Operating Manual

PTF 110, PTF 210, PTF 310 and PTF 610

Friability Testing Instruments

Version 1.0

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bsi. ISO 9001 Quality-management ISO 14001 Environmental-managment

Certificate No FS 529019/0388D

The Documentation

This document describes the set-up, operation and general maintenance of the Pharma Test instrument. It should be used by the operators and the technical support staff responsible for the installation and set-up of equipment.
All attached equipment and parts have to be used in compliance with the manufacturer's manuals and papers supplied.

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How to Use the Manual

To understand the different information we use different formatting:

- **< >Use any key (i.e. <Esc> OR <ENTER>)**
- " " Display information
- *Information entries*
- **[ ] Select from a menu**
- Note: informs about special use OR possibility

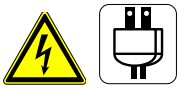


Table of Contents

Document History

Version	Valid from	Author	Change	Remark
1.0	12.02.2026	Pharma Test	N	New Release

Table 1 Document History

Index Information - Change:

N = New Document

C = Correction

R = Revision

Section 1 General Information and Operation Principle

Thank you for choosing a Pharma Test PTF 110, PTF 210, PTF 310 or PTF 610 tablet friability testing instrument. The abrasion-test of tablets and sugar-coated pills is a mechanical load test. This test procedure is described in different international pharmacopoeia (DAB / USP 1216 / EP 2.9.7 etc.) since 1996. From a well-known amount of samples the loss of weight will be determined under constant test conditions. For this reason a round drum, including a shovel (Roche-drum), consisting of transparent acrylic glass is used. The shovel inside the rotating drum transports the samples upwards where they fall down at the bottom again. At the end of the test all samples are taken, exempt from dust and weighed. The loss of weight is a parameter for the friability.

In a first step the samples with a unit mass up to 650 mg, most exactly 6.5 g of samples are freed from dust via a sieve or cleaned with a brush to put them into the test drum.

Depending on the instrument type you can run 1 to 6 drums simultaneously. In case you are using a multiple drum friability tester (PTF 210, 310, 610) different samples can be tested, but only if the number of revolutions and run speed are identical for all samples.

In case the weight of the sample is higher, fewer samples (usually 10) can be tested. The drum turns mostly a hundred times with 25 rpm. Afterwards the samples are taken out of the drum, freed from dust and weighed again. The amount of weight-loss should be less than 1% and not a single one was destroyed. In case the weight-loss is higher or a destroyed sample appears, the test should be done three times to get the statistical average of the three test runs.

Unevenly falling samples (mostly with a diameter > 13mm or oblong-shaped samples) are tested in an apparatus with an axis and drum inclined by 10° foldable feet lift device up on its drum side to care for stable test conditions during the test.

If the instrument is used in any other way as described in the manual, the integrated safety features may be affected and there could be the possibility of injuries to the operator.

Section 1.1 Technical Specifications

Parameter	Specification	
Supported Test Methods	USP <1216>, EP <2.9.7> and JP <14> Pharmacopeias	
Number of Test Stations	Available with 1, 2, 3 or 6 test drums with normal friability, abrasion or coated drums	
Speed	15 – 100 rpm	
Speed Accuracy	± 1 revolution/minute	
Number of Drum Runs	Programmable in stages from 2 to 9999 revolutions	
Testing Time	Programmable in stages from 2 to 9999 seconds	
Method Management	Up to 256 test descriptions (methods) can be stored on the instrument	
User Management	Up to 100 users with selectable user right levels can be stores in the instrument	
Display	LCD with color-changing backlight	
Keyboard	Keypad with function keys and click wheel	
Interfaces	USB type A host port to USB type B device port to connect flash drives, for PC communication and firmware updates LAN port for PC communication[1] RS-232 printer port for optional external printer RP-80 RS-232 balance port	
Instrument Housing	Polished stainless steel housing with plastic frame	
Power	110/230 Volt AC, 50/60 Hz, 50W	
Instrument Dimensions (W x D x H)	PTF 110	Approx. 39cm x 42cm x 42cm
	PTF 210	Approx. 42cm x 42cm x 42cm
	PTF 310	Approx. 51cm x 42cm x 42cm
	PTF 610	Approx. 75cm x 42cm x 42cm
Net Weight	PTF 110	Approx. 16,5 kg
	PTF 210	Approx. 18,0 kg
	PTF 310	Approx. 19,5 kg
	PTF 610	Approx. 28,0 kg
Certification	All components certified to USP / EP requirements	
CE / EMC Certification	All CE / EMC Certification provided	
Validation	All IQ & OQ documents included	

Table 2: Technical Data

Section 1.2 Standard Supply Scope

Section 1.2.1 Main Unit

PTF 110, PTF 210, PTF 310 or PTF 610 instruments:

Part-No.	No.	Description
224-1105	1-3	PTF Roche-Friability Test Drum, right side version, with 10mm axis diameter, without sample discharge opening
224-1100	1-3	PTF Plexiglas Roche-Friability Test Drum, left side version, with axis diameter 10mm, without sample discharge opening
224-2000	1	Built-in thermal printer
283-0420	5	Thermal paper rolls
34-08400	1	Table power supply, 24V/DC, 5A, 120W
35-08500	1	IEC/EUR mains cable or
35-08510	1	CH mains cable or
35-08511	1	US mains cable or
35-08512	1	GB mains cable or
35-08513	1	ARG/AUS/NZ mains cable or
35-08514	1	IN/ZA mains cable

Table 3: Supply Scope Main Unit

Section 1.2.2 Optional Components

Part-No.	No.	Description
283-0420	5/10/50	Spare paper rolls for thermal printer
224-1110	1	PTF Friability Drum, Anti-Static, 10mm Axis, Right Side
224-1115	1	PTF Friability Drum, Anti-Static, 10mm Axis, Left Side
224-1120	1	PTF Abrasion Drum, Right Side, Uncoated, 10mm Axis Diameter
224-1125	1	PTF Abrasion Drum, Left Side, Uncoated, 10mm Axis Diameter
224-0505	2	10° angle stand for PTF 110/210
224-0535	2	10° angle stand for PTF 310
224-0565	2	10° angle stand for PTF 610

Table 4: Optional Components

Section 2 Instrument Overview

Check the indicated mains voltage at the instruments type plate, it should be the same as within your laboratory. If not, you are not allowed to use the instrument or connect it to the local mains supply.

Figure 1: Instrument Overview - Front

Figure 2: Instrument Overview - Back

No.	Label	Description
1	I/0	Mains switch
2	USB Device	USB port for PC connection
3	Fuse	Fuse box
4	Mains Connection	Connector for the 24V table power supply
5	LAN	For future use
6	USB Host	USB port for loading and saving files on an USB drive
7	Balance	RS-232 port to connect an external analytical balance
8	Printer	RS-232 port to connect an external printer

Table 5: Instrument Connections

Sektion 2.1 User Interface

Figure 3: Start Screen of the Instrument

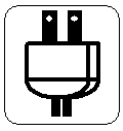
Figure 4: Control Panel of the Instrument

Sektion 2.2 Setting-Up the Instrument

Make sure you follow these steps before turning on the instrument for the first time.

Section 2.2.1 Installation Qualification

Follow the actual IQ documentation for the PTF which is provided by Pharma Test Apparatebau AG. The PDF-file is available for download.



Connect the supplied mains cable with your local mains socket. Check that your mains voltage corresponds to the voltage shown on the type plate. Cable connections are only allowed to be done when all instruments are switched off. Switch the instrument on, use the mains switch at the rear side of the unit. The LCD display lights up and shows the main menu.

Section 2.2.2 Warranty certificate

A warranty certificate (yellow sheet) is in duplicate available in the instrument folder. Please fill both certificates and send the "COPY" to :

Pharma Test Apparatebau AG
Siemenstrasse 5
D-63512 Hainburg
Germany

Pharma Test grants 2 years of warranty for material and quality issues since the first performed IQ/OQ.

Section 2.2.3 Operation Qualification

Follow the actual OQ documentation for the PTF which is provided by Pharma Test Apparatebau AG. The PDF-file is available for download.

Section 2.2.4 Connecting a Balance to the PTF (optional)

Connect the balance cable to the balance port at the left side of the instrument's back.

Plug the other end into the appropriate port of your balance.

Note: The balance must be activated in the "Settings" menu, "Device Setting" and "Balance Type" of the PTF before it may be used.

The PTF instrument can communicate with the following type of balances:

- Sartorius Balances (using 16char or 22char SBI protocol) and Mettler Balances (using SICS protocol).

- Balance communication parameter: **9600 – 8 – N – 1**).

Read balance manual to check if your balance supports this protocol.

Section 2.2.5 Connecting a USB flash drive to the PTF (optional)

Connect a USB flash drive to the USB Host at the instrument's back.

All data and results will be saved automatically on the USB drive. Files which are saved on the USB drive before can be loaded in the settings menu, for example different kind of languages.

Section 2.2.6 PTF Electronic Data Capturing

There is the possibility to record the results electronically. Connect the PTF with a PC using a standard USB-A to USB-B cable.

An FTDI-Driver will be installed automatically when using a Windows®-PC and a virtual COM-port will appear in the Windows®-Device manager.

Herewith you can capture the serial output data by use of a suitable terminal program of free choice.

The serial output is a separate data protocol. It contains the test definition and the raw data of the results.
There is just a minimum of statistics and not an evaluation. This data is neither encrypted nor write protected. The end user is responsible for the save usage of this data.

Constant interface parameters are:
Speed: 115200 baud, Data bits: 8, Parity: none, Stop bits: 1, Handshake: none

```
PTFxx0 -SN23558-Start                    "Start string"
PTFxx0 -SN23558-FW 2.9                   "Firmware version"
PTFxx0 -SN23558-Date 2024-04-18          "Date of test run"
PTFxx0 -SN23558-STime 16:04:53           "Time of test start"
PTFxx0 -SN23558-ETime 16:05:25           "Time of test end"
PTFxx0 -SN23558-Department               "Department"
PTFxx0 -SN23558-DeviceID                 "individual device name"
PTFxx0 -SN23558-User ADMIN               "actual user"
PTFxx0 -SN23558-Method ptf1_name         "name of method"
PTFxx0 -SN23558-Product1 ptf1_prod       "name of product"
PTFxx0 -SN23558-Batch1 AABBCCDDEEFFGGHH  "entered batch number"
PTFxx0 -SN23558-AID 000000000216         "actual analysis number"
PTFxx0 -SN23558-Speed 25                 "chosen drum Speed"
PTFxx0 -SN23558-Time 10                  "time of test run"
PTFxx0 -SN23558-Revolutions 4            "number of revolutions"
PTFxx0 -SN23558-Limit 1.0                "limit of weigh loss in [%]"
PTFxx0 -SN23558-Drum friability          "Used drum type"
PTFxx0 -SN23558-Stand yes                "usage of 10° stands, yes or no"
PTFxx0 -SN23558-Sample 10                "number of samples in this test"
PTFxx0 -SN23558-Runs 1                    "number of runs"
PTFxx0 -SN23558-Drum1 SW 001;145.0000g   "Drum 1, Run 1, start weight"
PTFxx0 -SN23558-Drum1 EW 001;144.0000g   "Drum 1, Run 1, end weight"
PTFxx0 -SN23558-Drum1 DA 001;no          "Drum 1, Run 1, damages?"
PTFxx0 -SN23558-Drum1 SW 001;001.0000g   "Drum 1, Run 1, weight loss abs"
PTFxx0 -SN23558-Drum1 SW 001;000.6897g   "Drum 1, Run 1, weight loss rel"
PTFxx0 -SN23558-End                      "End string"
```

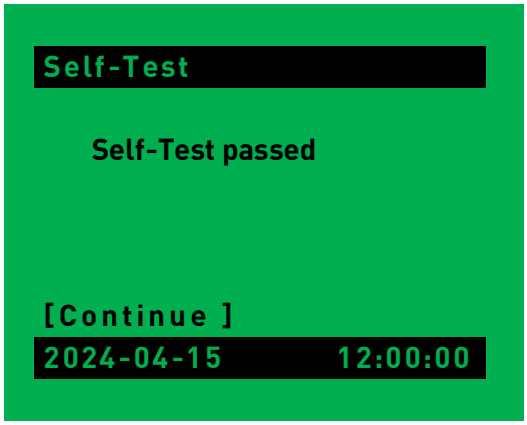
Section 3 Using the Instrument

Section 3.1 Login to the instrument

Default password for the ADMIN user is **ADMIN**.

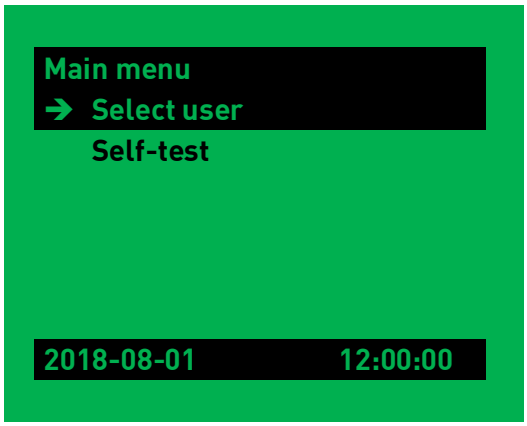
This section explains how to login to the instrument. Make sure you followed all steps in section 2 before turning on the instrument.

As soon as the PTF is switched on using the mains switch at the instruments back, the display will light up and show the start screen.
Press <Enter> or push the click wheel to get to the Login.



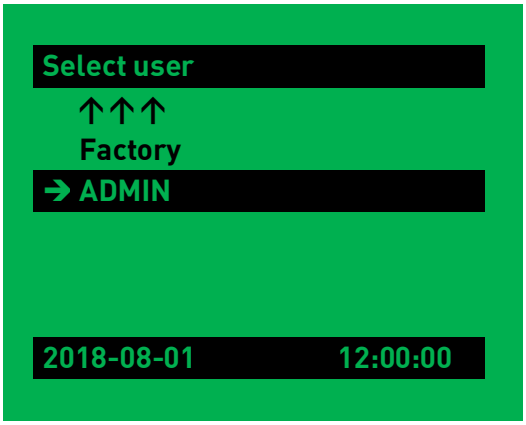
Before the login menu appears, an automated Self-Test will be performed which includes a revolution of the drum(s).
If a malfunction is detected, an error message appears on the screen.

Select [Continue] to proceed.



You will access the main menu. Without a login with correct password, only items allowed are to select a user for login and to repeat the Self-Test.

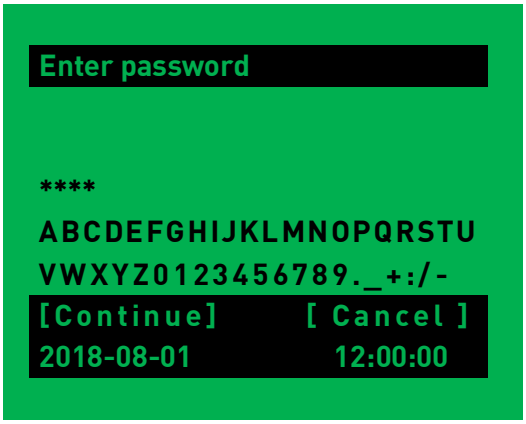
Turn the click wheel to select an item from the on-screen menu. Push the click wheel to confirm your selection.
Choose [Select User] to proceed.



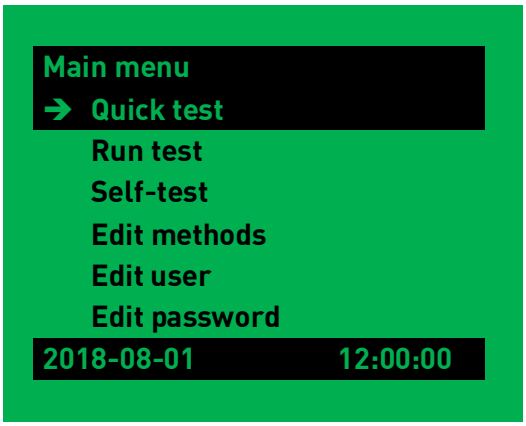
The login screen shows a list of all users available on the instrument. In factory default only the administrator exists. The administrator ADMIN has the rights to edit New User, Product Information, Testing Method Description, and Instrument Control Settings, like language selection, Time and Date settings and Qualification Interval timing (PQ).

Select the user [ADMIN].

The "Factory" user is for extended service by Pharma Test and protected by a hidden password.



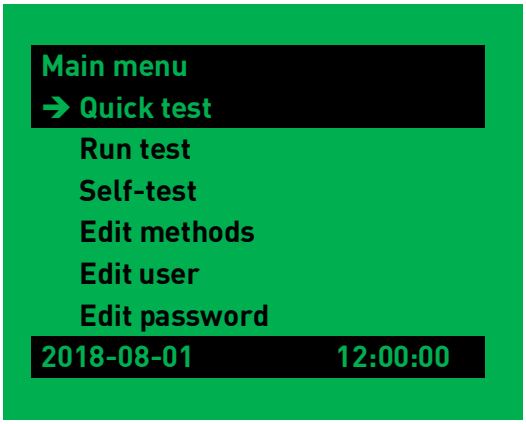
To login as a user, first the password for this user account must be entered. To enter the password select the individual characters from the text entry line using the click wheel.
The default password is "**ADMIN**".
Confirm your entry by selecting [Continue] with the click wheel and confirm by pushing the click wheel.



