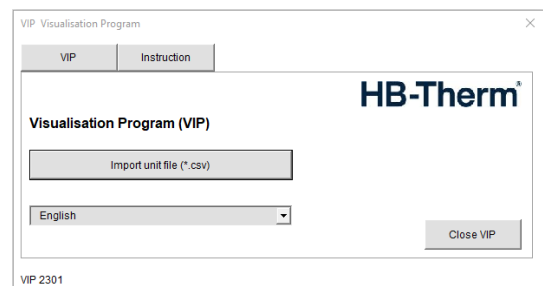


# HB-Therm®

## Instruction Manual VIP

Visualisation Program



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Translation of original instruction

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## General

# 1 General

## 1.1 Information about this manual

This manual enables the safe and efficient handling of the VIP Visualisation Programme.

Illustrations in this manual are for basic understanding and may deviate from the actual design.

## 1.2 Intended Use

The visualisation program is used to process recorded actual data for our customers in the worldwide distribution network and may not be passed on to third parties.

The program is only intended for use on Windows® computers.

Any use of the programme beyond the uses described above is prohibited. HB-THERM AG rejects any liability associated with the programme.

Windows® is a registered trademark of Microsoft.

## 1.3 Explanation of symbols

### Tips and recommendations



#### **NOTICE!**

*... highlights useful tips and recommendations as well as information for efficient operation.*

## 1.4 Limitation of liability

All information and notes in this Manual were compiled under due consideration of valid standards and regulations, the present status of technology and our years of knowledge and experience.

The manufacturer can not be made liable for damage resulting from:

- disregarding this Manual
- unintended use

Apart from this, the obligations agreed upon in the delivery contract, the general terms and conditions and the delivery conditions of the manufacturer and the legal regulations valid at the time of contract do apply.

## 1.5 Copyright

This Manual is protected by copyright law and exclusively to be used for internal purposes.

Passing this Manual on to third parties, duplication of any kind – even in form of excerpts – as well as the use and/or disclosure of the contents without the written consent of the manufacturer is not permitted, except for internal purposes.

Violations oblige to compensation. The right for further claims remains reserved.

## 1.6 Customer Service

For technical information, please contact the HB-Therm representatives or our customer service department  
→ [www.hb-therm.ch](http://www.hb-therm.ch).

Furthermore, our employees are always interested in new information and experiences resulting from the application that could be valuable for the improvement of our products.

## 2 Used for

The VIP program (visualisation program) is designed for the following uses:

- Visualisation and treatment of a recording
- Creation of a test and calibration certificate of a quality test performed

The required data is previously stored in the Thermo-5 devices as a CSV file on a USB storage device.

## Operation

### 3 Operation

#### 3.1 Start the programme

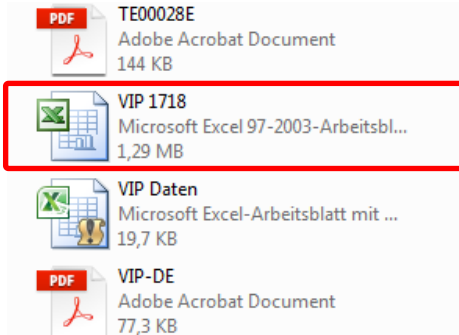


Fig. 1: Directory



#### NOTICE!

The program consists of an xls file and can be started directly (also from an external storage medium such as a USB stick). Installation is not required.

- Open the directory with the file VIP.xls and double-click to start  
→ The main window is displayed

#### 3.2 End the programme

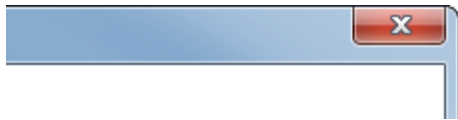


Fig. 2: End the programme

You can end the programme at any time.

- End the programme by clicking on the Windows symbol "X".

### 4 Visualisation and treatment of a recording

#### 4.1 Import recording file

##### Import and format a recording file



#### NOTICE!

Macros must be activated for the command to be executed (→ Macro settings in the Security Centre).



Fig. 3: VIP main window

1. Press the "Import unit file (\*.csv)" button
2. Select recording file and press "OK"  
→ Macro opens the file, reads and formats the data

or

1. Open recording file (e.g. from email)
2. Open VIP (if not already open) and close the main window by pressing the Windows symbol "X".
3. Activate the recording file and press the [Ctrl + u] key combination.

# Visualisation and treatment of a recording

## 4.2 Treatment settings

### Data treatment settings for diagrams

The individual diagram representation depends on the settings and the parameter selection.

