



 imogo

Dye-Max

Spray dyeing line



## Dye-Max process

### Application

We call the process of dyeing using spray and a low energy fixation unit Dye-Max due to its versatility and multiple areas of use.

Areas where the Dye-Max process can be utilized are:

- ✓ Resource efficient dyeing of cellulosic fibre materials
- ✓ Production increase due to high-speed process
- ✓ Short runs without excessive waste

### Benefits

By using spray technology, the dyeing line from imogo will dye fabrics using as little as 0.7 litre per kilo fabric.

This compared to the most commonly used methods ranging from 5 to above 15 litre per kilo fabric

### Machine type

### Ratio litre/kg fabric

Continuous	1:1
Winch	15:1-40:1
Jet	7:1-15:1
Jig	5:1
Beam	10:1
imogo Dye-Max	0,7:1

## Dye-Max savings per kilo fabric

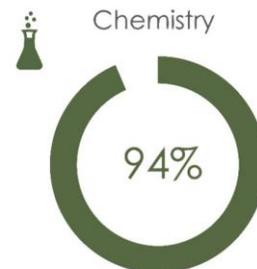
Due to the low pickup required and re-circulation of over spray.

Due to the low volume buffer tank and re-circulation of over spray

Due to the low liquid ratio and reduced need for auxiliary chemicals

Due to efficient application of the dye dispersion and re-circulation of over spray.

Due to low energy consumption of the Dye-Max system and the use of cold fixation.



\* Compared to a Jet machine running a 5:1 ratio

## Dye-Max process description



The textile first passes through the dyeing station where the dye dispersion is applied normally at between 0,5 to 0,9 litre/ kilo depending on fibre type and fabric construction.

The dye can be applied at speeds between 5-50 m/min. The dyed fabric is wound onto a winding A-frame to be moved to the fixation step.

The roll is placed in a rotation station for dye fixation at room temperature. The fixation process will require approximately 4-20 hours to be completed. For the exact time we refer to the dye manufacturers recommendations.



# Dye-Max K system parts



# Dye-Max K line

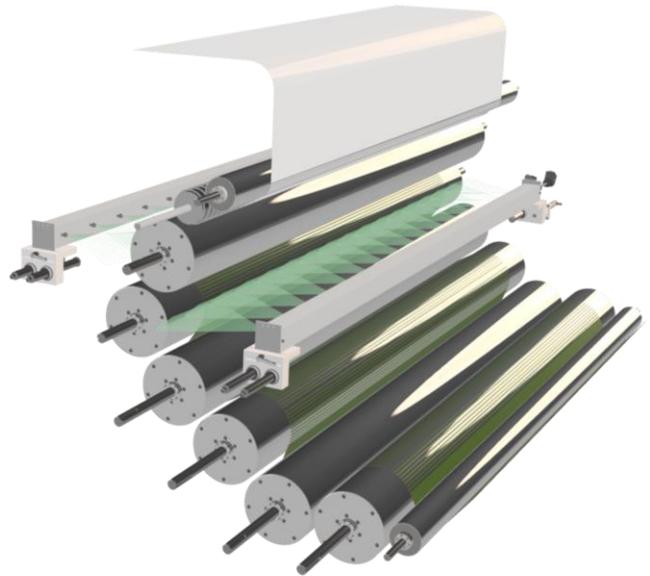


## Valve cassette concept

The Dye-Max system feature one pair of spray cassettes per system.

The spray cassettes can be exchanged without tools in less than 5 minutes allowing fast change over.

The valves in the cassettes are frequency controlled for unmatched spray accuracy with automatic volume adjustment linked to the machine speed.



