

# INTO WATER YOU WANT.

# V\*SEP®

## CASE STUDY RESULTS

The VSEP installation at Central Fabrics yielded successful results. The unit is capable of filtering waste water into two reusable components, water and indigo dye.



Waste Water

Waste water from the slasher dye rinsing stage. Typically discharged to waste water treatment facility.



Water After VSEP

The VSEP system removes unwanted dye so waste water can be reused.



Water After RO

Filtered water is treated further by reverse osmosis. This water will be reused at the rinsing stage.



Indigo Dye Concentrate

Filtered indigo can be reused in the dye bath.

# TURN THE WATER YOU HAVE



## FACTS

**100%** Roughly 100% of recovered indigo dye can be reused in the dye bath. Additional indigo dye can be added to achieve desired shade.

**70%** 70% of treated waste water can be recycled and reused at the rinse stage.

**70** Up to 70 tons/day of reusable water is generated by the VSEP unit at Central Fabrics.



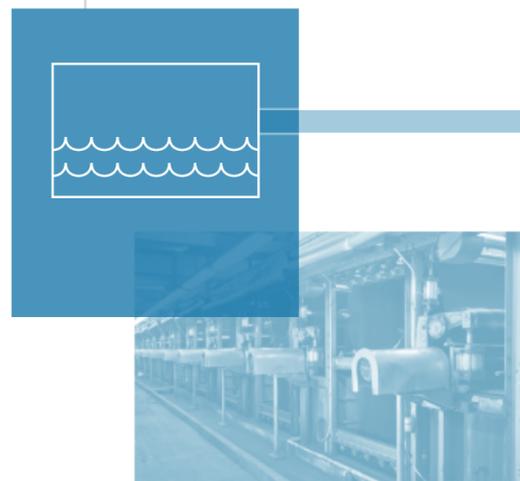
Cary, New York, Hong Kong,  
Shanghai, Osaka, Mexico City  
[www.cottoninc.com](http://www.cottoninc.com)

# VSEP

Vibratory Shear Enhanced Processing, or VSEP, is a filtration system that cleans waste water through the use of a vibrating membrane. Because of the vibrating action the VSEP can achieve high flow rates and is virtually foul resistant. Water processed through the VSEP can be reused in manufacturing. VSEP units have been in use for years in a range of industries and now opportunities exist in the textile industry. This patented system was designed and is manufactured by New Logic Research ([www.vsep.com](http://www.vsep.com)).

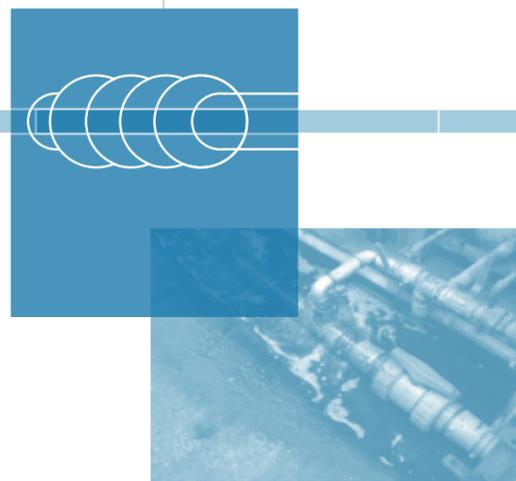
## 1 Dye Bath

Central Fabrics' dyeing mill is equipped with indigo slasher dyeing equipment. The rinsing stages are supported by the VSEP system.



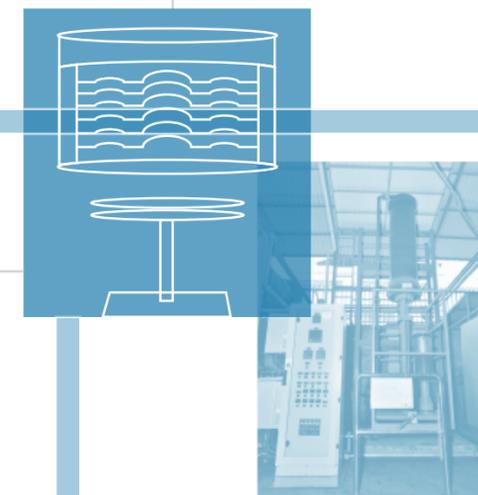
## 2 Rinsing

After dyeing, unfixed dyestuff is removed during rinsing. The waste water generated at rinsing is stored prior to VSEP processing.



## 3 VSEP

Waste water is processed through the VSEP unit filtering dye from the water.



## 4 Reverse Osmosis

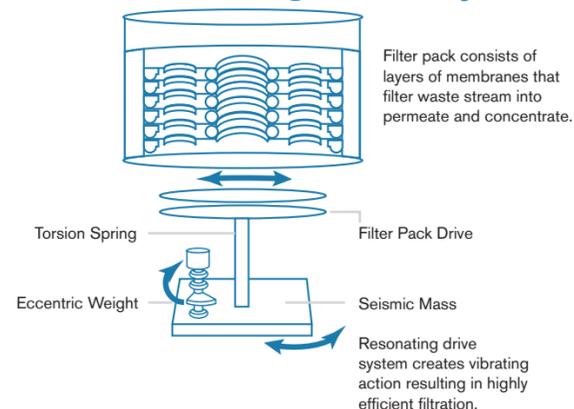
Filtered water is further treated by reverse osmosis. Pure water is reused for rinsing.



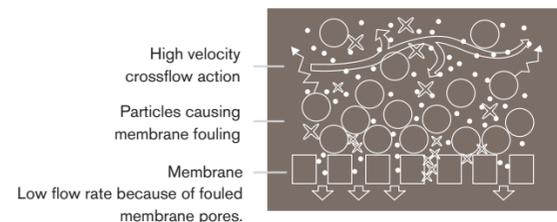
# CASE STUDY

Cotton Incorporated partnered with Central Fabrics to evaluate the VSEP in Central Fabrics' Yuen Long dyeing mill. The VSEP unit was installed to recycle waste water generated at the rinse stage of the slasher dye range.

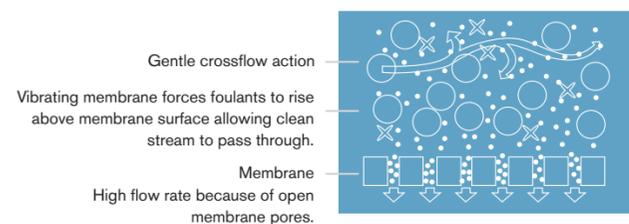
### VSEP Resonating Drive System



### Traditional Flow

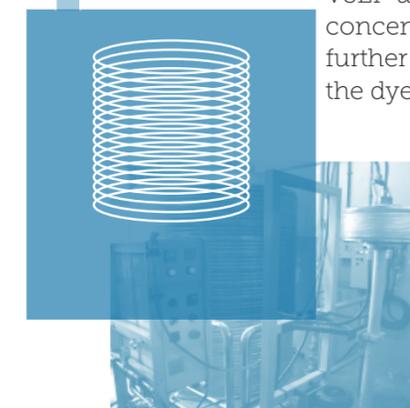


### Vibrating Membrane Cross-Flow



## 3b Dye Concentrate

The separated indigo dye is processed through another VSEP unit concentrating it further for reuse in the dye bath.



## 4b Discharge

Soluble salt solution removed by reverse osmosis is discharged to the plant waste water treatment facility.

