

MINI PAD-STEAM-UNIT TYPE «TPS»

Flexible Continuous Steamer

Economic Use

The Mini Pad-Steam system type «TPS», a continuous and practical method of operation for dyeing and bleaching processes. Its modular design allows the «TPS» system to be configured in a wide variety of ways.



www.mathisag.com

Possible Uses

The «TPS» system is suitable for the continuous and practical steaming of textile samples, as well as the treatment of cotton, polyamide, and blends of cotton and synthetics. Fixing processes are workable for vat, sulphur, reactive, acid and metal complex dyes on dyed or printed fabric. In the pre-treatment area, the system can be used for bleaching processes with hydrogen peroxide. Systems are available including rollers with a width of 350 mm or 500 mm.

The modular design of the «TPS» system allows for the inclusion of optional applications. Configured especially to meet your requirements, the following options can be added to the «TPS» system:

- Economic trough for small dye liquor quantities
- Chemical trough for wet-on-wet application
- Electric steam generator
- Wash troughs with 1 m fabric content
- Wash troughs with 2 m fabric content, wide shape
- Temperature regulator for wash troughs

Areas of Application

The main area of application of the «TPS» system is in the textile industry, but it is also used in research institutes and development departments.

Fully-Developed Principle of Operation

Continuous Process Sequence

The material sample undergoes process-related treatment and is then guided through the «TPS» system for steaming. At the «TPS» system outlet, the steamed material sample is wound up automatically, making it ready for further processing.

The material sample to be steamed is unwound by the «TPS» system unwinding device and then guided through the steamer. At the outlet of the «TPS» system, the steamed material sample is then wound up using an upwinding device.

Material winding with a roller core and sleeve is optionally available.



«TPS» system with an integrated wash trough

Individual processing sections

Dyestuff-Application

The material sample is guided from the unwinding roller into the liquor trough. The dyestuff application is done at the two roll vertical padder. The pneumatic pressure system with squeezing rollers of the same Shore hardness guarantees an even dye application.

The easily removable liquor trough enables a fast colour change in case of short sample lengths and trials in series with a large selection of dye shades.

Steaming

An absolutely air free steaming atmosphere is required for an optimum dyestuff fixation. The design of this steamer guarantees a complete oxygen free atmosphere. Trials with saturated steam or with slightly overheated steam up to 110°C are possible by means of a temperature regulator.

Steam chamber

A window allows the fabric to be observed during the steaming process. Good heat insulation is guaranteed thanks to the double-wall design with insulation in between. The ceiling of the steamer and inlet slot are heated to exclude drop formation. A water trap is installed at the steamer outlet to ensure that no atmospheric oxygen can enter into the steamer. The steamer's internal parts are all manufactured from acid-resistant 316 stainless steel.

Steam generator

Suitable electric steam generators are available for the steam chamber only or for the steam chamber plus wash troughs. The smaller steam generator for the steamer without wash troughs is mostly attached to the unit whereas the steam generator for steamer and wash troughs is mostly a separate unit. (Approx. 18 kg steam/hour)



Dye application in the liquor trough



Economic trough for small liquor quantities

Optional, Process-Oriented Additional Components

Economic trough

Easily detachable liquor trough for small liquor quantities.

Chemical trough for wet-on-wet application

For wet-on-wet application, the chemicals are applied with the chemical trough. Immediately after squeezing, the sample enters the steaming chamber. This is of particular importance if the equipment is operated at low speeds.

The fabric is impregnated with chemicals in the dip trough mounted below, ahead of the steamer. A driven squeezing device with pneumatic cylinders determines the liquor pick-up. The arrangement of the squeezing device and chemical trough allows the fabric to quickly enter the steamer, even at low speeds.



Chemical trough with squeezing device

Washing sections

Several washing sections with 1 or 2 meters of fabric content are available on the system. To check the fabric tension, each washing section is equipped with its own squeezing device and compensator. The compensator is capable of regulating the speed over the entire area.

The liquor temperature can be adjusted either manually via a valve or monitored automatically by a temperature regulator on the digital process controller. Adjustment by manual valve requires the continuous visual monitoring of the temperature display on the wash trough. This is unnecessary with the automatic temperature regulator.

Spraying pipes can also be optionally included for continuous rinsing at the wash troughs.



«UNIVISION Touch» - the user-friendly process controller

The programmable «UNIVISION Touch» process controller is optimally adapted to the requirements of its user and to the functionality of the «TPS». It is very simple in operation, thanks to:

- Clearly laid out graphic illustration of the process with all functions
- Simple and easily remembered function pictograms
- Menu-driven parameter entry
- Updating and display of all process data during the operation
- Information displays (error and fault displays) in plain text
- Call up of a comprehensive helpfile
- Update-capable software
- Import and export of process data to other «UNIVISION Touch» or to PC

The «TPS» in combination with the «UNIVISION Touch» is ready for the present as well as future processes in your business.

