传感器和控制系统

PLEVA

浆纱控制
PLEVATEC





浆纱带液量 / 残余湿度

SIZE PICK-UP / RESIDUAL MOISTURE

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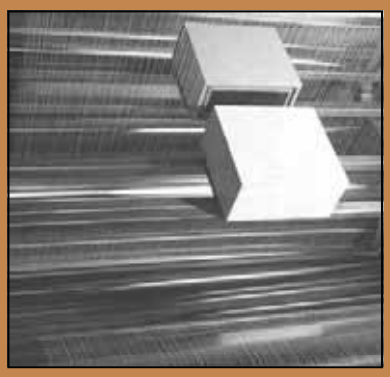
传感器 SENSORS



AS 120

浆纱角度
Degree of Sizing

在线
Online

最新现代技术
State of the Art

AS 120 - 测量浆纱带液量

非接触式、连续、精确地在线测量浆纱中经纱的水份含量。微波测量的吸收总量是绝对湿度含量。同时测量浆纱角度，基于浆纱浆液浓度恒定。

连续的监控可使之重演，利用此输出信号调节浆纱角度。

AS 120 - Measurement of size pick-up

The water content of the sized warps is online measured contact less, continuously and accurately. 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 of the size is constant.

A continuous monitoring and therefore a reproducible adjustment of the degree of sizing is possible with this output signal.

AS 120 测量机架

AS 120 Measuring frame

装置

- 不锈钢测量机架被热空气加热，带微波测量头，防蒸汽保护。
- W热空气发生器带涡流风机和温度调节器。
- 微波电子元件带电源供给和估算电子元件。
- 测量范围0 … 20 g H_2O/m^2
  至 0 … 1000 g H_2O/m^2 (通过校正曲线)
  ± 1 %, 不会好于 0,5 g H_2O/m^2

Setup

- *Stainless-steel measuring frame heated by warm-air with microwave measuring heads and protection against steam-vapor*
- *Warm-air generator with turbo-blower and thermoregulator*
- *Microwave electronics with power supply and evaluation electronics*
- *Measuring ranges from 0 … 20 g H_2O/m^2 to 0 … 1000 g H_2O/m^2 (via calibration curve) ± 1 %, not better than 0,5 g H_2O/m^2*

结构优点

- 浆纱速度能满足要求
- 浆纱可平铺和可分开
- K通过温度控制的热空气罩避免测量架上冷凝。
- 避免蒸汽挥发（水烟雾）导致的错误测量结果。
- 大测量范围(300 mm)避免经纱间隙产生测量错误。

Advantages by construction

- *Warp speed can be as fast as desired*
- *Warp can flap and can be split*
- *Condensation on the measuring frame is avoided by temperature controlled warm-air-shield*
- *Avoidance of measurement errors resulting from steam vapors (water smog)*
- *Large measuring area (300 mm) avoids measurement errors by gaps inside the warp*

传感器 SENSORS

RR 1 - 残余湿度

- RR 1.3 单-盒: 最大数值输出用于3个传感器 边/中/边
- 监视和控制残余湿度
- 在非常低残余湿度值和合成材料上补偿静电负荷
- 测量范围，例如: 棉 0,9 … 15 % / 化纤 0,1 … 5 % / 粘胶 1,7 … 30 %

RR 1 - Residual moisture

- *RR 1.3 Mono–Box: maximum value out of 3 sensors side/centre/side*
- *Monitoring and control of residual moisture*
- *Compensation of electrostatic charges occurring at very low residual moisture values and at synthetics*
- *Measuring ranges e.g.: CO 0,9 … 15 % / Synthetics 0,1 … 5 % / CV 1,7 … 30 %*

