

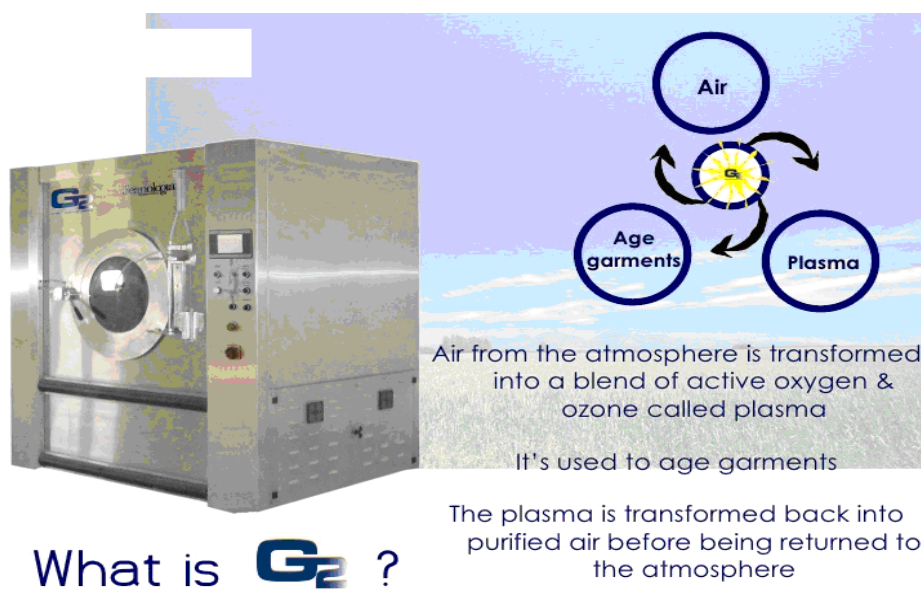
# Technical Tuesday

REF:TT/ Dec 2012/ WK 3

## Sustainable Denim processing

### G2 Waterless Denim Washing Machine

- The concept of 'Sustainable Denim' - an eco friendly approach to denim is being enhanced by their various machines, the foremost of which is the G2 Waterless Washing Machine. This is a unique washing machine which washes denim jeans with about 60% less water and almost no chemicals.
- It was an interesting way to understand that real aging effects could be achieved with eco-friendly washing methods.



### Ecological washing machine G2 plus

#### How does G2 work?

- Air from atmosphere is transformed into a blend of active oxygen and ozone called 'Plasma'. This plasma is used to age garments. The plasma is transformed into purified air before it is returned to the atmosphere.

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## What kind of washing effects can it provide on the jeans?

G2 can provide various effects on the jeans like



- Ageing for true vintage looks
- Pigment looks without the pigments
- Casting -(Aged Cotton - unique yellow cast for true vintage looks in Pure Indigos)
- Cleaning- (Removes back staining & loose indigo without detergents)
- Bleaching without the bleach

### Advantages:

- Eliminates the need for Potassium Permanganate spraying.
- Blacks and grey denim fade without turning brown.
- Eliminates yellow from bleach look.
- Improves crocking in dark finishes.
- Provides various other fashion finishes.

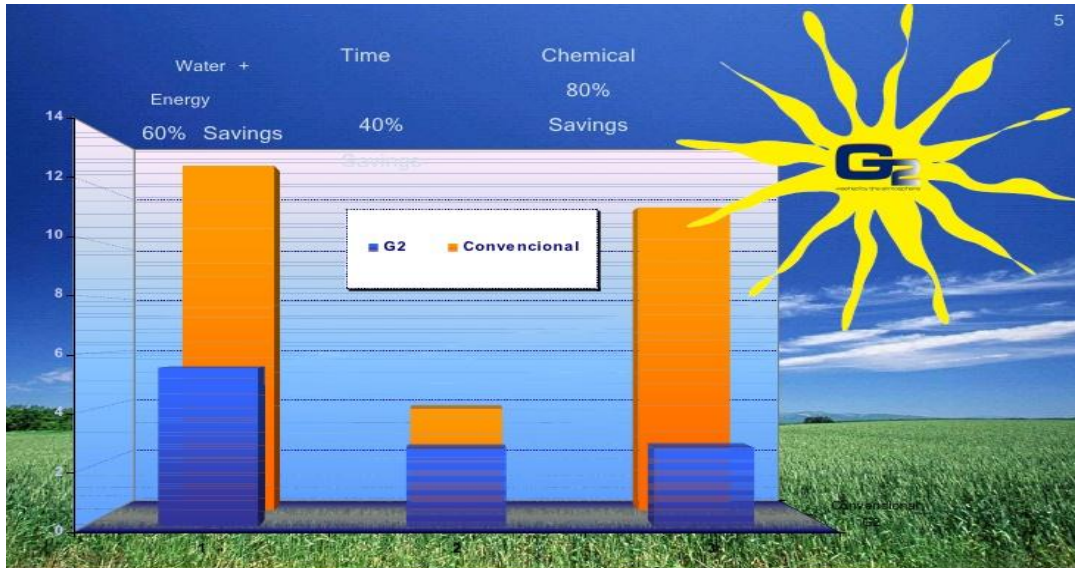
### What is capacity of the G2 machine in terms of load factor?

- The machine has a capacity of **50 kgs** ie it can wash about **3000 jeans** in a day. G2's programmable software system automatically adjusts gas concentrations to reflect load conditions (i.e., jeans, tees, wet, dry, etc).

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- From a case study of actual production in the US, the company claims that using G2 can result in 67% savings in energy and water, 55% savings in time and 85% saving in chemicals.



Process Savings Comparison

## 3e Textile Laser



3e textile laser

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The laser action on the coloured denim fibers is mainly carried out with the indigo colour, by thermal effect. A pair of high-speed computer-controlled mirrors moves the laser beam on the denim material. Various levels of colour removal with little or no damage to the denim material are achieved by using different laser parameters.

## Advantages of laser-based finishing technology over other conventional processing techniques are:

- Less pollution of the environment by reduction of chemical agents and water consumption.
- Process flexibility, by using automated control of laser faded technology the manufacturers can change the finish style to another without retooling;
- Micrographics can be applied on the garment;
- Special logos or characters can be applied to denim products.

## Is it possible to duplicate washing effects of an existing jeans?

Yes, with their laser technology, the washing effects of an existing jean can be mapped out and then replicated on new garments. This does away with the trial and error approach to replicating vintage washing effects.

## If so less chemicals are used, how are these washing effects attained?

- Jeanologia use **laser technology instead of chemicals to mark the washing details**. If desired, further effects can be given manually by grinding and scraping.
- The laser maps out the washing details required and then the garment is given a short wash. The garments are then placed in **G2 where the laser effects are brought out with the plasma**. The garments are then rinsed and dried. This is how the washing details are attained

(Reference: [www.jeanologia.com](http://www.jeanologia.com)).

“Have a Happy Week Ahead”

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