



RVS

Bobbin, fiber,
tops, tow,
muff, tapes
dyeing systems

Main Features

RVS machines represent the result of 40 years of research and development focused on the reduction of power and water consumption.

For general information on RVS machines and options available, you can refer to **pages from 4 to 7** of the present catalogue.



In addition to the above, here below some information related to this product line:

Variable liquor ratio: Average 1:6 with material fully covered. Up to 1:3,5 with partially covered material.

Reversing device: All machines are equipped with system to reverse circulation, even on fiber dyeing machines.

Pump flow regulation: By means of inverter and process parameters, permits to reduce at the minimum the power consumption of the main pump.

Shell and tube heat exchanger: A more expensive but more refined solution with an average 2,5 times higher efficiency compared to internal coil.

Carriers: The same machine can be equipped with different carriers optimized for dyeing any size of bobbin and different textile products like loose fiber, tow, tops and muff.

Capacities: Machines are realized in any different capacity, combining different diameters and heights of the vessels from 200 to 2200 mm, we can cover any size from 1 to 1500 kg.



Options:

Automatic rapid lid locking system, especially useful for fully automatic loading/downloading system.

Flow meter: Placed on the main circuit of circulation, allows, along with differential pressure regulation (standard supply), to control and adjust the pump flow according to material characteristics.

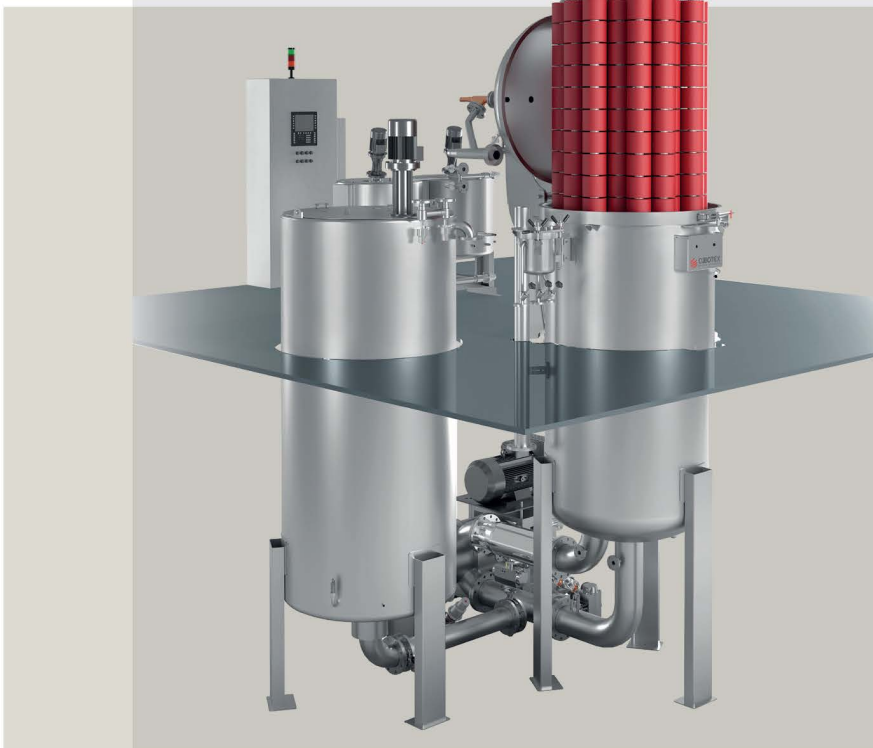
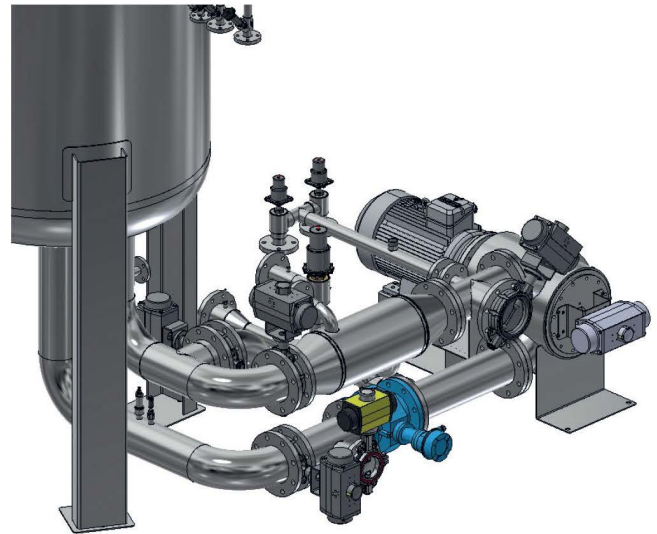
Washing functions: There are 4 different washing functions available which can be performed according to the dyestuff and fibers to optimize consumptions. If the machine is equipped with stock tank, a fifth washing option is available.



