

## Alternative Controls

### Controller Product Range

#### Basic


**R7**

- 1 temperature setpoint


**Eurotherm 3208**

- 2 temperature setpoints


**Nabertherm B400/B410**

- 5 programs / 4 steps
- Up to 2 settable functions
- Calibration (10 base points)
- Jog Dial for value input
- NTLog (Real-time clock)
- USB interface
- Languages DE/EN/FR/IT/ES/RU/DK/NL/PL/PT/SE/CZ /HU/TR/RO/NO/EE/FI/HR/LV/LT/SK/SI/CN


**Nabertherm B500/B510**

- 5 programs / 4 steps
- Up to 2 settable functions
- Calibration (10 base points)
- Touchpanel
- NTLog (Real-time clock)
- USB interface
- Languages DE/EN/FR/IT/ES/RU/DK/NL/PL/PT/SE/CZ /HU/TR/RO/NO/EE/FI/HR/LV/LT/SK/SI/CN

#### Comfort


**Eurotherm 3216**

- 1 program / 8 steps
- With optional serial interface


**Nabertherm C440/C450**

- 10 programs / 20 steps
- Up to 2 settable functions
- Calibration (10 base points)
- Jog Dial for value input
- NTLog (Real-time clock)
- USB interface
- Languages DE/EN/FR/IT/ES/RU/DK/NL/PL/PT/SE/CZ /HU/TR/RO/NO/EE/FI/HR/LV/LT/SK/SI/CN


**Nabertherm C540/C550**

- 10 programs / 20 steps
- Up to 2 settable functions
- Calibration (10 base points)
- Touchpanel
- NTLog (Real-time clock)
- USB interface
- Languages DE/EN/FR/IT/ES/RU/DK/NL/PL/PT/SE/CZ /HU/TR/RO/NO/EE/FI/HR/LV/LT/SK/SI/CN


**Professional**
**Eurotherm 3504**

- Multi-zone-/charge control
- Up to 6 settable functions
- 25 programs / up to 500 steps


**Nabertherm P470/P480**

- 50 programs / 40 steps
- Up to 6 settable functions
- Up to 3 zones, charge control, cooling
- Logical and continuous control of heating
- Calibration (10 base points)
- Jog Dial for value input
- NTLog (Real-time clock)
- USB interface
- Languages DE/EN/FR/IT/ES/RU/DK/NL/PL/PT/SE/CZ /HU/TR/RO/NO/EE/FI/HR/LV/LT/SK/SI/CN

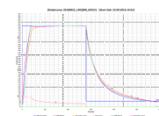

**Nabertherm P570/P580**

- 50 programs / 40 steps
- Up to 6 settable functions
- Up to 3 zones, charge control, cooling
- Logical and continuous control of heating
- Calibration (10 base points)
- Touchpanel
- NTLog (Real-time clock)
- USB interface
- Languages DE/EN/FR/IT/ES/RU/DK/NL/PL/PT/SE/CZ /HU/TR/RO/NO/EE/FI/HR/LV/LT/SK/SI/CN

#### Softwarezubehör


**NTGraph**

- Presentation of NTLog archives
- Presentation as diagram and table
- Printout of simple report
- Process evaluation
- For MS-Office for Windows 2010/2013/365
- Freeware


**NTEdit**

- Prepare programs on the computer
- For controller Serie 400/500
- Export of programs on USB flash drive for a direct import in the controller
- For MS-Office for Windows 2010/2013/365
- Freeware



#### Options

**Further controller**

- I.e. Stange, Omron, Jumo, Demig ...

**Temperature limiter**

- With adjustable cut-off

**Industrie 4.0**

- Interface to overriding systems
- OPC UA, Modbus-TCP

## Alternative Controls

### HiProSystems

#### Comfort



**Process controls H500** for standardized processes without any customer specific adjustments/configurations  
 1.H500 for electrically heated bale-out and tilting furnaces  
 2.H500 for furnaces with standard functions:  
 Rotary tube furnaces, controlled cooling (also for air circulation furnaces), multi-zone, charge control  
 -Touch panel: 4"-display or 7"-display with alpha numeric process visualization  
 -Siemens PLC hardware



**Process controls H700** for advanced, standardized processes without any customer specific adjustments / configurations  
 1. H700 for gas fired bale-out and tilting furnaces  
 - Touch panel: 7"-display with alpha numeric process visualization  
 - Siemens PLC hardware



