

HI-TECH SOLUTIONS  
FOR THE TEXTILE INDUSTRY



# SUPER.GA

Yarn **singeing** machine

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# SUPER.GA

## Yarn **singeing** machine reduces hairness on yarn

Maximum uniformity in the singeing process, easy-and-fast removal and cleaning procedures, and total quality for the customer, even for the finest yarn counts or single yarns: in a word, Super.ga, the ultimate yarn singeing technology from RITE.

### INTRODUCTION

The **Super.ga** Yarn Singeing Machine assures high customer quality on uniformity and homogeneity of the singeing yarn, gas saving consumption: these are the three features that make RITE singeing machines useful for the finest yarn counts or single yarns. Only RITE can assure homogeneity of the singeing yarn.

### HEADSTOCK

The Headstock is where the most important parameters for the gas singeing process are placed, such as:

- Setting of the working speed through interface (independent for each side) controlled by inverter.
- Setting of the modulation system to avoid the lapping effect on the package during its production process.
- Setting of the yarn length (divisible into section), length of yarn reserve, time of yarn collection for the "Knotting singeing device" (optional).
- Diagnosis of the package stopping.
- Instantaneous reading of working conditions.
- Hook-up of the axial displacement control (optional).

Devices controlled by Headstock:

- Flow meters with scale and regulation valve to set the quantity of gas-air desired for the singeing process.
- Control motors (one for each side of the machine).
- Air regulation filter group.
- Manometer for the control of the pneumatic counterweight (one for each side).

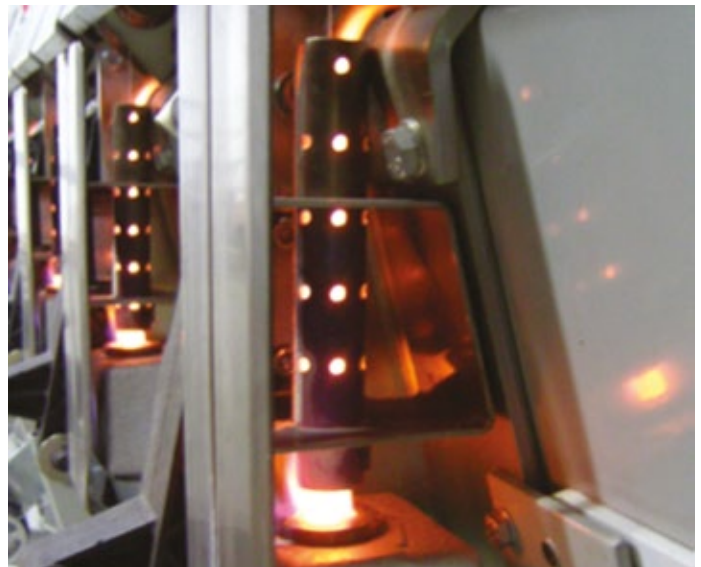
### PACKAGES FEEDING CREEL

In order to make the worker's job easier and save time, all RITE gas singeing machines have been equipped with an automatic device that lifts the feeding package up when the empty tube has to be replaced with a new package or there is a simple knot to be made after a breakage.

By pressing the start button, it will be subsequently lowered. In order to keep the feeding packages clean, a **spindles separator** that can also eliminate the balloon has been studied.

### BURNER UNITS: THE CORE OF THE MACHINE

High quality singeing process, cost saving and easy removal and cleaning operations are the three main features of Rite burner. The burner with its immediate effect (1.100°C) is completed with the chimney, which guarantees uniformity and quality to the singed yarn. The fact of making the most of the flame effect for such a long path (about 300 mm) **guarantees a very high gas saving (about-15%)**, to reach the same singeing effect level. Burner and chimney are protected for safer working area conditions.



### SPINDLE

Each spindle consists of:

- Grooved drum with 5 porcelains treated with chromium superficially.
- Package holder arm with removable centers for conicity grade from 0° up to 5°57': the new design allows to easily pass from P to Q type packages.
- Pneumatic control of counterweight pressure to produce soft packages.
- Cleaning system for the just singed yarn: when the yarn has just come out of the burner, the cleaning unit removes ash and dust from the yarn and they are then sucked by the ash suction unit set at the end of the machine.



Guaranteeing a clean yarn means passing directly to the package dyeing stage eliminating the intermediated steps on cone-to-cone winders.

