

CONTINUOUS COATING SYSTEMS TYPE «KTF-S»

Coating and drying in an continuous process

Efficient application

Continuous doctor knife coating with subsequent drying and optional lamination with the «KTF-S» – everywhere, where the required sample length makes the efficient application of a large machine impossible.



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Possible applications

The modular design of the «KTF-S» permits a variety of possible applications. Configured especially to your requirements, the «KTF-S» is used for the following working processes:

- Doctor knife coating followed by drying in controlled hot air
- Dry laminating of the coated and dried material
- Also 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 a «KTF»

Continuous as well as discontinuous sequence of the working process with only one «KTF-S».

- Continuous process flow in combination with MATHIS Padder type «HVF» or from roll to roll
- Discontinuous process flow without doctor knife coating with specific material holders

Expandable functionality of the «KTF-S» through complementing with process-focussed add-on components.

Scopes of application

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

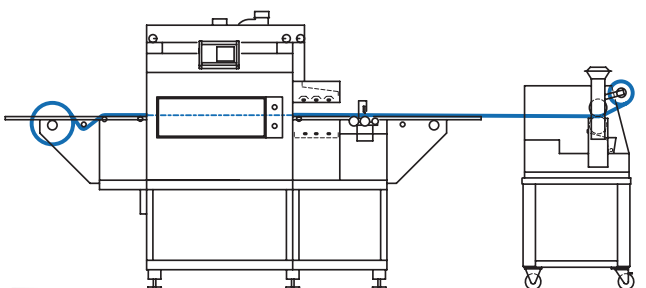
Perfected functioning principle with great results

Continuous process flow from roll to roll or in combination with the MATHIS padder type «HVF»

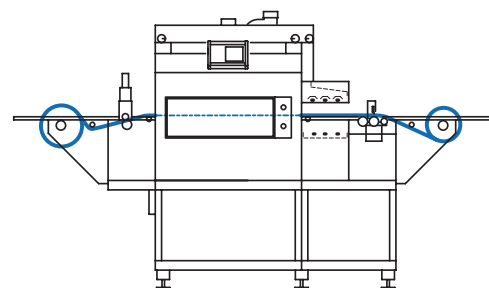
The material sample is guided by an unroll device or padder type «HVF» to the coating device/doctor knife coating. Once coated, the material sample is guided through the «KTF-S» for drying. At the outlet of the «KTF-S» the dried material sample is rolled up automatically and is therefore available for further processing. A laminating device can be used optionally before rolling up. A draw-out device ensures that the sample material speed is maintained regardless of the different roll diameters.

Discontinuous process flow with specific material holders

Individual material samples are brought up for drying on specific material holders. These then slide through the «KTF-S» with the prescribed process parameters. The material holders can also slide through the «KTF-S» reversing – thus the pick-up and deposit point is located at the same place.



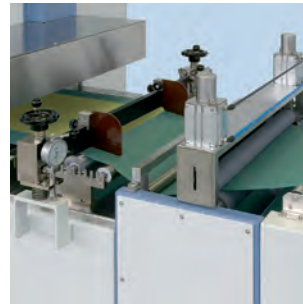
Continuous process flow in combination with MATHIS padder horizontal/vertical type «HVF»



Continuous process flow from roll to roll

Variable coating head, different doctor Knife shapes

Depending on whether a counter roller, supporting roller or rubber blanket is used, coating can be carried out with knife over roller, air knife or rubber blanket. Different doctor knives are used according to the required process. Inserted from above and with variable angle adjustment, the doctor knives can be set to an accuracy of 0.01 mm.



Variable coating device for different types of applications

Laminating device

The coating can be laminated in order to protect it or to achieve a particular function. The laminating device is used for this purpose. It consists of the unroll device and pressing roller. Distance adjusting also makes it possible to laminate thicker materials. The pressure of the pressing roller is set pneumatically.



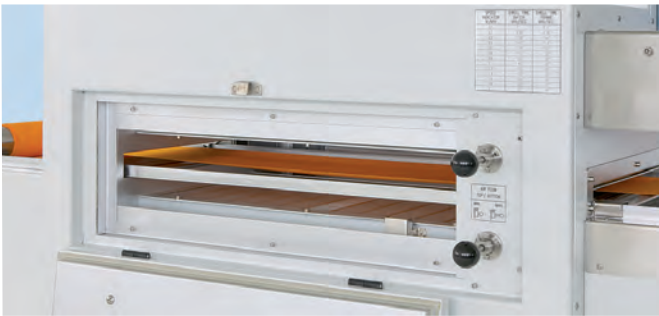
Laminating device can be used optionally



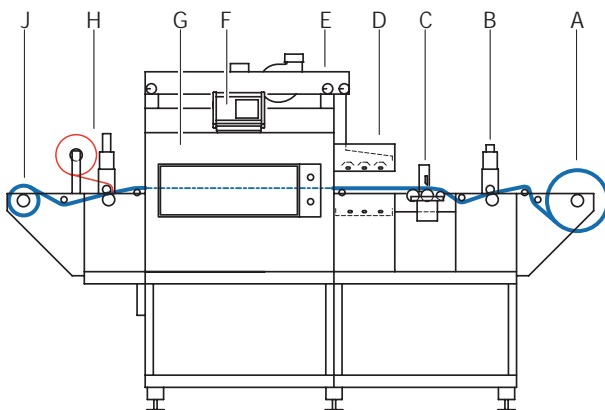
Customized continuous coating range



Heart of the «KTF» - the nozzle field



The nozzle field, the effective drying area of the «KTF», is divided into an upper and a lower nozzle section. Two regulating flaps can be adjusted so that an even or different ventilation of the upper and the lower nozzle section is achieved. The optimum drying capacity is achieved through a powerful air circulation in combination with a perfectly coordinated heating. 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.