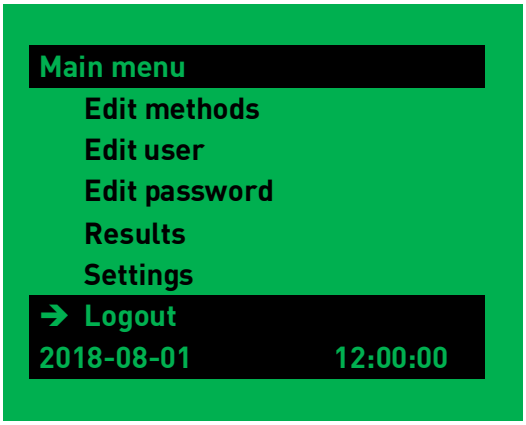
The main menu appears. You are now logged in as the user "ADMIN".
See the subsequent sections of this manual for explanations of each of the menu items here.

Section 3.2 The Main Menu

This section gives a brief overview on each item of the main menu of the PTF. Further details can be found in subsequent sections of this manual.



This is the main menu of the PTF, which appears after logging in to the instrument.



By selecting [Logout] you are returned to the login screen.

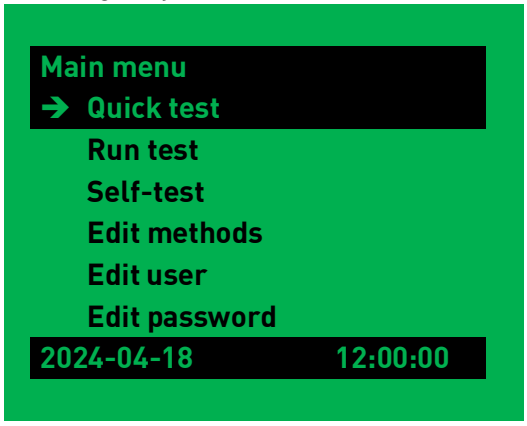
Refer to this table below for an overview of each item.

Menu Item	Description	See Also
Quick Test	Perform a test without using a method	Section 3.2.1
Run Test	Perform a test using an already existing method	Section 3.2.2
Self-test	Perform a short reference drive to check the correct movement of the Stroke Height	Section 3.2.3
Edit methods	Add, update or delete methods. A method describes the test content. Methods are required for the "Run test" function (not for "Quick Test")	Section 3.2.4
Edit user	Add or delete a user, change user password or set user permission	Section 3.2.5
Edit password	Change password for the current user	Section 3.2.6
Settings	Edit system settings and manage users	Section 3.3
Results	Possibility to re-print the latest test report	3.2.2.2
Logout	Logs out the current user and returns to the login screen	Section 3.1

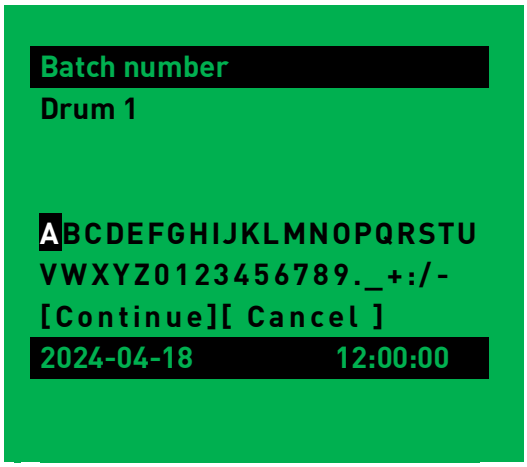
Table 6: Overview Main menu

Section 3.2.1 The "Quick test" Function

The "Quick Test" function has been designed to start a test as quickly as possible by entering only a bare minimum of data.



The "Quick Test" can be accessed directly from the main menu of the PTF.
Turn the click wheel to select an item from the on screen menu. Push the click wheel to confirm your selection.



The batch number of the tablets tested in drum 1 may be entered. Turn the click wheel to select a letter and push the click wheel to confirm your selection.

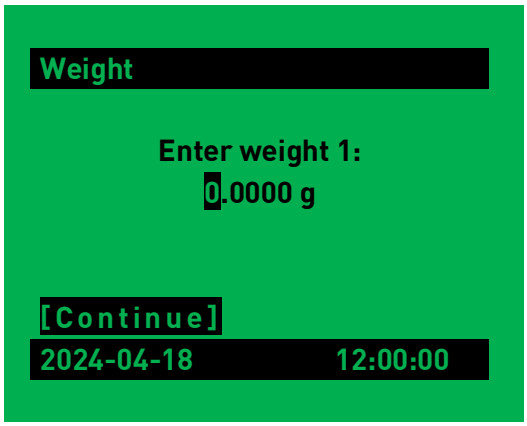
The batch number entered here will be included on the result printout. Entering a product name is not possible in Quick Test, but on the printout is blank space to enter the product manually.

Choose [Continue] to confirm.

Please note:
Having a PTF 110, just one batch number (for drum 1) may be entered here.
Having a PTF 210, PTF 310 or PTF 610, 2 to 6 batch numbers may be entered. With entering a batch number, the corresponding drum becomes "active" for the Quick Test. This means you have to enter an initial weight and after the test a final weight and the printout will contain the results for this drum.
If you empty the input field for the batch number (using "Delete"), this drum as well as all subsequent drums become "inactive" for this Quick Test.

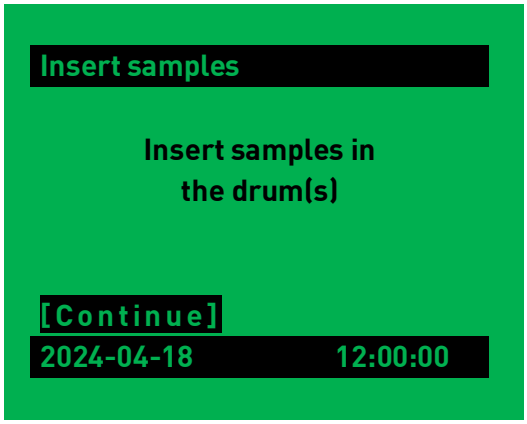
Example: in case of a PTF 310 (3 drums), you enter a batch number for drum 1. The batch number for drum 2 will be automatically filled with the batch number from the former drum. This feature is to speed up entering several identical/almost identical batches.
If you use "Delete" to empty this line and select [Continue], drum 2 and drum 3 become inactive. The Quick Test will be performed only with drum 1. This also means, only for this drum you need to enter an initial and final weight.

Additional Info: the Quick Test will always be performed with drum 1, even when not entering a batch number for drum 1. In this case the "batch" line on the printout is blank.



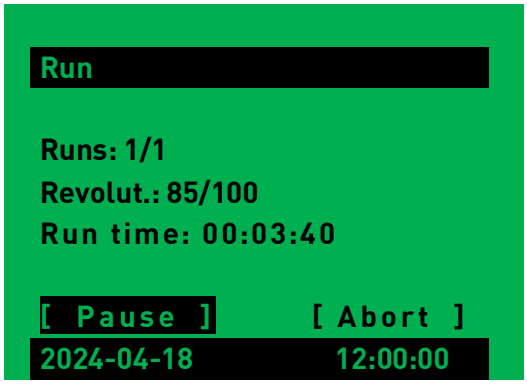
In this screen you have to enter the initial weight of the tablets for each active drum separately.
In case you have an external balance directly connected to the PTF, the measured weight will be filled automatically.

Choose [Continue] to confirm.



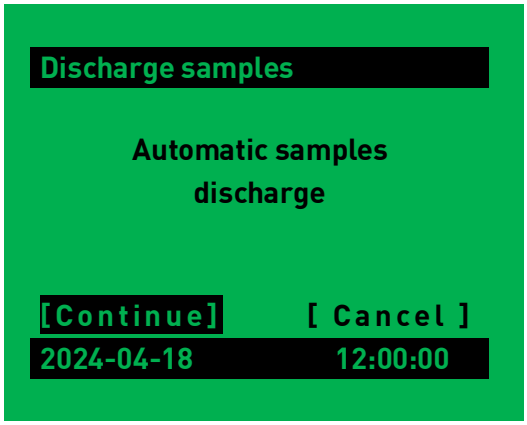
Insert now the samples into the drum(s).
(depending on the number of activated drums).

Choose [Continue] to start immediately the test run.



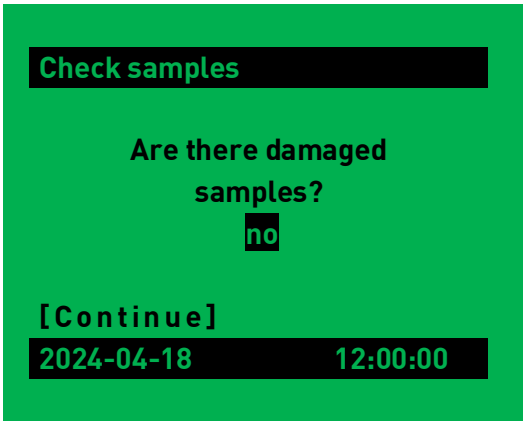
The Quick Test runs 4 minutes or 100 revolutions with 25 RPM. This setting is not adjustable.
Only exception: if you use "**Fixed speed**" (see section 3.4.2), the Quick Test uses that speed!

You can [Pause] or [Abort] the test by pushing the click wheel.



This is the screen directly after the test has finished. If you confirm [Continue], the drums start to rotate backwards emptying the drums.

You can [Continue] or [Cancel] automatic discharging.

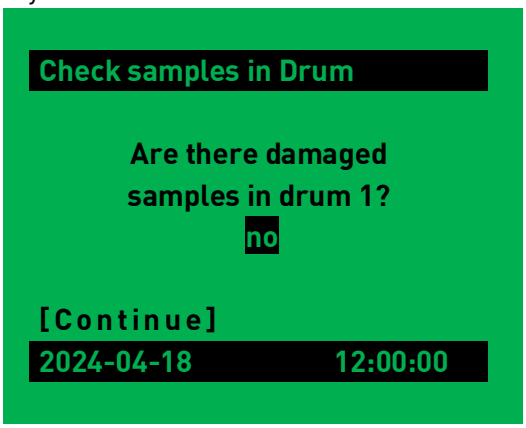


You are asked if the samples are damaged or not. Select "yes" if they are damaged or "no" if they are not damaged.

In case of damaged tablets, the drum is discarded immediately because the result is not valid according to EP/USP.

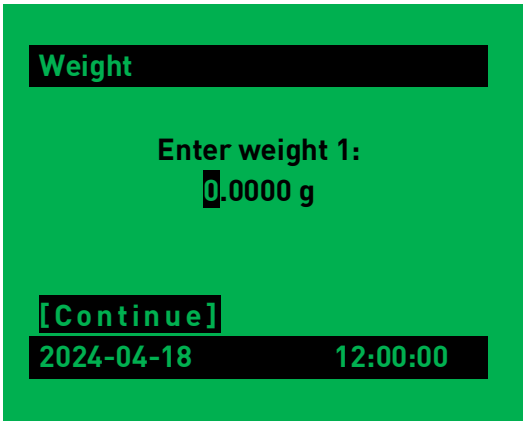
Choose [Continue].

If you choose "Yes"



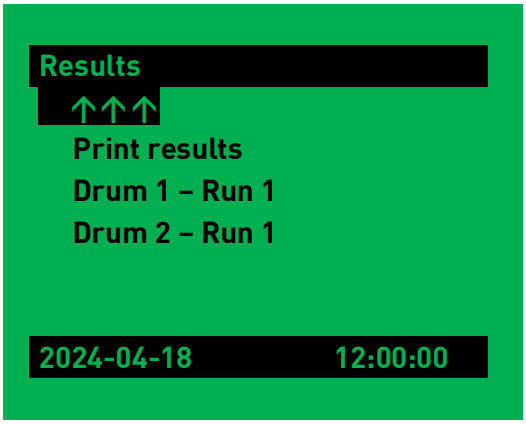
You are asked if the samples in the individual drum(s) are damaged or not. Select "yes" for drum(s) where the samples are damaged and "no" for the drum(s) where they are not damaged.

Choose [Continue].



For drums with "no damaged samples", the final weight of the tablets must be entered. In case you have an external balance directly connected to the PTF the measured weight will be filled automatically.

Choose [Continue] to confirm.

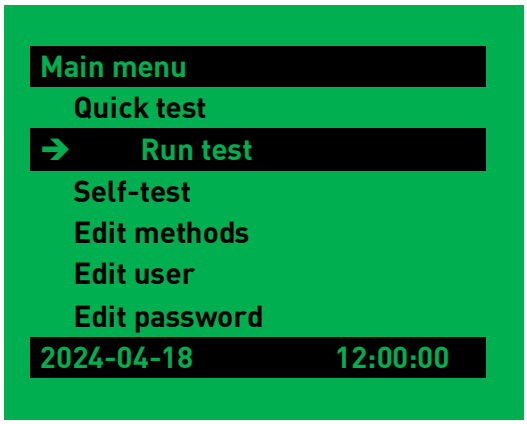


This is the "Results". Here you can review the single results on-screen and print it with [Print results] if a printer is connected and activated.

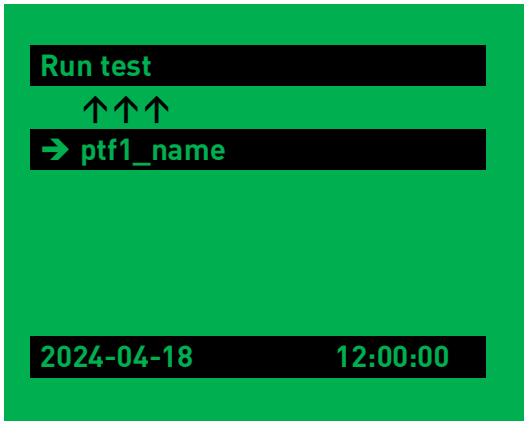
From there you return automatically to the main menu.

Section 3.2.2 The “Run test” Function

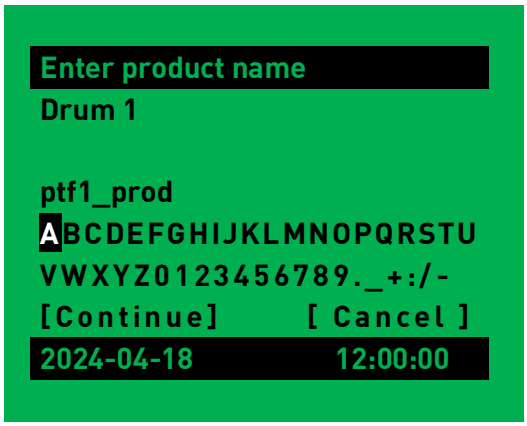
To run a test with specified entries, you need to run the test from a method. A method determines the name of the method and product, if an evaluation should be done, how many samples are tested, the weight loss limit, the test mode (time or rotations) and what time or how many rotations should have been done at which speed. The use of an additional feet stand and the type of the drum has to be chosen, the setup of an automated discharge and the number of repetitions for the test run is saved for a method.
This means in order to work this way, you first will have to create at least one method.
This section describes how to run a test from a method. In case you do not want to work with methods you can use the “Quick Test” function of the PTF instead.



From the main menu select [Run test].

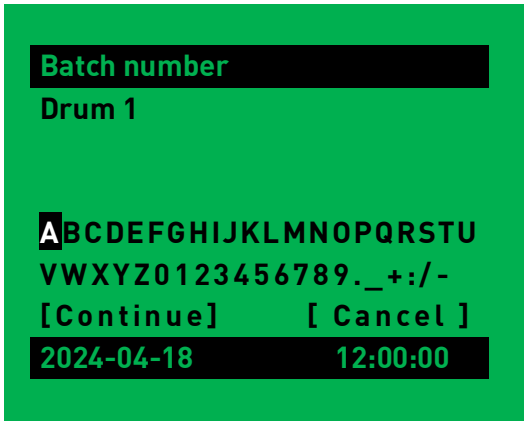


All created methods available are listed here on this screen. Select one of these methods to perform a test by pushing the click wheel.



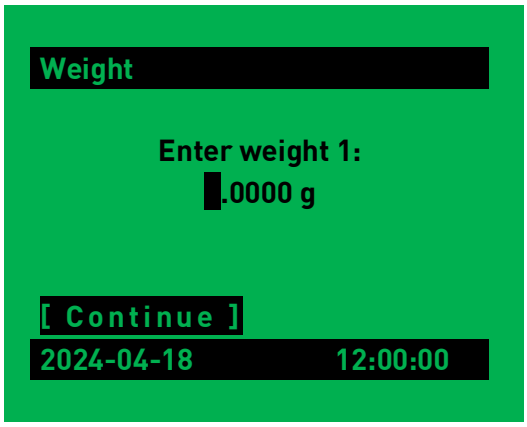
The product name, defined in the method, is showing up. If needed, it can be changed right now. If several drums are used, you need to confirm or change the product names for each drum.

