

Controlled Size Pick-Up

SINGLE SIZE BOX
DOUBLE SIZE BOX

SizeControl CIMATIC



Application moisture AS120 - Box 1



Application moisture AS120 - Box 2



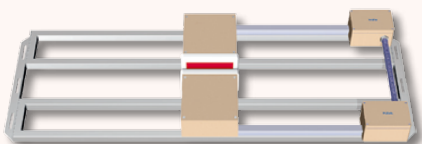
CIMATIC SizeControl



Application moisture



Intermediate moisture



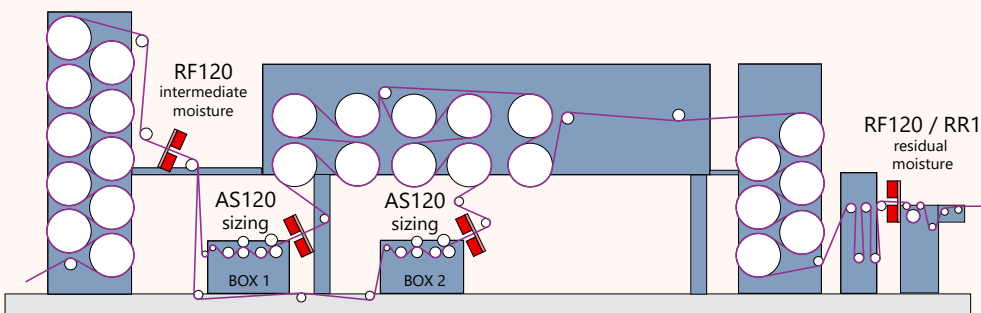
Intermediate moisture RF120



Residual moisture RR



Residual moisture



Type SizeControl CIMATIC

FEATURES OF PRODUCT

- Process visualization with control of the nip pressure for single size-box or double size-box machines
- Optimisation of high-speed and creep-speed pressure control
- Uniform size pick-up with change of warp speed
- Residual moisture control
- Online monitoring and data recording
- Process data evaluation via Ethernet
- Suitable for new and existing sizing machines

BENEFIT FOR CUSTOMER

- Continuous size application recording
- Uniform size pick-up during normal production speed and inching motion
- Increasing and stabilization of weaving efficiency by uniformity of size add-on. Results: 1.5 to 4 % increase in weaving efficiency.
- Reducing the amount of applied size 10 up to 25 % savings at conventional sizing.
- Simplified desizing and reduction of waste water

Control of size pick-up on warps

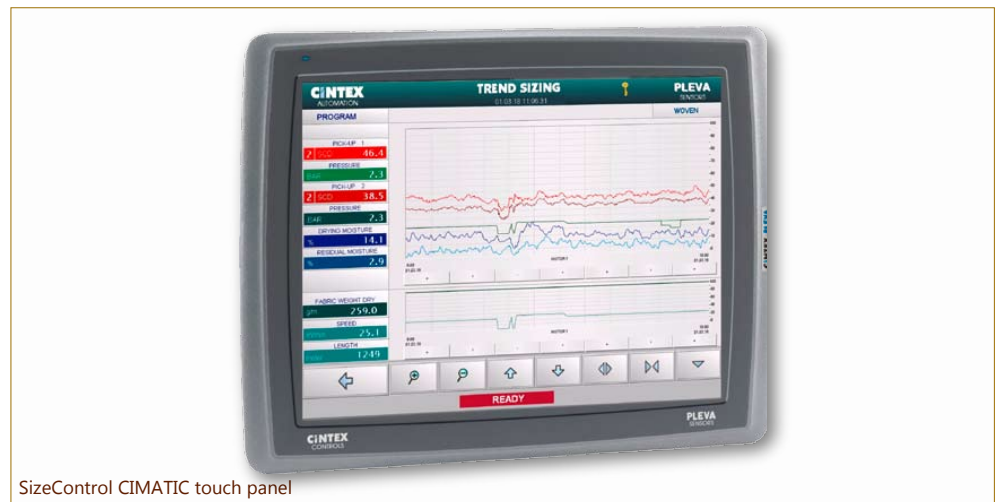
Uniform size pick-up on warps increases the efficiency of the sizing looms crucially. The desired degree of size pickup is controlled by a combined pressure steering and control system varying the pressure of the slasher squeezing rollers in size box 1 and 2.

The result is increasing and stabilization of weaving efficiency from 1.5 up to 4 % as well as reducing the amount of applied size by 10 up to 25 % savings over conventional sizing.

Size Control System CIMATIC for sizing machine with single or double size box

Modern colour graphic operating panel with modular PLC system and advanced control software guarantees optimised control on even size application and the subsequent drying process.

The advanced system use touch screen panel with trend graphic display, data gathering, recipe memory and interfaces to connect to a network by Ethernet.



SizeControl CIMATIC touch panel

PC based touch panel with modular PLC unit for individual requirements

According to the design of the sizing machine, the application moisture measurement to control the size add-on on single size box or double size box, residual moisture to control the drying part at outlet and as an option the intermediate moisture can be connected to the system.