1. Define settings, determine parameters (subsequent changes possible, explanations concerning diagram settings → page 8).
2. Press "OK" button to launch the setting of the diagram.

**Settings data preparation**

**General Information**

Date: 2023-07-07  
 Time: 18:00:08  
 Unit type: HB-100Z1-8-4M-A2-405  
 Equipment: ZG-ZE-ZD  
 Address: 2  
 Unit number: 723-8555  
 Software version: SW51-2 2017  
 Record length: 18,6 h  
 Record interval: 0 min 2 sec

**General settings**

Show Error list  
 Delete parameters with value=0

**HB-Therm\***

**Parameter selection**

Translate to English

	Size axis
	Left    Right
<input checked="" type="checkbox"/> Sollwert (aktuell)	☉ ☐
<input checked="" type="checkbox"/> Vorlauf	☉ ☐
<input checked="" type="checkbox"/> Rücklauf	☉ ☐
<input checked="" type="checkbox"/> Extern	☉ ☐
<input checked="" type="checkbox"/> Stelgrad	☉ ☐
<input checked="" type="checkbox"/> Durchfluss	☉ ☐
<input checked="" type="checkbox"/> Druck System Sollwert	☉ ☐
<input checked="" type="checkbox"/> Druck System Istwert	☉ ☐
<input checked="" type="checkbox"/> Druck Vorlauf	☉ ☐
<input checked="" type="checkbox"/> Strom Phase L1	☉ ☐

**Settings diagram axis**

Einteilung Zeitachse:  h     min     s     Absolute time

Timeslot: From [ ] to [ ]

Size axis Left: From [ auto ] to [ auto ]

Size axis Right: From [ auto ] to [ auto ]

**Labels**

Title of diagram: Recording of actual values [ ]

**Manage settings**

[ ] [ Load settings ] [ Save settings ] [ Delete settings ]

[ Reduce data ] [ Delete parameters with value=0 ] [ Cancel ] OK

[ English ]

### Create file from the processed file.

If a recording file has already been formatted, another diagram can be created by pressing the [Ctrl + b] key combination.

9	Profile:	2							
10	USR data checksum:	1711							
11	Unit number:	646-3934							
12	Unit Type:	HB-250T3-16-4M-A3-405							
13	Equipment:	ZD-ZU							
14									
15	Min		22,2	22,1	21,4	-20,0			
16	Max		80,0	91,0	90,0	50,1			
17	Mean		52,9	51,7	51,5	-1,2			
18	Standard dev.		13,3	16,1	16,1	9,3			
19									
20	0x00015502	0x00015501	0x00015101	0x00013207	0x00013208	0x00013209	0x0001320b		
21	Date	Time	Time min	Address	Nominal val	Main line	Return line	Deviation ac	
22	2018-02-12	12:09:28	0,0	1	22,2	22,2	21,4	0,0	
23	2018-02-12	12:09:29	0,0	1	22,2	22,2	21,4	0,0	
24	2018-02-12	12:09:30	0,0	1	22,2	22,2	21,4	0,0	
25	2018-02-12	12:09:32	0,1	1	22,2	22,2	21,4	0,0	
26	2018-02-12	12:09:33	0,1	1	22,2	22,2	21,4	0,0	

Fig. 4: Formatted data

i

**NOTICE!**

When executing the command, the spreadsheet that contains the data must be activated → Fig. 4.

## Visualisation and treatment of a recording

### 4.2.1 Explanations concerning diagram settings

Specific settings can be performed for the diagram representation. The possible entries are described below.

#### General settings

Address	1	<input checked="" type="checkbox"/> Return line	<input type="radio"/>	<input type="radio"/>
Unit number	646-3934	<input checked="" type="checkbox"/> Deviation actual/nominal	<input type="radio"/>	<input type="radio"/>
Software version	SW51-2 1714	<input checked="" type="checkbox"/> Difference return-main line	<input type="radio"/>	<input type="radio"/>
Record length	0,4 h	<input checked="" type="checkbox"/> Regulation ratio	<input type="radio"/>	<input type="radio"/>
Record interval	0 min 1 sec	<input checked="" type="checkbox"/> Flow rate	<input type="radio"/>	<input type="radio"/>
<b>General settings</b>		<input checked="" type="checkbox"/> Process power	<input type="radio"/>	<input type="radio"/>
<input checked="" type="checkbox"/> Show Error list		<input checked="" type="checkbox"/> Hours run	<input type="radio"/>	<input type="radio"/>
<input type="checkbox"/> Delete parameters with value=0		<input checked="" type="checkbox"/> Step ramp	<input type="radio"/>	<input type="radio"/>

#### Show Error list

Next to the diagram a list of all alarms appears that were triggered during the recording period.

