

Biancalani

TEXTILE MACHINERY

EN

AIRO[®] 24

Quality-proof

Open-width drying, softening, finishing

AIRO[®] 24

The original dryer for continuous and open-width tumbling treatments of woven, non-woven, and knitted fabrics. A high quality finishing style, which has no equal in the world.

The Airo[®] style



AVAILABLE IN SEVERAL VERSIONS

Single · Duetto · Tandem · Triplex

PRODUCTION SPEED

Up to 80 metres per minute

FABRIC TREATMENT SPEED

Up to 2800 metres per minute

EVAPORATION CAPACITY

Up to 1400 kg per hour with
a single machine



Quality-proof



HERE'S HOW IT WORKS

A set of airflows drive the fabric at very high speed in alternating directions, through the treatment channel, against specially-designed stainless-steel grills where it releases all its kinetic energy, acquiring body, volume, drape and better stability. This is the heart of AIRO® treatment, in a continuous and open-width process.

AIR EXPERTISE FROM AIRO® EXPERIENCE

The experience of AIRO® led to the specific shape of the treatment channel, conceived to maximize the efficiency of the process and designed without any internal moving part in order not to offer any resistance to the air or to the fabric, which can travel inside it at more than 2800 m/min (168 km/h).

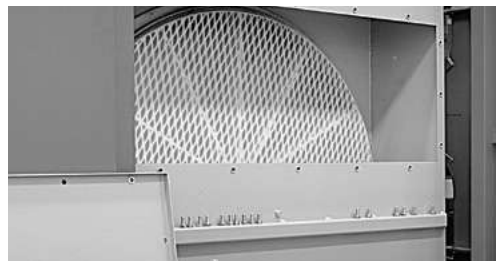
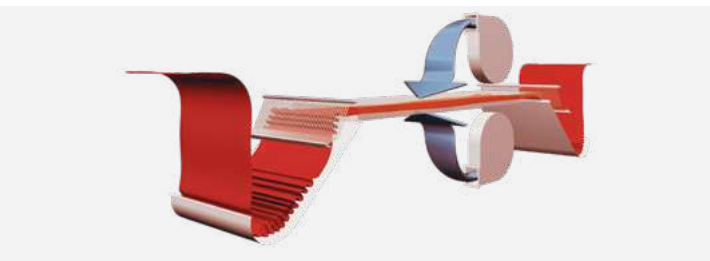
The large number (over 1000) of AIRO® installed has also enabled us to exactly define angle, distance and structure of the special grills, which are placed in front of the channel openings.

SMART AND SAFE DRYING

The specific design of the air path eliminates the risk of yellowing the fabric, even when using the highly efficient microprocessor-controlled gas burner as an alternative to (or together with) steam and diathermic oil. At the same time, the unique and patented SMART-SWITCH 2.0 technology permits to finely modulate the intensity of the mechanical action, independently from the drying power, and the intelligent control of the airflows direction brings a considerable increase in drying capacity and productivity.

CLEVER FILTERING

The filtering action is independent from the air recirculation process. The air that comes out of the self cleaning treatment channel is loaded with dust, lint and humidity extracted from the fabric. It immediately enters the exhaust flow, passing through an automatic compacting and self-cleaning filter. This prevents any clogging problem and reduces cleaning operations to a minimum. The efficiency of the AIRO®24 is constant as is the quality of the treatment: lot after lot, day after day.



SUSTAINABLE EFFICIENCY

The combination of temperature and mechanical action on the fabric, the ratio of new and recirculated air injected into the treatment channel and the efficient thermal exchange between air and fabric, all reduce the environmental impact of AIRO[®]24 by increasing its process efficiency to the remarkable value of 95%, as attested by the “Green Label” sustainable machinery certification. Together with non-stop in/out fabric synchronisation, flexible input and output modules, maintenance-free design and efficient filtering system, these are the factors contributing to the high productivity and low cost per metre of processed fabric in AIRO[®]24.

OPEN AND EASY

Through a user-friendly interface, the main and auxiliary touch screens allow for complete control of the AIRO[®]24 and the other machines seamlessly integrated in the line, such as padders and AIRBOX. Recipes, usage statistics and real-time data can be visualised and managed either locally or from a remote computer connected to the network. AIRO[®]24 is also open to directly accessing all the working parameters in order to be interfaced with existing monitoring systems (i.e. industry 4.0).

FIT FOR EVERY JOB

Available with different production capacity, in DUETTO (patented), TANDEM, and TRIPLEX versions, in partnership with the different sizes of AIRBOX, in line with squeezing and finishing padders, or following an AQUARIA[®] washing range, AIRO[®]24 can satisfy every production need.

AIRO[®]24 can be fitted with a set of accessories, such as the STEAMING set at fabric entry, or the patented H-SHUTTER device that independently varies the width of each end of the treatment channel, increasing the performances and offering extreme flexibility for special applications.

In addition, the quick-threading MULTI-PANEL configuration with easy switch from one to two or three panels of fabric, and the TWIN-TUBULAR configuration, allow to fully exploit the processing power of the machine.

