



Fong's National Engineering Co., Ltd.

Members of Fong's Industries Group

MINIWIN

Laboratory Package Single Flow
Dyeing Machine



Ultra-low Liquor
Ratio 1:3

With Unique Wave Dyeing
Technology

50th ANNIVERSARY
SINCE 1963 | FONG'S INDUSTRIES
立信工業

Yarn Dyeing

MINIWIN

Laboratory Package Single Flow Dyeing Machine

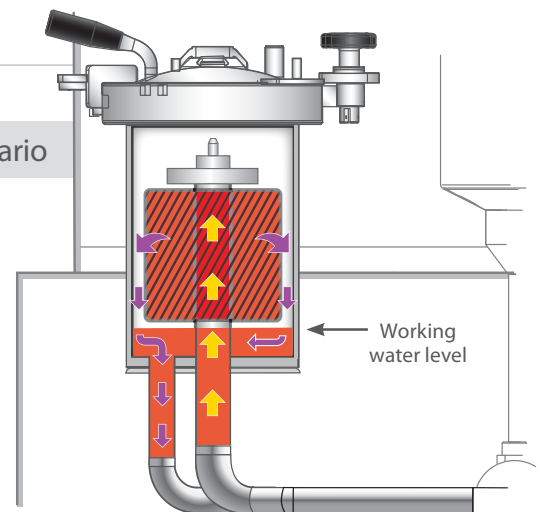
MINIWIN is laboratory package single inside-out flow dyeing machine which is specialized for dyeing one package. With unique wave dyeing technology, the dyeing effectiveness is consistent with the large production package dyeing machine. The simple configuration of MINIWIN, moreover, makes it to be excellent tool in laboratory for every dyeing plant. MINIWIN is mainly made of 316Ti/1.4571 stainless steel for providing you durable and advanced dyeing equipment.



Single Inside-Out Flow with Unique Wave Dyeing Technology

Single Inside-out Flow Packages and Liquor loading scenario

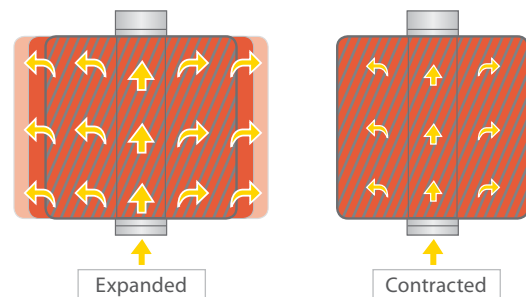
During a single inside-out flow process, dye liquor discharged from the pump enters the carrier and passing through spindles, then reaches the packages and diffuse towards surface outside. It is required only a sufficient water level at the kier bottom to maintain steady pump operation and not necessary to have all packages immersed with liquor, hence achieving a lower liquor ratio.



The Route of Liquor flow for Single Inside-out Flow operation (I/O)

With Unique Wave Dyeing Technology

Owing to the reversal function on traditional yarn dyeing machines, the packages could be expanded and contracted by pressure changes during switch of flow, hence increasing the effectiveness and evenness in dyeing. Since the single flow concept has no flow reversal feature, the pump should vary its speed to generate pressure difference according to specific principles. By executing a *Specific period of*



change in pump frequency, smashing the packages like waves such that it could move under differential pressure and achieve quality dyeing like the conventional bi-directional flow. The change in pump frequency also indirectly provide power savings.

4 Advantages

1. Low Liquor Ratio

With low capacity but maintaining the dyeing effectiveness almost the same as production machine. Ensures high reproducibility.

2. Single Inside-out Flow

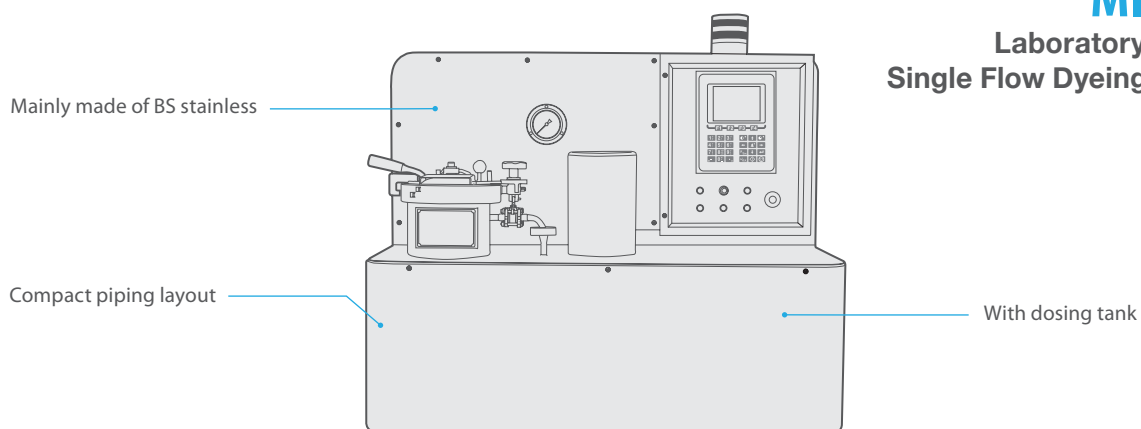
The smallest single inside-out flow dyeing machine in market. Simulates the dyeing effectiveness of general package dyeing machines by using the closest dyeing process.