Optional functions of the «UNIVISION Touch»

Process programmer

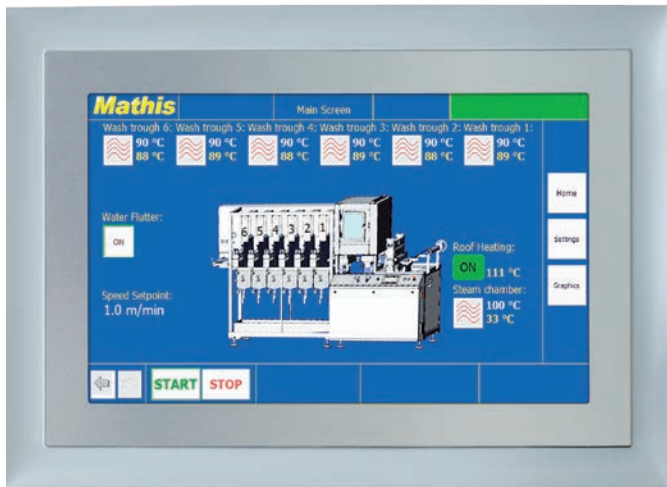
Recurring processes consisting of several treatment intervals can be saved and recalled when required.

Day and week programmer

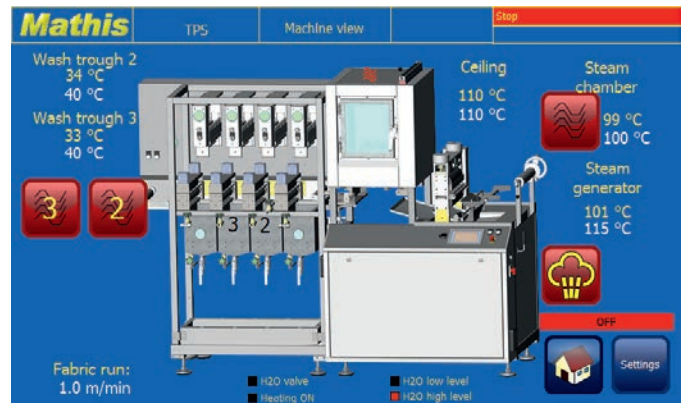
Not only recurring individual processes, but also complete day and week programs can be predefined and started. For example, the «TPS» can already be preheated at the start of the week before work begins.

Process management using PC

It is possible to connect the «UNIVISION Touch» with a LAN network using Ethernet Interface TCP/IP connection. Process data as well as complete programs are thus created centrally and transferred to the «UNIVISION Touch». Even a running process can be changed this way. Over a connected PC e.g. reports of the processes of the «UNIVISION Touch» can be created for ISO 9001.



«UNIVISION TOUCH», the clearly laid out, user-friendly process controller

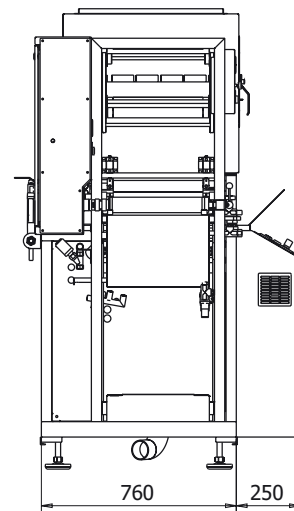
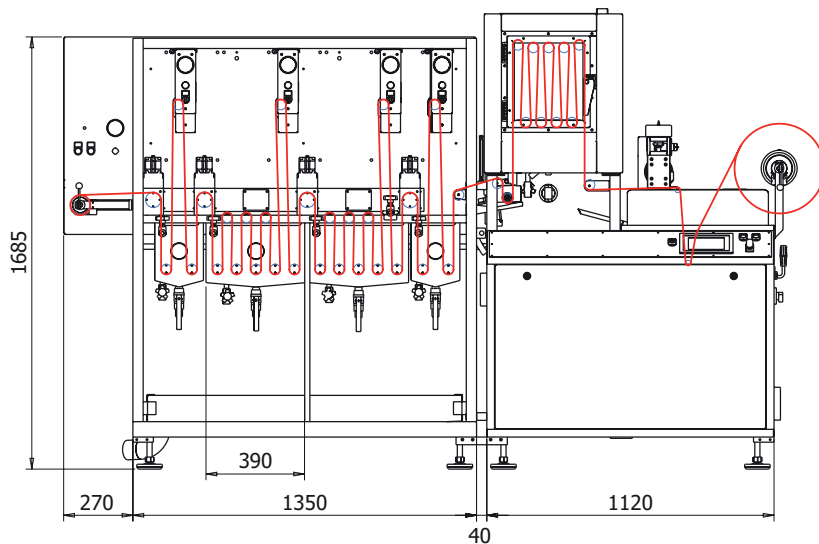