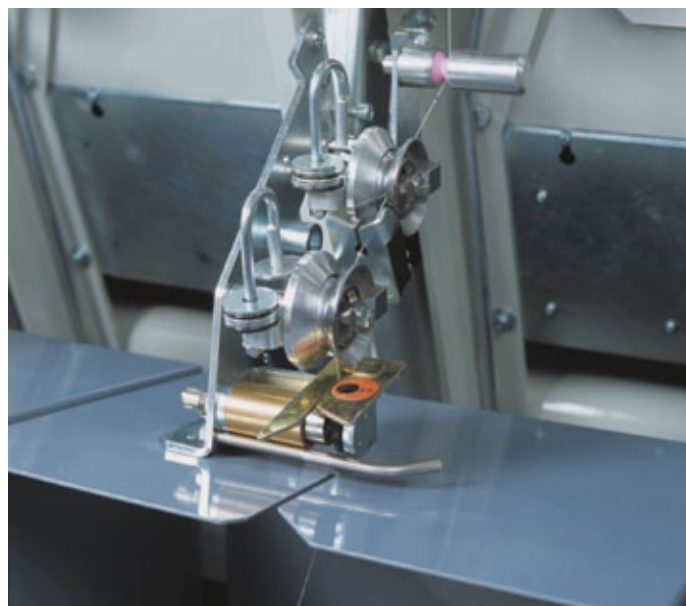
### TENSION ADJUSTMENT GROUP

Main features:

- Tension unit to guarantee the uniformity of yarn tension during the singeing process.
- Yarn tensioner of disk type adjustable by using weights.
- Optical sensor of wide field for the yarn
- Presence control device

Upon request:

- Waxing device of deviation type, driven by DC motor, adjustable by operator interface (number of revolutions and rotation direction) for a homogeneous wax distribution with a high working speed.
- Yarn cutter: recommended for length based production, when the set length is reached, it cuts and joints the ply.



### OPTIONAL

#### Knot Singeing Device

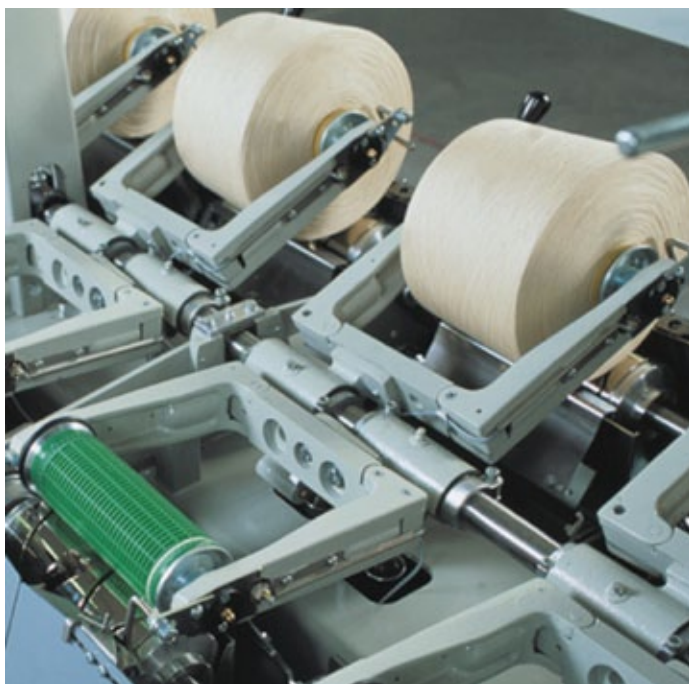
The exclusive RITE patented system guarantees the singeing process along all the yarn. Once the stopped ply is knotted, the worker re-starts the spindle: a system controlled by a DC motor collects the ply from the package so that a yarn reserve available and the spindle has the time to lower and the yarn to be re-inserted into the burner. In this way the chance of having some parts of not singed yarn. In this way the chance of having some parts of not singed yarn is completely avoided

#### Axial Displacement

Extra device for the production of soft packages for the dyeing market. This device guarantees the softness of the packages edges thanks to the RIGHT/LEFT movement transferred to the packages holder arms. This effect is completed by the modulation electronic system that prevents the lapping effect.

#### Yarn Reserve

Yarn reserve on tube: electro-mechanic device controlled through interface that allows to adjust the length of the yarn reserve. The positive aspect of this device is underlined during the subsequent processes of weaving, reeling, etc.



