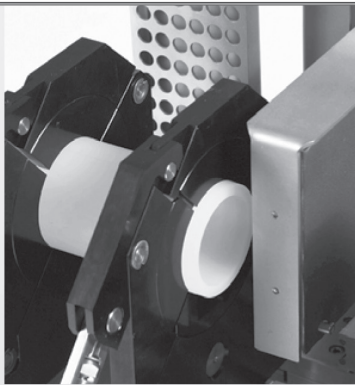


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SCHWEISSTECHNIK

User's Manual

HST 300 Pricon 2.0

Inliegende deutsche Fassung der Anleitung ist der Urtext, welchen inliegende Übersetzungen wiedergeben.

The German version of the manual enclosed herein is the original copy, reflected in the translations herein.

La version allemande ci-après représente le texte original du manuel, rendu par les traductions ci-joint.

La versión alemana adjunta está el texto original de las instrucciones, que también representan las traducciones de esta.

Приложенная немецкая версия руководства является оригинальным текстом, с которого сделаны включенные переводы.

A versão em alemão desse manual anexo é a versão original, e foi a base para as traduções para as outras línguas.



HÜRNER SCHWEISSTECHNIK GmbH
Nieder-Ohmener Str. 26
35325 Mücke (Atzenhain)

HÜRNER

SCHWEISSTECHNIK

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1 Introduction

Dear Customer:

Thank you very much for purchasing our product. We are confident that it will meet your expectations.

The HST 300 Pricon 2.0 Welding Unit is designed exclusively for welding plastic pipe fittings according to the electrofusion process. It represents the next generation of the tried and tested HST 300 series, featuring a broader range of functions. With unlimited welding time, the product offers an extended operation range, and its specially developed display screen and keypad facilitate handling. It features a GPS module for automatic recording of the geo-data of every joint.

The product was manufactured and checked according to state-of-the-art technology and widely recognized safety regulations and is equipped with the appropriate safety features.

Before shipment, it was checked for operation reliability and safety. In the event of errors of handling or misuse, however, the following may be exposed to hazards:

- the operator's health,
- the product and other hardware of the operator,
- the efficient work of the product.

All persons involved in the installation, operation, maintenance, and service of the product have to

- be properly qualified,
- operate the product only when observed,
- read carefully and conform to the User's Manual before working with the product.

Thank you.

2 Safety Messages

2.1 Using the Correct Connection Terminal

Use the appropriate connection terminal that is compatible with the fitting type used. Be sure the contact is firmly established and do not use connection terminals or terminal adapters that are burnt or not designed for the intended use.

2.2 Improper Use of the Welding and Power Supply Cables

Do not carry the product by its cables and do not pull the power cord to unplug the unit from the socket. Protect the cables against heat, oil, and cutting edges.

2.3 Securing the Fitting and the Joint

Use positioner clamps or a vice to secure the fitting and the joint to be made before welding. The fitting manufacturer's installation instructions, local and national regulations have to be respected in all cases.

A welding process must never be repeated with the same fitting, since this may cause parts under power to be accessible to the touch.

2.4 Cleaning the Product

The product must not be sprayed with or immersed in water.

2.5 Opening the Unit



The cover of the product may be removed only by specialized staff of the manufacturer or of a service shop properly trained and approved by it.

2.6 Extension Cables on the Worksite

To extend power cord length, use exclusively properly approved extension cables that are labeled as such and have the following conductor sections:

up to 20 m: 1.5 mm² (2.5 mm² recommended); Type H07RN-F
over 20 m: 2.5 mm² (4.0 mm² recommended); Type H07RN-F



When using the extension cable, it has always to be rolled off completely and lie fully extended.

2.7 Checking the Product for Damage

Before every use of the product, check safety features and possibly existing parts with minor damage for proper function. Make sure that the push-on connection terminals work properly, that contact is fully established, and that the contact surfaces are clean. All parts have to be installed correctly and properly conform to all conditions in order for the product to function as intended. Damaged safety features or functional parts should be properly repaired or replaced by an approved service shop.

2.8 Data Interface Cover Cap

The dust cap for the interface has to cover the port during operation, in order to keep humidity and contaminations away.

2.9 Power Supply Specifications

2.9.1 Mains Power Supply

Utility suppliers' wiring requirements, occupational safety rules, applicable standards, and national codes have to be respected.



Caution

When using power distributions on the worksite, rules for the installation of earth-leakage circuit breakers (RCD) have to be respected, and operation requires an installed breaker.

Generator or mains power fuse protection should be 16 A (slow blow). The product has to be protected against rain and humidity.

2.9.2 Generator Power Supply

The required nominal generator capacity as determined by the power supply requirement of the largest fitting to be welded depends on the power supply specifications, the environment conditions, and the generator type itself including its control/regulation characteristics.

Nominal output power of a generator 1-phase, 220 - 240 V, 50/60 Hz:

d 20.....d 160	3.2 kW
d 160....d 450	4 kW mechanically regulated
	5 kW electronically regulated

Start the generator first, then connect the welding unit. The idle voltage should be set to approx. 240 volts. When turning the generator off, disconnect the welding unit first.



Important

The working output power of the generator decreases by about 10% per 1,000 m of altitude. During the welding process no other device connected to the same generator should be operated.

3 Service and Repair

3.1 General

As the product is used in applications that are sensitive to safety considerations, it may be serviced and repaired only by the manufacturer or its duly authorized and trained partners. Thus, constantly high standards of operation quality and safety are maintained.

Failure to comply with this provision will dispense the manufacturer from any warranty and liability claims for the product, including any consequential damage.

When serviced, the unit is upgraded automatically to the technical specifications of the product at the moment it is serviced, and we grant a three-month functional warranty on the serviced unit.