#### Delete parameter with value=0

By activating this function, parameters containing only zeros are deleted.

#### Settings diagram axis

<b>Settings diagram axis</b>				
Unit of timeline	<input type="radio"/> h	<input checked="" type="radio"/> min	<input type="radio"/> s	<input type="checkbox"/> Absolute time
<input type="checkbox"/> Timeslot	From	<input type="text"/>	to	<input type="text"/>

#### Unit of timeline

Specify the time unit for the time axis. The programme suggests a unit of time based on the recording length.

#### Timeslot

There is the option of partial recording within a time range. This function is only available when creating a second diagram (using [Ctrl + b]).

#### Absolute time

With "Absolute Time" the time in the diagram is labelled with the absolute time of day.



## Visualisation and treatment of a recording

### Parameter selection

The desired parameters for the creation of the diagram can be selected in the "Parameter selection" field.

In the event of 10 or fewer recorded parameters, these can be activated (shown in the diagram) or deactivated (not shown in the diagram).

In the event of more than 10 recorded parameters, these can not only be activated, or deactivated, but also selected by means of the selection list.

General Information		Parameter selection	
Date	2018-02-12	<input checked="" type="checkbox"/> Translate to English	
Time	12:09:28		
Unit type	HB-250T3-16-4M-A3-405		
Equipment	ZD-ZU		
Address	1		
Unit number	646-3934		
Software version	SW51-2 1714		
Record length	0,4 h		
Record interval	0 min 1 sec		
<b>General settings</b>			
<input checked="" type="checkbox"/> Show Error list			
<input type="checkbox"/> Delete parameters with value=0			
			<b>Size axis</b>
			<b>Left Right</b>
<input checked="" type="checkbox"/>	Nominal value (current)		<input type="radio"/> <input type="radio"/>
<input checked="" type="checkbox"/>	Main line		<input type="radio"/> <input type="radio"/>
<input checked="" type="checkbox"/>	Return line		<input type="radio"/> <input type="radio"/>
<input checked="" type="checkbox"/>	Deviation actual/nominal		<input type="radio"/> <input type="radio"/>
<input checked="" type="checkbox"/>	Difference return-main line		<input type="radio"/> <input type="radio"/>
<input checked="" type="checkbox"/>	Regulation ratio		<input type="radio"/> <input type="radio"/>
<input checked="" type="checkbox"/>	Flow rate		<input type="radio"/> <input type="radio"/>
<input checked="" type="checkbox"/>	Process power		<input type="radio"/> <input type="radio"/>
<input checked="" type="checkbox"/>	Hours run		<input type="radio"/> <input type="radio"/>
<input checked="" type="checkbox"/>	Step ramp		<input type="radio"/> <input type="radio"/>

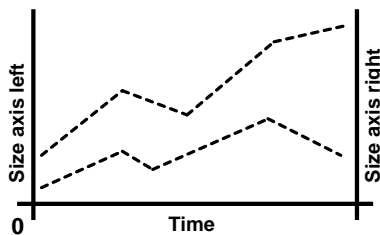


Fig. 5: Size axes left / right

### Size axis left / right

The setting determines whether the parameter should be linked to the left or right size axis (→ Fig. 6). For different value ranges of the parameters (e.g. pressure 0-10 bar and temperature 0-180 °C), it is advantageous to split them to ensure better clarity.

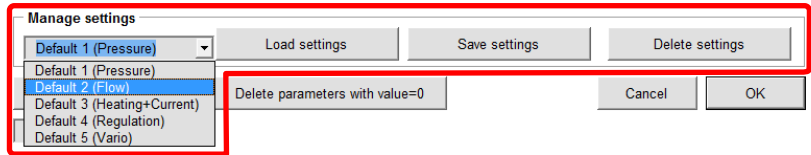
### Translate to English

The parameters are translated to German by activating the field. On the one hand, this concerns the parameter selection, the descriptions on the diagram, as well as the headings in the recording table.

## Visualisation and treatment of a recording

### 4.2.2 Manage settings

The following settings can be managed with these functions.



#### Selection field

The stored settings can be selected with the selection field. 5 default settings are already predefined in the factory.

Default	Application
1 (Pressure)	Analysis in the case of problems with the system pressure
2 (Flow)	Analysis in the case of problems with the flow
3 (Heating+Current)	Analysis in the case of problems with the heating/pump current
4 (Regulation)	Analysis in the case of problems with the regulation behaviour
5 (Vario)	Analysis of problems with the switching unit (Vario-5)

#### Load settings

In order to load saved or default settings, the corresponding setting must be selected in the selection field and then the button "Load settings" pressed.