## Mini-Max laboratory unit

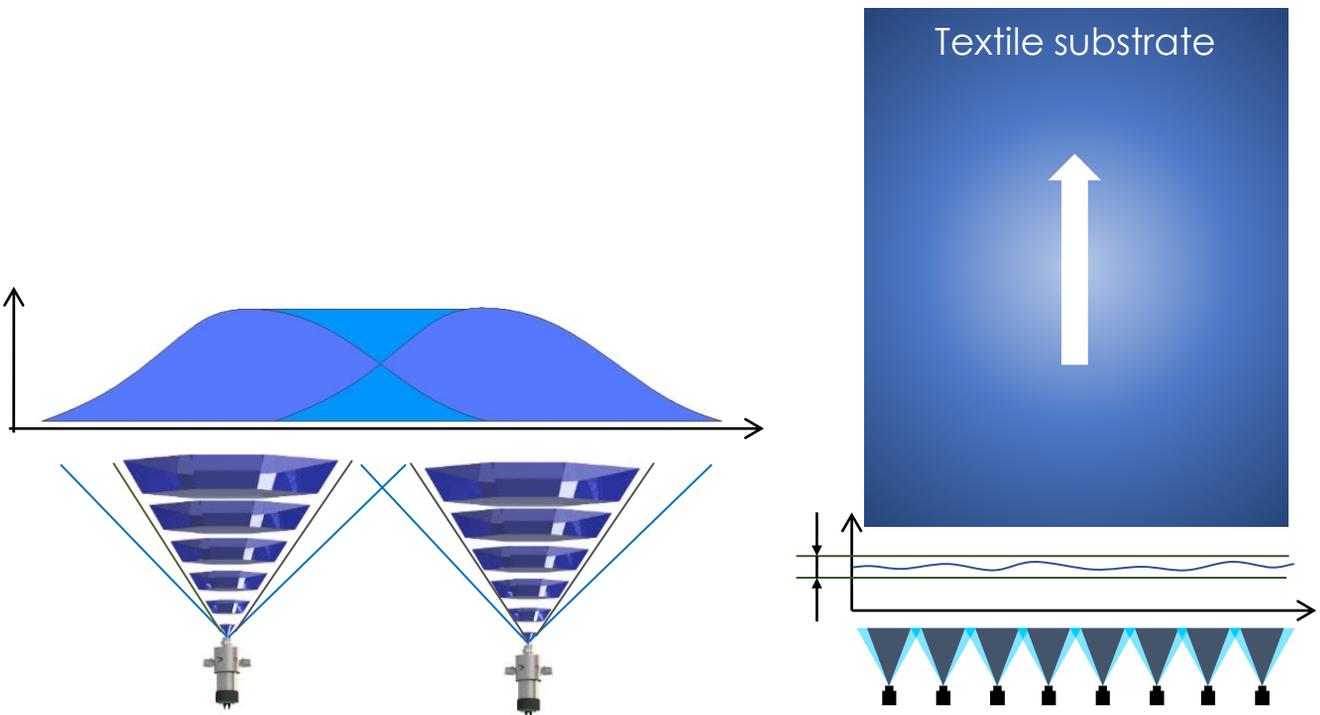
The Dye-Max system includes a laboratory unit for dye recipe and volume testing. Allowing for right first-time dyeing. The settings tested in the Mini-Max is transferred to the Flexdyer and the tested results are repeated in production.



## Substrate coverage principle

The coverage of a substrate width is created by overlapping of multiple spray patterns. The nozzle design and placement is made is key to accomplish an even fluid distribution.

The volume control is done by high frequency valves capable of operating at up to 80 Hz. By altering the frequency, the volume is automatically adjusted based on the substrate speed and volume settings





## Specifications

✓ Size's fabric width:	1 600, 2000, 2400mm
✓ Process speed:	5 – 50 m/min
✓ Standard volume range:	4 – 14 liters/min
✓ Max installed power Dye-Max:	12 kW
✓ Compressed air:	100 liter/min @ 6bar
✓ Max roll diameter:	1 600 mm
✓ Max roll weight:	1 500 kg
✓ Water consumption system wash:	8-12 liter
✓ Water consumption system clean:	15-35 liter

