

# LABCOATER TYPE «LTE-S»

Coating and drying of material samples

## Efficient application

The LABCOATER type «LTE-S» is the optimum combination of dryer and coating table. Its compact construction and very simple operation make it cost-effective.



[www.mathisag.com](http://www.mathisag.com)

### Possible applications

The application of the «LTE-S» covers textiles, nonwovens, foils or papers which are required to be coated using the coating method.

The coating paste is applied evenly to the carrier material using a doctor knife.

When the coating process has finished, the carrier material is introduced to the dryer without repinning. Therefore multiple coatings can be realised quickly and reliably.

The «LTE-S» is used for the following operating procedures:

- Doctor knife coating followed by drying in controlled hot air.
- Doctor knife coating available as: floating knife, roller knife, rubber blanket knife.
- Suitable for the use of coating materials with a low solvent content.
- Operation as a hot-air dryer without doctor knife coating, however, with the outstanding properties of an «LTE».
- Discontinuous process flow without doctor knife coating with specific material holders.
- Laminating the material samples with the corresponding additional components.

### Scopes of application

The scopes of application of the «LTE-S» are the textiles industry, the pharmaceutical industry, foil and paper manufacturers, research institutes and development departments of most branches.



«LTE-S»  
Coating and drying with one unit.

### Perfected functioning principle - the doctor knife coating

Depending on whether a counter roller, supporting roller or rubber blanket is used, coating can be carried out with a roller knife, air knife or rubber blanket knife.

Different doctor knives are used according to the required process.

Used from above and with variable angle adjustment, the doctor knives can be set to an accuracy of 0.01 mm.

There are two types of doctor knife: Doctor knife A is straight and pointed that is suitable for the application of low viscous products. Doctor knife B is a round doctor knife, suitable for the application of high viscous products.

#### The coating process

- By means of two handles, the coating head is guided over the carrying material for coating.  
Optionally, the forward movement of the coating head can be made with a motor drive.  
The «LTE-S» thus becomes the «LTE-SM».
- The coating head is lowered and the transport frame can then be introduced in the «LTE-S» for drying.

#### Meyer bar «K-BAR»

Meyer bars are suitable for applying small quantities of water or solvent based products with a viscosity of approx. 20 to 500 mPas. The Meyer bar is mainly used for application against a rubber blanket.

### Drying in controlled hot air

#### Preparing of samples

The material samples with a maximum size of 33 × 43 cm are fixed on the required material holder. The material holder is mounted in the transport frame.

#### Process flow

The necessary process parameters such as dwell time, temperature and fan speed are entered at the «Univision Touch» of the process controller.

The start button is pressed, the transport frame moves into the treatment room and the process is thus started. At the end of the process, the transport frame moves out automatically.



The doctor knife coating followed by drying in controlled hot air.

Meyer bar «K-BAR»

### Heart of the «LTE-S» - the treatment room

An efficient circulation fan, combined with heating at an ideal setting, enables the heat treatment of various materials in controlled hot air.

A regulating flap can be placed in the air channel and set in such a way to achieve even or variable ventilation of the upper and lower sections.

The temperature control is based on the resistance measurement. To achieve a precise temperature measurement, the sensor is attached just in front of the air outlet.

An additional temperature sensor acquires the temperature of the heating element and protects this against overheating.

The heating is dimensioned so that the required drying temperature is reached and maintained quickly.

### Optional, process-oriented add-on components

#### Exhaust fan

Special exhaust fans for the application in heat treatments with powerful air load are available.

#### Infrared radiation pyrometer

For the contactless measuring of the material sample surface temperature.

The IR radiation pyrometer enables the exact and current determination of the surface temperature and from this the resulting residual moisture. Its emission factor can be adapted individually to the sample to be treated via the «UNIVISION Touch» process controller.

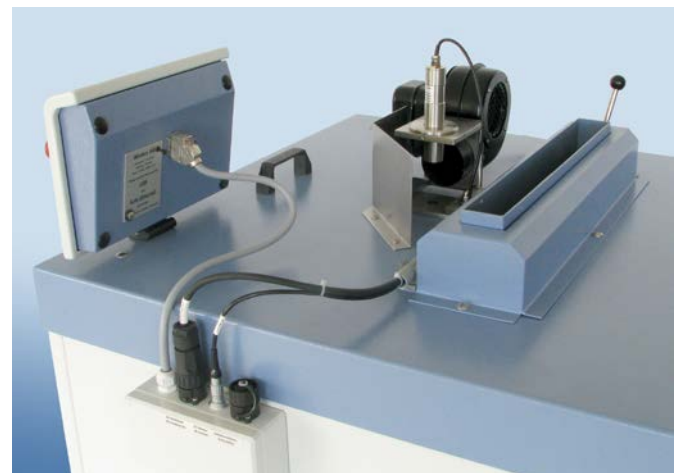
#### Material holders in various designs

Material holders such as pin frames adjustable in length and width, pin frames adjustable in length, foil and paper frame and sieve frames are available for the standardized sample sizes.

#### Automatic positioning device for the regulating flaps

The regulating flap in the air channel can be adjusted by an electric motor.

The advantage is better air and temperature distribution as well as easier reproducibility of the settings chosen.



Additional process-oriented components, mounted on the «LTE-S» cover.