For supervising and production data logging and storage, additional sensors can be connected like temperature sensors for size liquid temperature in the size boxes and external measurement of size concentration.

Industrial PC based panel CIMATIC PP150

- Touch panel with 15,1 inch TFT display
- Visualisation software
- Trend data display with history
- Compact flash card for application software
- Recipe archive

Programmable logic controller PLC

- Central unit with operating system and application software on flash card
- Module for analogue and digital inputs and outputs
- RS485 to connect sensors by bus and TCP/IP Ethernet communication with host

Options:

- Pneumatic control package with electronic pressure sensors for control of squeezing pressure
- Protective cabinet for visualization and PLC



CIMATIC SizeControl at the outlet of sizing machine

Measurements and Components

Sensors

**Size application measurement
Type AS120**

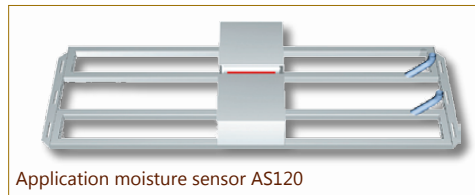
The water content of the size warps is online measured contactless, continuously and accurately behind each sizing box. The amount of absorption of microwave is a measure of the absolute moisture content. The degree of sizing is thus also measured if the bath concentration is constant.

A continuous monitoring and therefore a reproducible adjustment of the degree of sizing is achieved.

**Warm air generator
Type LV**

The measuring heads AS120 are protected against the steam vapours occurring downstream of the size box and the high temperature.

The warm air generator is equipped with a turbo blower and thermo regulator and should be installed at the measuring frame of AS120.



Application moisture sensor AS120

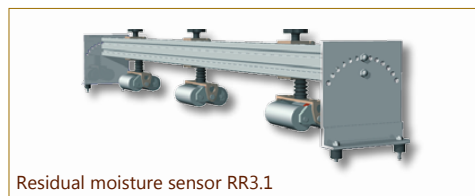


Warm air generator LV

**Residual moisture measurement
Type RR3.1**

The RR with 3 set of tandem roller sensors is based on measurement of the electrical resistance. This increases exponentially as the residual moisture decreases.

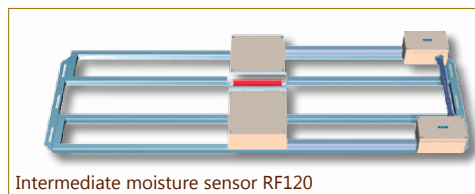
The type RR3.1 measures the maximum moisture value of 3 tandem roller sensors (side/centre/side) to control the drying level behind drying cylinder.



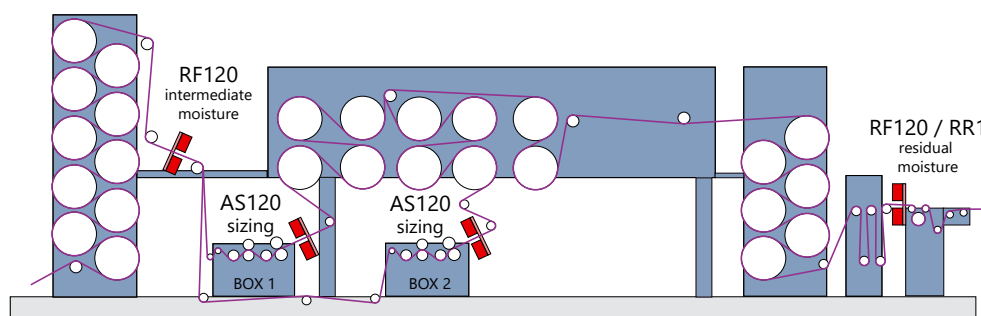
Residual moisture sensor RR3.1

**Intermediate moisture behind dryer
Type RF120**

The intermediate moisture is measured with the contactless microwave measurement RF120 to monitor and control the result of pre-drying behind a dryer to supervise moisture in a machine line with pre-dryer.



Intermediate moisture sensor RF120



Sizing machine with double size box, size application and residual moisture control (optional intermediate moisture)



Size application measurement AS120



Warm air generator with electronic AS120

FEATURES OF PRODUCTS

- Measurements are contact-free
- Measuring non hazardous
- Sensitivity of the measuring instrument can be selected within a wide range
- Condensation on the measuring frame is avoided by temperature control

BENEFIT FOR CUSTOMER

- Coverage of the size coating without omission
- Minimisation / Optimisation of sizing agent consumption
- Avoidance of undersizing and oversizing