Squeezing function: By means of compressed air, to extract water from packages.

Heat Exchanger Models

The use of an external heat exchanger, permits to further reduce the machine liquor ratio since the lower part of the kier is not occupied by the coil creating additional water volume. As a matter of fact, and evident in basic thermo dynamics, the thermal exchange coefficient of a tube/shell type heat exchanger is higher (double and even more) compared to an internal coil. Thermal exchange is direct function of the flow speed and turbulence between the heating medium and the liquor to be heated/cooled. It is easy to understand that the speed of flow inside the small pipes of an external heat exchanger is much higher compared to the liquor movement around the coil inside the dyeing kier.



The image on the right shows two machines model RVS 1000 each one loaded with 1200 kg of cotton yarn.

The running consumption during the entire cycle varies between 40 and 45 kWh thanks to the high efficiency circulation system.

All our machines are supplied with reversible circulation although it is possible to perform cycles with IN-OUT circulation only, without covering the bobbins.





Circulation Pump

All circulation pumps on Cubotex machines are designed and built in our factory. The impeller design has been developed to ensure the most flexible combinations of flow and pressure at different motor speeds. All pumps are equipped with reversing device which is in-built inside the pump body. It is an almost maintenance free system consisting of a rotating curve which is connected to impeller suction and switches between the two sides of pump connection to machine. Pumps have a stainless steel free standing basement and do not require any foundation.



Material Holders Configuration

The same machine can be equipped with different types of carriers according to the material to be dyed. Here below some examples.

Tops dyeing: Machines available from 1 to 14 extractable columns (tops dia 400 mm), with different column height at customers' preference. In tops dyeing it is very important to grant a delicate circulation to preserve the fiber quality and mechanical properties. The machines dedicated for this purpose are especially engineered keeping this aspect as a priority. The material holder can be equipped with or without external removable perforated shell.



Moreover, with the use of special dummies in combination with air pad technology, it is possible to realize partial loading on the columns to increase machines flexibility. Even for tops dyeing machines, we have realized robotized installations with special covers suitable to be removed by automatic handling systems.



Muff dyeing: Typically used for filament yarns, this material configuration allows to obtain a higher yarn elasticity after dyeing and permits to process high-shrinkage articles. Muff configuration may vary from a smaller diameter of 200 mm (in such case can be dyed on spindles like bobbins) up to higher diameters with 800+ grams weight which are normally dyed in loose form inside baskets.



There are two different options for dyeing loose fibre and tow: Dye-cakes can be formed on base plates or inside baskets with individual covers. In the first case, handling is made by means of chains and two or more cakes are connected together for faster loading/downloading of the machine. In this case, a fibre carrier is fixed inside the machine with an inner and outer perforated shell. In second case, each cake is formed into its own basket and the material can reach a higher density since each basket has a cover which is positioned under the press and locked into the basket after the pressing operation avoiding material resilience.