We recommend having the product serviced at least every twelve months.

Any provisions in the law pertaining to an electrical safety inspection have to be complied with.

3.2 Transport, Storage, Shipment

The product ships in a transport box. The product should be stored in this box, protects the product from humidity and environmental agents.

When sending the product, it should be placed into the transport box at all times.

4 Principles of Operation

The HST 300 Pricon 2.0 allows welding electrofusion fittings that feature a bar code. Every fitting is provided with a tag with one or two bar codes on it. The structure of this code is internationally standardized. The first code, encoding the data on proper welding, complies with ISO 13950, the second code, if present, encoding the component traceability data, complies with ISO 12176-4. The model version with GPS module can additionally be used to record the geographic coordinates of the place where the welding operation is performed, which will then be added to the relevant welding report.

The welding control program supports the extended data encoding specifications under the ISO 12176 standard, e.g., pipe and fitting traceability codes. To use this feature, the desired data have to be enabled in the configuration menu, at "Recording" (see Sect. 10.2).

The welding parameters can also be entered manually. The microprocessor-controlled HST 300 Pricon 2.0 Welding Unit

- controls and monitors the welding process in a fully automated fashion,
- determines welding duration depending on ambient temperature,
- shows all information on the display in plain text.

All data that are relevant for the weld or for traceability are saved to the internal memory and can be sent to a USB stick.

Welding data transfer is enabled through an interface of the USB A type, which is compatible with a USB stick.

Further Optional Accessories

- **PC software** for downloading and archiving data on PC (for all common Windows operating systems)
- **Label tag printer** for printing an identifier label for the new joint right after the welding operation
- **USB stick** for data transfer from the welding unit on the worksite to the printer or PC in your office (see details at the end of this booklet)

5 Check-out and Operation

- To operate the welding unit, be sure that it is set on a proper, level surface.
- Be sure that power supply/generator protection is 16 A (slow blow).
- Plug the power supply cord into the mains power supply or the generator.
- Read and comply with the User's Manual of the generator, if applicable.

5.1 Turning the Welding Unit on

After connecting the power supply cable to mains power or a generator, turn the welding unit on using the On/Off switch. This causes Display 1 to show.

Then the screen changes to Display 2.

```
*****
HUERNER
HST300 Pricon 2.0
*****
```

Display 1

```
Enter Fitting Code
14:32:11      21.10.12
Inp.Volt. 230V 50Hz
No Contact
```

Display 2



Caution


CAUTION in case of System Errors!

If during the auto-test that the unit performs at start-up, an error is detected, a "System Error" message shows on the display. When this happens, the welding unit has to be disconnected immediately from the power supply and the fitting, and it has to be shipped to the manufacturer for repair.

5.2 Entering the Welder ID Code



Info

The alphanumeric keypad is designed and works like the keypad of a common mobile phone without touch screen display. All characters found on a key can be "browsed" by pressing that key repeatedly at short intervals. As soon as "browsing" generates the desired character on the screen, wait a little longer until you press the next key to use the displayed character. The first character always is the number on the respective key, then the letters or marks in the order on the key, i. e., for instance, with the key "2 | a | b | c" the 1st keypress brings up "2," the 2nd "a," the 3rd "b," and the 4th brings up "c." By default, lower-case letters appear on the screen. To enter upper-case letters, hold down the  key while selecting the appropriate letter by one or several keypresses.

The welding unit can be configured to ask for the welder identification code before the fitting code is entered. The display screen then shows the message "Enter Welder Code." (Later this screen can be accessed by a quick access routine; see Sect. 6.1.) The numeric code can be entered either by reading it from a tag with the scanner or by using the alphanumeric keypad. Whether the welder identification code has to be entered and if so, when or how often, is determined in the "Settings" sub-menu of the configuration menu (see Sect. 10.1).

```
*** Welder Code ***  
*****
```

Display 3

When the welder code is read from a bar code using the scanner, an audible signal confirms this and the screen shows the read code and switches to the next input display. When the code is entered manually, it is saved by pressing the START/SET key. If the code entered is not correct, a "Code Error" message appears; check the sequence of numbers and correct as needed. If the code entered is correct, it is saved to system memory and inserted into the welding reports to be printed.

Only an ISO standard-compliant welder identification code is accepted by the unit. If the welder code feature is disabled, the input screen for the welder code will not show.

5.3 Connecting the Fitting

Connect the connection terminals to the fitting and check for proper contact. Use terminal adapters if needed. The contact surfaces of the cable connection terminals or adapters and the fitting have to be clean. Dirty terminals may lead to improper welding and also to overheated and fused connection terminals. Protect the cable connectors against getting dirty at all times. Terminals and push-on adapters should be considered consumables and, therefore, have to be checked before every welding operation and replaced if damaged or dirty.

When the fitting is connected, instead of the "No Contact" message (see Display 2) the number of the next welding report appears, e.g., "Prot. No.: 0015."

5.4 Reading the Fitting Code with a Handheld Scanner

Only the bar code on the tag sticking on the fitting to be welded may be used. It is not acceptable to read the fitting code tag of a fitting of a different kind if the intended one is damaged or unreadable.

Start ?		
Temp.:	20°C	
HST	315mm	58s
SAT	40.00V	0.80Ω

Display 4

Read the fitting code by holding the scanner in front of the bar code at a distance of 5 to 10 cm (2 to 4 inches), where the red line indicates the reading area. Then push the reading button. If the data are correctly read, the welding unit confirms this by an audible signal and displays the decoded data on the screen (see Display 4).



The displayed values are the nominal welding parameters contained in the fitting bar code or computed based on these data. They are displayed before the actual resistance of the electrofusion fitting is measured. This means that even when the showing ohm value is o.k., a resistance error may still be detected (see Sect. 9.2). Only when the welding process starts, the display shows the actual, measured welding parameters.

