

P-NET

New P-NET Applications in Textiles, Steel & Food

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I. Overview

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Some new P-NET Applications in Germany within the last 12 months

- Textiles: Yarn finishing at HOERAUF (monitoring, controlling)
- Steel: Manufacturing of flanges at ZAPP (monitoring, controlling)
- Food: Nuts roasting at KRAFT JACOBS SUCHARD (monitoring, controlling)
- Ships: Ship automation at TILSE (controlling)
- Domestic appliances: Manufacturing of dish washers at BOSCH-SIEMENS (monitoring)

plus further installations of well-known applications like milk/oil trucks, tank monitoring, climate control etc. (part of them with modified system structures and/or components)

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Tasks of the Local Society related to new P-NET Applications

free (= primary task of Local Society):

- first contact (conferences, web site, mailings)
- general information about P-NET (info package, phone/fax, E-mail)
- first assistance in planning the system (phone/fax, E-mail, at office)

at cost (sponsored by b-plus):

- 1- or 2-day P-NET training courses
- 1- or 2-day P-NET implementation courses

**II. First Application Example:
Yarn finishing at HOERAUF**

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Process:

Finishing of yarns for carpets by heating and moistening

Task:

Monitoring temperatures, humidities, machine data
& controlling elementary machine cycles & data base management

P-NET Solution:

- Pt-100 with P-NET interface (Bartec)
- PD 3221, PD 3240, PD 3920/VIGO (PD)
- Software: PC under Windows-NT, within PD 3221 (b-plus)

Software Structure on PC:

- VIGO
- LabVIEW (HMI, graphics, controlling)

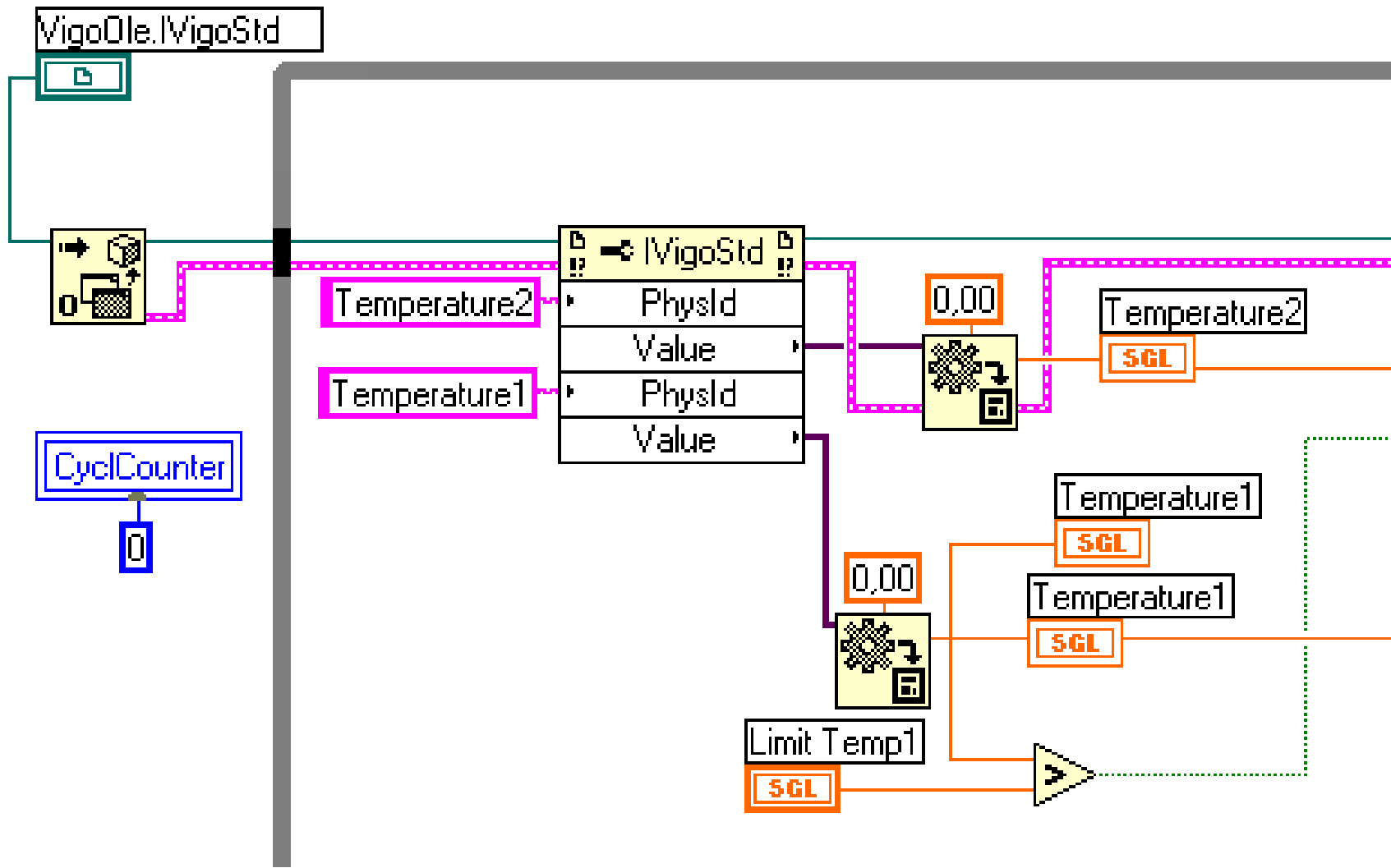
The image displays a control interface for a PVIS GVA heat setting system. The main window, titled "PVIS - GVA - HEAT SETTING - SUESSEN Set", features a menu bar (File, Edit, Operate, Project, Windows, Help) and a toolbar with icons for home, help, stop, and run. The interface is divided into several sections:

- Control Panel:** A grid of 12 digital readouts (K1, K2) and buttons for "PROGRAMM BEENDEN", "SYSTEMFREIGABE", "BETRIEB", "ALARMQUIT", "PROTOKOLL", and "AUS". A "aktuelle Charge" field shows "alles".
- Gauges:** Two sets of gauges for "Messpunkt 2" and "Messpunkt 1". Each set includes:
 - Taupunkt (Temperature): 0-100 deg C, current value 91.0.
 - Druck (Pressure): 0-2000 h Pa, current value 1600.
 - Ventilstellung (Valve Position): 0-100 %, current value 80.
 - Dampftemp (Steam Temp): 0-180 deg C, current value 130.0.
- Speed Controls:** "Bandgeschwindigkeit" (4.4 m/min) and "Ganggeschwindigkeit" (2 m/min) with sliders and "Ändern" buttons.
- Log:** A list of status and situation protocol entries dated 23.02.99.

An inset window titled "VIGO 4.0 User: Supervisor" shows a MIB tree view. The selected node is "PVIS_M3:UPL_I1_2.Analog_In_1". The tree structure includes:

- GVA
 - PVIS_M1
 - PVIS_M0
 - PVIS_M3
 - UPL_I1
 - TE1
 - UPL_I1_1
 - UPL_I1_2
 - UPL_I1_2
 - Service
 - Digital_IO_1
 - Digital_IO_2
 - Digital_IO_3
 - Digital_IO_4
 - Digital_IO_5
 - Digital_IO_6
 - CommonIO
 - Analog_In_1
 - AnalogIn
 - HighLevel
 - LowLevel
 - ChConfig
 - Enablebit
 - Functions
 - Ref_A
 - Ref_B
 - FullScale

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**III. Second Application Example:
Manufacturing of flanges at ZAPP**

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Process:

Forging flanges by melting steel, founding into forms and cooling

Task:

Monitoring temperatures during melting, founding and after cooling
& data base management

P-NET Solution:

- IR-pyrometers with P-NET interface (Bartec)
- PD 3221, PD 3120, PD 3920/VIGO (PD)
- Software: PC under Windows-NT, within PD 3221 (b-plus)

Software Structure on PC:

- VIGO
- MS-Access including VBA (data base, configuration forms)
- LabVIEW (HMI, graphics)
- MS-C++ (special subroutines)

**IV. Third Application Example:
Nuts roasting at KRAFT JACOBS SUCHARD**

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Process:

Nuts roasting for chocolate production by heating

Task:

Monitoring temperatures and CO₂ & controlling automatic nuts transport & storing of quality data (sterilization data)