## TECHNICAL DATA

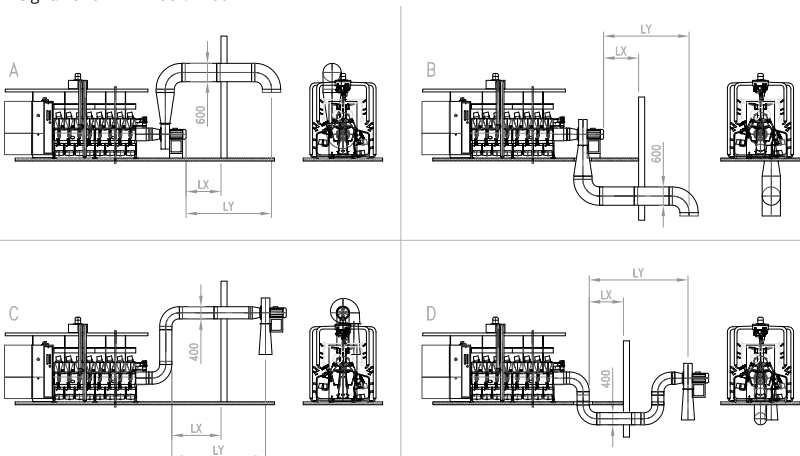
<b>YARNS PROCESSED</b>	<ul style="list-style-type: none"> <li>Cotton, ryon and blended and other spun yarns.</li> </ul>	<b>WAXING DEVICE (OPTIONAL)</b>	<ul style="list-style-type: none"> <li>In substitution of the tension group. Adjustable speed and rotation direction.</li> </ul>
<b>HEADSTOCK</b>	<ul style="list-style-type: none"> <li>Master, electrical equipment, control motors, air group and air-gas regulation.</li> </ul>	<b>AXIAL DISPLACEMENT (OPTIONAL)</b>	<ul style="list-style-type: none"> <li>For the production of soft packages, completes the process for the antilapping together with the electronic control.</li> </ul>
<b>HEADSTOCK MASTER</b>	<ul style="list-style-type: none"> <li>Modulation and speed control. Control of: metercounting, yarn reserve, knot reserve time and production sectors. Double sided.</li> </ul>	<b>YARN CUTTER (OPTIONAL)</b>	<ul style="list-style-type: none"> <li>Cuts and joints the yarn when the desired length is reached.</li> </ul>
<b>HEADSTOCK MOTORIZATION</b>	<ul style="list-style-type: none"> <li>No. 2 motors (one for each side).</li> </ul>	<b>YARN RESERVE (OPTIONAL)</b>	<ul style="list-style-type: none"> <li>Eliminates the problem of parts of yarn not gassed after knotting.</li> </ul>
<b>INVERTER</b>	<ul style="list-style-type: none"> <li>No. 2 inverters (one for each side).</li> </ul>	<b>TRAVELLING BLOWER (OPTIONAL)</b>	<ul style="list-style-type: none"> <li>Blower that keeps clean the working area.</li> </ul>
<b>FEEDING CONICITY</b>	<ul style="list-style-type: none"> <li>From 0° to 5°57'.</li> </ul>	<b>SPLICER (OPTIONAL)</b>	<ul style="list-style-type: none"> <li>Water type or simple on track to run alongside the machine. One for each side.</li> </ul>
<b>TRAVERSE</b>	<ul style="list-style-type: none"> <li>152 mm (6").</li> </ul>	<b>COMPRESSED AIR</b>	<ul style="list-style-type: none"> <li>The machine needs compressed air at 6 bars with a quantity from 3 to 6 NL/min, splicer excluded.</li> </ul>
<b>TAKE-UP SPEED</b>	<ul style="list-style-type: none"> <li>From 300 m/min to 1.200 m/min.</li> </ul>	<b>TOP GAS DEVICE (OPTIONAL)</b>	<ul style="list-style-type: none"> <li>For dyeing package</li> </ul>
<b>YARN TENSIONER</b>	<ul style="list-style-type: none"> <li>Disk type with regulation weights.</li> </ul>		
<b>SENSORS</b>	<ul style="list-style-type: none"> <li>Optical, very reliable and sensible.</li> </ul>		
<b>PRE-CLEARER</b>	<ul style="list-style-type: none"> <li>Mechanic type, placed before the yarn enters the double tension section. The dimension is according to requested specifications.</li> </ul>		

## MEASURES

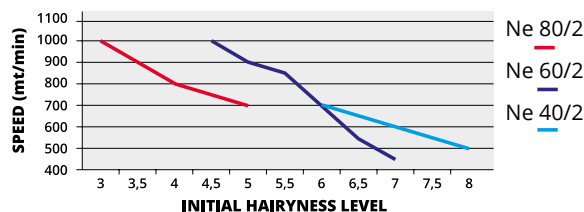
SPINDLES	SECTIONS	MACHINE LENGTH [mm]	INSTALLED POWER [kW]	NET WEIGHT OF SECTIONS [kg]
24	3	5.865	19	1.570
32	4	7.205	19	1.960
40	5	8.545	19	2.350
48	6	9.885	19	2.740
56	7	11.225	19	3.130
64	8	12.565	19	3.520
72	9	13.905	21.5	3.910
80	10	15.245	21.5	4.300

## LAYOUT

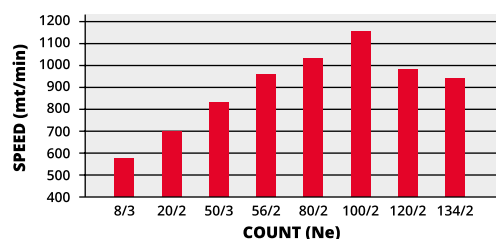
height: 2970 mm width: 2200 mm



### INFLUENCE OF THE HAIRNESS ON THE GAS SINGEING PROCESS SPEED



### COUNT/SPEED RELATION IN THE GAS SINGEING PROCESS



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