SUITABLE FOR EVERY FABRIC

AIRO®24 can process any type of textile surface in a very wide range of materials, always with optimal results. From natural fibres and blends, to artificial (viscose, polyamide, Lyocell, Cupro, Modal) and synthetic ones, woven, knitted, non-woven, coated, or laminated, for different applications ranging from apparel to upholstery to home textile and technical applications. There are no limits in terms of weight and width. Results are obtained in complete safety and without defects.

CUSTOM TECHNICAL AND FASHION SOLUTIONS

The technological division of Biancalani studies – with expertise and discretion – together with our customers, the process solutions that are most suitable for each type of material and treatment requirement.

DIRECT CONTACT: technologist@biancalani.com

WHAT CAN AIRO®24 DO FOR YOU?

- » Airflow (AIRO®) tumble-drying and mechanical softening of wet fabric
- » Mechanical, chemical-free softening, on dry fabric or with steam application
- » Mechanical softening after application of chemical products
- » Super soft and super swelling treatment of terry towel. Much more than tumbling!
- » Single-pass high efficiency polymerization of resins
- » Cleaning treatment after bio-polishing and surface finishing
- » Preparation for subsequent treatments such as shearing or coating
- » Compaction, stabilization, relax

WHICH RESULTS WILL IT DELIVER?



AIRO® HAND label certifies the original AIRO® effect of the fabric finished in a Biancalani machine.

- » Softness, volume, drape (AIRO® HAND)
- » Swelling, perfect straightening and de-twisting of the loops on terry towels
- » Hand breaking on particularly rigid fabric and laminated materials
- » Dimensional stability, relaxation, increase in elasticity, resilience, and “sewability”
- » Softness and uniformity of the surface on printed cloths
- » Uniformity and absence of directionality on pile fabrics
- » Casual look and wrinkled effect
- » Opening of the chenille and three-dimensionality on jacquards
- » Depth and richness of colours on yarn-dyed fabrics
- » Peachy hand on emerized and brushed surfaces
- » Grain-enhancement and natural/aged look on synthetic leather
- » Increase of adhesivity and surface conductivity on non-woven substrates
- » Higher transpiration capacity and/or increased hydrophilic properties for special applications

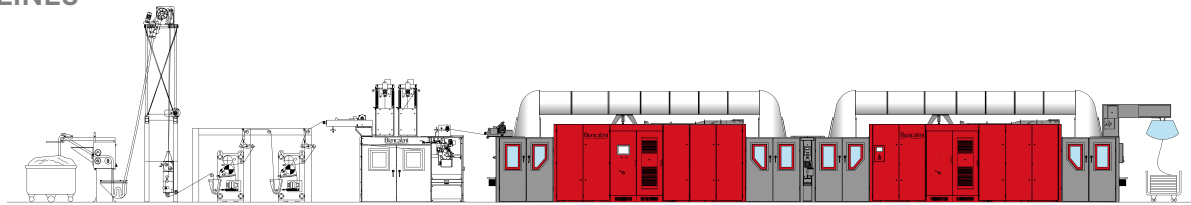
...and many more!



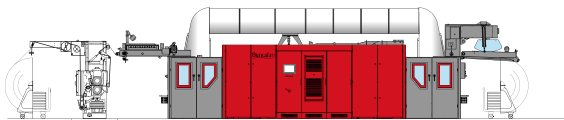
TECHNICAL SPECIFICATIONS (single machine)

Available working widths	up to 3600 mm
Production speed (fabric in/out)	5-50 m/min (up to 80 m/min on request)
Fabric treatment speed	up to 2800 m/min
Fabric inlet	free / A-frame / in line
Fabric delivery	plaiter / A-frame / in line
Maximum air temperature	170°C
Evaporation capacity	up to 1400 kg/h
Installed electrical power	starting from 90 kW
Installed thermal power	up to 800 kW
Average utilization of gas steam	30 Nm/h (gas) 520 kg/h (steam)
Max consumption of compressed air	500 NI/min
Dimensions (W x L x H)	from 3400 x 11700 x 3300 mm

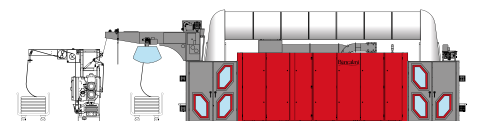
EXAMPLE CONFIGURATIONS AND LINES



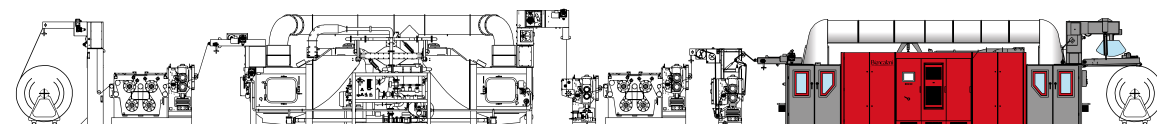
TERRY TOWEL, LARGE CAPACITY



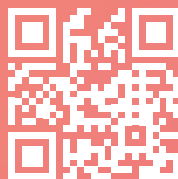
GENERAL-PURPOSE CONFIGURATION



AIRO[®]24 DUETTO COMPACT DOUBLE-THROUGHPUT UNIT



DRYING AND FINISHING AFTER WASHING PROCESS



FIND OUT MORE
[BIANCALANI.COM](https://www.biancalani.com)

Biancalani
TEXTILE MACHINERY

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