Choose [Continue] to confirm.



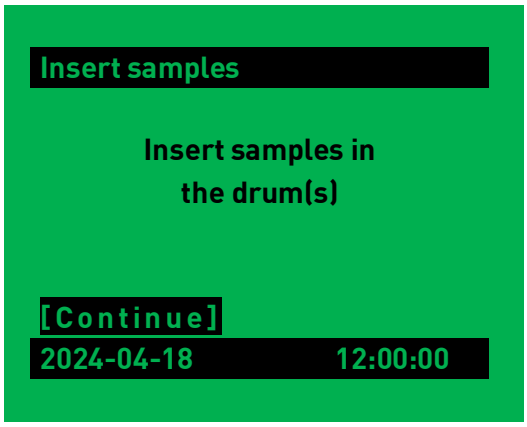
Enter a batch number, for example “1234”. If several drums are used, you need to enter a batch number for every drum. The formerly entered batch number is always proposed to the subsequent drum to speed up the input of identical/almost identical batches.

Choose [Continue] to confirm.



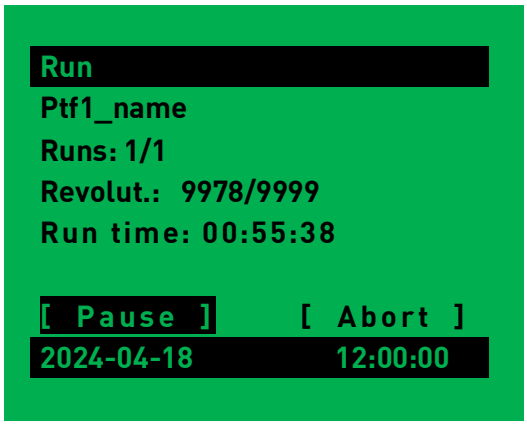
In this screen you must enter the initial weight of the tablets for each drum separately.
In case you have an external balance directly connected to the PTF the measured weight will be entered automatically.

Choose [Continue] to confirm.



Insert now the samples into the drum(s) (depending on the number of drums).

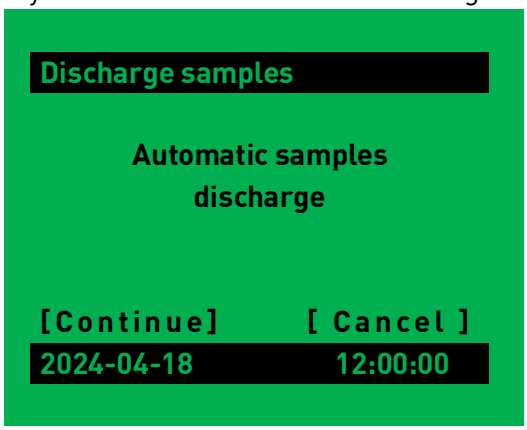
Choose [Continue] to immediately start the test run.



This is the test screen. In the headline the status of the test is displayed. The main part of the screen is used to display the current number of rotations and time of the test run.

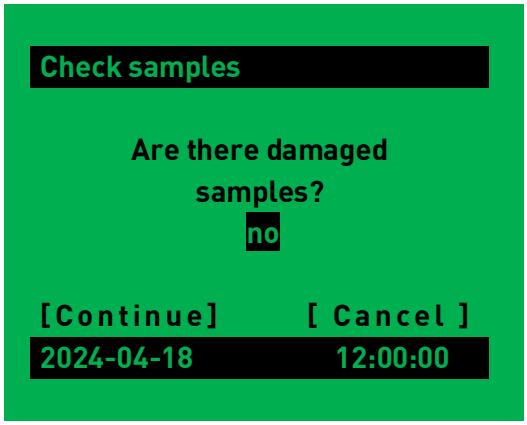
You can [Pause] or [Abort] the test by pushing the click wheel.

If you choose an automated discharge at test end:



This is the screen directly after the test finished. If you confirm [Continue], the drums start to rotate backwards emptying the drums.

You can [Continue] or [Cancel] automatic discharging.

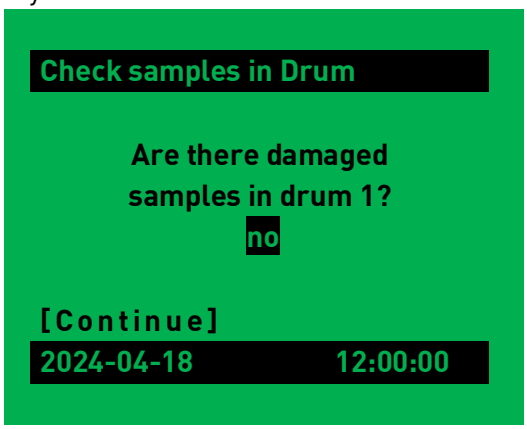


You are asked if the samples are damaged or not. Select "yes" if they are damaged or "no" if they are not damaged.

In case of damaged tablets, the drum is discarded immediately because the result is not valid according to EP/USP.

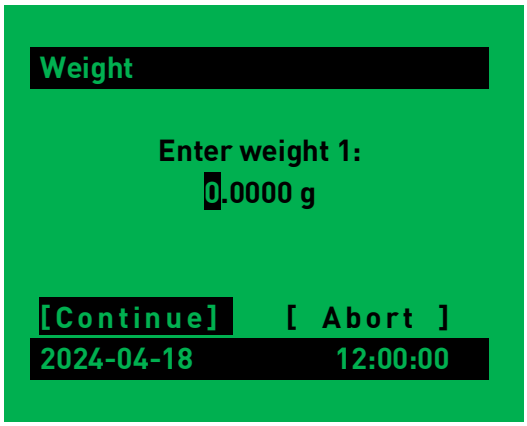
Choose [Continue].

If you choosed "Yes"



You are asked if the samples in the individual drum(s) are damaged or not. Select "yes" for drum(s) where the samples are damaged and "no" for the drum(s) where they are not damaged.

Choose [Continue].



For drums with "no damaged samples", the final weight of the tablets must be entered. In case you have an external balance directly connected to the PTF the measured weight will be filled automatically.

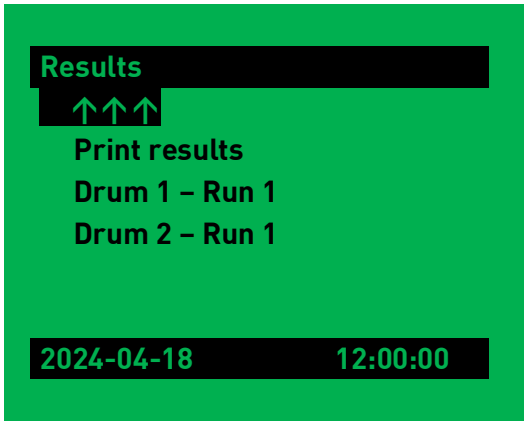
Choose [Continue] to confirm.

Please note: In case more than one run has been chosen, you are now asked to insert the samples into the drums again. There won´t be another weight input prior to the run! The instrument expects the initial weight of the actual run to be equal to the final weight of the former run. The run will continue the same way as before and the queries after finishing the rotations are the same up to this point. Depending on the total number of runs set up you will repeat this process several times until the final printout is done.

The printout contains all single results and, in case the weight loss limit was exceeded, a mean loss over all runs.

In case of damaged samples, the respective drum is disqualified immediately for the entire test. There won´t be any weight input and statistics for this drum anymore.

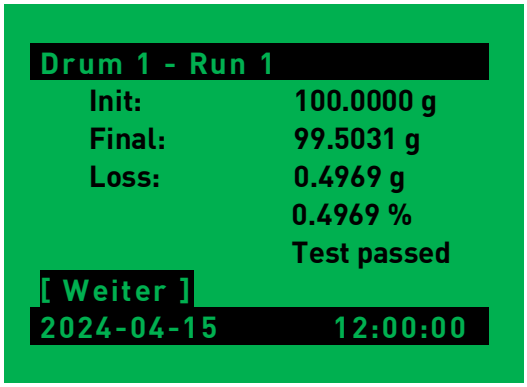
After the last run has finished, this screen appears:



This is the "Results". Here you can review the single results on-screen and print it with [Print results] if a printer is connected and activated.

From here you return automatically to the "Test start" screen with the method selection.

Supplementary information:



When selecting a single result (e.g. "Drum 1 – Run 1"), this screen appears, showing the results for this specific drum/run.

3.2.2.1 Example Printout of a Test Run

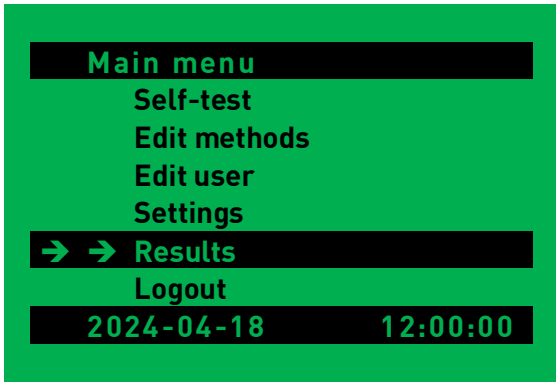
Printout Test Report	Description of each point
TEST REPORT - RUN TEST	
Department: Department	Department (see section 9.x.x.x=
Device-ID:	Individual device name
Device: PTF100	Instrument model name
SN: 1234	Instrument serial number
Version: 2.9	Instrument firmware version
Date: 2024-04-17	Date of test start
Time: 16:14:36	Time of test start
User: Factory	User performing the test
Method: ptf1_name	Name of the used method
Product 1: ptf1_prod	Name of tested product
Batch 1: AAAA	Batch number for each test
Analysis-ID: 2	Analysis ID (ongoing)
Speed: 25 rpm	Set speed
Revolutions: 4	Number of revolutions
Time: 10 s	Total runtime
Limit: 1.0000 %	Limit for the weight loss to pass the test
Drum Type: friability	Used type of drum
10° Stand: yes	Use of an additional 10° stand
Samples: 10	Number of samples tested
Total Runs: 1	Total runs
Results:	Received results
.....Run: 1.....	
Start weight: 145.0000 g	Start weight
End weight: 144.0000 g	Final weight
Weight Loss: 1.0000 g	Calculated weight loss
Weight Loss: 0.6897 %	Weight loss in [%] related to the start weight
.....	
Test Result:	Evaluation of the test result
Test passed	(not visible: calculated weight loss compared with the limit in case of exceeded limit)
Printed: 2024-04-17 16:15:01	Date & time when the test was finished
Operator name	Space for the user to note his name and to sign the report
Signature	

Figure 5: Sample Test Report

3.2.2.2 Re-print the last result

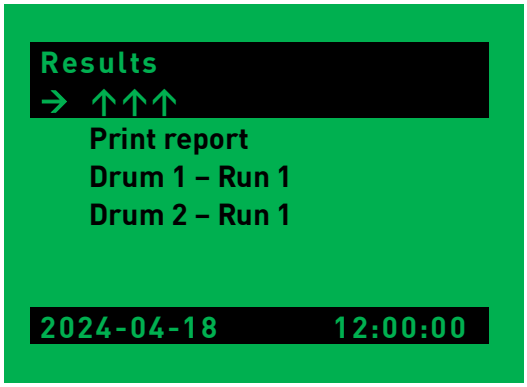
Please note: The PTF remembers the latest result only! Only this can be re-printed. As soon as a new test is started (even if it will be aborted), the former results are lost irreversibly.

Same for a total restart. After switching on the PTF, the result memory is empty. So always reprint the results immediately if needed (e.g. after an end of paper).



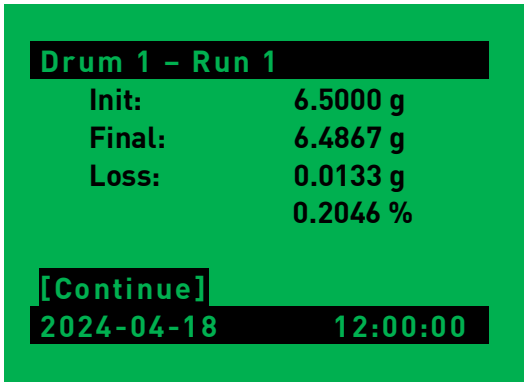
It is possible to see and print the last method test results that are received by the instrument.

Choose [Results] in the main menu to check and printout the last results.



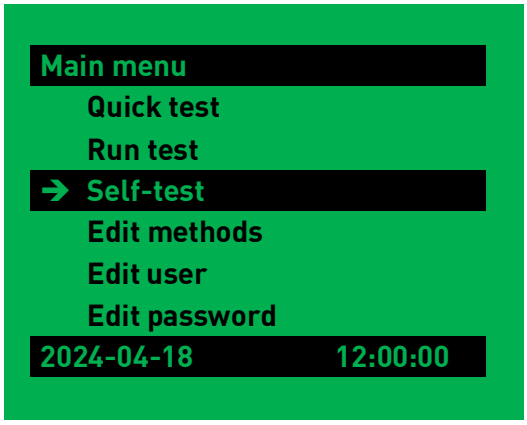
This is the test results screen. Choose between printing the report and seeing the results from the last test. A printout will be done automatically in case the printer is activated and connected.

To exit the screen, select the upper arrows by use of the click wheel.

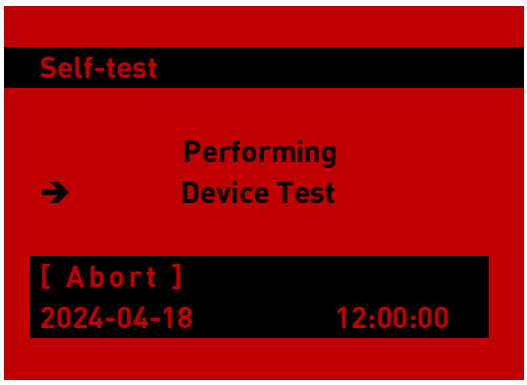


When reviewing the individual test results by choosing "Drum x – Run y" this screen will appear with the corresponding test results.

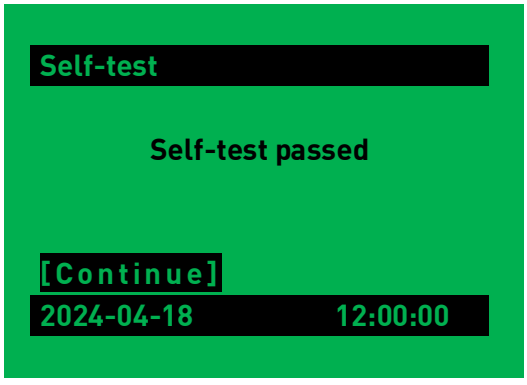
Section 3.2.3 The “Self-test” Function



After turning on the instrument and before starting the first test, the PTF must be referenced. This is an automated procedure done by the instrument itself.



For a short time a red screen appears while the Self-test is performed.

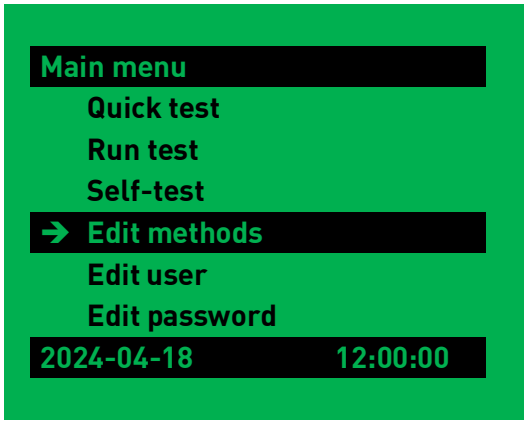


The Self-test was completed successfully, and you are asked to confirm with [Continue].

See Section 4 (Troubleshooting) if any errors occur.

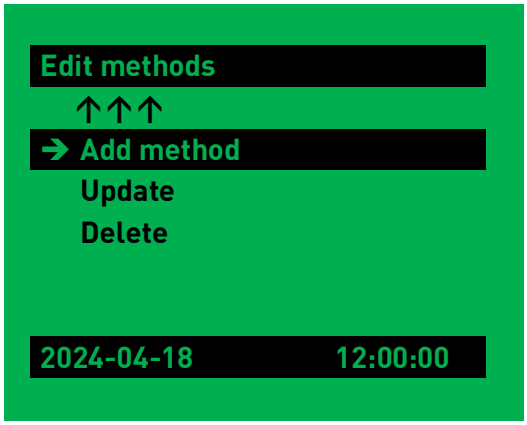
Section 3.2.4 The “Edit methods” Function

A method determines the name of the method and product, if an evaluation should be done, how many samples are tested, the weight loss limit, the test mode (time or rotations) and what time or how many rotations should have been done at which speed. The use of an additional feet stand, the type of the drum has been choosing, the setup of an automated discharge and the number of repetitions for the test run is saved for a method.
The ”Interval time” is not applicable for this device type. It doesn´t matter what you enter there.
This section describes how to create, edit (update) and delete methods.