- A Unwinding device
- B Draw-out device
- C Coating device
- D Infrared predryer
- E Exhaust system
- F «Univision Touch S» process controller
- G Hot air dryer
- H Laminating device
- J Upwinding device



Optional, process-orientated add-on components

Infrared predryer

The infrared predryer is mounted in front of the dryer field of the «KTF». IR radiators from above and below enable an optimum heat treatment predrying of the material sample. The capacity of the infrared predryer is infinitely variable.

Double field dryer

If different treating temperatures are required (drying, thermolising) or if an increased dryer output must be achieved, several dryer fields are placed one behind the other.

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 S» process controller.

Material holders in various designs

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



Infrared predryer for optimum heat pretreatment



Double field dryer for different treating temperatures

«UNIVISION Touch S» - the user-friendly process controller

The programmable «UNIVISION Touch S» process controller is optimally adapted to the requirements of its user and to the functionality of the «KTF». 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 S» or to PC

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

Optional functions of the «UNIVISION Touch S»

Process programmer

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

Day and week programmer

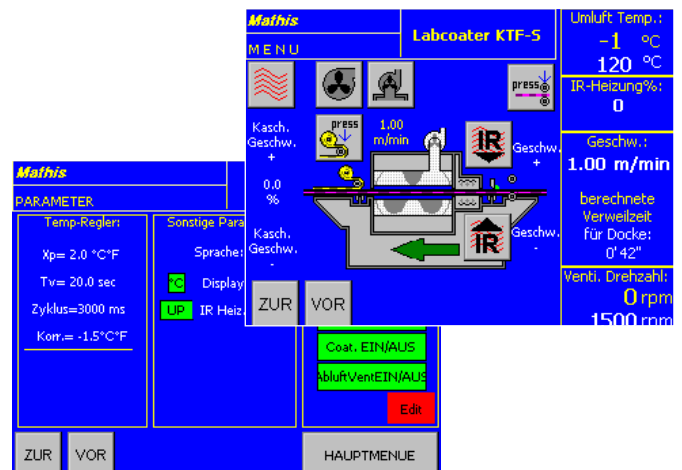
Not only recurring individual processes, but also complete day and week programs can be predefined and started. For example, the «KTF» can already be preheated at the start of the week before work begins.

Process management using PC

It is possible to connect the «UNIVISION Touch S» with a LAN network using Interface RS232C or Ethernet Interface TCP/IP connection. Process data as well as complete programs are thus created centrally and transferred to the «UNIVISION Touch S». Even a running process can be changed this way. Over a connected PC e.g. reports of the processes of the «UNIVISION Touch S» can be created for ISO 9001.



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

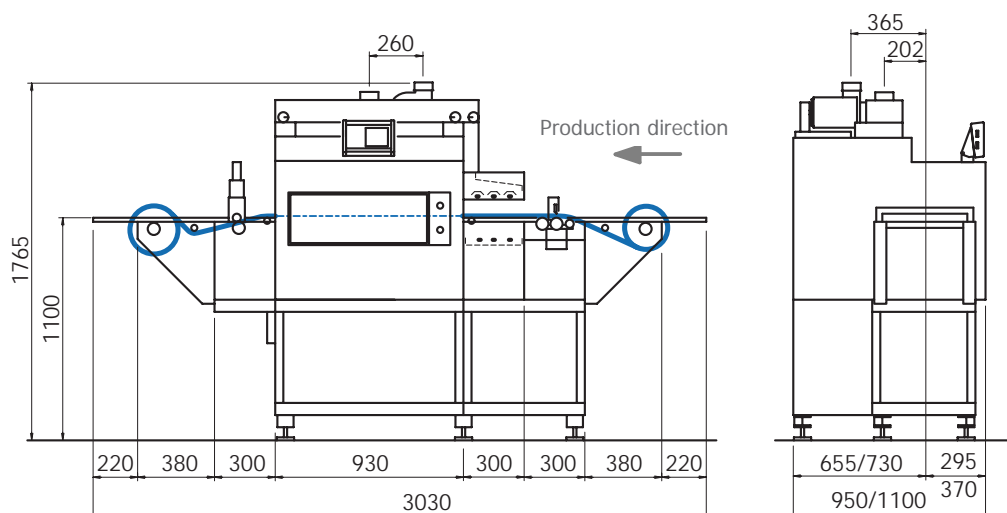


Technical information

	Type «KTF-S» 350	Type «KTF-S» 500
Working width:	300 mm	450 mm
Material speed:	0.1 – 2 m/min	
Dwell times:		
Roll – roll	20 – 420 s	
pin frame	15 – 280 s	
Circulation air speed:	up to 6 m/s	
Circulation air capacity:	up to 1000 m ³ /h	
Exhaust air capacity:	up to 400 m ³ /h	
Temperature range:	up to 250 °C	
Heating capacity:	9 kW	13.5 kW
Infrared predryer:	1.8 kW (above the material web) 3.6 kW (above/below the material web)	
Nozzle field length:	800 mm	
Sample sizes:		
width x length	330 x 500 mm	480 x 500 mm
Winding diameter:	max. 250 mm	

«UNIVISION Touch S»

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



Other documentation

MATHIS Padder horizontal/vertical type «HVF»

Continuous Dryer Type «KTF»

Discontinuous Labdryer Type «LTE»

Discontinuous Labcoater Type «LTE-S»

Continuous Coating Systems Type «BA»

«KTF-S» coating, drying and calendering in continuous process

For each purpose the optimum solution. We plan and optimize the suitable «KTF-S».



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