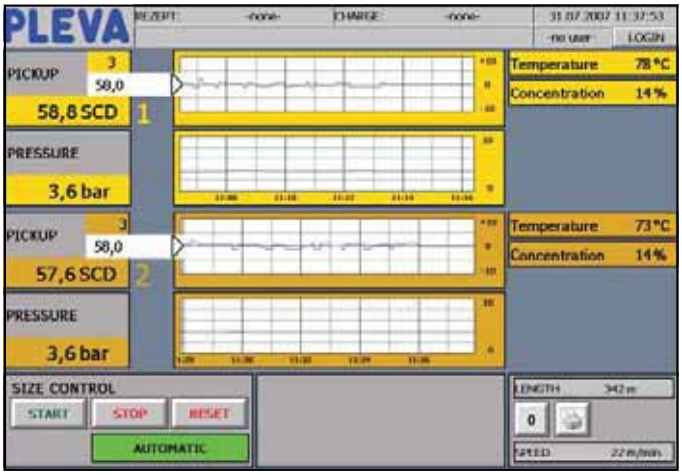
FS 91 - 排气湿度

- 传感器仅用于密闭烘房
- R控制排气湿度，结果是在烘干中极大地节约能源
- E非常强壮，自清洁传感器，非常耐用

FS 91 - Exhaust humidity

- *Sensor only applicable on enclosed dryers*
- *Control of exhaust humidity resulting in drastic energy savings in drying*
- *Extremely robust, self cleaning sensor with highest known durability*

可视化 & 控制 VISUALIZATION & CONTROL



工业 **PC PLEVATEC 15"** 用于前控制盘

- 15,1" TFT 彩色显示触摸屏
- 操作系统: Windows CE
- 可视化软件
- 动态显示带30天历史记录
- 闪卡用于应用软件
- 配方储存带批次记录
- VGA-连接
- 电压供给: 24VDC, USV

Industrial PC PLEVATEC 15" for front panel

- *15,1" TFT color display touch screen*
- *Operating system: Windows CE*
- *Visualization software*
- *Trend display with 30-day history*
- *Compact flash for application software*
- *Recipe archive with batch history*
- *VGA connection*
- *Voltage supply: 24VDC, UPS*

可编程逻辑控制器（PLC）于安装板上

- 中央单元带操作系统
- 应用软件于 Flash PROM上
- 模拟和数字输入和输出
- 绝缘变压器用于速度信号
- 脉冲发射器用于长度测量
- RS485用于连接 FS 91, RR 1
- 输出用于控制 0/4 … 20 mA
- 电源供给105-250 VAC / 24 VDC

Programmable Logic Controller (PLC) on mounting plate

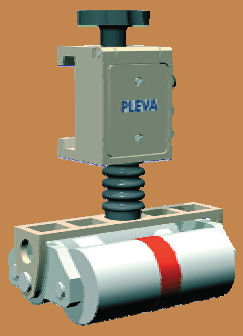
- *Central unit with operating system*
- *Application software on Flash PROM*
- *Analog and digital Inputs and Outputs*
- *Isolating transformer for speed signal*
- *Impuls transmitter for length measurement*
- *RS485 for connection of FS 91, RR 1*
- *Outputs for control 0/4 … 20 mA*
- *Power supply 105-250 VAC / 24 VDC*

选项:

- 气动压力控制包带电子压力传感器用于控制轧辊压力
- 保护电柜（控制盒）用于可视化和PLC
- 接口 OPC (Ethernet), Profibus
- 打印机包

Options:

- *Pneumatic pressure control package with electronic pressure sensor for control of squeezing pressure*
- *Protective cabinet for visualization and PLC*
- *Interfaces OPC (Ethernet), Profibus*
- *Printer package*

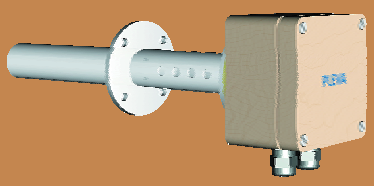


RR 1

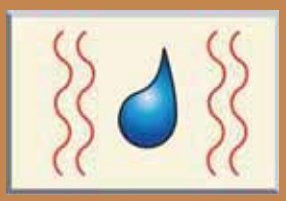
节约能源
Energy Saving

提升产量
Increase of Productivity

重演性
Reproducibility



FS 91



SizeControl
PLEVATEC

Visualisierung SizeControl PLEVATEC
Visualization SizeControl PLEVATEC

Webnutzeffekt
Weaving Efficiency

Prozesstransparenz
Process Transparency

Schlichteeinsparung
Saving of Sizing Agent

Ökologie
Ecology

Qualitätsverbesserung
Quality Improvement

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PLEVA

模块可视化和控制系统

用途和优点：

- 加工可视化带轧点压力控制用于单浆纱机或双浆纱机
- 特殊控制运算法测带根据曲线的典型速度
- 配方储存带复合功能
- 趋向图表允许分析和优化浆纱
- 残余湿度控制带 RR1.3 单-盒
- 排气湿度控制带 FS91 盒
- 可连接的传感器用于测量浆纱温度
- 集中传感器，可连接