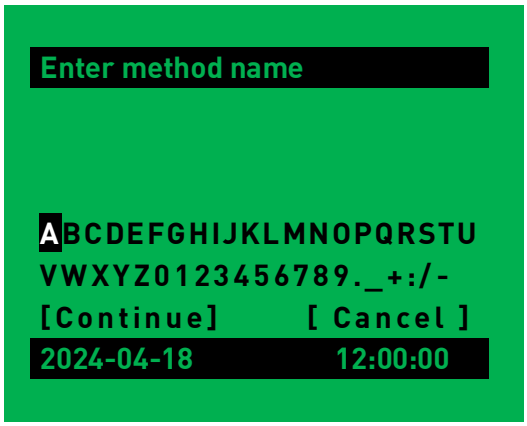


From the main menu select [Edit Methods].

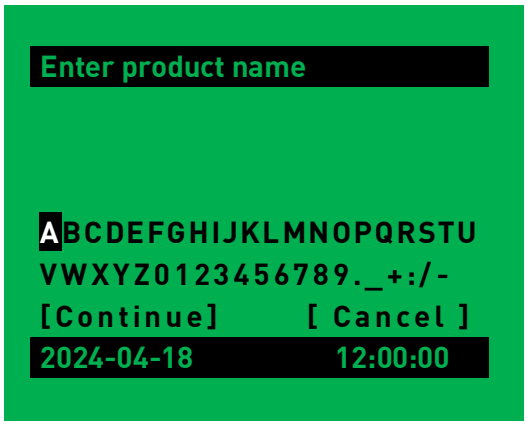
3.2.4.1 Add a Method



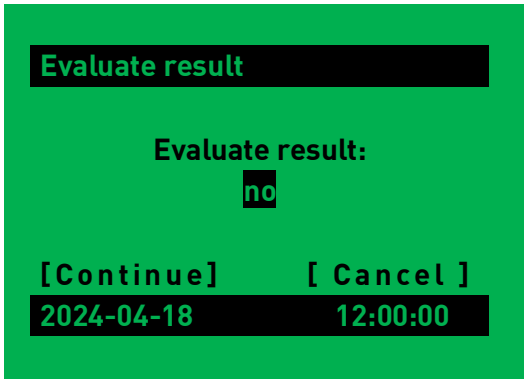
From the “Edit Methods” menu select [Add method].



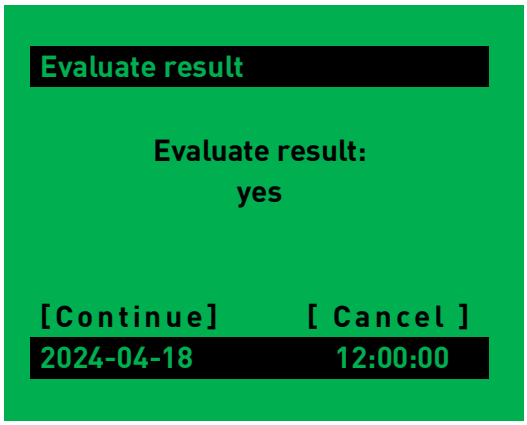
First enter the current method name and confirm with [Continue].



Enter the current product name and confirm with [Continue].

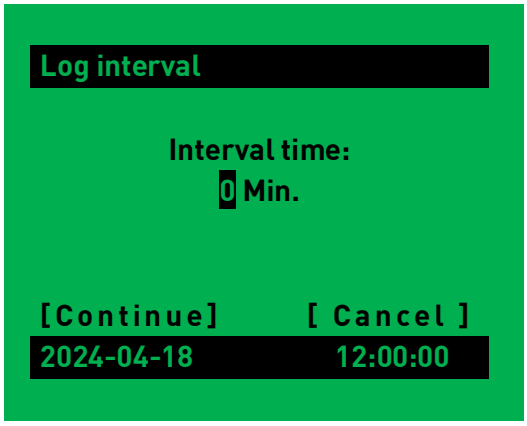


Choose if you want to have an evaluation of the results or not by turning the click wheel to the left for "no" or...



...turn to the right for "yes".

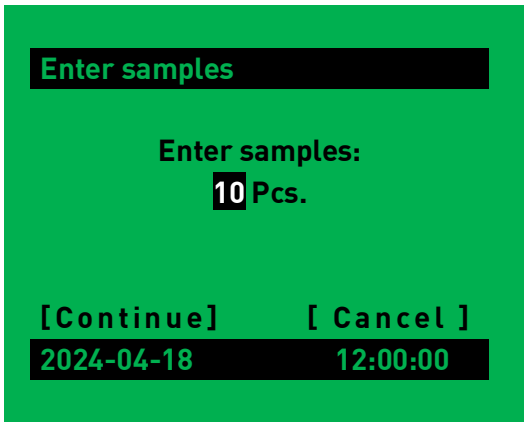
Choose [Continue] to confirm.



Choose an interval time for your log protocol (on in-build printer or data output) or deactivate this function by setting the time to "0 Min."

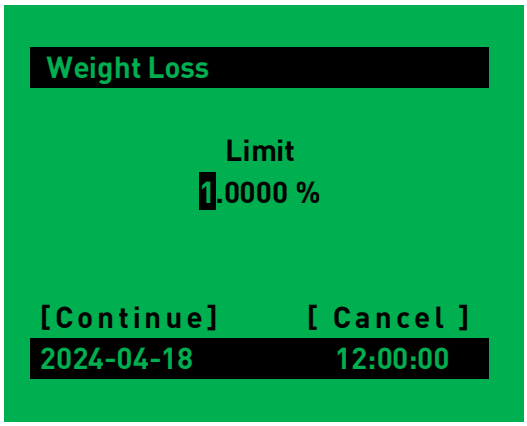
Please note: this function is implemented for the disintegration testers PTZ x00 and PTS 300. For the PTF it is without function.

Choose [Continue] to confirm.



In this menu you can set the number of samples which are tested inside the drums. Choose between "1" up to "9999" sample numbers.

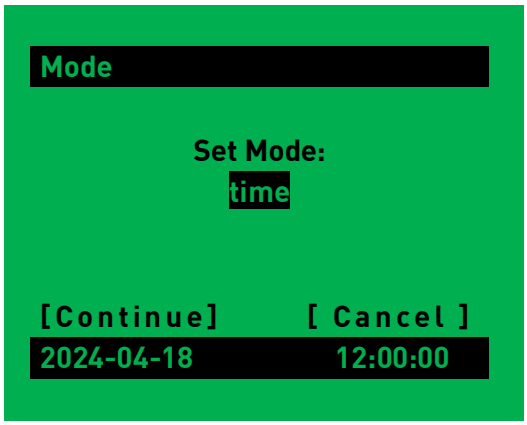
Choose [Continue] to confirm.



Determine the percentage of weight loss, which is acceptable for your batch. Choose between 0.0001 % and 99.9999 %.

Confirm the limit weight loss by pushing the click wheel.

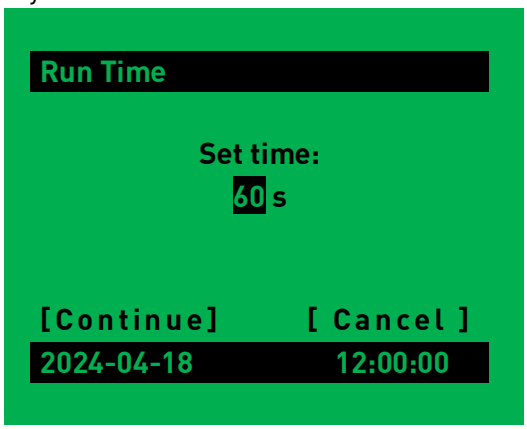
Choose [Continue] to confirm.



In this menu you can choose the test mode. Choose between "time" and "revolutions" by turning the click wheel. Confirm the set mode by pushing the click wheel.

Choose [Continue] to confirm.

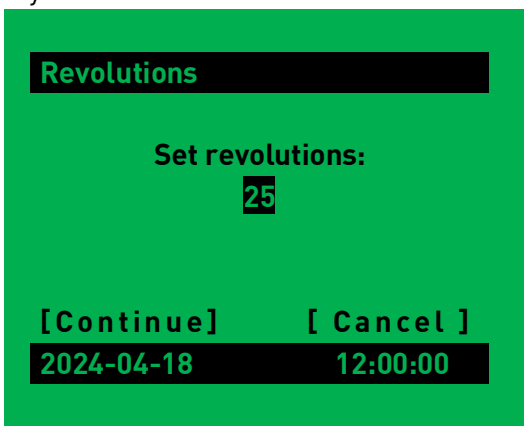
If you choose the mode "time":



In this menu you can choose the run time to finish the test. Choose between "2" sec up to "9999" sec by rotating the click wheel to the right (increase number) or to the left (decrease number). Confirm the final run time by pushing the click wheel.

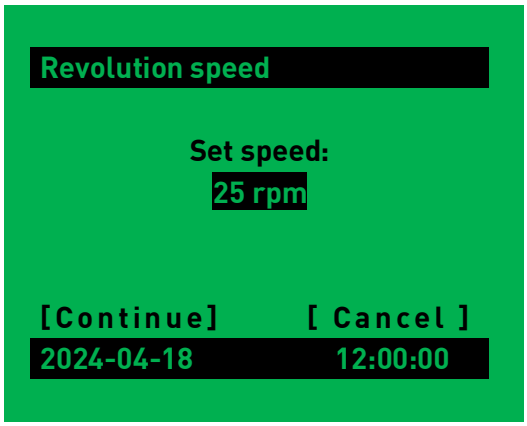
Choose [Continue] to confirm.

If you choose mode “revolutions”:



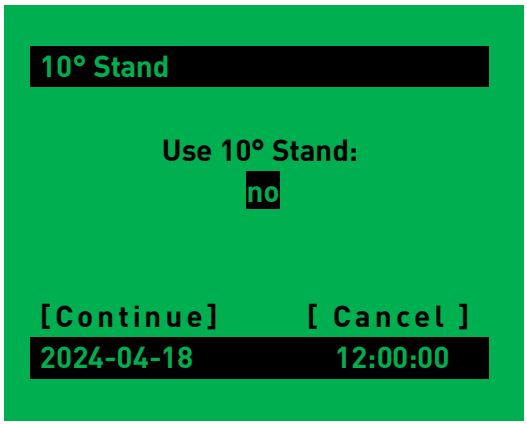
If you have chosen “revolution”, choose the number of revolutions for the test. Choose between “2” up to “9999” by rotating the click wheel to the right (increase number) or to the left (decrease number). Confirm the final number of revolutions by pushing the click wheel.

Choose [Continue] to confirm.



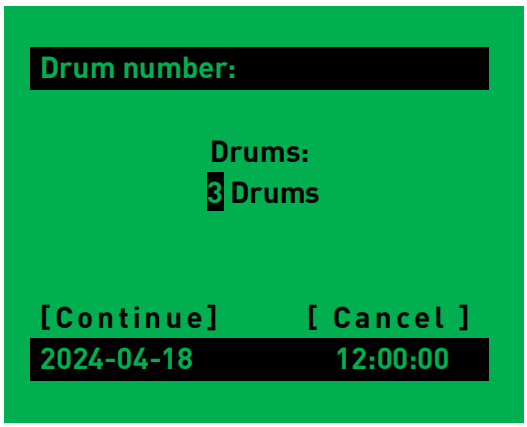
In this menu you adjust the regular rotation speed for the whole test. Choose between “15” up to “100” Rpm by rotating the click wheel to the right (increase number) or to the left (decrease number). Confirm the rotation speed by pushing the click wheel.

Choose [Continue] to confirm.



In this menu you can choose if the test will run with additional 10° Stand or without. Choose between “no” and “yes” by turning the click wheel. This information will appear on the printout. Confirm your selection by pushing the click wheel.

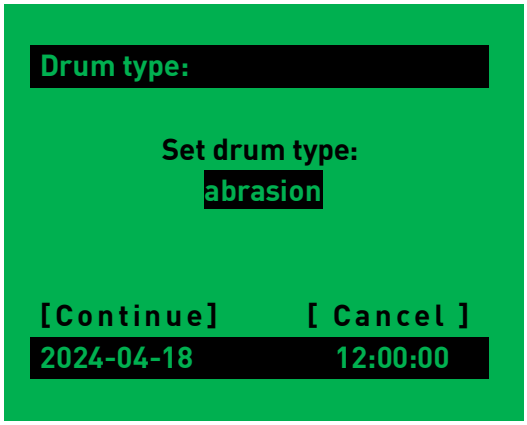
Choose [Continue] to confirm.



Only available for PTF 210, PTF 310 and PTF 610:

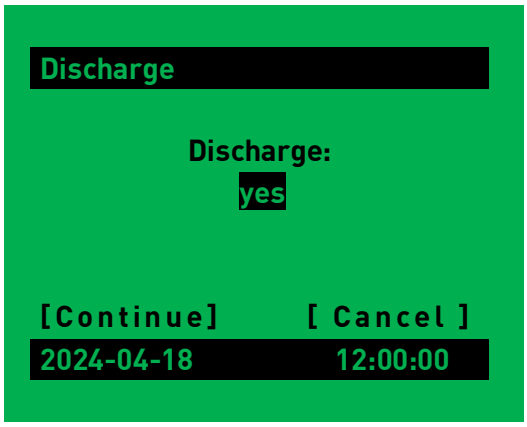
Select how many drums are used for testing the samples. The maximum number is limited to the factory number of drums.

Choose [Continue] to confirm.



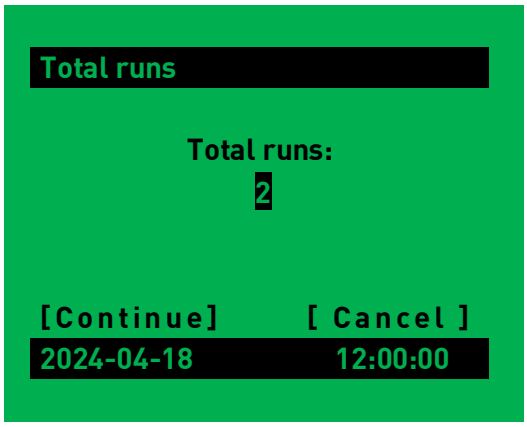
In this menu you can choose if the test will run with abrasion or friability drums. Choose between "abrasion" (means: lamella drums!) and "friability" by turning the click wheel. Confirm your selection by pushing the click wheel.

Choose [Continue] to confirm.



In this menu you can choose if at the test end the samples will be discharged automatically by a backward rotation of the drum(s). They are then dropped into the container below the drum. Choose between "no" and "yes" by turning the click wheel. Confirm your selection by pushing the click wheel.

Choose [Continue] to confirm.



In this menu you set up the total number of test runs for one method tests. The test can be repeated 1...10 times one after the other.

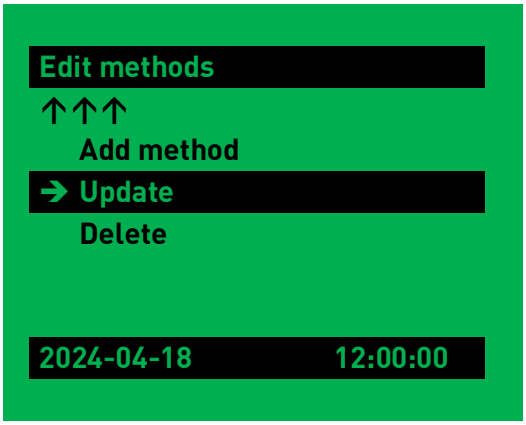
Choose the total number and [Continue] to confirm.

After this process your method has been stored successfully.

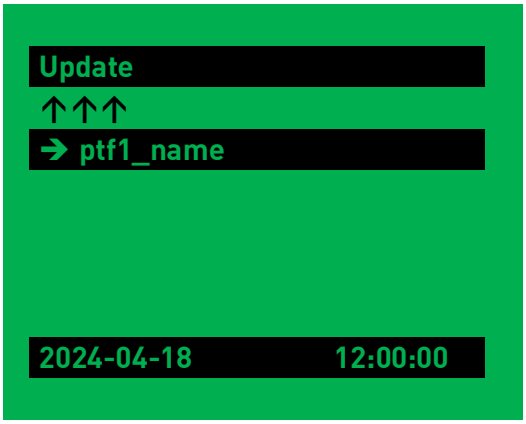
Choose [Continue] to confirm.

3.2.4.2 Update a Method

Note: updating (editing) a method is identical to creating a method.



From the "Edit methods" menu, select [Update] to change an existing method.