Technical information and dimensions

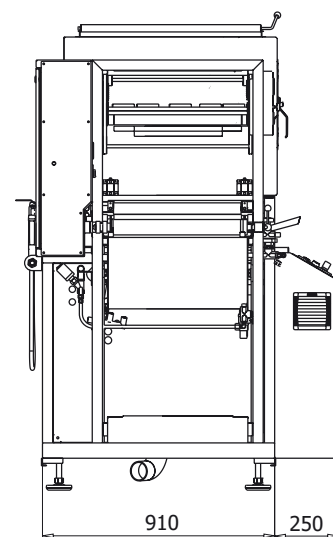
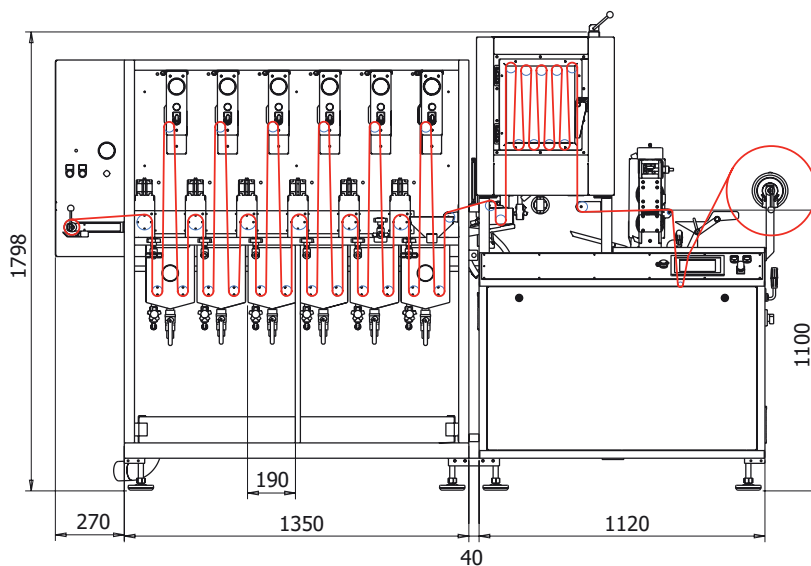
Technical information

	Type 350	Type 500
Roller width:	350 mm	500 mm
Working width:	300 mm	450 mm
Steam generator goods capacity:	1 – 3 m	
Fabric feed speed:	0.2 - 5 m/min	
Dwelling time:	12 s - 15 min	
Liquor content:	1.2 l	1.7 l
Chemical trough content:	1 - 2 l	
Temperature range:	up to 110° C	

Dimensions



Type 350



Type 500

«TPS» Pad-Steam System with «HVF» Padder and «KTF» Dryer as a Continuous Process

Fully continuous processes such as the Pad-Dry and Pad-Steam used in a production line can be reproduced in the laboratory. Connected ahead of the Pad-Steam system is the Mathis thermosol unit «HVF» - «KTF». This Pad-Dry unit comprises a horizontal and vertical «HVF» padder with subsequent «KTF» hot-air dryer. Each machine can be operated in both continuous mode for longer samples and discontinuous mode for small samples.



Other documentation

2-roll padder type «HVF»

Continuous dryer type «KTF»

Werner Mathis AG

Rütisbergstrasse 3
CH-8156 Oberhasli/Zürich, Switzerland
Telefon: +41 44 852 50 50
Telefax: +41 44 850 67 07
info@mathisag.com
www.mathisag.com

Werner Mathis U.S.A. Inc.

2260 HWY 49 N.E./P.O. Box 1626
Concord N.C. 28026, U.S.A.
Phone: +1 704 786 6157
Fax: +1 704 786 6159
usa@mathisag.com

Mathis (India) PVT. LTD.

No.01, Shreeji Arcade
1st Floor, Opp. Nitin Co.
Almeida Road, Thane 400 602
Phone/Fax: +91 22 2538 5472
india@mathisag.com

Aparelhos de laboratorio Mathis Ltda

Estrada dos Estudantes 261
CEP 06707-050 COTIA S.P., Brasil
Phone: +55 11 3883 6777
Fax: +55 11 3883 6750
brasil@mathisag.com