The "Start ?" message means that the unit is ready to start the welding process. Check the read data and if you see that they are erroneous, delete them by pressing the STOP/RESET key. The read data are also deleted if the welding unit is disconnected from the fitting.

5.5 Direct Welding with the AutoWeld Feature

If two welding operations with electrofusion fittings with

the exact same welding parameters succeed each other, it is not necessary to read a fitting bar code or enter welding parameters manually. To start a welding operation that is fully identical to the preceding one, it is sufficient to use the AutoWeld feature, provided it was enabled in the configuration menu (see Sect. 10.1). It is accessible from the quick selection screen opened from the "Enter Fitting Code" screen with the \leftarrow arrow key (see Sect. 6.1). In this screen, the selection cursor can be moved using the \uparrow and \downarrow ; the selection is made with the START/SET key.



Important

It is under the user's responsibility to rely on the AutoWeld feature only when the preceding and the planned welding operation and electrofusion fitting are really fully identical to each other. An erroneous or negligent use of the feature will result in a poor, unstable joint.

5.6 Starting the Welding Process



Info

After the fitting bar code was read or the AutoWeld feature was called, the input of all traceability data that were enabled in the configuration menu (see Sect. 10.2), is requested by the system.

After reading or entering the fitting code, the welding process can be started using the START/SET key, when the "Start ?" message is displayed and there is no indication of a problem.

Pressing the START/SET key will trigger a confirmation message "Pipe treated?," which in turn requires a confirmation with the START/SET key to start the welding proper.

5.7 Welding Process

The welding process is monitored for its entire duration applying the welding parameters contained in the fitting code. The welding voltage, the resistance, and the welding current are displayed in the lower line of the screen.

Act. Time: 56sec
Nom. Time: 90sec
35.00V 1.57Ω 22.29A

Display 5

5.8 End of Welding

The welding process ends successfully if the actual welding time corresponds to the nominal welding time and the buzzer can be heard twice.

5.9 Aborted Welding Process

The welding process has failed if a plain-text error is displayed on the screen and the audible signal buzzes by in-

tervals, yet continuously. An error has to be acknowledged by pressing the STOP/RESET key.

5.10 Cooling Time

The cooling time as given in the fitting manufacturer's instructions has to be respected. If the bar code provided by the fitting manufacturer contains cooling time data, it will be displayed at the end of the welding process and will be counted down to zero. This countdown can be acknowledged and canceled at any time by the STOP/RESET key. However, note that for that time the pipe fitting joint which is still warm must not be subjected to an external force. No cooling time is displayed if the fitting code does not contain any such information.

5.11 Returning to the Start of Parameter Input

After welding is finished, disconnecting the welded fitting from the unit or pressing the STOP/RESET key will reset the unit back to the start of entering the welding parameters.

5.12 Using ViewWeld to Manage Logged Welding Reports, Print Tags, and Assign Geo-data

The ViewWeld feature offers viewing an abstracted version of the welding reports recorded during the welding processes and printing it as a label tag to be affixed to the joint on the optionally available tag printer. The ViewWeld abstract shows the report number, the date and time of the welding and the welding parameters along with an evaluation of the quality of the joint/welding operation (see Display 6), where the first displayed abstract is that of the last performed welding operation.

0015	24.02.13	09:33
M/B	MON	HST 315
0058s	025.0V	1.57Ω
Welding OK		

Display 6

To call the ViewWeld abstract of a welding report, press the \uparrow key in the bar code input screen (see Display 2). Browsing through the saved welding reports is then possible by pressing the \leftarrow or \rightarrow cursor keys. To print a tag of the welding operation of which the abstract is currently displayed, the label tag printer has to be connected to the welder. Then press the START/SET key in the ViewWeld screen. The printed label tag has a QR code (two-dimensional bar code), in which information identifying the joint is encoded: date and time, report number, welding system used, and joint status.

ViewWeld also enables assigning the geo-data of a joint after it was made, in case they were not recorded with enabled geo-data logging at the welding operation (see Sect. 6.7). To do this, call the ViewWeld screen and, if

needed, browse to the welding abstract of the joint that needs to have its geo-data assigned. Then press the \uparrow cursor key in the ViewWeld screen displaying the desired welding operation. This causes a screen asking you if you want to record geo-data to appear (see Display 12). Confirm by pressing the START/SET key and log the geo-data according to the procedure described in Sect. 6.7.

6 Additional Information in the Welding Report

Every welding report saved to system memory, which can be downloaded as a PDF report file or in the DataWork format, contains a number of welding and traceability data that the operator can decide to enter or not to enter in the set-up menu.

6.1 Entering Preformatted and User-defined Traceability Data

All traceability data enabled in the configuration menu at "Data Recording" (see Sect. 10) have to be entered before the welding process. The welding unit prompts the user to enter them either before or after entering the fitting bar code (see Display 2). Depending on what data is entered, either its repeated input is mandatory (e. g., the welder ID code; see Sect. 5.2) or previously entered data can be changed and confirmed or confirmed without changes (e. g. the commission number; see Sect. 6.2).

```
*** Recording ***
>Welder ID Code
Enter Job No.
Joint No.
```

Display 7

Certain traceability data can also be accessed quickly, via a selection screen, by pressing the \leftarrow cursor key (see Display 7), either for viewing or for entering or changing/confirming them.