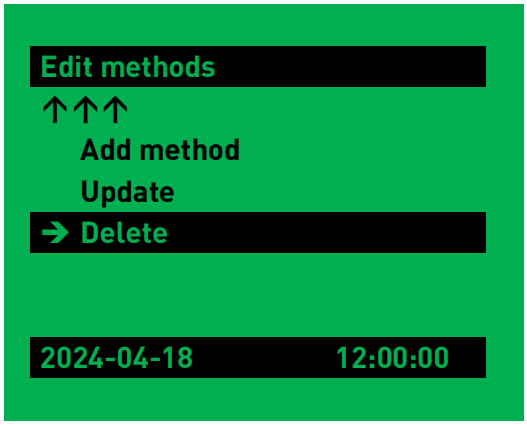


All created methods available on this instrument are listed here. Select the method you want to edit.

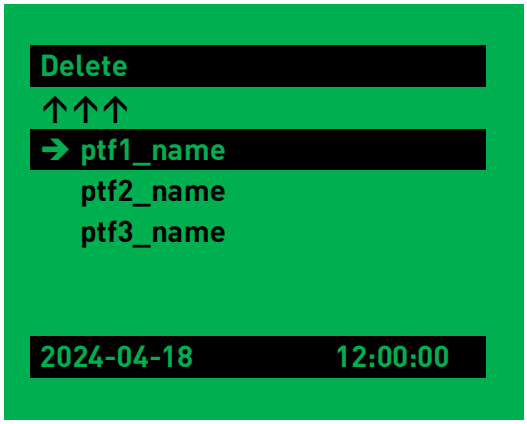
Now navigate through every setting and edit it as needed. Section 3.2.4.1 detailedly describes every screen.

At the end, after "Method stored successfully", you return automatically to the "Edit methods" screen.

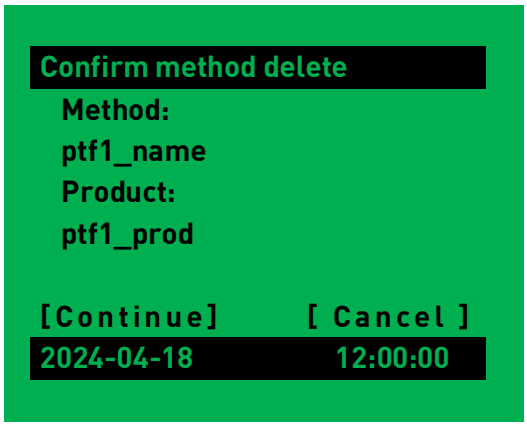
3.2.4.3 Delete a Method



From the “Edit methods” menu, select [Delete] to delete an existing method.



Choose the method which should be deleted by turning the click wheel to the preferred method name. Select a method by pushing the click wheel.



This is a confirm screen: “Confirm method delete”.

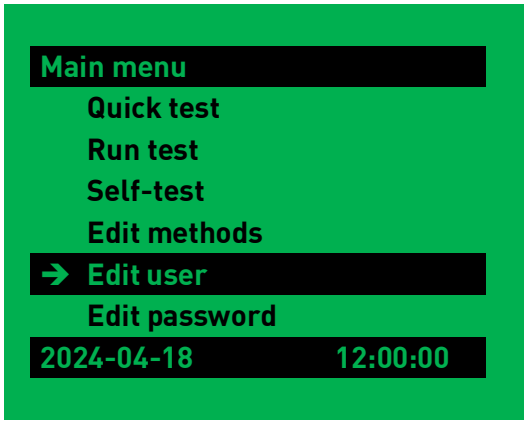
The main part of the screen is used to show the selected method name and product name.

Choose [Continue] to delete the selected method or [Cancel] to abort.

Section 3.2.5 The “Edit user” Function

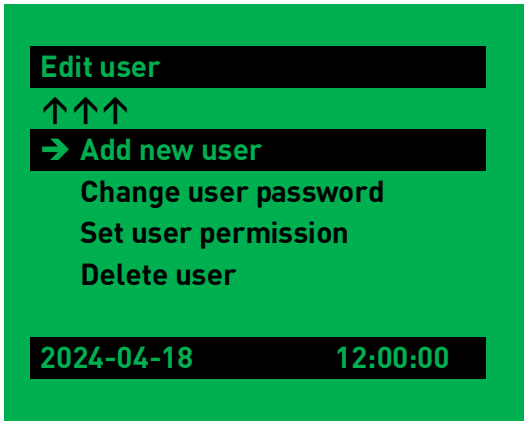
The PTF is equipped with a flexible user management system that can handle a large number of users with different permissions. The users are created by the administrator and he also assigns the permissions.
This section describes how to add and delete a new user, how to change the user password and set the user permission.

Note: Only the Administrator has the permission to edit Users (and Instrument Control Settings, like Language selection, Time and Date settings and Qualification Interval timing (OQ)). The following menu is only available when being logged in as ADMIN.



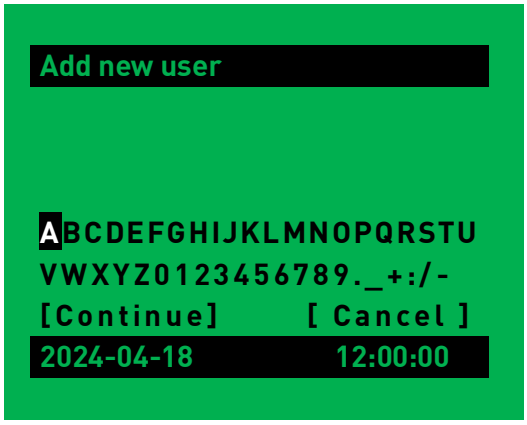
From the main menu select [Edit user].

3.2.5.1 Add a new user

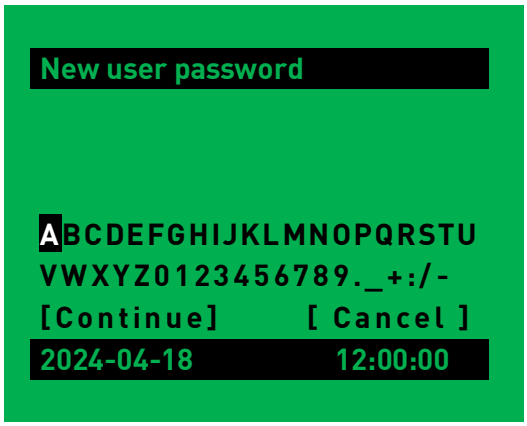


In this sub menu user can be deleted or added, the current password can be changed and the user permission can be set.

In the “Edit user” menu, select [Add new user].

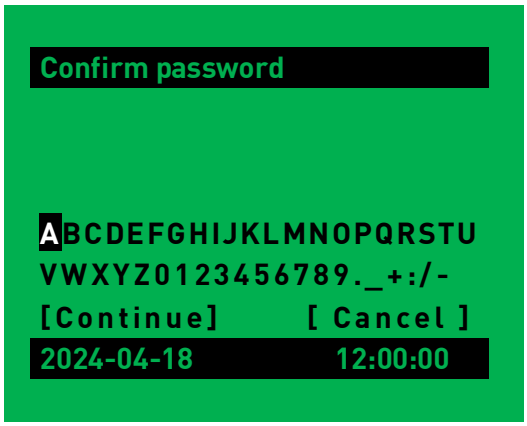


First enter a new user name and confirm with [Continue].

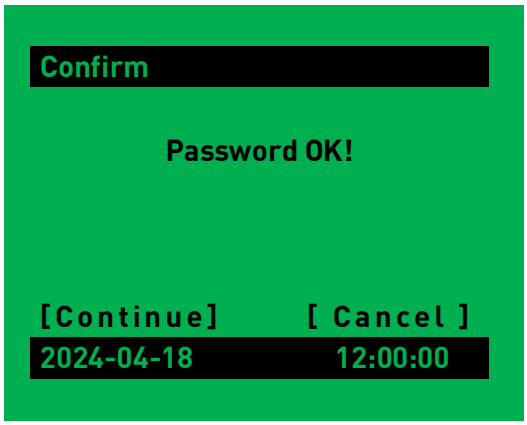


Enter a user password and confirm with [Continue].

Please note: There are no password rules. Every input except "*nothing*" is allowed, which means there is no minimum length, span for a password validity and no password history. For this small and simple galenical device there is no advanced user management.

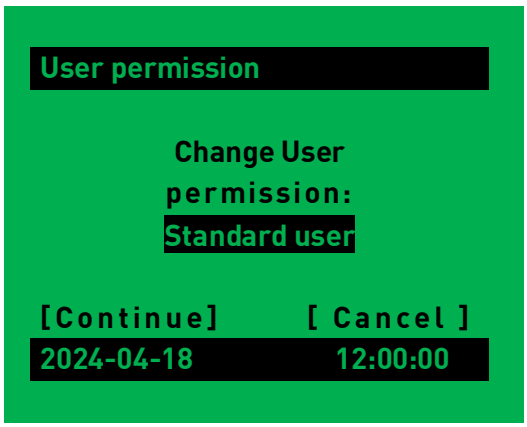


Verify the user password by entering it again and confirm with [Continue].



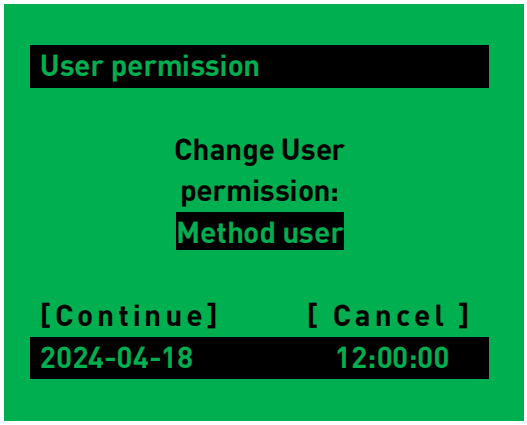
Your entered password is accepted.

Choose [Continue] to confirm.



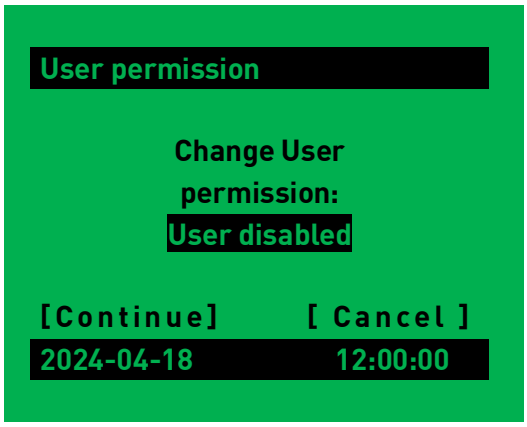
Select your preferred user permission. Choose between "User disabled", "Standard user" and "Method user". As a "Standard user" you are only able to run a test, quick test, a self-test and to edit your own password.

Choose [Continue] to confirm.



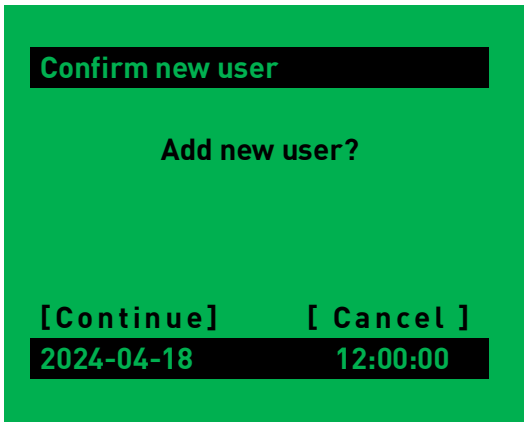
As a “Method user” you have the same permissions as the standard user, but additionally you can edit and change methods.

Choose [Continue] to confirm.



“User disabled” means the user is actually not allowed to login, but without the necessity to delete him.

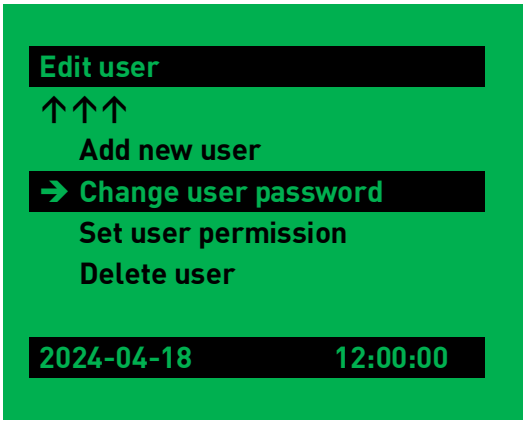
Choose [Continue] to confirm.



The creating of the new user was successful.

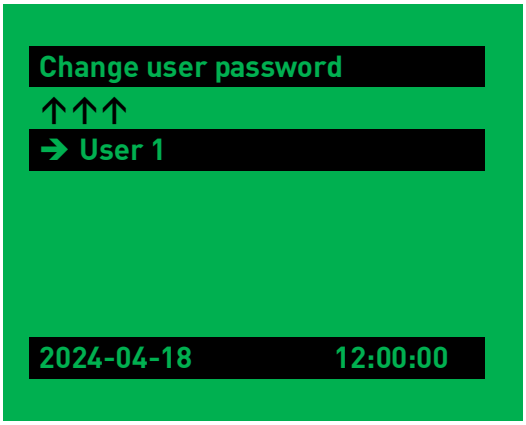
Choose [Continue] to safe the new user or [Cancel] to discard your entries.

3.2.5.2 Change user password



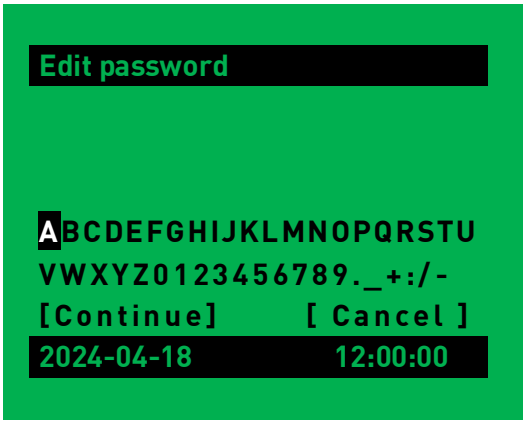
Differently to the "Edit password" function, available for individual users, the Administrator has the permission to change the password of every stored user. It´s useful in case a password has been forgotten.

In the "Edit user" menu, select [Change user password] to change the password of a specific user.

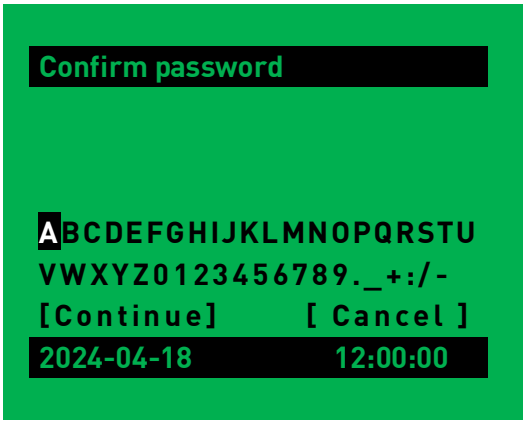


It is not possible to change the user password of the "ADMIN" in this menu. For this, see "Section 3.2.6 - Edit password" Function to change the corresponding password of the administrator.

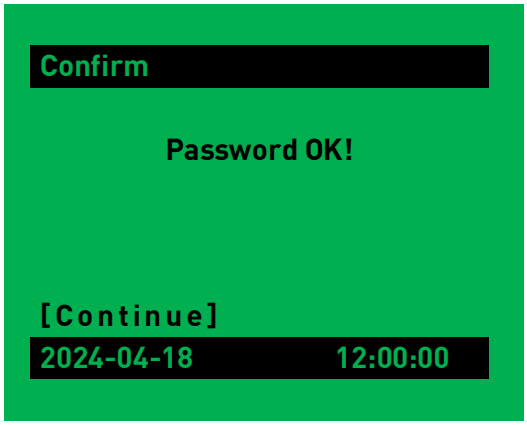
Select the user you want to assign a new password.



Enter the new user password and confirm with [Continue].



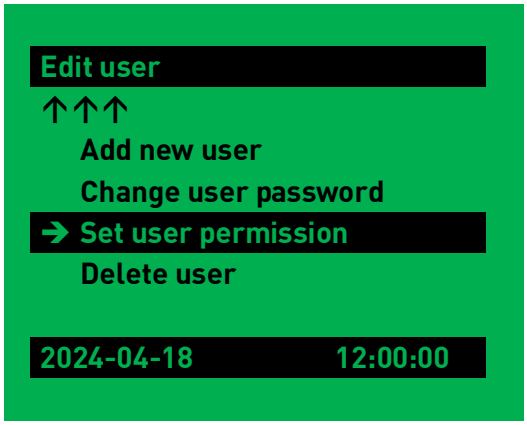
Verify your new user password by entering it again and confirm with [Continue].



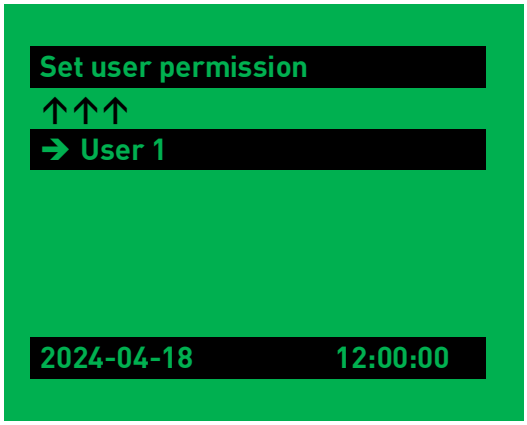
The password is accepted.

