



Fong's National Engineering Co., Ltd.
Member Company of CHTC Fong's Group

ECO-8

Multi Rope Soft Dyeing Machine



Piece Dyeing

ECO-8

Multi Rope Soft Dyeing Machine

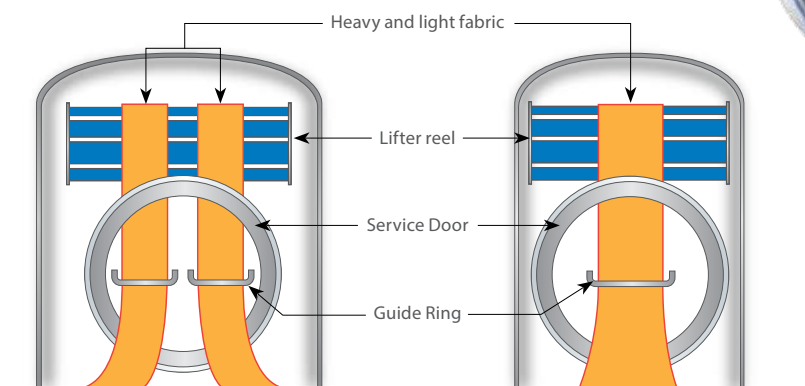
The ECO-8 is well designed with low liquor ratio, high loading capacity, versatile application and short process time. By incorporating the advanced automatic control technique, ECO-8 is a long L-shape machine with popular demand. At present there are about 2000 sets of ECO-8 running in dyehouses around the globe.

2 Features

Double Guide Rings per tube to enhance productivity

At a maximum tube capacity up to 550kg, using ATS nozzle with lowered pump speed can reduce flow and pressure and process very heavy and very light fabrics gently. Good dyeing result and economical efficiency.

2 versions available for selection



ECO-8-D
Double ropes per tube

Medium Batch ECO-8-ST
Single rope per tube



Integrated Intelligent Rinsing (IIR)



IIR Online Data Display

- **Intelligent Control** – Designed for customers seeking high degree of automation, to replace manual sampling during rinsing or determining of rinsing time by experience.
- **High Reproducibility** – The revolutionary system monitors both residual colour and conductivity of discharge during rinsing; accurately determine rinsing water consumption, the degree of reproducibility is highly improved.
- **Enhanced Efficiency** – Any slight changes are clearly shown in real time for analysis, making the drainage progress more organized.



Advantages

1. Suitable for various kinds of fabrics

Single rope per chamber and double ropes per chamber design can process fabrics of different weight.



2. Low Liquor Ratio¹

Liquor ratio is down to **1:6**; the total water consumption² is as low as 38L/kg. The ECO-8 effectively saves dyestuff, chemicals and water, and reduces effluent simultaneously.

3. Reduced Process Time

Incorporating the advanced automatic control devices, Multi-function stock tank (MST) and control software, the ECO-8 allows the shortest dyeing time³ to only 298 min.

4. Quality Assurance

Machine body and major parts wetted by dyeing liquid are made of 316L / 1.4404 corrosion resistant stainless steel.

5. Eco-friendly & Energy Saving

With Multi-Saving Rinsing System (MSR) available, Integrated Intelligent Rinsing (IIR) and other advanced technique can reduce water and energy consumption, and effluent thereby achieving eco-friendly production.

Note: 1. The liquor ratio is based on full loading of type T55.

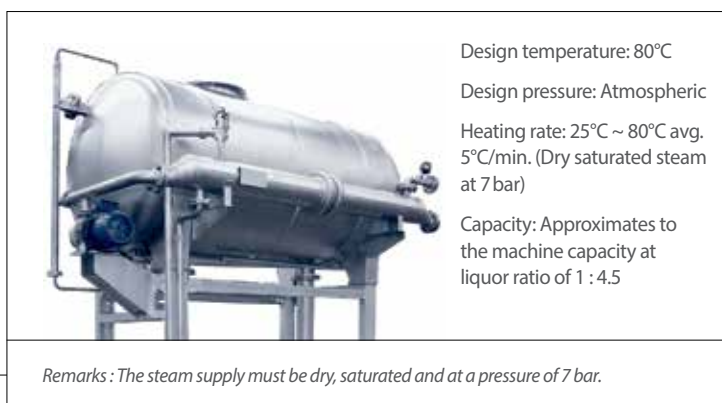
2. The figure of water consumption quoted is for light shade. The figures for medium and dark shade will be shown upon presentation.

3. The dyeing time does not include the time for loading, unloading, softening etc. It will only be achieved when the machine supplied with full options of ECO-8.

Advanced Features

Depends on requirement, customers can select appropriate option for optimum production quality. The following features are available:

- Programmable second fill valve with metering function
- Programmable second drain valve
- Second service tank with individual feed pump, valves, stirring function and dosing control with high precision flow control device
- Multi-Saving Rinsing System (MSR)
- Integrated Intelligent Rinsing (IIR)
- Multi-Function Stock Tank (MST)



Standard Features



Service door and double guide ring



Heat exchanger and replaceable filter insert



Service tank with feed pump, valves and stirring function



Highly efficient stainless steel centrifugal pump



Loading of various of fabrics

At present there are about 2000 sets of ECO-8 running in dyehouses around the globe.