6.2 Entering or Changing the Job Number and Joint Number

The commission number input screen is shown by the unit before welding or accessed by the user in the quick access screen (Display 7). It can be entered using the alphanumeric keypad (see Info in Sect. 5.2) or by reading it from a bar code using the scanner. The maximum length is 32 characters. Confirm your input by pressing the START/SET key. The job number will be saved to memory and will appear in the printed welding report. A simultaneous keypress of the \leftarrow and \rightarrow keys allows selecting in a list, which opens, a previously used commission number different from the one of the immediately preceding welding operation. This list is closed again by confirming the selection made using the START/SET key.

```
Enter Job No.

*****
*****
```

Display 8

Provided it was enabled in the configuration menu (see Sect. 10.2), a commission number-related joint number is also recorded and shown along with the report number (see Sect. 5.3). To say that the joint number is related to the job, or commission, number means that the system checks, when a commission number was entered, whether it exists already in the internal memory. If so, it takes the highest existing joint number for that commission, increments it by 1, and applies this new joint number to the next welding operation in that commission.

6.3 Entering or Changing Additional Data

The additional data input screen is shown by the unit before welding, first the screen that allows entering the first additional data, then the one for the second additional data. This input can be entered either using the alphanumeric keypad (see Info in Sect. 5.2) or by reading from a bar code using the scanner.

```
** Addit'l Data 1 **  
*****
```

Display 9

For the first additional data input, the maximum length is 20 characters. For the second data input, the maximum length is 15 characters. Confirm your input by pressing START/SET. The additional data will be saved to memory and appear in the welding report. By pressing STOP/RESET, you skip this screen without any input.



Info

You are free to define any additional data you see fit. For instance, you can put into these fields information on pipe length, ditch depth, or comments that help with welded joint traceability.

6.4 Entering the Fitting Traceability Code

If this feature is enabled in the configuration menu, after the fitting code was entered, another input "Fitting Code" is required. This is the so-called "traceability code" or "second fitting code" of the fitting.

```
*** Fitting Code ***  
*****  
*****
```

Display 10

This input is entered either from a bar code using the scanner or manually using the alphanumeric keypad (see Info in Sect. 5.2). Press the START/SET key to confirm your input. If the code entered is not correct, a "Code Error" message appears; check the string of numbers and correct as needed. If the code entered is correct, it is saved to system memory and inserted into the welding reports to be printed. By pressing the STOP/RESET key, you skip this input.

6.5 Entering Weather Conditions

If the weather conditions feature is enabled in the system

```
**** WEATHER ****  
>sunny  
dry  
rain
```

Display 11

set-up, this input is required before the fitting code can be entered.

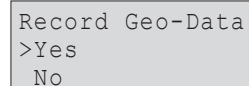
Use the arrow keys \uparrow , \downarrow to select from "sunny," "dry," "rain," "wind," "tent," and "heating." Press the START/SET key to confirm your selection. The selection is saved to memory and will appear in the printed welding report.

6.6 Entering Data on the Jointed Components

According to the same procedure as used for entering the fitting traceability code (see Sect. 6.4), prior to the welding proper the ISO-compliant codes of the pipes to be welded, their length as well as the installing company can be entered for inclusion in the welding reports. For this to be possible, they have to have been enabled in the configuration menu.

6.7 Recording the Geo-data of the Planned Joint

Provided that geo-data recording is enabled in the configuration menu (see Sect. 10.2), the geographic coordinates can be recorded, if the GPS module is on, as soon as Display 12 shows on the screen.



```
Record Geo-Data
>Yes
No
```

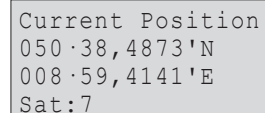
Display 12



Wait at least 1 minute from switching the GPS module on to the actual recording of the geo-data, or the GPS module will throw a not-ready error.

During the first minute after switching the GPS module on the following messages may appear on the screen: "No signal," "GPS module failed," "GPS Error, Restarting," and "GPS Module not Ready." These are no errors during the starting minute of initialization right after switching on. If they appear after this time, they have to be considered actual error messages. In this case, the restart after a GPS (signal processing) error will be performed by the module itself, without any user action. The Not Ready message disappears automatically, too, as soon as the module is ready for recording.

The geo-data are recorded after you selected "Yes" in Display 12 using the \uparrow and \downarrow arrow keys and confirmed this selection by pressing the START/SET key. A message confirms that the data have been recorded. The recorded data then show on the screen (see Display 13). A second screen is used to display additional information on the precision at the time of recording. To switch back and forth between both geo-data screens, press the \Rightarrow key.



```
Current Position
050.38,4873'N
008.59,4141'E
Sat:7
```

Display 13

If it is likely that no satisfactorily precise position will be

recorded because of relatively poor signal strength, a warning message tells you, after you pressed the START/SET key in Display 12, "Poor GPS signal; record data?". When this message is showing, you can still start recording the position by pressing the START/SET key or go on without recording by pressing the STOP/RESET key.



The recorded position is the one the GPS module is at at the moment of recording. This means that in situations where the welding unit cannot be set next to the joint that is being welded, it is possible to start by placing the welder/the GPS module next to the future joint, then to record the geo-data, and finally to move the welder to the place where it will be during the welding process.

7 Entering Welding Parameters Manually

To be able to enter the welding parameters manually, you have first to connect the fitting to the welding unit with the welding cable. The manual input of the parameters can then be accessed by pressing the \downarrow arrow key. The screen will show a menu as reproduced in Display 14, provided manual input is enabled in the configuration menu (see Sect. 10.1). In other words, the manual parameter input replaces reading the bar code of the fitting with a scanner.

```
**  MANUAL INPUT  **  
  
>Enter Voltage/Time  
Enter Fitting Code
```

Display 14

Using the arrow keys \uparrow and \downarrow you can select "Enter Voltage/Time" or "Enter Fitting Code" (i.e., the numbers that represents the code of the fitting to be used). Confirm your selection by pressing the START/SET key.

