

Fabric Dyeing Methods

At Euro Air A/S we have a sub supplier Kemotextil a/s for dyeing our fabric. All chemicals and colors which are used in their dyeing processes are approved for [Oeko-Tex® 100](#). Our sub supplier mainly uses 2 different methods for dyeing our fabric depending on fabric type and permeability.

The two methods are:

1. Jigger dyeing
2. Beam dyeing

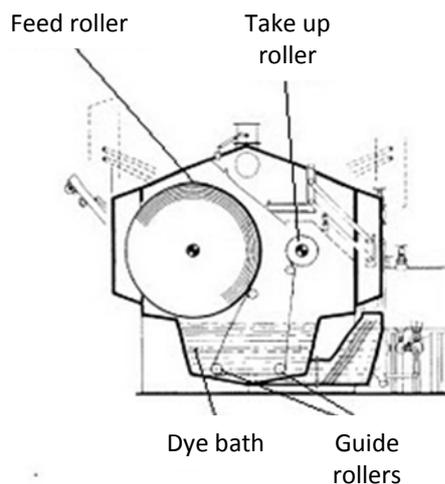
Which dyeing process is used?

Dyeing process	Fabric type	DFC40	DFC325	Trevira 50 Polyester 50	Trevira 150 Polyester 150	Trevira 325 Polyester 325	Trevira 550 Polyester 550	Trevira 775 Polyester 775	Trevira 1240 Polyester 1240
Jigger		✓	✓	✓	✗	✗	✗	✗	✗
Beam		✗	✗	✗	✓	✓	✓	✓	✓

Jigger dyeing:

- min. 300 m – max. 1500 m fabric

Jigger dyeing process:



Schematic diagram of a jigger dyeing machine

In the dyeing on jigger machines the cloth revolves on two main rollers. The open-width fabric passes from one roller through the dye bath at the bottom of the machine and then onto a driven take-up roller on the other side. When all the fabric has passed through the bath, the direction is reversed. Each passage is called an end. Dyeing always involves an even number of ends. The dye bath has one or more guide rollers, around which the cloth travels, and during this immersion achieves the desired contact with the dye liquor. During this passage the fabric picks up adequate quantity of dye liquor, excess of which is drained out but still a good

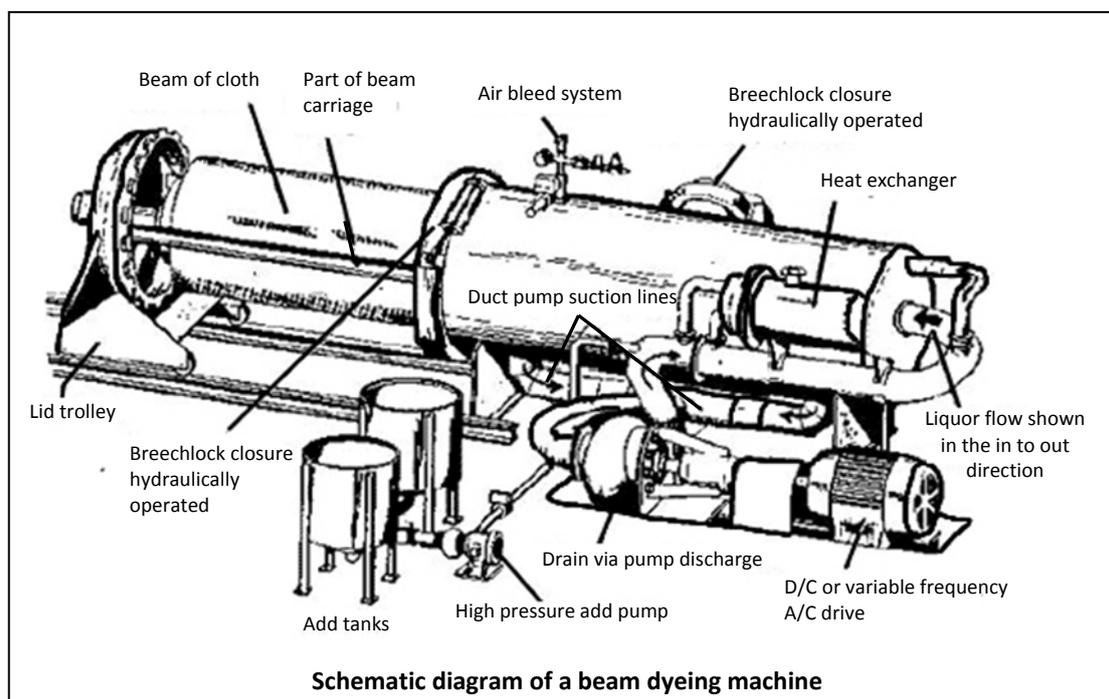
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quantity is held in the fabric. During rotation of rollers the dye liquor penetrates and diffuses into the weave. The real dyeing takes place not in the dye liquor but when the cloth is on the rollers, since only a very small length of fabric is in the dye bath and major part is on the rollers. Therefore the speed of cloth during immersion in dye liquor has a very little effect on percentage of shade produced.

Beam dyeing:

- min. 25 kg. – max. 100 kg. fabric

Beam dyeing process:



The beam dyeing machine operates with the same principle as that of package dyeing and Hank dyeing machines. It can be effectively used to dye yarn or fabric. The process works like this, fabric or yarn in open width is rolled on to a perforated beam. The beam then subsequently slid into a vessel that is closed and pressurized. The color impregnates the fabric as the dye liquor is allowed to go on circulating through the perforations in the beam. Usually the beam machines are designed in such a manner so as to hold a single beam or multiple beams in a batch.