**Process controls H1700** for complex standardized processes with customer specific adjustments/configurations  
 - Touch panel: 7"-display with alpha numeric process visualization  
 - Siemens PLC hardware



#### Professional

**Process controls H3700** for complex standardized processes with customer specific adjustments/configurations  
 -Touch panel: 12"-display with graphical process visualization  
 -Siemens PLC hardware

**Process controls Nabertherm Control Center NCC**, also for multi-step and parallel processes with customer specific adjustments/configurations  
 - PC Process-Control-System (SCADA) with 19"-monitor and graphical process visualization  
 - Siemens PLC hardware

#### Safety packages

- Realization with conventional safety technology
- Realization with failsafe PLC technology (F-SPS)



### Options

#### Industrie 4.0

- Connection to overriding systems
- Monitoring functions
- Maintenance planner

#### Operation

- Alternative operating languages

#### Availability

- Uninterruptible power supplies

### Remote & Alarm Services

#### Remote Services

##### Remote service for PLC

- Via cell phone (eWon Talk2M: GSM, UMTS, LTE)
- Via internet (eWon Talk2M: VPN)

##### Remote service for PC

- Via Internet (Teamviewer)



### Alarm Services

#### Alarm messages HiProSystems

- As SMS message
- eWon Talk2M
- Forwarding of 1 (up to 5) group messages

#### Alarm messages Nabertherm Control Center NCC

- As SMS message
- Siemens AlarmControlCenter with GSM module
- Forwarding of any alarm message
- Configurable by the operator

#### Alarm message from process as SMS for standard Controller with floating contact

- GSM module with message input
- Forwarding of an alarm message from the controller (unspecific) as SMS

## Process Controls and Documentation

### Basic



#### Record and display of process data with graphical recorder

- Eurotherm 6100A/E
- With 3-18 measuring points
- Interface for USB-flash drive and memory card
- Data security level 2



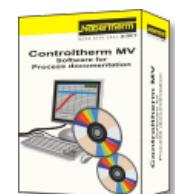
#### Recording of process data with USB-flash drive for Nabertherm-controller with NTLog

- Presentation with Nabertherm presentation software NTGraph or customer's spreadsheet
- Data security level 1



#### Recording of process data with storage device with NTLog Comfort (HiProSystems)

- On memory card, USB-flash drive or network
- From H500
- Presentation with Nabertherm presentation software NTGraph or customer's spreadsheet
- Data security level 1



### Comfort

#### Reading and processing with VCD-Software

- Setpoints and actual values from
- one or more Nabertherm controllers incl. operating and programming
  - extension packages (additional thermocouples, balances – only actual values)
  - certain Eurotherm controllers (in preparation)
- Available from Windows 7 (32/64 bit).  
Data security level 2



#### Data transmission between graphical recorder and HiProSystems or Eurotherm controller

- Option for Eurotherm 6100A/6180A
- Communication to recorder via network
- Data security level 2



### Professional

#### Process Controls and Documentation with Nabertherm Control Center NCC

- PC process control system (SCADA)
- Documentation of complete process chains according to ISO9000ff.
- At least 16 Process-specific records per furnace
- Data security level 2



#### Relevant documentation for standards, i.e. according to AMS 2750/NADCAP, CQI-9, FDA, EN14179...

- Realization with NCC Aviation/Automotive
- Realization with recorder Eurotherm 6100A, 6180A
- TUS-recorder with Eurotherm 6100A/6180A
- Data security level 2

## Security Levels

### Legend of Nabertherm security levels

Nabertherm security levels describe the protection against manipulation of the process documentation.

#### 1. level: Protection against intentional manipulation of a file with little criminal effort

Documentation with a simple proof obligation (e.g. the quality of a product), where damages due to criminal actions remains manageable. -> Realization i.e. by checksum calculation, etc...

#### 2. level: Protection against intentional modification of a file with a high criminal effort

Use in normative burden of proof, which cause high damages by criminal manipulation (e.g. AMS, FDA, CQI-9..).  
-> Realization e.g. by generating PDF-Files, additional saving of hidden files, etc.

## Options

- Connection to overriding systems
- Uninterruptible power supplies (UPS)
- Alternative operating languages
- Replacement systems
- PC enclosures
- Barcodes