Choose [Continue] to confirm.

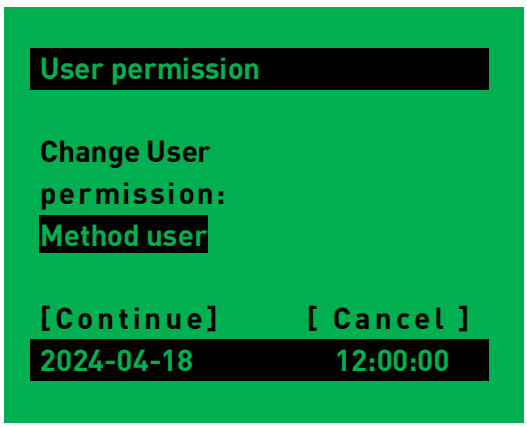
3.2.5.3 Change user permission



In the "Edit user" menu, select [Set user permission] to change the user permission of an existing user.



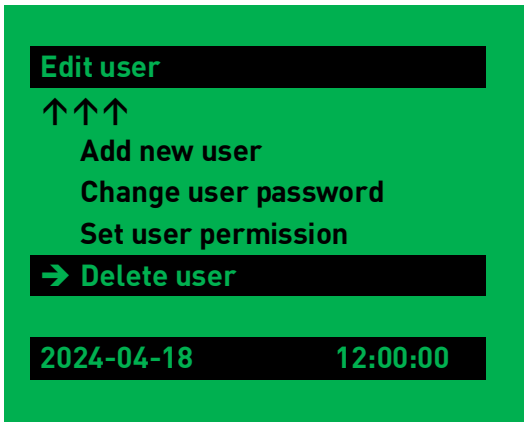
Select a user to change its user permission.



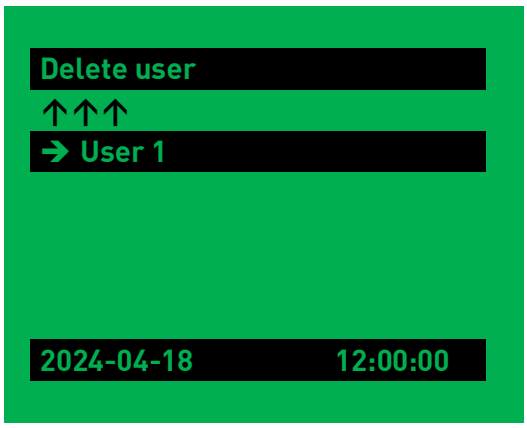
Select the preferred user permission. Choose between "User disabled", "Standard user" and "Method user". Read section 3.2.5.1 for more information about the permission level.

Choose [Continue] to confirm

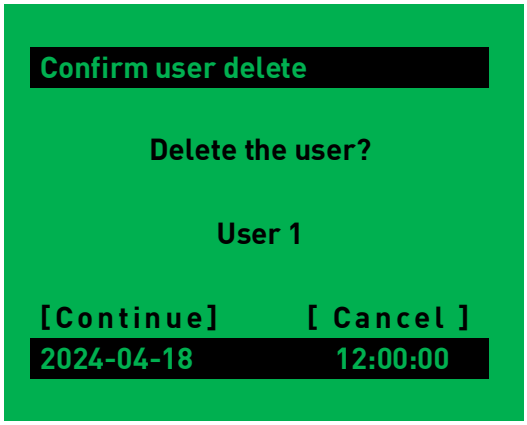
3.2.5.4 Delete a user



For permanently deleting a user, choose [Delete user] in the "Edit user" menu.

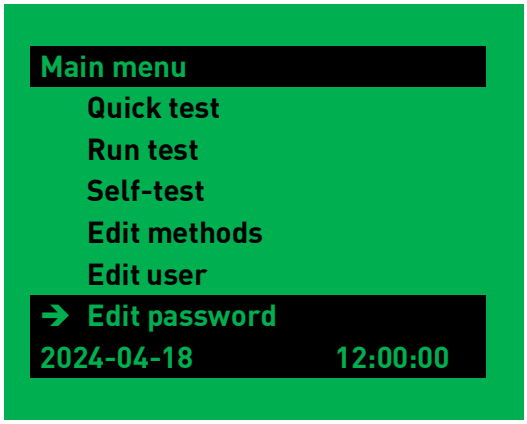


Select a user to be deleted.

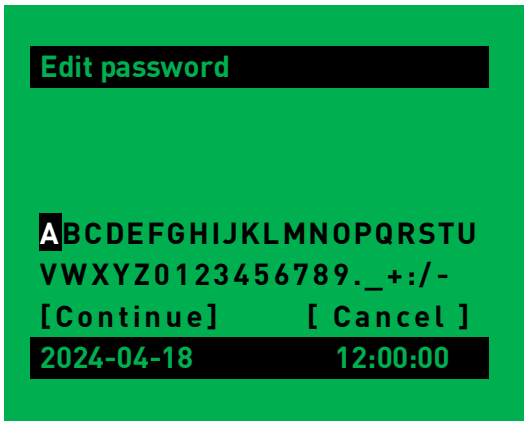


Choose [Continue] to confirm the deleting of the user. Otherwise [Cancel] the process.

Section 3.2.6 Change your own password

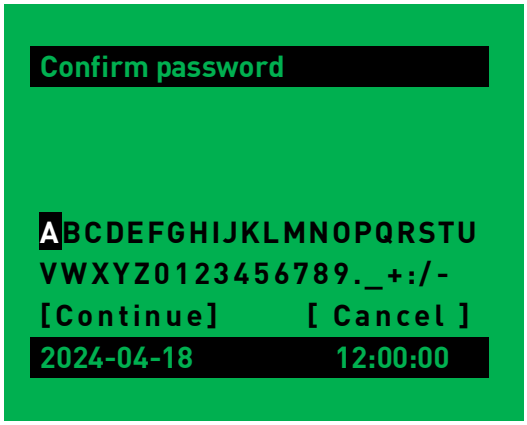


From the main menu select [Edit password].

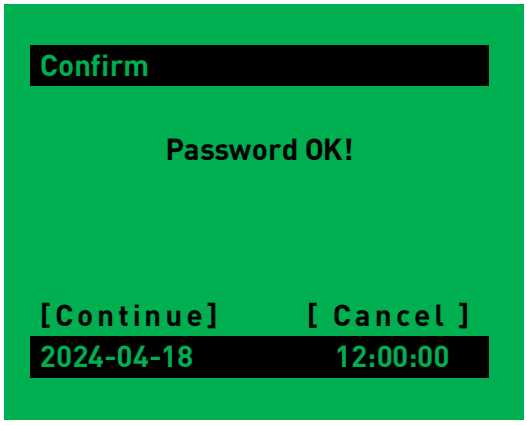


Enter your new user password and confirm with [Continue].

Please note: There are no password rules. Every input except "*nothing*" is allowed, which means there is no minimum length, span for a password validity and no password history. For this small and simple galenical device there is no advanced user management.



Verify your new user password by entering it again and confirm with [Continue].



Your entered password is accepted.

Choose [Continue] to confirm.

Section 3.3 The “Settings” Menu

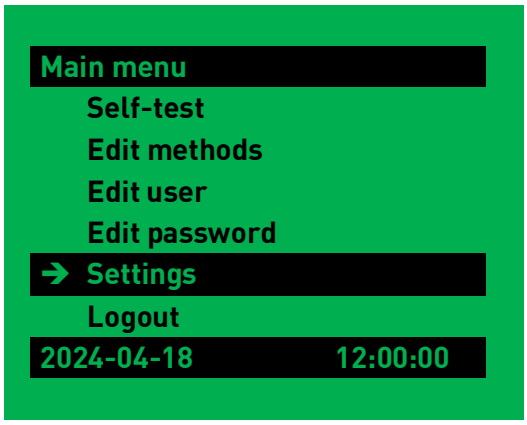
This section explains the menu items in the “Settings” menu.

Note: Only the Administrator has the rights to access the Instrument Control Settings, like Language selection, Time and Date settings and Qualification Interval timing (OQ). The following menu is only available when being logged in as ADMIN.

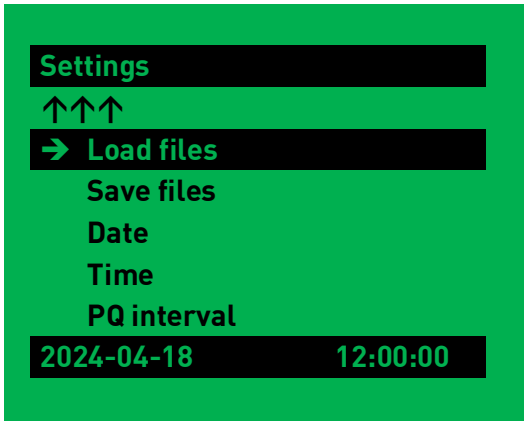
The settings menu is a special case. It is part of the main menu, but very extensive. So it will be described in a separate main section in this manual.

“Settings” contains different features which are only available as “ADMIN”. It is possible to load and save files from a USB flash drive and check the current date and time. The “PQ interval” can be seen and changed here.

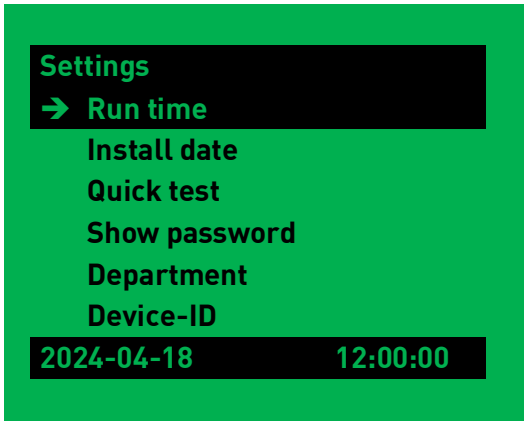
It also shows the current “Run time” and “Install date”. It is possible to activate and deactivate the possibility to do a “Quick test without login” and to “Show password”. The actual department can be set here and even the language of the menus and printouts.



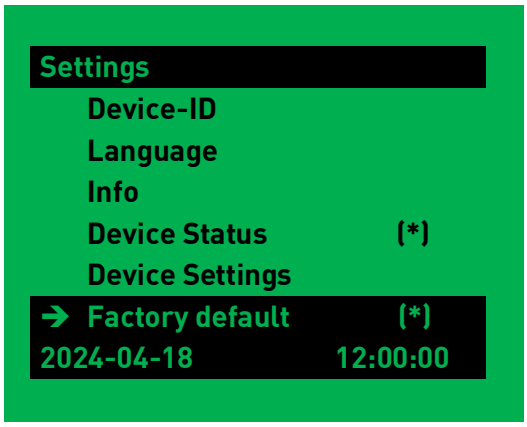
From the “Main menu” select [Settings].



The “Settings” menu is the largest of the PTF. The following 3 screenshots are meant to give an overview.



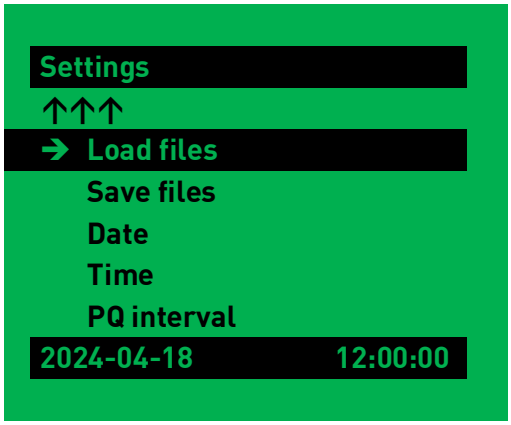
Settings menu (2/3).



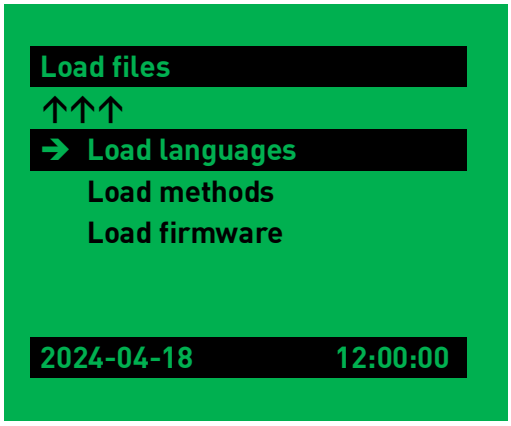
Settings menu (3/3).

(*): only available for Factory user!

Section 3.3.1 The “Load files” Function



Within this option files from a USB flash drive can be uploaded on the PTF.



In this menu it is possible to upload either a new language, methods or a new firmware version to the instrument.

3.3.1.1 Load languages

The PTF offers the possibility to change the menu- and printout language individually. With Factory default the language is English always.

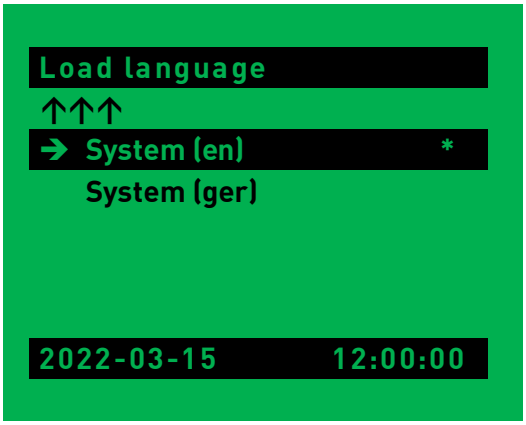
With the "load languages" function, a formerly created language file can be uploaded to the instrument. Afterwards the language can be selected in "Settings => Language" (Section 3.3.12).

Pharma Test offers a language file in German, too. But in case of a set to factory default (e.g. after a firmware update), the language memory is deleted and only English remains. The respective language file has to be loaded and the language has to be selected again.

If you want to create an own language file, some limitations must be considered. (see also Section 3.3.2.2)

All characters and special signs must comply to the ASCII-code and the total length of the strings must remain as they are. Unused places in the strings must be filled with a "space", otherwise there will be line feeds. This makes the creation of a language file (appr. 700 lines) challenging and time consuming and maybe not every translation is meaningful. Probably lots of shortcuts must be used.

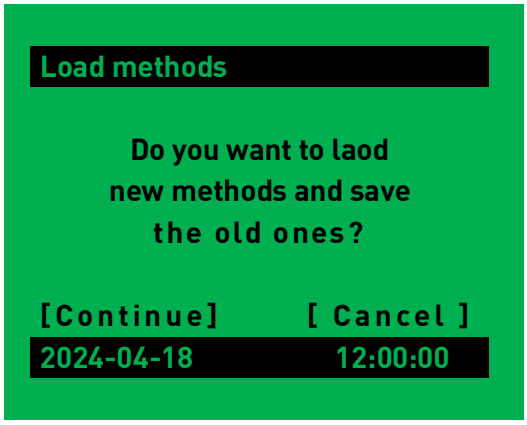
If needed, Pharma Test Apparatebau AG can assist with advises.



With a suitable language file available on the USB flash drive, it will be uploaded immediately when selecting „load languages". The display shows this screen:

Here you can see the available languages: (en) for English and (ger) for German. The "star" (*) shows which language is selected actually. For changing the language, select it by use of the click wheel. The language changes immediately and you return to the "load files" screen.

3.3.1.2 Load methods



In this menu it is possible to load saved methods into the device and to save the old ones in one step.
If you want to load the new methods confirm with [Continue].

Please note: with "save files" (see section 3.3.2.2), a file named "METH_OUT.CSV" is created on the USB flash drive. This file contains all stored methods of the PTF with a "comma" as separator. Strictly following the given syntax, you can create new methods also on a PC and don´t need to use the user interface of the PTF.

To upload the files again into the PTF, the file must be renamed to "METH_IN.CSV". Otherwise a red error screen appears, showing "file doesn´t exist".

With uploading a method file, present methods will be overwritten. Before, they will be saved in a file "METH_BAK.CSV" on the USB flash drive and can be restored this way.

3.3.1.3 Load firmware

In this menu a new firmware version can be uploaded.

Please note: whenever a new firmware version is available, it consists of two files: "firmware.bin" and "image.bin". Copy both files onto the USB flash drive, directly into the root directory, not in any sub-folder, and plug the flash drive to the port at the backside of the PTF.

Confirm the shown warning message with [Continue] or abort with [Cancel].