SizeControl

Type CIMATIC

Application moisture

Type AS120

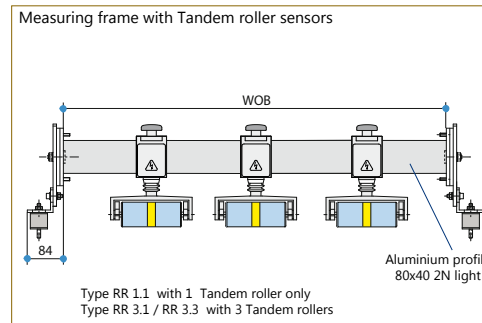
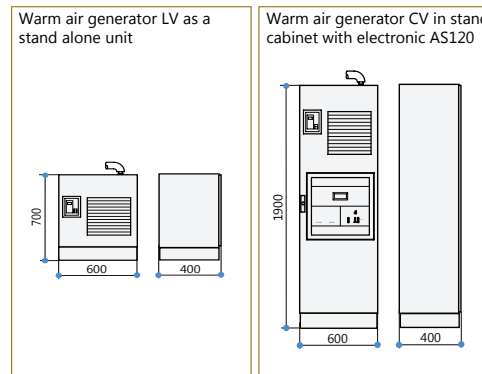
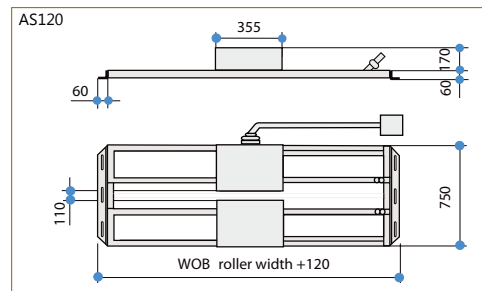
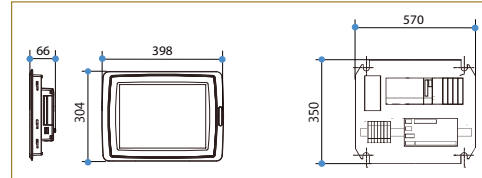
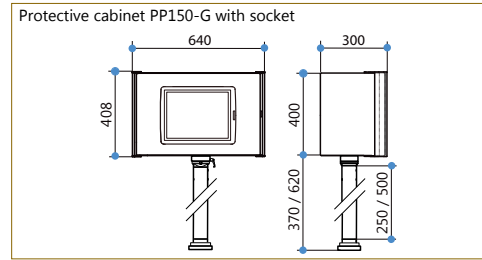
Warm air generator / electronics

Type AS120 LV / AS120 CV

Residual moisture sensor

Type RR 3.3 • RR 3.1 • RR 1.1 with side plates and frame

Technical Data



ECO-OPTIDRY Control system

Ambient temperature: max. 50 °C
Power supply: 230 V AC (+/- 10 %), 50/60Hz
Power consumption: approx. 220 VA

Panel type PP 150: 15.1" Touch screen coloured

Weight protective cabinet: 28 kg (wall mounting)
Weight stand socket: 2.8 kg (length 250mm)

Panel PP150-R with mounting plate and PLC only
Weight PP150 panel: 4.7 kg
Weight mounting plate: 4.8 kg

Sensor AS120

Ambient temperature sensor max. 50 °C

Measuring range AS 120: 0 .. 20 g H₂O/m²
up to: 0 .. 1000 g H₂O/m²
(using calibration curve)
Measurement accuracy: +/- 1 % of measuring range
not better than +/- 0.5 g H₂O/m² absolute
Adjustment time: inertia free
Frame dimension standard: width up to 2400 mm
Frame dimension on request: width up to 3600 mm
Weight approx.: 80 kg (frame width 2000 mm)

AS120 LV

Ambient temperature max. 50 °C
Measuring frame: max. 75 °C (only if warm-air-generator is switched ON)
Warm air generator:
Power supply: 3x400 V AC
Power consumption: max. max. 1500 VA
Electronics:
Power supply: 230 V AC (+/- 10 %), 50/60Hz
Power consumption: approx. 130 VA
Weight:
Warm air generator LV: approx. 43 kg
Weight:
Stand cabinet CV: incl. microwave electronics: approx. 110 kg

Measuring frame with Tandem roller sensors

Type RR 1.1: 1 Tandem roller sensor
1 HIMA8 preamplifier
Type RR 3.1: 3 Tandem roller sensors
1 HIMA8 preamplifier
Type RR 3.3: 3 Tandem roller sensors
3 HIMA8 preamplifier
Side plates for mounting: with swing out unit
Frame construction: made of aluminium
Frame dimension standard: width up to 2790 mm,
wider frame width available up to 6000 mm

Accessories optional

- **Pneumatic package** for size boxes
- **Measuring data evaluation** at external PC (data transfer by USB stick or Ethernet LAN)

Available monitoring and control systems for different applications

- **ECO-OPTIDRY®** with energy consumption meter for drying process
- **Add'nDry** for coating process
- **PadderControl** for continuous dyeing process
- **SizeControl** for controlled size pick-up
- **DensityControl** for pick/course density
- **StraightLiner** for automatic straightening and distortion analysis
- **StructureDetector** for distortion analysis