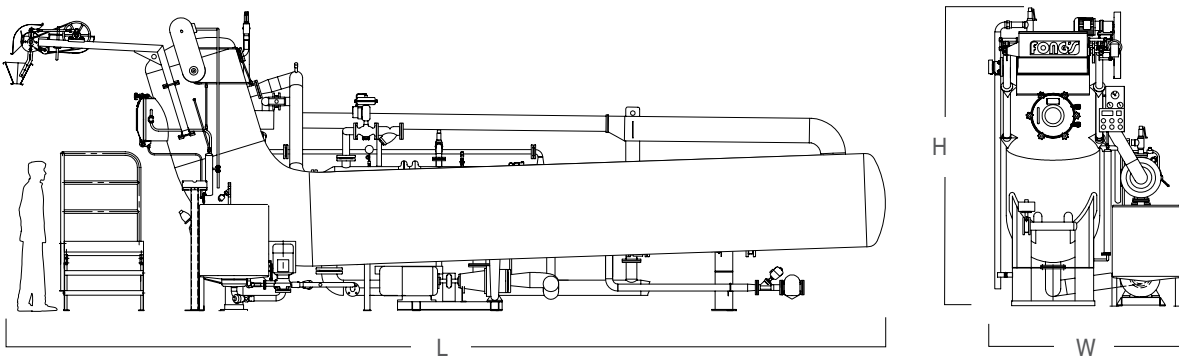
Technical Data



Design temperature	: 140°C
Design pressure	: 3.5bar
Liquor ratio	: 1 : 6
Lifter reel speed	: 250 ~ 400m/min (depending on machine type)
Suitable for fabric	: 200 ~ 700g/m
Heating gradient	: 25°C ~ 100°C approx. 5°C/min 100°C ~ 130°C approx. 2.5°C/min (dry saturated steam pressure at 7bar)
Cooling gradient	: 130°C ~ 100°C approx. 3°C/min 100°C ~ 80°C approx. 2°C/min (cooling water at 3bar, 25°C)

Model & Specification

Model	Type	No. of chambers	No of nozzles per tube	Capacity (kg)	Installed power (kW)	Operating power* (kW)	Dimensions (mm)		
							L	W	H
Medium Batch ECO-8-ST	T15	1	1	120 ~ 150	11.4	8.6	6050	1900	2800
	T20	1	1	160 ~ 200			6900	1900	2800
ECO-8-D1T	T25	1	2	200 ~ 250	21.8	17.2	6600	2200	3300
	T40	1	2	320 ~ 400			7600	2500	3300
	T55	1	2	440 ~ 550			9600	2700	3300
ECO-8-D2T	T40	2	2	640 ~ 800	38.8	34	7600	3700	3300
	T55	2	2	880 ~ 1100			9660	3900	3300
ECO-8-D3T	T40	3	2	960 ~ 1200	50.8	44.5	7600	5300	3300
	T55	3	2	1320 ~ 1650			9600	5450	3300
ECO-8-D4T	T40	4	2	1280 ~ 1600	62	53	7600	7200	3300
	T55	4	2	1760 ~ 2200			9660	7500	3300
ECO-8-D6T	T40	6	2	1920 ~ 2400	99	90	8300	9900	3300
	T55	6	2	2640 ~ 3300			9660	10200	3300
ECO-8-D8T	T40	8	2	2560 ~ 3200	116.5	106	8300	13400	3300
	T55	8	2	3520 ~ 4400			11600	16000	3300



The above dimension is according to the standard configuration. *Operating Power is the primary energy consumption during dyeing.

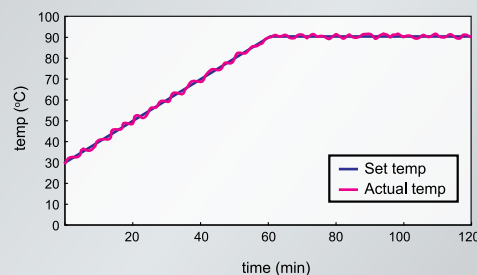
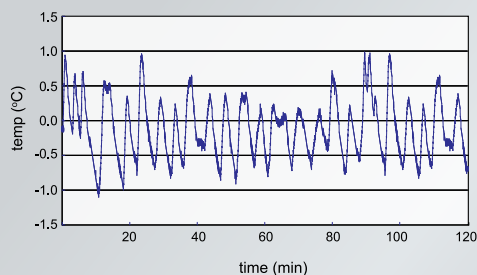
FC30 Series Program Controller

For The Most Dyehouse Network Advanced Control System

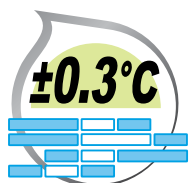
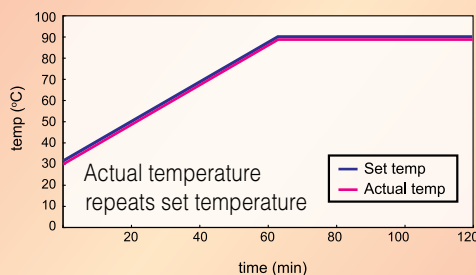
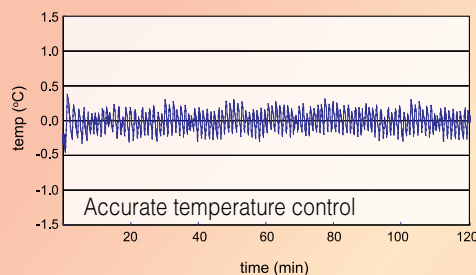
New generation of FC30 program controller has a 6.5-inch 640x480-pixel, TFT color LCD display together with novel control functions, provides the most cost-effective dye cycle control. FC30 can also integrate with our **Viewtex** and THEN-TDS central computer system, providing comprehensive control management.



Conventional PI Control Temp $\pm 1^{\circ}\text{C}$



Fuzzy Control Temp $\pm 0.3^{\circ}\text{C}$



Fuzzy Logic Temperature Control

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

One-stop Sustainable Solutions

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