7.1 Manually Entering Welding Voltage and Time

If this option was chosen in the manual parameter input menu, a display like the one to the right appears on the screen. Use the alphanumeric keypad (see Info in Sect. 5.2) to set the welding voltage and the welding time, according to the fitting manufacturer's instructions, then press the START/SET key to confirm your input. The "Start ?" message displayed after the confirmation by START/SET indicates that the unit is ready for welding.

```
Voltage/Time  
  
U= 40 V   t= 1000 s
```

Display 15

7.2 Entering the String of Numbers

If this option was chosen in the manual parameter input menu, the "Enter Fitting Code" display shows. The 24 characters of the fitting code to be entered display as asterisks (*). Use the alphanumeric keypad (see Info in Sect. 5.2) to enter the code and press START/SET to confirm your input

and have it decoded. If the code entered is not correct, a "Code Error" message appears; check the string of numbers and correct as needed. If the code is correct, the decoded data is displayed, and the "Start ?" message indicates that the unit is ready to start welding.

8 Downloading the Reports

Interface

USB A Interface Port

for connecting USB mass storage media (such as a memory stick)

The interface port complies with the USB version 2.0 specification (i.e., maximum data rate of 480 megabits per second).



Important

Before transferring data, it is highly recommended to switch the welding unit off and on again. If this fails to happen, there is a risk of data transfer failure, or reports in the welding unit may be corrupted.



Important

When transferring welding reports to a USB stick, always be sure to wait until the display shows the "Download finished" message before you disconnect the USB stick from the product. If you disconnect it too early, the unit may ask you whether you want to delete the reports in memory, although they were not properly transferred. In this case, if you delete the contents of the report memory, the welding reports would be irrevocably lost and would not be available elsewhere either.

8.1 Selecting the File Format

Connecting the storage media causes the the screen to appear in which the format of the output file with the welding reports can be selected: a PDF file with an abstracted or extended version of the report, the format of the welding data management application DataWork or a CSV file. Using the ↑ and ↓ arrow keys, select the file type you need and confirm your selection by pressing the START/SET key.

```
* Select File Type *  
DataWork File  
>PDF Abstract  
PDF Ext'd Report
```

Display 16

The CSV format enables import of the report data into a database or spreadsheet application, provided this application can read the format; this is the case, e.g., with Microsoft Excel.

The Service Report option is not important for normal operation. In the scope of computer-assisted unit service, this report lists the events related to the maintenance of the welding unit.

8.2 Downloading All Reports

After the file type was selected, the next screen offers a "Print All Reports" option. Selecting it will download all welding reports currently in system memory in the previously selected file format.

8.3 Downloading by Commission Number, Date or Report Range

After the file type was selected, the next screen offers a "By Commission Number," a "By Date Range," and a "By Report Range" options. Depending on the selection, the ↑ and ↓ arrow keys can be used to select from the commissions currently in system memory the desired one, of which the reports should be downloaded, or the alphanumeric keypad can be used (see Info in Sect. 5.2) to enter a start date and an end date, or the first and the last report, that define a range of dates or a range of reports of which the reports should be downloaded. When you press the START/SET key, you cause the selected reports to be transferred to the storage media.

8.4 Understanding the Report Download Process

The download starts automatically after a selection was made among the options. Wait for all the selected reports to transfer and the "Download completed" message to appear on the screen.

If a problem occurs while the download is in progress, a "Not ready" message shows. After the problem condition is cleared, the download resumes automatically.



If the welding unit recognizes a problem that cannot be cleared while the data transfer is in progress, it does not resume the process and displays a "Download cancelled" error message. To acknowledge this error, press the START/SET key.

8.5 Deleting Data from Memory

The report data in memory can be deleted only after all welding reports were transferred, which is indicated by the "Download completed" message. When the storage media is unplugged, a "Delete Memory" message appears. If the START/SET key is pressed at this point, a further confirma-

tion message "Delete Memory, sure?" is shown, which has to be confirmed by pressing the START/SET key once again. Then, the report data in memory are deleted.

8.6 Keeping Data in Memory

When the cable or storage media is unplugged, a "Delete Memory" message is displayed. Press the STOP/RESET key to keep the current report data in memory. They can then be printed off once again.



Important

Make a habit of handling the internal storage as described at the beginning of Sect. 8, to maintain data integrity and avoid any inadvertent deletion of the reports in memory.

9 Dedicated Welding Unit Information

9.1 Displaying Characteristics of the Welding Unit

The key technical information on the welding unit itself is displayed by pressing the ⇨ key at the "Enter Fitting Code" screen. They are the software version, the serial number of the unit, the date of the next scheduled maintenance, and the number of currently available, unused reports. To quit this screen, press the STOP/RESET key.

If the scheduled service is overdue, a service due message appears on the screen as soon as the unit is plugged into the mains or generator power supply. This message has to be acknowledged by pressing START/SET.

9.2 Measuring Resistance

When the START/SET key was pressed to initiate a welding process, the resistance value of the fitting is measured and compared to the value entered as part of the read fitting code. If the gap between the two values is smaller than the acceptable tolerance given in the code, the welding process starts. If the gap is greater than the preset tolerance, the welding unit aborts welding and displays a "Resistance Error" message. Furthermore, it displays the actual resistance value measured for the connected fitting.

The reason for a resistance error may be poorly contacting and/or worn connection terminals. Therefore, if this error occurs, check them for proper fit and, if worn, replace them with new ones.

9.3 Overheating Switch

The welding process aborts if the temperature of the welding unit is too high. The overheating circuit breaker for the welder stops the welding process if the temperature reading is too high and the remaining welding time is longer than 800 seconds. The display and the welding report will show an "Overheated" message.