3. Suitable for Laboratory

Directly heated by electrical heater rather external steam heating coil and compact configuration make the installation easy, fit the usage in laboratory.

4. Small Size

Small size around 1 meter in dimension, convenient to be operated on workbench.



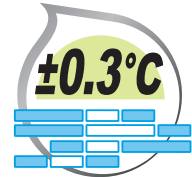
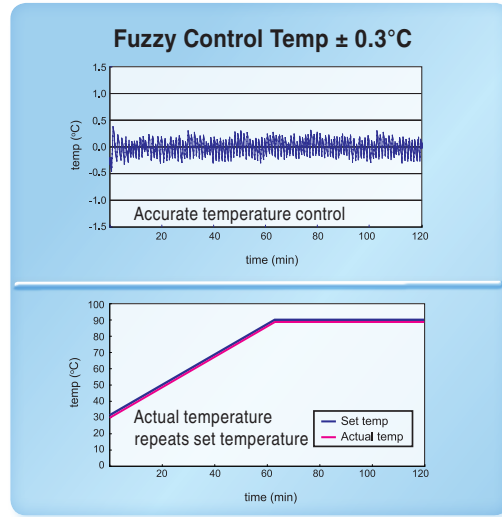
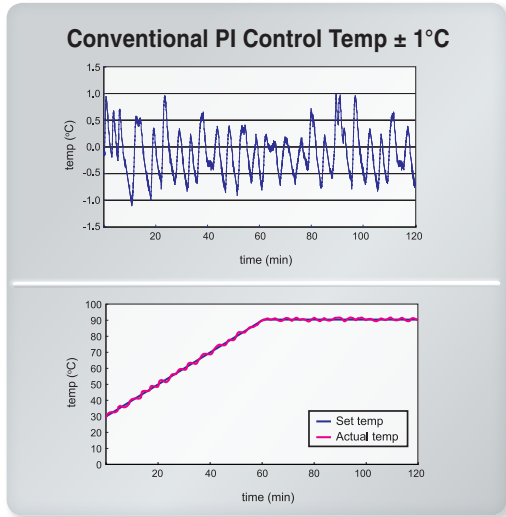
MINIWIN
Laboratory Package
Single Flow Dyeing Machine

Specification							
Model	Capacity	Liquor ratio	Maximum package diameter cone	Dimension	Overall dimension (mm)		
					Length	Width	Height
MINIWIN	1.2 kg	1:3	Outer diameter 165mm	Inner diameter 50mm x 170mm (H)	1090	655	880
Technical data							
Design temperature	140°C						
Design pressure	4.4bar						
Heating gradient	25°C ~ 100°C approx 4.7°C/min 100°C ~ 130°C approx 3.6°C/min (Heated by electricity)						
Cooling gradient	130°C ~80°C approx 5°C/min (Cooling water at 3bar, 25°C)						

FC30 Series Program Controller

For The Most Dyehouse Network Advanced Control System

New generation of FC30 program controller has a 6.5-inch 640x480-pixel, TFT color LCD display together with novel control functions, provides the most cost-effective dye cycle control. FC30 can also integrate with our **Viewtex** and THEN-TDS central computer system, providing comprehensive control management.



Fuzzy Logic Temperature Control
 Unique Fuzzy Logic Temperature Control technology, temperature control can be confined down to $\pm 0.3^{\circ}\text{C}$



Also available

SUPERWIN
 High Temperature Single Flow Package Dyeing Machine

Single Inside-out Flow Wave Dyeing
 Maximum Capacity: 9129.6kg

FTDW
 Radio Frequency Dryer

Available in 7 models

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