#### Save settings

You can save the current settings by pressing "Save settings". The following settings are included:

- General settings
- Diagram settings
- Selection of parameters

#### Delete settings

A stored setting can be deleted by pressing "Delete settings"



**NOTICE!**

*Default settings cannot be deleted.*

## Creation of test and calibration certificate

### 5 Creation of test and calibration certificate

#### 5.1 Import calibration file

##### Import and format a calibration file

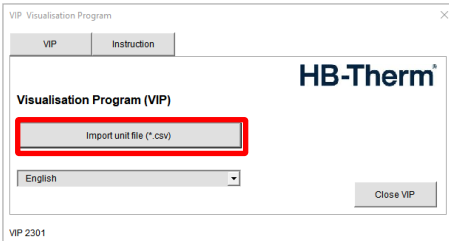


Fig. 7: VIP main window

1. Press the "Import unit file (\*.csv)" button.
2. Select calibration file and press "OK"  
→ Macro opens the file, reads and formats the data

#### 5.2 Inputs in test and calibration certificate

##### Inputs

Ref.	Unit	Diff.	Tol.	Result
1	139.8	139.8	±0.5	passed
2	138.8	138.8	±0.1	passed
3	-	-	-	-
4	-	-	-	-
5	39.8	39.8	±0.0	passed
6	138.9	138.9	±0.0	passed
7	-	-	-	-
8	-	-	-	-
9	39.6	39.4	±1.2	passed
10	139.9	140.2	±1.3	passed
11	-	-	-	-
12	-	-	-	-
13	79.0	80.9	±1.9	passed
14	0.0	0.0	±0.0	passed
15	7.6	7.6	±0.0	passed
16	0.0	0.0	±0.0	passed
17	7.6	7.6	±0.0	passed
18	0.0	0.0	±0.0	passed
19	0.0	0.0	±0.0	passed
20	0.0	0.0	±0.0	passed
21	0.0	0.0	±0.0	passed
22	0.0	0.0	±0.0	passed
23	0.0	0.0	±0.0	passed
24	0.0	0.0	±0.0	passed
25	0.0	0.0	±0.0	passed
26	0.0	0.0	±0.0	passed
27	0.0	0.0	±0.0	passed
28	0.0	0.0	±0.0	passed
29	0.0	0.0	±0.0	passed
30	0.0	0.0	±0.0	passed
31	0.0	0.0	±0.0	passed
32	0.0	0.0	±0.0	passed
33	0.0	0.0	±0.0	passed
34	0.0	0.0	±0.0	passed
35	0.0	0.0	±0.0	passed
36	0.0	0.0	±0.0	passed
37	0.0	0.0	±0.0	passed
38	0.0	0.0	±0.0	passed
39	0.0	0.0	±0.0	passed
40	0.0	0.0	±0.0	passed
41	0.0	0.0	±0.0	passed
42	0.0	0.0	±0.0	passed
43	0.0	0.0	±0.0	passed
44	0.0	0.0	±0.0	passed
45	0.0	0.0	±0.0	passed
46	0.0	0.0	±0.0	passed
47	0.0	0.0	±0.0	passed
48	0.0	0.0	±0.0	passed
49	0.0	0.0	±0.0	passed
50	0.0	0.0	±0.0	passed
51	0.0	0.0	±0.0	passed
52	0.0	0.0	±0.0	passed
53	0.0	0.0	±0.0	passed
54	0.0	0.0	±0.0	passed
55	0.0	0.0	±0.0	passed
56	0.0	0.0	±0.0	passed
57	0.0	0.0	±0.0	passed
58	0.0	0.0	±0.0	passed
59	0.0	0.0	±0.0	passed
60	0.0	0.0	±0.0	passed
61	0.0	0.0	±0.0	passed
62	0.0	0.0	±0.0	passed
63	0.0	0.0	±0.0	passed
64	0.0	0.0	±0.0	passed
65	0.0	0.0	±0.0	passed
66	0.0	0.0	±0.0	passed
67	0.0	0.0	±0.0	passed
68	0.0	0.0	±0.0	passed
69	0.0	0.0	±0.0	passed
70	0.0	0.0	±0.0	passed
71	0.0	0.0	±0.0	passed
72	0.0	0.0	±0.0	passed
73	0.0	0.0	±0.0	passed
74	0.0	0.0	±0.0	passed
75	0.0	0.0	±0.0	passed
76	0.0	0.0	±0.0	passed
77	0.0	0.0	±0.0	passed
78	0.0	0.0	±0.0	passed
79	0.0	0.0	±0.0	passed
80	0.0	0.0	±0.0	passed
81	0.0	0.0	±0.0	passed
82	0.0	0.0	±0.0	passed
83	0.0	0.0	±0.0	passed
84	0.0	0.0	±0.0	passed
85	0.0	0.0	±0.0	passed
86	0.0	0.0	±0.0	passed
87	0.0	0.0	±0.0	passed
88	0.0	0.0	±0.0	passed
89	0.0	0.0	±0.0	passed
90	0.0	0.0	±0.0	passed
91	0.0	0.0	±0.0	passed
92	0.0	0.0	±0.0	passed
93	0.0	0.0	±0.0	passed
94	0.0	0.0	±0.0	passed
95	0.0	0.0	±0.0	passed
96	0.0	0.0	±0.0	passed
97	0.0	0.0	±0.0	passed
98	0.0	0.0	±0.0	passed
99	0.0	0.0	±0.0	passed
100	0.0	0.0	±0.0	passed

