Complex processes, simply operated

Smart operation and control of the Thermo-6

When process operations become more complex, the exact opposite must apply to the control system. It must provide an intuitive and smart overview and navigate the operator through all setting and function processes without much effort. With assistance where necessary and freedom where it seems plausible. This is exactly what the new control system for the Thermo-6 temperature control units from HB-Therm fulfils.

Even the basic equipment is right

The new Thermo-6 is equipped with an ergonomically positioned, brilliant 7-inch IPS touchscreen and clearly displays the most important information on the process, actual values, trends, energy and maintenance in the basic display. It is also possible to navigate back and forth between these five basic displays on the start page. This ensures that all users always have access to the latest operating data, which forms the basis for analysing and optimising the operating status. In addition, the control system also shows possible energy savings and helps with maintenance planning.

The basic display

The controls are extremely easy to use and most users will be familiar with them from smartphone technology. By swiping across the control screen or tapping the icons displayed in the touchscreen header, the operator can access the required page. The display of the actual values provides an initial overview of the current parameters. The graphic display documents the process status quickly and clearly. Eight favourites can be selected on the control screen of the text display. These are thus the first to be set in the textual listing and provide more detailed information on the current operating process.

The trend graph allows the temperature curve and flow rate to be analysed over a certain period of time. The data is fed from the locally stored historical data.

Energy-Control

HB-Therm has always attached great importance to the sustainable and energy-efficient operation of temperature control units. With the current software version, which is available in the HB-Therm knowledge database, Energy Control is now also available for all 6th generation temperature control units. Using the values predefined by the customer, such as electricity costs, local currency and operating hours per year, the process can no longer just be monitored, but controlled and regulated.

The "Energy Control" page shows the current pump speed, the temperature difference between the main and return line and the resulting potential savings per day in the respective national currency. Colour gradations in the pie charts show whether the appliance has been set optimally or whether there is further potential for savings. The control system also allows individual settings to be made in order to find the optimum operating point for each production process. The visual display remains simple. If the user adjusts one of the variables, the other two parameters change to the same extent. The effects of the setting are therefore immediately visible, so that the desired operating mode can be adopted at the simple press of a button.

For example, reducing the temperature difference between the main and return line leads to a lower pump speed, which in turn results in increased energy savings. Adjustments are always made depending on the customer or production process in order to ensure consistent product quality.

On the last main page, the overview of the maintenance status is displayed in a dashboard. Depending on operation, it provides information on the status of the following main components in the unit:

- Heater
- Cooler
- Pump
- Filling valve
- Vent valve
- Filters

The maintenance display makes it easier to plan service work. The status information of the individual components also supports customers in production planning and enables preventive and timely maintenance work to be carried out, which has already been minimised with the Thermo-6 temperature control unit series.

Process monitoring with automatic limit value setting

External influences can change the course of the process unnoticed and possibly cause an unauthorised change to the manufactured product. But what happens if such deviations are recognised in the important process parameters? These are displayed and an alarm is triggered. This allows the cause of the fault to be rectified immediately, preventing faulty production and rejects at an early stage. This ensures the highest possible process reliability.

The respective limit values can be selected manually, but can also be set automatically in the standard setting using three monitoring levels (fine, middle or rough). The limits are also clearly displayed graphically. This makes process monitoring really easy for the user.

Extensive additional monitoring functions

Of course, the extensive additional monitoring functions on the Thermo-6 temperature control units also ensure smooth production, reduced wear and contamination as well as a long service life and therefore energy and resource-saving use. These include the monitoring of hose breakage and leakage or the controlled system pressure overlay.

All common interfaces such as OPC-UA, the optional CAN data interface on Gate-6 or a USB connection ensure a high level of compatibility for data exchange and synchronisation thanks to their standard design. Also smart: the LED floor lighting for clear and widely visible signalling of the operating status using different colours: Green means normal operation, red signals an alarm, yellow a warning, blue pulsating a software update and white pulsating the start phase of the unit.

Simplified operation of the Thermo-6 is also possible thanks to the inclusion of additional intelligent features on the units. In addition to exporting historical data for quality assurance and for Manufacturing Execution Systems (MES) for production optimisation, these include an integrated help system with context-related brief information and an internet-based extended help function in the respective national language, which is activated via a QR code and leads to the HB-Therm knowledge platform "Knowledge".

The logbook function is very interesting for analysing faults and investigating fault frequencies. In order to better identify the causes of faults, a clear history must be available. The Thermo-6 records the last 100 faults that have occurred. Further information can then be accessed via the QR code and the "e-cockpit" app.

Targeted development makes complex processes easy to manage

Back to the initial situation. The question that arose was how to make complex setting procedures and production processes easy to manage. By allowing as many of these processes as possible to run in the background and only displaying the really important information for setters and operators on the screen as simply as possible. This is done intuitively and graphically on the Thermo-6 control unit, making it easy to understand and grasp at a glance. If additional questions arise, further information can be called up directly.

If you want even more, you can establish a direct connection between your Thermo-6 and the specialists at HB-Therm in a data-secure manner via the "Gate-6" terminal and the "e-cockpit" app on any mobile device. This makes controlling, analysing and providing support quick, easy and secure. So that all customers can secure the future together with HB-Therm.

This is practical digitalisation in the interests of the user.

To HB- Therm AG:

As a pioneer in the manufacture of temperature control units for the plastics processing industry, HB- Therm AG has been characterised by outstanding innovation, uncompromising quality and a strong commitment to sustainability since it was founded in 1967. With a subsidiary in Siegburg, Germany, and 65 country representatives, HB- Therm has a global presence and serves customers in the automotive, medical technology, consumer goods, optical and industrial sectors. With 140 employees, the company, based in St. Gallen, Switzerland, produces over 11,000 appliances a year and generates annual sales of around CHF 60 million, underlining its position as the largest manufacturer of temperature control appliances on the global market.

More about HB- Therm at https://www.hb-therm.com

Picture	Designation	Source	Caption
HB-Therm®	Logo_HB-Therm	HB- Therm AG	

Picture	Designation	Source	Caption
	Thermo-6_front	HB- Therm AG	Display of energy consumption with optimisation wizard
	Operational optimisation with Energy-Control	HB-Therm AG	Adaptation of individual values specified by the customer for simple operational optimisation and energy savings.
	Actual value display as graph	HB-Therm AG	Graphical representation of actual values as an indicator.

Further information for the press:

HB-Therm AG

Muhammed Kakis

Piccardstrasse 6

9015 St. Gallen

Switzerland

Phone +41 71 243 65 49

marketing@hb-therm.ch, www.hb-therm.com