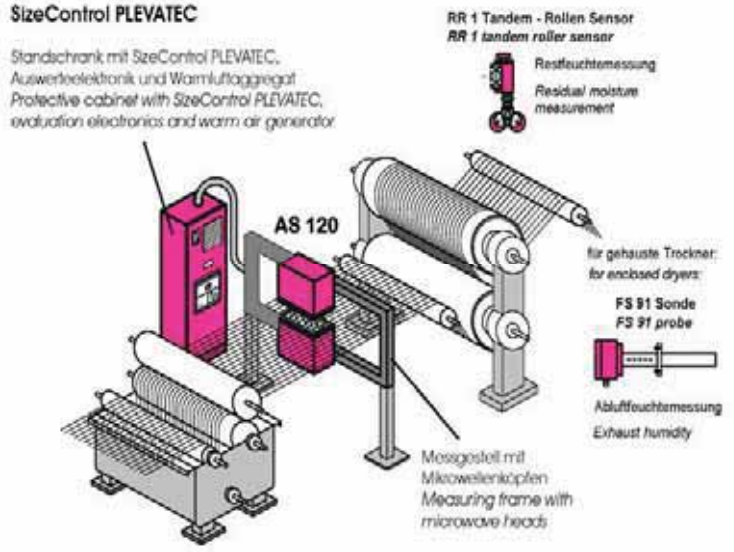
MODULAR VISUALIZATION– AND CONTROL SYSTEM

Purpose and Highlights

- *Process visualization with control of the nip-pressure for single size-box machines or double size-box machines*
- *Special control algorithm with characteristic speed dependent curves*
- *Recipe archive with complex functions*
- *Trend graph allows analysis and optimization of sizing*
- *Residual moisture control with RR 1.3 Mono-Box*
- *Exhaust humidity control with FS 91 Box*
- *Sensors for measuring the temperature of the size can be connected*
- *Sensors for concentration can be connected*

SizeControl PLEVATEC

Standschrank mit SizeControl PLEVATEC, Auswerteelektronik und Warmluftaggregat
Protective cabinet with SizeControl PLEVATEC, evaluation electronics and warm air generator



优点：

- 不间断浆纱应用记录
- 在正常生产速度和寸动中均匀的浆纱带液量
- 通过均匀的浆纱施加量提升和稳定织造效率
  结果：提升织造效率 1.5-4%(每台织布机提升 1%的效率意味着每年节省成本 1000 美金，1 台浆纱机可供 100 至 300 台织布机使用)
- 不会因不同纱线或批次更改而漏浆
- 更换轧辊罗拉后不会有浆纱问题
- 在生产过程中降低粘度无需在此浆纱
- 无需过渡浆纱
- 与传统浆纱比较降低浆的用量 10-25%
  预加湿后降低浆的用量 25-40%
- 简化退浆
- 减少废水
- 改善胚布质量用于下面的整理加工

Advantages

- *Uninterrupted 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 (1 % more weaving efficiency per loom and year means cost savings of about US $ 1.000,00. A sizing machine delivers for 100 to 300 looms)
- *No mis-sizing due to different yarns or due to change of batch*
- *No sizing problems after change of squeezing rollers*
- *No sub-sizing due to decrease of viscosity during production*
- *No need for over-sizing*
- *Reducing the amount of applied size*
  10 up to 25 % savings at conventional sizing
  25 up to 40 % savings at sizing with pre-wetting
- *Simplified desizing*
- *Reduction of waste water*
- *Improved quality of the grey goods for the following finishing processes*