Fig. 8: Formatted test and calibration certificate Thermo-5

A test and calibration certificate can be created based on the values determined in a quality test performed (CSV file of Thermo-5 devices).

1. Enter test equipment, safety check, comments (optional) and tester manually in the formatted file (→ page 12).
2. Complete test and calibration certificate, press "save as pdf" button (→ page 12).

## Creation of test and calibration certificate

### 5.2.1 Explanations of the buttons of the test and calibration certificate

safe as pdf
open *.csv file
Back
Test Instructions

*Fig. 9: Buttons of test and calibration certificate*

**safe as pdf**

.pdf file is created and saved as a test and calibration certificate.

**open \*.csv file**

Directory window is opened directly to select a new calibration file.

**Back**

Return to the main window of the programme.

**Test Instructions**

Link to the operating instructions of the test device.

### 5.2.2 Explanations concerning test and calibration certificate entries

Specification entries must be performed to create the test and calibration certificate. The compulsory entries are described below.

**Entry of test equipment**

Test equipment	
<b>Test device</b>	Type
	No.
	Last / next inspect
<b>Reference measuring equipment</b>	Type
	No.
	Last / next inspect

**NOTICE!**  
For the administration of the test equipment → page 13.

**Test device**

Entry of which testing device was used for the quality inspection. The following values must be entered:

- Testing device type (→ type plate HB-TP180/200)
- Testing device no. (→ type plate HB-TP180/200)
- Last / next inspect

**Reference measuring equipment**

Input as to which reference measuring instrument was used during the quality The following values must be entered:


- Reference measuring equipment type
- Reference measuring equipment no.
- Last / next inspect

## Creation of test and calibration certificate

### Entry of test

Tests			
Heater	Heating up without interruption	passed	
Safety valve	Safety valve successfully tested	passed	
Safety test		passed	

### Safety test

The following selection options are available via the  button:

- Safety test done as per instruction and no defects of safety detected
- Not done
- Safety test done and defects of safety detected



#### NOTICE!

For further details on the safety test, see the operating instructions Test device for temperature control units (O8354-X, X = language).

### Entry of overall result

Overall result		
Quality test	passed	
Remarks		
Date / Name	2017-12-22 /	

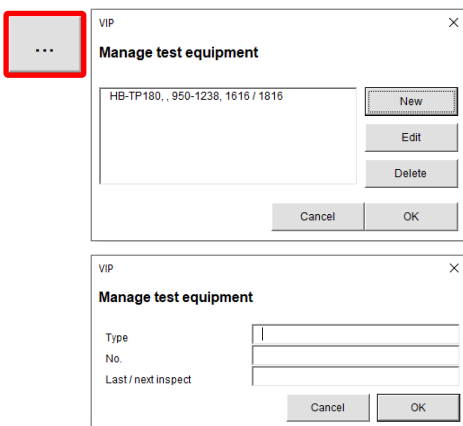
### Remarks

Additional findings can be entered as freetext under comments.

### Date / Name

Name of the tester

## 5.2.3 Manage test equipment



The image shows two overlapping windows titled 'Manage test equipment'. The top window has a red box around a '...' button in the top-left corner. Below it is a list of equipment with the entry 'HB-TP180, , 950-1238, 1616 / 1816'. To the right of the list are buttons for 'New', 'Edit', and 'Delete'. At the bottom are 'Cancel' and 'OK' buttons. The bottom window shows three input fields labeled 'Type', 'No.', and 'Last / next inspect', with 'Cancel' and 'OK' buttons at the bottom.


Test equipment (Testing devices and reference measurement device) are to be recorded, processed and deleted by pressing the  button. The information of "Type", "No." and "last / next inspect" are mandatory.

Fig. 10: Manage test equipment