

# LAIP - ITALIAN DYEING TECHNOLOGY SINCE 1958

**LAIP was founded in 1958 with the intention ever since to supply the market of the textile dyeing industry with innovation and quality. The context in which the company lives is the Prato district, Italy, strongly characterized by unrivalled textile know-how. Therefore, the obvious need to work is quality without forgetting innovation, two fundamental production concepts. Thanks to this attitude the market globally recognizes the continuous evolution of LAIP.**

The company is driven to always face new challenges and the interaction with customers stimulate the design and technology department to find suitable solutions to face the new and important needs of dyehouses. From this ability to dialogue, the innovations - that will then be globally disseminated - are born.

It is not easy in the world of dyeing to find eco-friendly solutions, as requested by many customers. Yet they must be faced and resolved. This is where innovation comes from: super-efficient pumps, low liquor ratio, ease of use, automated systems, efficiency improvement and industry 4.0 features. All aimed at creating ever more performing dyeing machines in terms of sustainability that goes towards an ecological transition that sees LAIP and its customers seriously committed.

LAIP has thus supplied dyeing machines of entire compartments in factories specially made by customers to insert LAIP products, this is a sign of the established trust that the market places in the company and in its machines.

LAIP proposes to the market very innovative products and technologies. Just to mention the most interesting in terms of productivity and eco sustainability for today's

dyehouses:

**250 HT Jet**, the easy machine that never stops to get perfectly dyed fabrics with no abrasions nor creases.

**Nautilus**, the cutting-edge machine. Conceived with a double belt, it is suitable for dyeing delicate fabrics keeping the low liquor ratio constant by the maximum fabric load up to 40 %. The low water consumption means low electrical consumption and energy saving.

**Beam**, the ideal machine to dye high end silk and technical fabrics, tubular and warp knit for sportswear enabling the optimisation of production times and superlative technical performance.

**198 HT**, the highly demanded machine for tow – packages and fibre dyeing, it allows the same liquor ratio to be maintained even with partial loads!

**BID**, (Bobbins Injection Dyeing) ensures absolute repeatability, productivity and reliability for multicolour printing and dyeing of yarn in bobbins.

All the machines are tailored on the needs of individual customers and have the predisposition to industry 4.0.

Once the customer installed a machine, he enjoyed an advanced assistance: a dedicated and competent person who is informed of the client's needs, an APP providing remote assistance and advice thanks to an augmented reality software and local technicians in case of on-site intervention.



**How do you maintain stretch properties and structure stability of Circular Knitted Fabrics made by Mechanical Stretch Polyester Yarns and Fabrics made by Spandex with Polyester, Nylon or Cotton Yarns.**

Those fabrics are notably very difficult to dye. In LAIP we studied and realized the Jet 250 HT machine that grants a perfect dyeing without creases or abrasions. Successfully trialed at leading companies in Italy, Vietnam, and South America, it guarantees a seamless solution for flawless fabric dyeing, eliminating concerns related to wrinkles on these challenging textiles. Thanks to its cutting-edge technology, our JET 250HT machine ensures tension-free dyeing, effectively addressing the challenges posed by intricate fabrics such as circular knitted and warp knitted fabrics made by mechanical stretch polyester yarns and fabrics made by spandex with polyester, nylon or cotton yarns.

**What is difference in Machines Configuration for Fabric made by Mechanical Stretch Polyester Yarns and Fabrics made by Spandex with Polyester, Nylon or Cotton Yarns.**

The key distinction lies in the intrinsic structure of the machine. Opting for horizontal development machines like our JET type, rather than round soft flow machines,

is crucial. While round machines tend to accumulate fabric, causing issues, horizontal machines ensure a uniform and relaxed fabric deposition.

**How do you reduce the environmental impact of dyeing machines in terms of water, energy, and chemical consumption and wastewater treatment?**

LAIP takes sustainability seriously. We've pioneered the design and development of heat recovery systems that harness hot water from drainage pipes, leading to substantial energy savings. Our JET 250HT machine goes a step further, offering approximately 20% water and chemical consumption reduction compared to similar horizontal machines.

**How do you address maintenance needs for dyeing machines to minimize downtime and ensure consistent performance over time?**

Our machines are a product of thoughtful design aimed at delivering top-notch performance, proudly bearing the label 'MADE IN ITALY.' We prioritize longevity by ensuring ease of maintenance and accessibility, allowing our machines to serve for many years. What sets us apart is not just the product but also our commitment to continuous support. Our local and remote 24/7 technical assistance ensures reliable and responsive customer service.

**Stretch Knitted Fabrics can range from very light to medium weight materials. How do you design your machines to have maximum utilization of tube size?**

Reliable and high-performance machinery is essential to dye technical and sport fabrics with varying weights from 30 to 400 grams per square meter. The design of our JET 250HT machine, with its 100% horizontal development, ensures a tension-free process. Thanks to meticulously engineered nozzles and pumps, it guarantees maximum versatility to accommodate the different needs of these fabrics.

**In Jet Dyeing Machines, the issue of fabric entanglement is very common. How do you tackle this issue?**

Knotting is a common concern in both JET and Soft Flow dyeing machines. However, our JET machines

boast a construction that remarkably reduces knotting issues by 99%. We take pride in delivering an easy and reliable machine that ensures no machine downtime.

**Achieving uniform dyeing in High Gauze Knitted Fabrics specially with Stretch can be challenging. How do your machines address this issue to ensure uniform colour distribution?**

LAIP has achieved an unparalleled level of quality and energy efficiency, particularly in the processing of elastic fabrics. Our precision-engineered nozzles, pumps, and speed parameters ensure consistently uniform dyeing, even on challenging colors like turquoise.

**How do your machines utilize automation and digital technologies to streamline the dyeing process, improving efficiency and reducing errors?**

At LAIP, we've embraced automation and digital technologies matching the requirements of the industry 4.0. This advanced system not only streamlines

the dyeing process but also communicates real-time functional and consumption data to users. By leveraging smart manufacturing, we ensure improved efficiency and a significant reduction in errors.

**Dyeing technology is constantly evolving. What are some recent advancements in your dyeing machines for Stretch Circular knitted fabrics, and how do they improve the dyeing process?**

With our commitment to staying at the forefront of dyeing technology, LAIP collaborates closely with world-leading producers of stretch fabrics. This collaboration has empowered us to offer our customer innovative, easy-to-use, secure, and efficient technology. Recent advancements in our dyeing machines for stretch circular knitted fabrics have revolutionized the dyeing process, ensuring enhanced performance and precision. We strive to provide our clients with the latest innovations, making the dyeing of stretch fabrics a seamless and efficient experience.