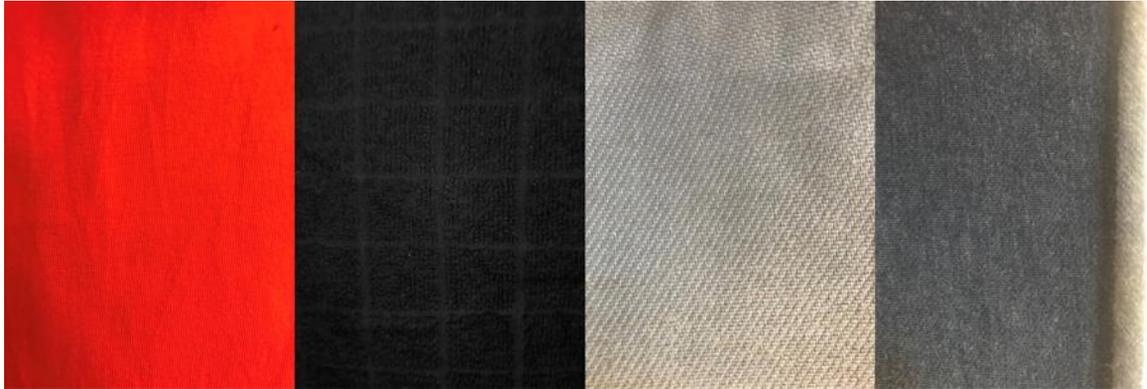
## Materials and dye types

Material	Dye type	Machine status
Cotton	Reactive dyes	Available

\* Both knitted and woven fabrics with dye solution at viscosity < 10 Cps



## Dye-max application examples



Knitts

Terry Towel

Hemp

Cotton Polyester mix

RFD fabric Knitted 93% CO, 7% EL



Master fabric – jet dyed

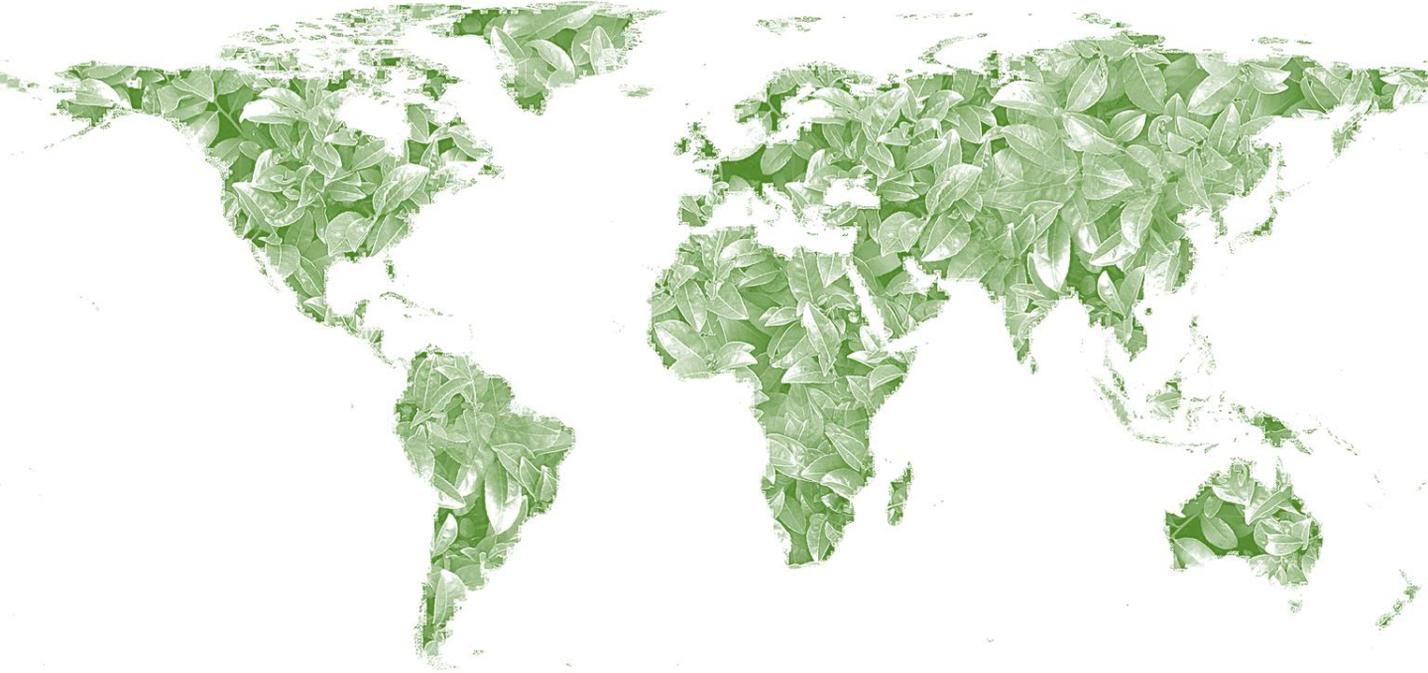


Spray 70 % pickup fixed 22 ° C – 20h





## Contact



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