## «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 «LTE-S». 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 «LTE-S» 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

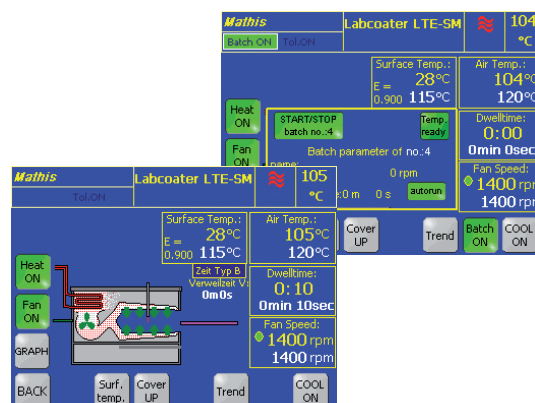
Not only recurring individual processes but also complete day and week programs can be predefined and started. For example, the «LTE-S» can already be preheated at the start of the week before work begins.

### 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, for example, reports of the processes of the «UNIVISION Touch» can be created for ISO 9001.

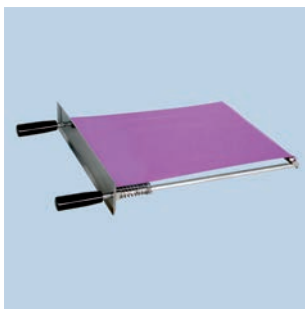


«UNIVISION Touch» the clear, user-friendly process controller.



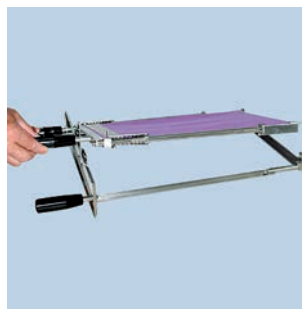


## Material holder



Pin frame, length-adjustable  
«NR-L»

Material holder for woven goods and materials that are dimensionally stable.  
Sample size: max. 33 x 43 cm



Reversing pin frame, length-adjustable  
«WR-L»

Material holder for double-sided coating, without re-loading the material. For materials that are dimensionally stable.  
Sample size: max. 30 x 35 cm



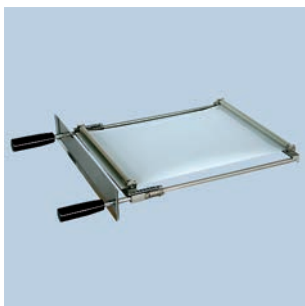
Pin frame, length-and width adjustable  
«NR-L+B»

Material holder for knitted goods and materials that are not dimensionally stable.  
Sample size: max. 33 x 43 cm



Sieve frame «SR»

The sieve frame with a removable upper part is useful for the insertion of loose items.  
Sample size: max. 30 x 35 cm



Paper and foil frame, length-adjustable  
«FR-L»

Material holder for release paper, foils, fleece etc.  
Sample size: max. 29 x 43 cm

## Extensive accessories



Fast laminating device type «K-SK»

Application: For laminating of material samples immediately after the knife application, e.g. after coating of adhesives containing solvents. Fast laminating device type «K-SK» is placed behind the doctor knife and fastened by means of a clamping lever.



Laminating device type «SV-K»

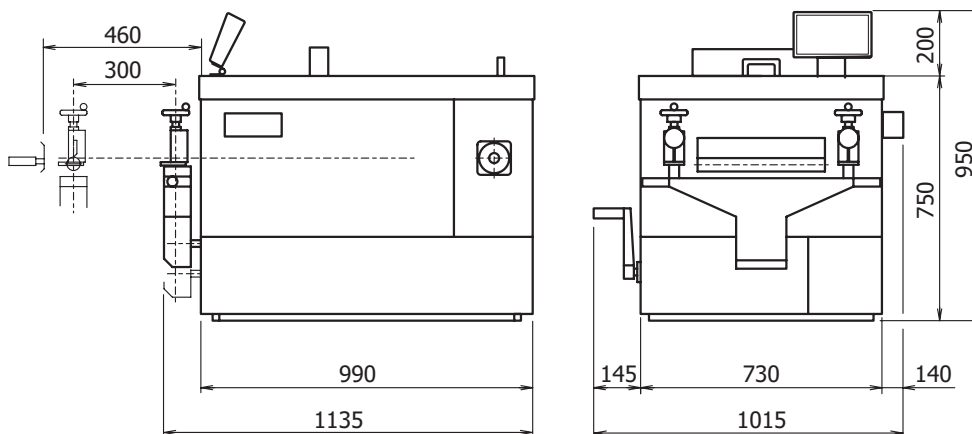
Application: For laminating of material samples after coating of the adhesives, e.g. PVC, dispersions etc. The laminating device type «SV-K» is placed at the coating head instead of the doctor knife.

### Technical information

Sample size for heat treatment:	max. 33 x 43 cm
Sample size for coating:	max. 28 x 30 cm
Coating speed:	0.2 – 4 m/min (coating device with motor drive)
Temperature range:	Up to 250 °C (300 °C)
Dwell times:	3 s – 999 min
Circulation air quantity:	Up to 1000 m <sup>3</sup> /h
Exhaust air quantity:	Up to 50 m <sup>3</sup> /h
Heat capacity:	~7.2 kW
Motor output:	0.8 kW (coating device with «LTE-SM» motor drive)
Dimensions: w x d x h:	1015 x 1135 x 950 mm (d = ~1450 mm, transport frame extended)
Weight:	~280 kg

### «UNIVISION Touch»

Operating system:	Windows CE
Storage capacity:	128 MB RAM
Touchscreen:	7" TFT
Interfaces:	TCP/IP connection (Ethernet Interface), USB



#### Other documentation

Discontinuous Labdryer Type «LTE»

Continuous Dryer Type «KTF»

Continuous Coating Systems Type «KTF-S»

Continuous Coating Systems Type «BA»

#### 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

#### 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

#### 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