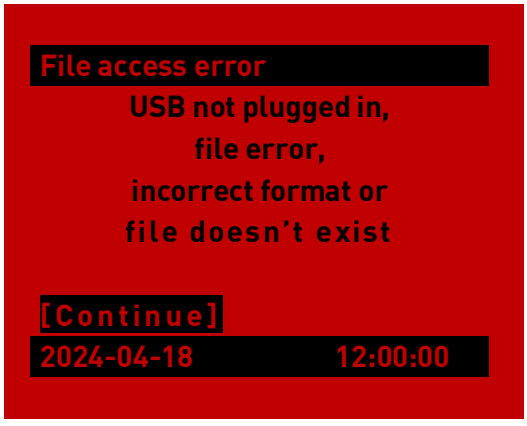
Attention: with a firmware update, the PTF will be set to factory default.

All formerly stored methods, languages as well as users will be deleted. Before updating the instrument, save the methods as described in section 3.3.2.2 and 3.3.1.2) to be able to restore it. For Users this is not possible. They need to be programmed again. You can get a german language file from Pharma Test on demand (free of charge).

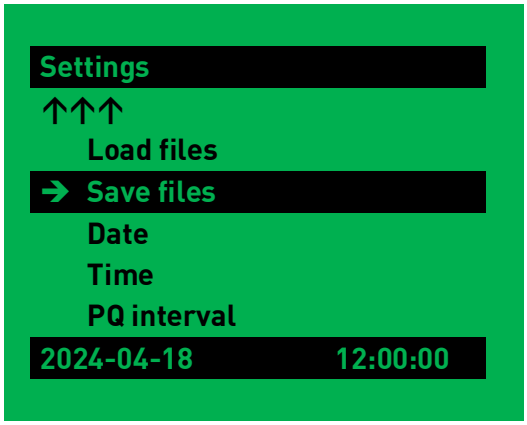
Please note: when updating the instrument from a firmware version 2.8 or lower to 2.9 or higher, maybe the print layout on the built-in printer isn´t correct anymore. In this case correct the printer settings. See **Section 3.4.5.**

Supplementary Information:

In case no suitable file is deposited on the USB flash (or no USB flash is plugged in) this window shows up:

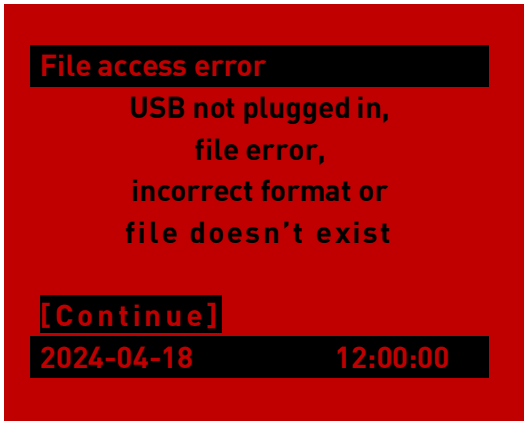


Section 3.3.2 The “Save files” Function



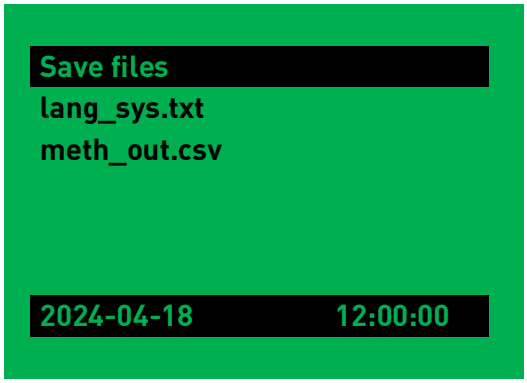
Within this option, files from the PTF can be saved on a USB flash drive.

3.3.2.1 no USB flash drive is plugged in



In case there is no USB flash drive plugged in, this message appears alternately red and green.

3.3.2.2 USB flash drive is plugged in

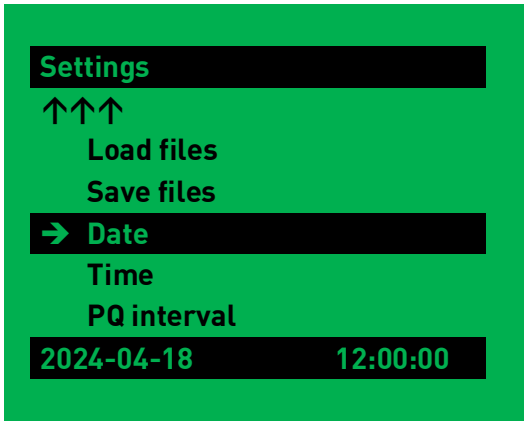


This way the stored methods (for backup reasons or to copy it to another PTF) as well as the current language file will be saved. When planning an own language file (see also section 3.3.1.1), it is recommended to create the current language file (lang_sys.txt) and use it as pattern to avoid incompatibilities.

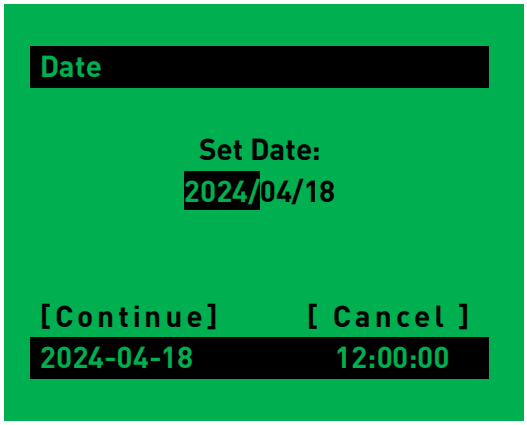
Please note: as long as a USB flash drive it plugged to the PTF, test results will be automatically stored as .txt-file on the flash drive. These files are neither encrypted nor write protected. Data integrity is not provided there. The end user is responsible for the proper handling of the data.

In case no USB flash drive is plugged to the PTF, no results are stored. It is not possible to trigger a storage manually or to catch it up.

Section 3.3.3 The “Date” Function



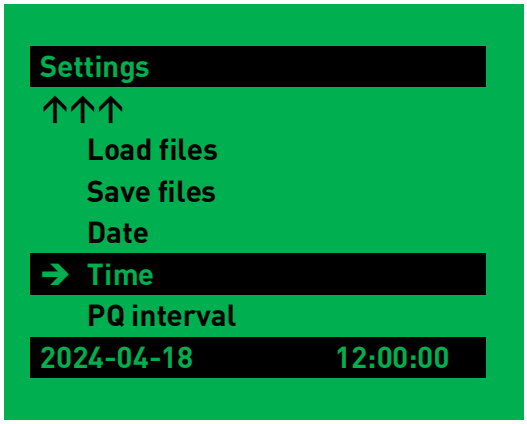
From the “Settings” menu select [Date] to see or change the current date.



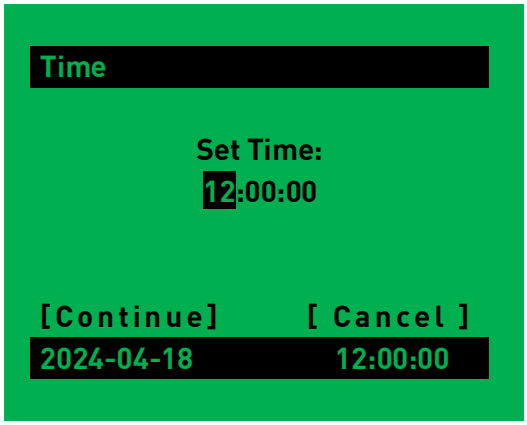
One after the other you can select the year, month and day to change them. Turn the click wheel to change the numbers and push it to confirm your entries.

Choose [Continue] to confirm.

Section 3.3.4 The “Time” Function



From the “Settings” menu select [Time] to see or change the current time.

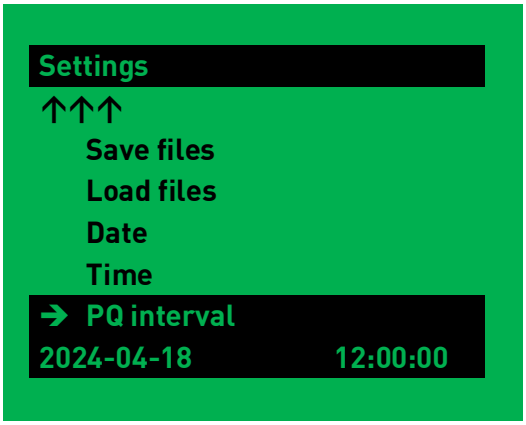


One after the other you can select the hours, minutes and seconds. Turn the click wheel to change the numbers and push it to confirm your entries.

Choose [Continue] to confirm.

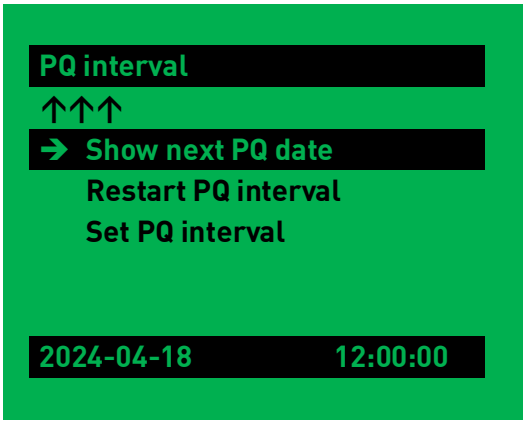
Section 3.3.5 The "PQ interval" Function

<u>Please note:</u> even after the PQ interval has elapsed, the PTF is still fully functioning. You are just reminded on the screen that a new PQ must be performed.



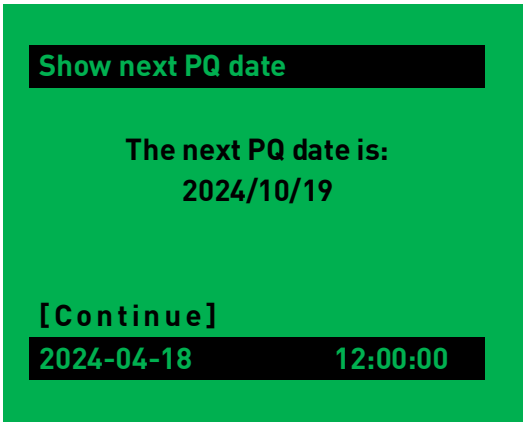
From the "Settings" menu select [PQ interval] to see, restart and set the PQ interval.

3.3.5.1 Show next PQ date



In this sub menu the PQ interval can be programmed.

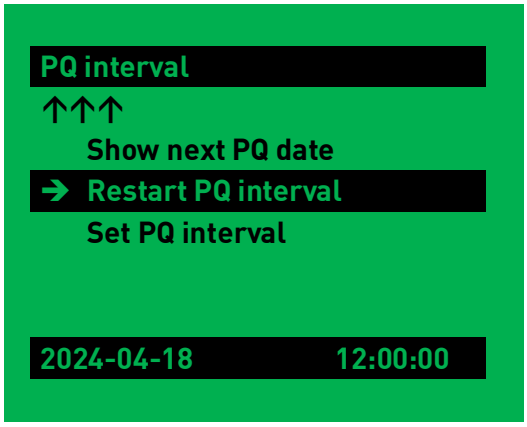
Choose [Show next PQ date].



In this screen the next PQ date is shown.

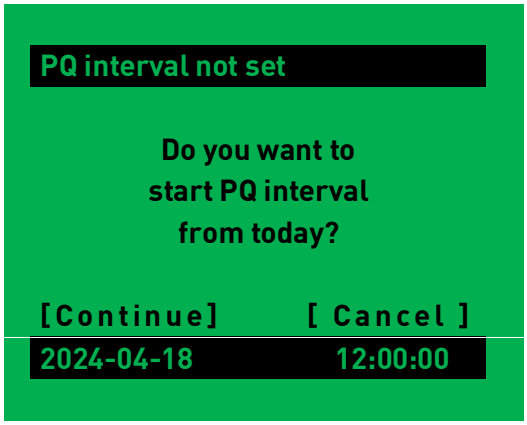
Choose [Continue] to return.

3.3.5.2 Restart PQ interval



In this sub menu the PQ interval can be restarted.

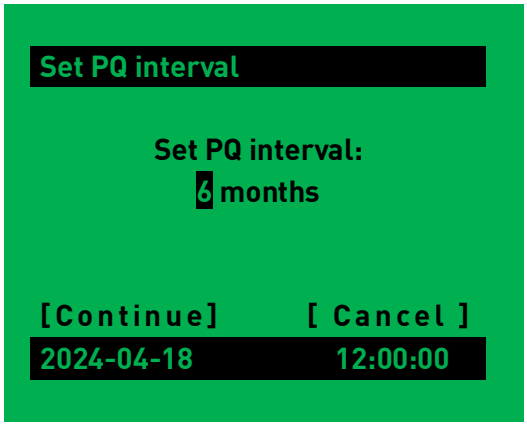
Choose [Restart PQ interval].



In case no PQ interval has been set before, you are automatically guided to section 3.3.5.3

Choose [Continue] to set a PQ interval.

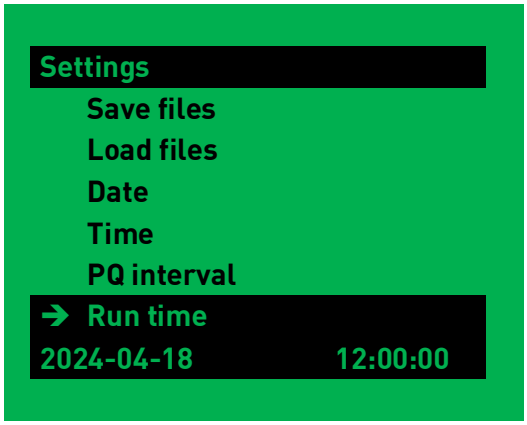
3.3.5.3 Set PQ interval



You can set the interval from 0 (function inactive) to 24 month.

Choose [Continue] to save and return.

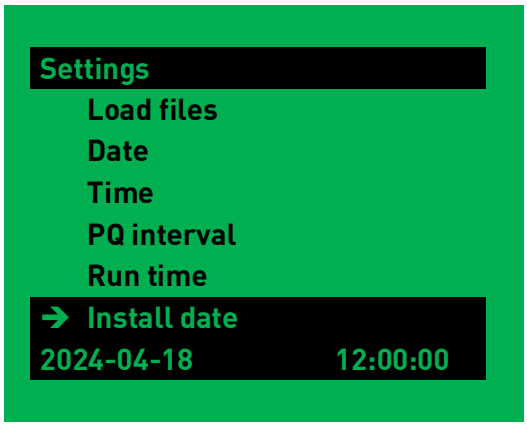
Section 3.3.6 The "Run time" Function



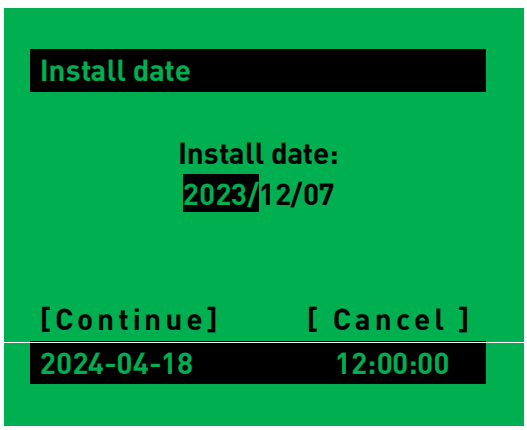
From the "Settings" menu select [Run time] to see the total run time of the PTF.

The total "Run time" is shown here.
Leave the screen with [Continue].

Section 3.3.7 The "Install date" Function



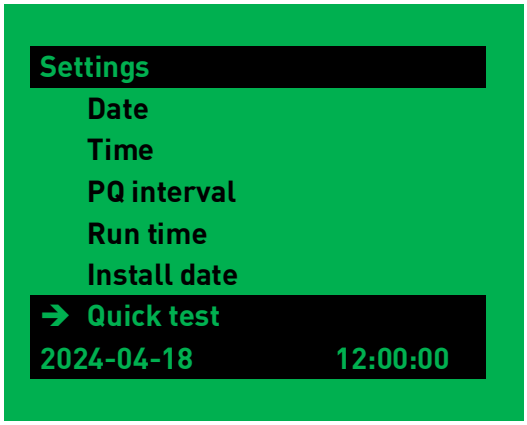
From the "Settings" menu select [Install date] to see or set the installation date of the PTF.



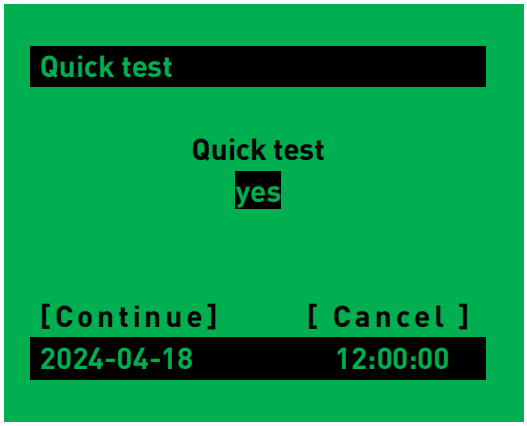
One after the other you can select the year, month and day to change them. Turn the click wheel to change the numbers and push it to confirm your entries.