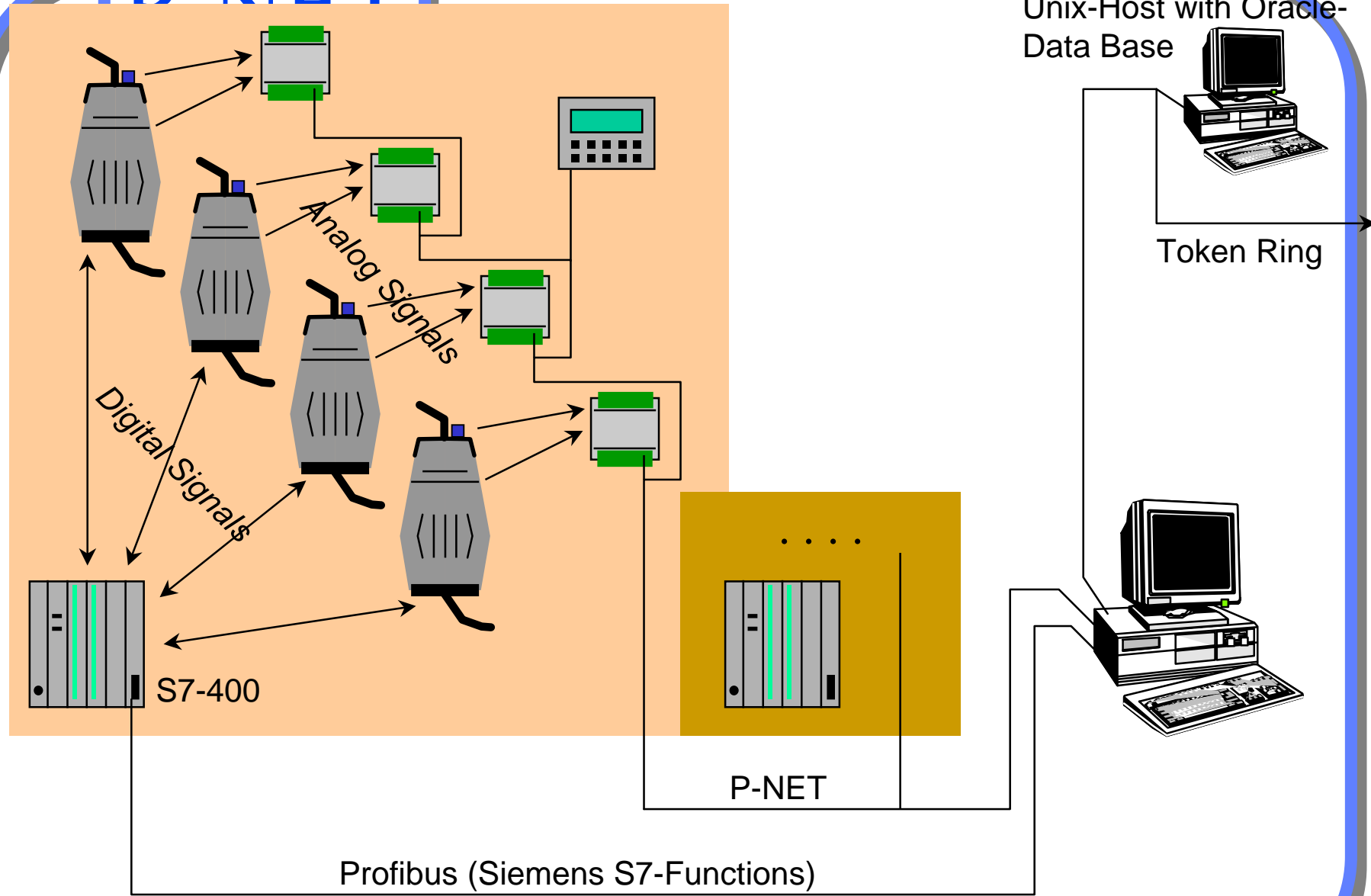
P-NET Solution:

- PD 3240, PD 3920/VIGO (PD)
- Software: PC under Windows-NT (b-plus)

Software Structure on PC:

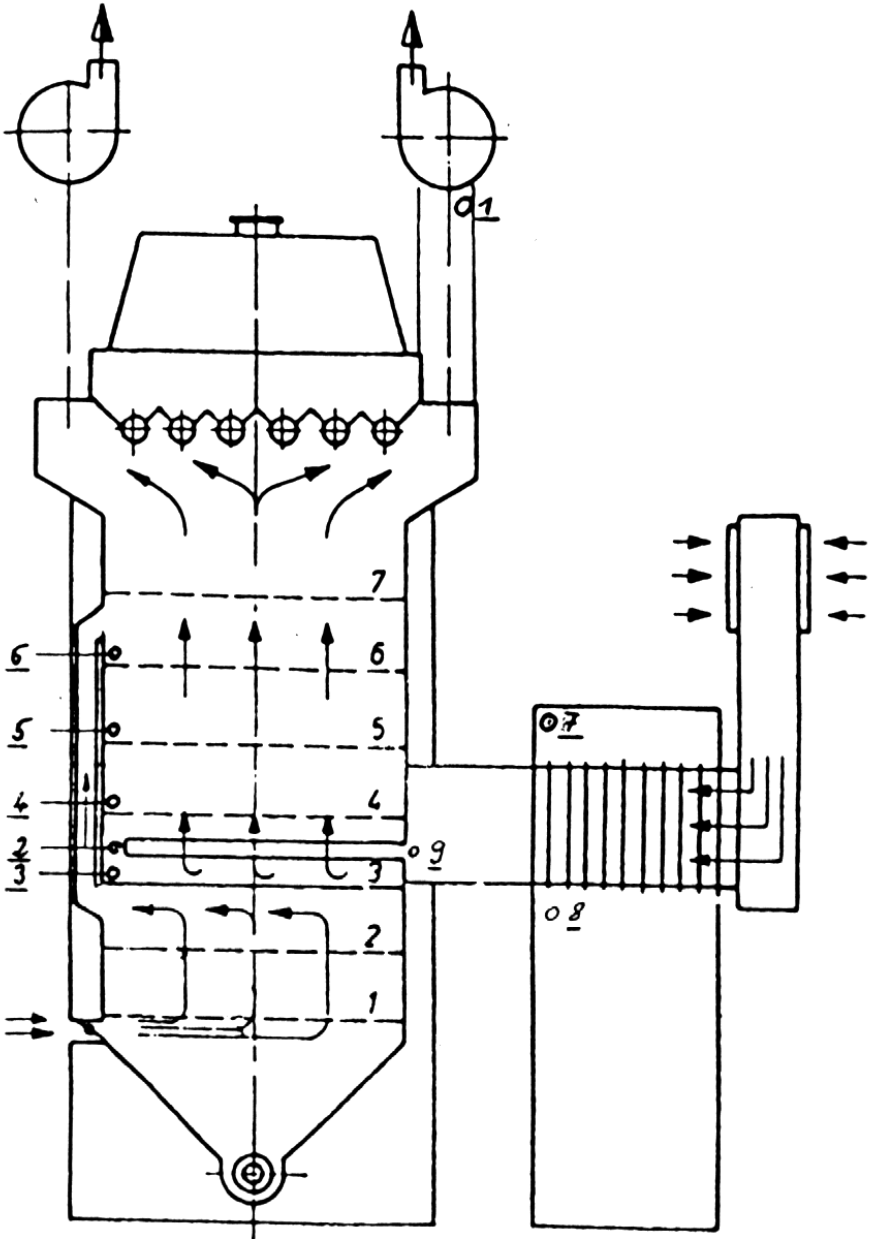
- VIGO
- Siemens-S7 functions together with Windows-NT-driver from b-plus
- InTouch (HMI, graphics, storing); older version with LabVIEW/Excel
- MS-C++ (special subroutines for controlling)

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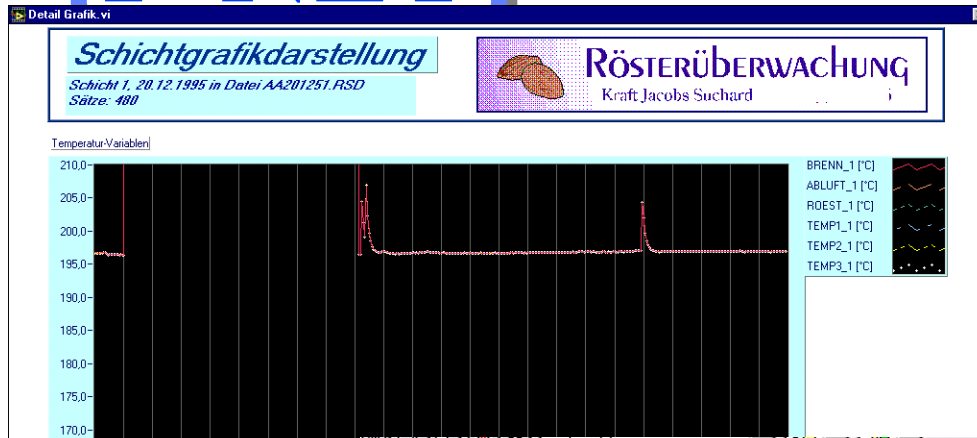


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Roasting Machine:



