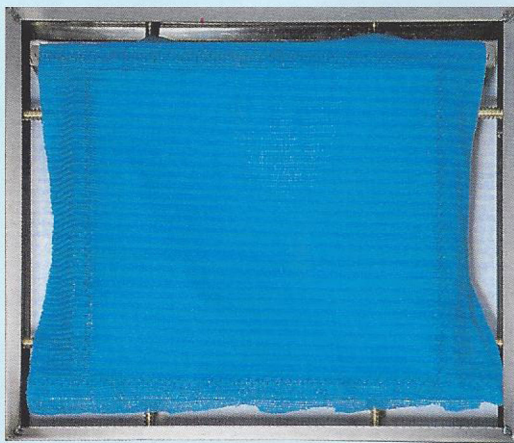
(4) AIR INTAKE 入風口

(5) SAMPLE CONVEYOR CHAIN 帶布鏈條

特殊針板

可利用本公司特殊針板(精密拉)伸到精確尺寸

SPECIAL PIN FRAMES developed by "LABORTEX" enable precise stretching test samples to their required dimensions.



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