9.4 Indication of Power Supply Failure at the Last Welding

The message "Power Supply Failure Last Welding" indicates that the previous welding aborted because of a power supply failure. The reason may be too weak a generator or too long or too thin an extension cable, or a tripped cut-out in the mounting box. The next welding operation is still possible after acknowledging the message by pressing the STOP/RESET key.

10 Configuring the Welding Unit

With the operator identity card, the welding unit can be reconfigured. When the MENU key is pressed, the "Enter Menu Code" message appears on the screen. After the code was read from the operator card, the selection menu in Display 17 shows.

At "Settings," the parameters related to the welding unit itself and its operation can be set. At "Recording," the traceability data that have to or need not be recorded and written into the reports can be enabled or disabled. The desired sub-menu is selected using the ↑ and ↓ arrow keys. Then to access that sub-menu, press the MENU key.

In both parts of the configuration menu, use the ↑ and ↓ arrow keys to select the desired set-up option. Use the ⇨ arrow key to toggle between "on" and "off" for that set-up option.

If a "M" is shown next to a set-up option, this indicates that a sub-menu is accessible here by pressing the MENU key.

Press the START/SET key to confirm the set-up and save it to memory.

10.1 Understanding the "Settings" Sub-menu

"AutoWeld on" means that the AutoWeld feature for the easy definition of welding parameters (see Sect. 5.5) can be used, "off," that the feature is not available.

```
>Settings      -M-
Recording      -M-
```

Display 17

```
***  SET-UP MENU  ***
>AutoWeld      on
Check Cd Expiry off
Memory Control on
```

Display 18

"Check Code Expiry on" means that the welder identification code has to be current and not expired (default period of validity 2 years from code issuance), or the welding operation cannot be started, "off," that the validity of the code is not checked at all.

"Memory Control on" means that when the system memory is full of reports, the unit will be blocked until the reports are printed or downloaded, "off," that it works but that the oldest report will be overwritten.

"Manual Input on" means that the manual input of welding parameters (see Sect. 7) is possible, "off," that the manual input is not allowed.

"Welder Code Options – M – " means that by pressing the MENU key, the user can access a sub-menu that allows determining when the welder code, if it is enabled at "Recording," has to be entered: always, i. e. before every single welding operation, only before the first welding operation after switching the unit on or only after the first welding operation of a new day/date.

"Language – M – " means that by pressing the MENU key, the user can access a sub-menu for selecting the display and report language (see Sect. 10.1.1).

"Date/Time – M – " means that by pressing the MENU key, the user can access a sub-menu for setting the clock (see Sect. 10.1.2).

"Buzzer Volume – M – " means that by pressing the MENU key, the user can access a sub-menu for setting the volume of the status buzzer (see Sect. 10.1.3).

"Temperature Unit – M – " means that by pressing the MENU key, the user can access a sub-menu for selecting centigrade or Fahrenheit as the unit for the temperature.

"Inventory Number – M – " means that by pressing the MENU key, the user can access a sub-menu for entering the number under which the unit is inventorized with the operating company.

"Number of Tags – M – " means that by pressing the MENU key, the user can access a sub-menu for entering the number of tags that are printed automatically after welding with the optional label tag printer if such a printer is connected.

```
***  SET-UP MENU  ***
Manual Input      -M-
Wldr Code Option -M-
>Language         -M-
```

Display 19

```
***  SET-UP MENU  ***
Date/Time        -M-
Buzzer Volume    -M-
>Temp. Unit      -M-
```

Display 20

```
***  SET-UP MENU  ***
>Temp. Unit      -M-
Inventory No.    -M-
Number of Tags   -M-
```

Display 21

10.1.1 Selecting the Display Language

When the "Select Language" sub-menu was selected, the screen changes and the display reproduced in Display 22 appears.

```
***** LANGUAGE *****
>Deutsch
English
Francais
```

Display 22

Use the arrow keys \uparrow and \downarrow to select one of the options, "Deutsch," "English," and "Français" and confirm by pressing the START/SET key.

10.1.2 Setting the Clock

When the "Set Clock" sub-menu was selected, the screen changes and the display reproduced in Display 23 appears.

Date/Time	
21.06.13	14:28

Display 23

The time of day and the date can be set using the keypad. The portions "Hour," "Minute," "Day," "Month," and "Year" are set separately. Press the START/SET key to confirm your settings.

10.1.3 Setting the Buzzer Volume

When the "Set Volume" sub-menu was selected, the screen changes and the display reproduced in Display 24 appears. The buzzer can also be heard. Turn the buzzer volume up or down to the desired value using the ⇐, ⇒ arrow keys (from 0 to 100) and confirm your setting by pressing the START/SET key.

Buzzer Volume	
< -----20----- >	

Display 24

10.2 Understanding the "Recording" Sub-menu

"Welder Code on" means that the welder identification code has to be entered as set with "Welder Code Options," "off," that this is impossible.

"Commission Number on" means that the commission number (job number) will have to be entered or confirmed before every new welding, "off" that the user is not prompted to enter it.

"Joint Number on" means that the unit assigns an automatically incremented joint number to every welding operation belonging to a commission already known, and displays this number on the screen next to the report number, "off" that no joint numbers will be assigned at all.

"Additional Data on" means that the additional data will have to be entered or confirmed before every new welding, "off" that the user is not prompted to enter them.

"Fitting Code on" means that the second, so-called traceability code of the electrofusion fitting has to be entered before every welding, "off," that this is not possible.

"Pipe Codes on" means that the codes of both pipes/components (ISO-compliant welding and traceability codes) have to be entered before every welding, "off," that this is not possible.

"Pipe Length on" means that the length of both pipes/components has to be entered before every welding, "off," that this is not possible.

"Weather Conditions on" means that the weather has to be selected in a list before every welding, "off," that this is not possible.