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Drucken <F1>

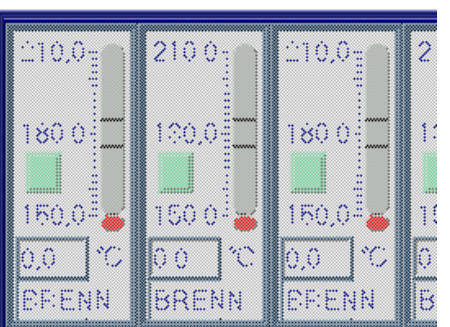
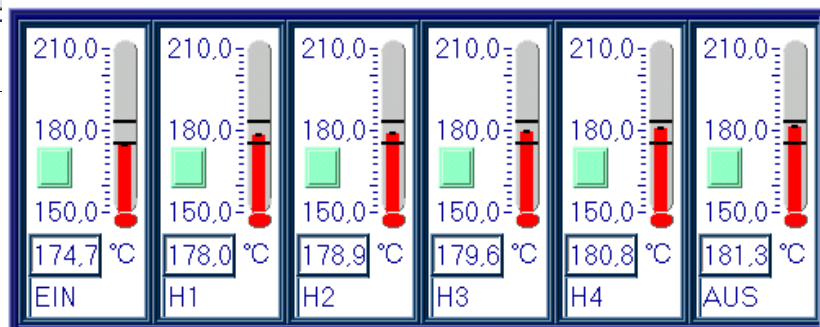
Röster-Numm
weitschalter

Aufzeichnungsprogramm

STOP (ESC)

Alte Schicht
<POS1>

RÖSTERÜB
Kraft Jacobs Suchard



Röster 1

Detail - Grafik <F1> Tabelle <SHIFT-F1> Detail - Grafik <



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CCP-Check

CCP-Nr.: RO 21 Röster 1 b-plus, Deggendorf/Germany 1998

LOG-Wert: 1.58

5.0 Minuten

00:00:00 +5 +10 +15

Auto OK LOG-Wert noch nicht err. Hordenantrieb aus

Kommentarfeld öffnen 11:47:45 07.02.1998 Menü öffnen

150°C vorgeschriebene Min-Temperatur Horde 3

156°C momentane minimale Ist-Temperatur Horde 3

CCP-Check

CCP-Nr.: RO 22 Röster 2 b-plus, Deggendorf/Germany 1998

LOG-Wert: 3.92

10.6 Minuten

00:00:00 +5 +10 +15

Auto OK LOG-Wert erreicht Hordenantrieb aus

Kommentarfeld öffnen 11:47:45 07.02.1998 Menü öffnen

150°C vorgeschriebene Min-Temperatur Horde 3

164°C momentane minimale Ist-Temperatur Horde 3

CCP-Check

CCP-Nr.: RO 23 Röster 3 b-plus, Deggendorf/Germany 1998

LOG-Wert: 4.20

7.3 Minuten

00:00:00 +5 +10 +15

Manu OK LOG-Wert erreicht Hordenantrieb aus

Kommentarfeld öffnen 11:47:45 07.02.1998 Menü öffnen

150°C vorgeschriebene Min-Temperatur Horde 3

171°C momentane minimale Ist-Temperatur Horde 3

CCP-Check

CCP-Nr.: RO 24 Röster 4 b-plus, Deggendorf/Germany 1998

LOG-Wert: 2.21

25.4 Minuten

00:00:00 +15 +30 +45 +60

Auto OK LOG-Wert noch nicht err. Hordenantrieb aus

Kommentarfeld öffnen 11:47:45 07.02.1998 Menü öffnen

105°C vorgeschriebene Min-Temperatur Horde 3

132°C momentane minimale Ist-Temperatur Horde 3

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Setup

Temperatur Calibration (-2.0 to +2.0 °C)

<input type="text" value="0,0"/>	<input type="text" value="0,0"/>	<input type="text" value="0,0"/>	<input type="text" value="0,0"/>
<input type="text" value="0,0"/>	<input type="text" value="0,0"/>	<input type="text" value="0,0"/>	<input type="text" value="0,0"/>
<input type="text" value="0,0"/>	<input type="text" value="0,0"/>	<input type="text" value="0,0"/>	<input type="text" value="0,0"/>
<input type="text" value="0,0"/>	<input type="text" value="0,0"/>	<input type="text" value="0,0"/>	<input type="text" value="0,0"/>
<input type="text" value="0,0"/>	<input type="text" value="0,0"/>	<input type="text" value="0,0"/>	<input type="text" value="0,0"/>
<input type="text" value="0,0"/>	<input type="text" value="0,0"/>	<input type="text" value="0,0"/>	<input type="text" value="0,0"/>

Outflow Checkp. 2 Checkp. Inflow

Dewpoint Calibration K2 °C K1

Ventil Calibration K2 % K1

Change User Password

New User Password

Repeat Password

OK

Change Supervisor

Change User

Change User

OK

Conveyorspeed OFF ON

Yarnspeed OFF ON

Basicspeed OFF ON

Jumpspeed OFF ON

Alarmdelay (0-9 sec)

Chamber System 1 2

PNET-Setup Exit