Data Recording	
Welder Code	on
>Commission No.	on
Joint No.	off

Display 25

Data Recording	
Additional Data	on
>Fitting Code	on
Pipe Codes	on

Display 26

Data Recording	
Pipe Length	on
>Weather Cond.	on
Geo-data	off

Display 27

“Geo-data on” means that the geographic coordinates have to be recorded after every welding (see Sect. 6.7 for details), “off,” that this is not possible.

“Installing Company on” means that the company that performs the installation work has to be entered before every welding, “off,” that this is not possible.

“Print Tags – M – ” means that by pressing the MENU key, the user can access a sub-menu for starting to print (a) label(s) with reference to a given welding operation, with the optional label tag printer.



All data can also be read from a bar code with the scanner, provided such a bar code is available.

11 Self-Monitoring Functions Overview

11.1 Errors During Data Input

11.1.1 Code Error

An erroneous input has occurred, a code tag is poor or has an error in code symbology or code reading was improper.

11.1.2 No Contact

There is no properly established electric contact between the welding unit and the fitting (check push-on terminal on fitting), or the heater coil is defective.

11.1.3 Low Voltage

The input voltage is below 175 volts. Adjust generator output voltage.

11.1.4 Overvoltage

The input voltage is over 290 volts. Decrease generator output voltage.

11.1.5 Overheated

The welding unit temperature is too hot. Let it cool down for about 1 hour, while **making sure** to leave it switched on, so the internal fan runs to help cool it down.

11.1.6 System Error

CAUTION!

The welding unit has to be disconnected immediately from both the power supply and the fitting. The auto-test has detected an error in the system. The unit must no longer

be operated and has to be sent to an approved shop for check and repair.

11.1.7 Temperature Error

The ambient temperature measured is outside the operating range of the welding unit, i.e., below -20°C (-4°F) or over $+60^{\circ}\text{C}$ ($+140^{\circ}\text{F}$).

11.1.8 Temperatur Sensor Defective

The ambient temperature sensor on the welding cable is damaged or defective.

11.1.9 Clock Error

The internal system clock works improperly or is defective. Reset it, or send the welding unit to the manufacturer for check and service.

11.1.10 Unit to Service

The recommended next service date for the welding unit is overdue. The service due message has to be acknowledged by pressing the START/SET key. Send the welding unit to the manufacturer or an approved service point for service and check-up.

11.1.11 Input Error

A code that was entered is incorrect. At manual welding parameter input, no welding time was entered. An incorrect value was selected in the date setting.

11.1.12 Memory Full

The system memory is full of welding reports. Print or download the reports in memory or switch memory control off. Without memory control, a new report overwrites the oldest existing one.

11.1.13 Download Cancelled

During data transfer or printing, an error condition occurred which could not be cleared.

11.1.14 GPS Module Not Ready

The minute that you have to wait from switching the GPS module on to the actual recording of the geo-data is not over yet.

11.1.15 No GPS Signal

There is no reliable signal from the relevant satellites to the GPS antenna of the module.

11.1.16 Poor GPS Signal

The signal strength is so weak that no precise position can be recorded. Repeating the recording is recommended.

11.2 Errors During Welding

All errors that occur while welding is in progress are also indicated by an audible alarm.

11.2.1 Low Voltage

The input voltage is below 175 volts. If the error condition persists for longer than 15 seconds, the welding process will be aborted. If the voltage goes down below 170 volts, the welding process will abort immediately.

11.2.2 Overvoltage

The input voltage is over 290 volts. If the error condition persists for longer than 15 seconds, the welding process will be aborted.

11.2.3 Resistance Error

The resistance value of the connected fitting is out of the read tolerance.

11.2.4 Frequency Error

The frequency of the input voltage is out of tolerance (42 Hz - 69 Hz).

11.2.5 Voltage Error

Check generator voltage and current. The output voltage does not correspond to the value previously read; the welding unit has to be sent to the manufacturer for check-up.

11.2.6 Low Current

The message is displayed if there is a momentary current failure or if the current decreases by more than 15% per second for 3 seconds.

11.2.7 Excess Current

The output current value is in excess; possible causes: short-circuit in the heater coil or the welding cable. During the start stage the upper abort threshold equals 1.18 times the

value at start, in any other case the upper limit depends on the load value and is calculated as the current at start plus 15%.

11.2.8 Emergency Off

The welding process has been interrupted by pressing the STOP/RESET key.

11.2.9 Heater Coil Error

The dynamic current value during welding differs by more than 15% from the required value, indicating a short-circuit in the heater coil.

11.2.10 Power Supply Failure at Last Welding

The last welding is incomplete. The welding unit was disconnected from the power supply voltage while it was in progress. To go on using the unit, this error has to be acknowledged by pressing the STOP/RESET key (see also Sect. 9.4).

12 Technical Specifications

Nominal Voltage	230 V
Frequency	50 Hz / 60 Hz
Power	2800 VA, 80% duty cy.
Ingress Protection	IP 54
Primary Current	max. 16 A
Ambient Temperature	–20°C to +60 °C (–4°F to +140°F)
Output Voltage	5 V - 48 V
Max. Output Current	130 A
Memory for Reports	20,000 welding reports
Data Interface Port	USB v 2.0 (480 mbit/s)

(see also the information on the data ports in Sect. 8)

Tolerances:

Temperature	± 5 %
Voltage	± 2 %
Current	± 2 %
Resistance	± 5 %

Operating Range	20 through 1600 mm
-----------------	--------------------

13 Service and Repair Contact

HÜRNER Schweißtechnik

Nieder-Ohmener Str. 26

35325 Mücke, Germany

Tel.: +49 (0)6401 9127 0

Fax: +49 (0)6401 9127 39

Web: www.huerner.de

E-mail: info@huerner.de



We reserve the right to change technical specs of the product without prior notice.

14 Accessories/Parts for the Product

Connection Terminal 4.7 threaded

(fitting connector of welding cable), compatible with

Uponor, DURA-Pipe, Simona, Strengweld, Plasson

216 - 023 - 430

Push-on Adapter FF flat

compatible with Friatec

216 - 010 - 070

Push-on Adapter FF round 4.0

compat. w/ Friatec, GF, agru, Wavin, Euro Standard

216 - 010 - 080

Push-on Adapter FF pin

compatible with Friatec FriaFit (waste water)

216 - 010 - 400

Push-on Adapter GF

compatible w/ GF, agru, Wavin, with free wires

216 - 010 - 090

Push-on Elbow Adapter 4.7 - 4.7 90°

216 - 010 - 580

Adapter Bag

216 - 030 - 310

Welder/Operator ID Card

216 - 080 - 031

Software DataWork for Windows

216 - 080 - 505

USB Stick

300 - 010 - 154

KONFORMITÄTSERKLÄRUNG

Déclaration de conformité

Declaração de conformidade

Wir / We / Nós

HÜRNER Schweisstechnik GmbH
Nieder-Ohmener Str. 26
D-35325 Mücke-Atzenhain

erklären in alleiniger Verantwortung, dass das Produkt
déclarons sous notre seule responsabilité que le produit
declaramos sob nossa exclusiva responsabilidade que o produto

HÜRNER HST 300 Pricon 2.0

Schweißautomat zur Verarbeitung von Elektroschweiß-Fittings
Appareil pour l'électrosoudage par fusion des raccords de tuyauterie,
Máquina de solda por eletrofusão,

auf die sich diese Erklärung bezieht, mit den folgenden Normen oder normativen Dokumenten
übereinstimmen

auquel se réfère cette déclaration, est conforme aux normes et documents de normalisation suiv-
ants

para o qual essa declaração se refere, está em conformidade com as normas ou documentos
normativos abaixo citados

CE-Konformität / Conformité CE / Conformidade CE

Directive 2014/30/EU

Directive 2012/19/EU

Directive 2014/35/EU

Directive 2011/65/EU

Andere Normen / Autres normes / Outras normas

EN 60335-1

EN 61000-3-2

EN 60335-2-45

EN 61000-3-3

EN 60529

EN 62135-2:2008

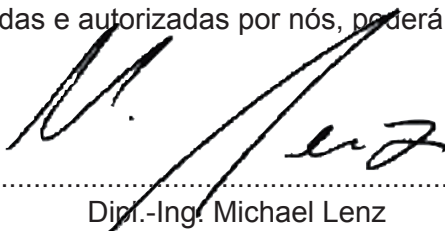
ISO 12176-2

Bei einer nicht mit uns abgestimmten Änderung der Maschine oder einer Reparatur von Personen,
die nicht von uns im Hause geschult und autorisiert wurden, verliert diese Erklärung ihre Gültigkeit.
En cas de modification apportée à l'appareil sans notre accord préalable ainsi que de réparation
effectuée par des personnes non formées et agréées par nos soins, cette déclaration deviendra
caduque.

Toda e qualquer modificação do equipamento sem nossa prévia autorização, e qualquer reparo
por pessoas que não sejam treinadas e autorizadas por nós, poderá anular essa declaração.

Mücke-Atzenhain

CE Marking Date 19.01.2018



Dipl.-Ing. Michael Lenz

Geschäftsführer
Directeur général
Diretor geral

DECLARATION OF CONFORMITY
Declaración de conformidad
Декларация о соответствии

We / Nosotros / Мы

HÜRNER Schweisstechnik GmbH
Nieder-Ohmener Str. 26
D-35325 Mücke-Atzenhain

declare under our sole responsibility that the product
declaramos bajo la propia responsabilidad que el producto
заявляем с полной ответственностью, что изделие

HÜRNER HST 300 Pricon 2.0

Welding Device for Processing Electrofusion Fittings
Máquina de soldar para los accesorios de electrofusión
аппарат для электромуфтовой сварки,

to which this declaration relates, are in conformity with the following standards or standardizing documents

al cual se refiere esta declaración es conforme a las siguientes normativas o documentos de normalización

на который распространяется настоящая декларация, соответствует следующим стандартам или нормативным документам

CE Conformity / Conformidad CE / Соответствие CE

Directive 2014/30/EU

Directive 2012/19/EU

Directive 2014/35/EU

Directive 2011/65/EU

Other Standards / Otras normativas / Прочие стандарты

EN 60335-1

EN 61000-3-2

EN 60335-2-45

EN 61000-3-3

EN 60529

EN 62135-2:2008

ISO 12176-2

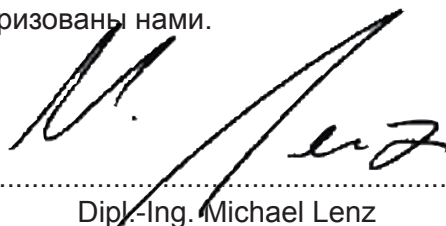
Any and all modifications of the device without our prior approval, and any repairs by persons who were not trained and authorized by us, shall cause this declaration to become void.

En el caso de modificaciones del producto realizadas sin nuestra previa aprobación y también de reparos por personas no formadas y autorizadas por nosotros, esta declaración será considerada nulla.

Настоящая декларация утрачивает силу в случаях внесения изменений в конструкцию изделия без нашего предварительного согласия, а также осуществления ремонта лицами, которые не были обучены и авторизованы нами.

Mücke-Atzenhain

CE Marking Date 19.01.2018



Dipl.-Ing. Michael Lenz

General Manager

Director gerente

Исполнительный директор