Choose [Continue] to save and return or [Cancel] to leave without saving changes.

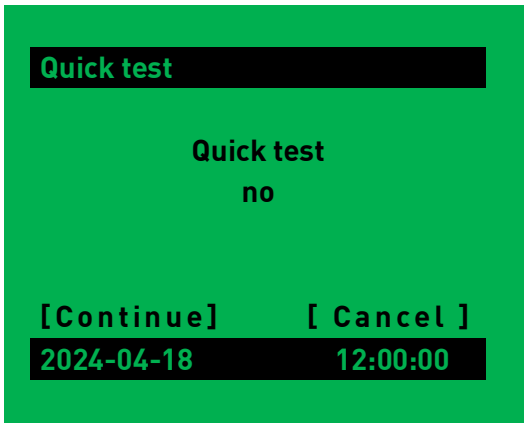
Section 3.3.8 The “Quick test” Function



From the “Settings” menu select [Quick test] to activate or deactivate the ability to run the Quick Test from the start screen (without login).



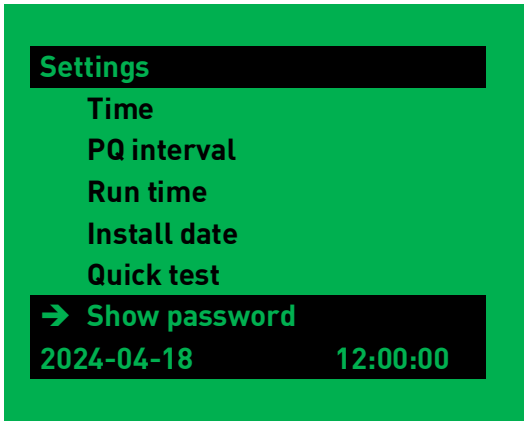
The Quick Test function is active in this example. Use the click wheel to select “yes” for active or “no” for inactive.
If the Quick Test function is active, it can be started from the Startup screen without login.



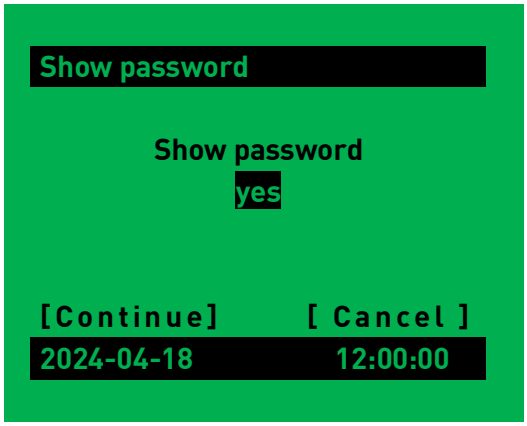
When selecting “no”, the Quick Test can still be started from the main menu. In this case only after the login of a user.

Choose [Continue] to confirm or [Cancel] to abort.

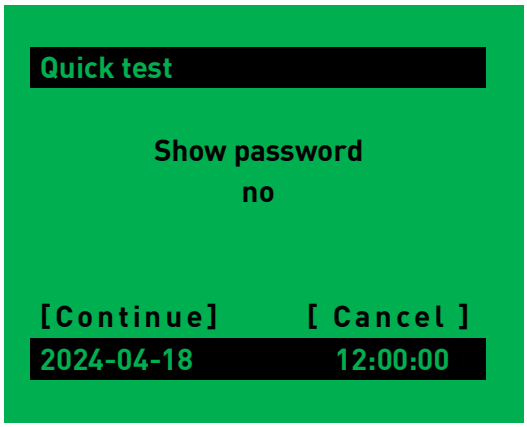
Section 3.3.9 The “Show password” Function



From the “Settings” menu select [Show password] to setup a visible or hided password.



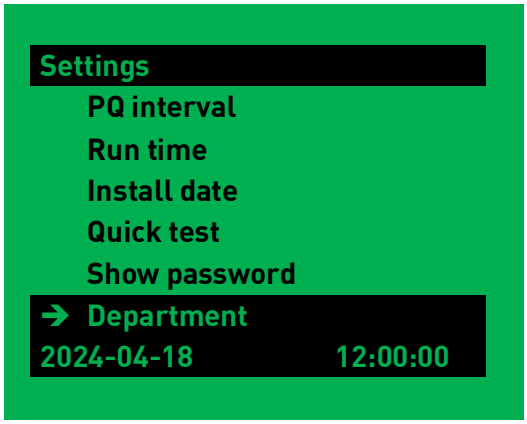
If activated (“yes”), the password is fully visible when being entered.



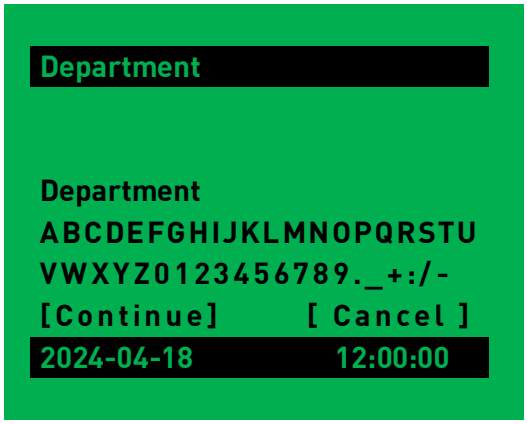
If deactivated (“no”), only the last entered character is visible. Formerly entered characters are masked with “*”.

Choose [Continue] to confirm or [Cancel] to abort.

Section 3.3.10 The “Department” Function

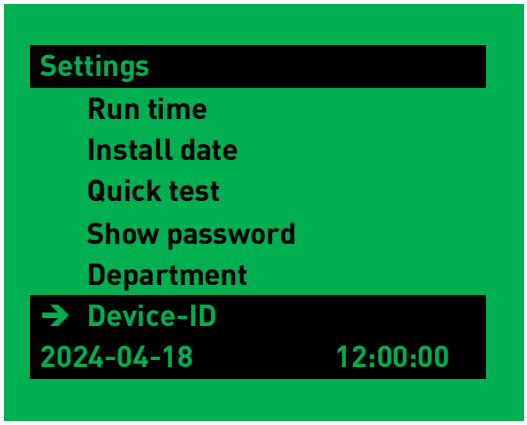


From the “Settings” menu select [Department] to see or change the current department.

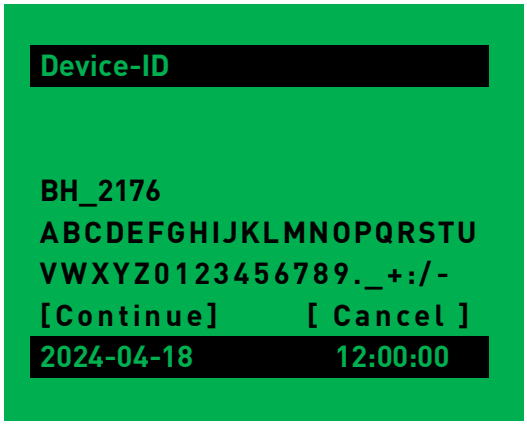


The current department can be seen. Choose [Continue[to confirm or use the click wheel to change the department. The department name can be seen on the printout (see also Section 3.2.2.1).

Section 3.3.11 The “Device-ID” Function

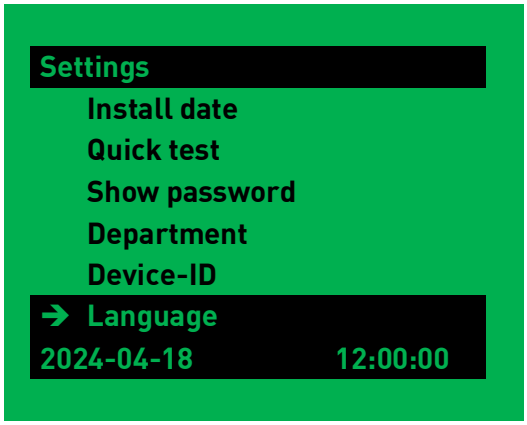


From the “Settings” menu select [Device-ID] to see or change the individual device name.

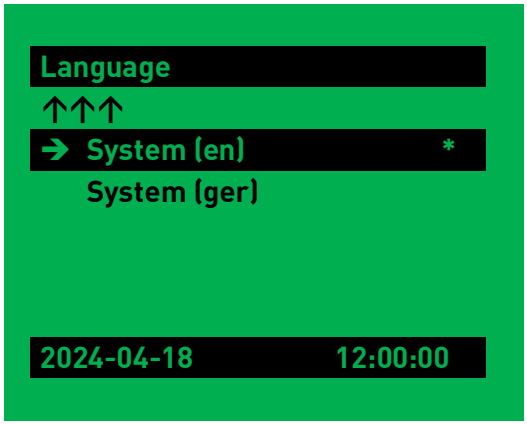


The current device name can be seen. Choose [Continue] to confirm or use the click wheel to change the Device-ID. The Device-ID can be seen on the printout (see also Section 3.2.2.1).

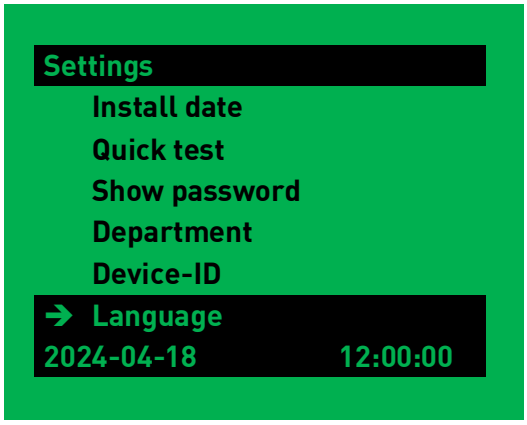
Section 3.3.12 The “Language” Function



From the “Settings” menu select [Language] to see the current language used and to select another optional existing language.

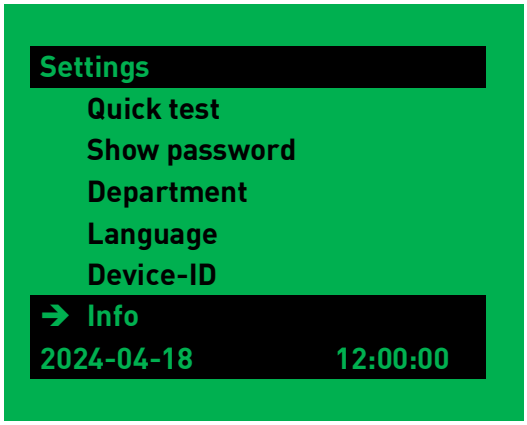


In this screen you can see the available languages. The “*” shows which language is used.

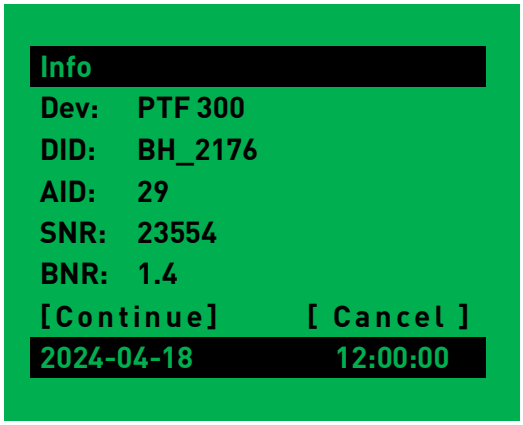


After selecting a language, you automatically return to the “Settings” menu.

Section 3.3.13 The "Info" Function

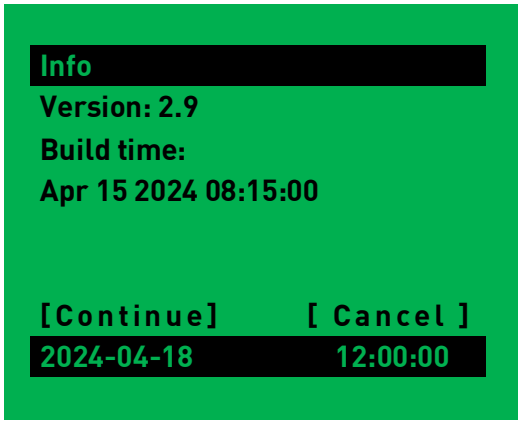


From the "Settings" menu select [Info] to see actual data and information about the PTF. There are 3 windows which open in succession.



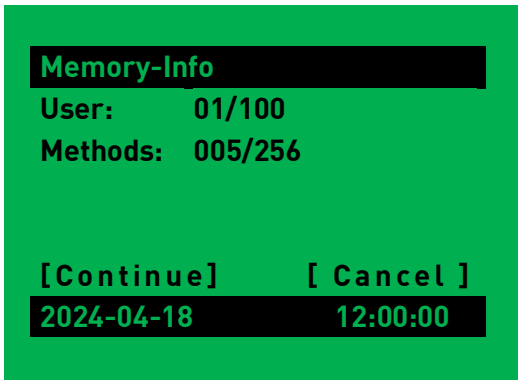
In the first window the instrument type is shown, below the Device-ID, the current Analysis-ID, the serial number and the actual hardware revision.

Choose [Continue] to confirm with the next information.



In the second window in the first line the actual firmware version is shown and below the build time of the firmware.

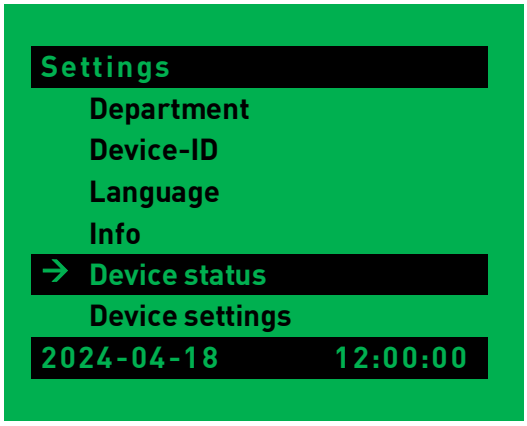
Choose [Continue] to confirm with the next information.



In the last window in the first line the current number of existing users is shown. The second line shows the actual number of existing methods.

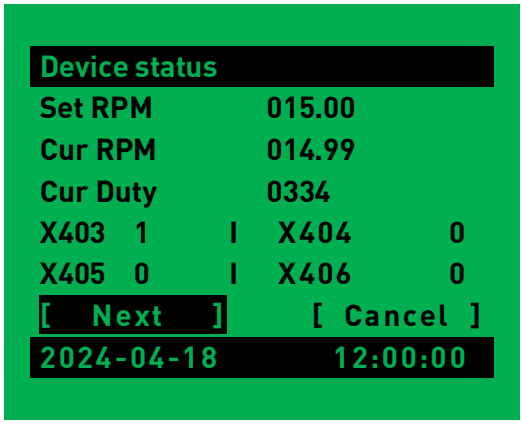
Choose [Continue] to confirm.

Section 3.3.14 The “Device status” Function



This menu item is only visible and accessible when logged in as “Factory”.

From the “Settings” menu select [Device status] .



Here you can see sensor values: the current motor speed as well as the status of the digital inputs.

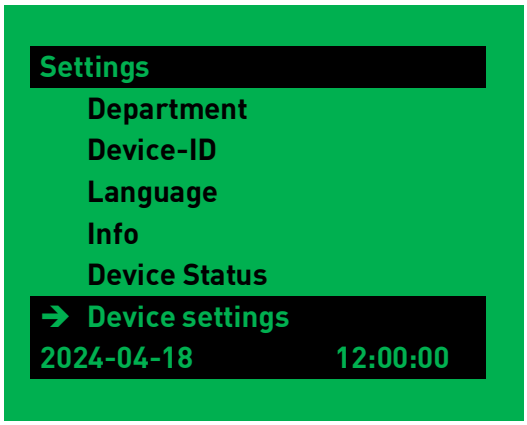
With PTF there is not another screen, so [Next] is without function.

Choose [Cancel] to return to the “Settings” menu.

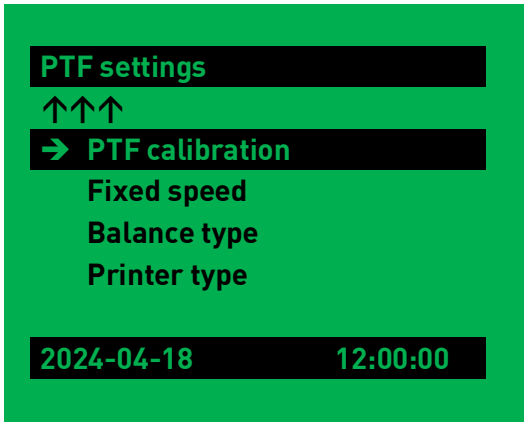
Section 3.4 The “Device settings” Function

The “Device settings” menu is another sub menu and the last item in the “Settings” menu. It should be used only by trained personal. Because of this it is described in an own section.

This section describes how to perform the calibration of the PTF measuring station. Only a trained service technician should perform calibrations to the instrument. After performing the calibration a calibration report may be printed. The balance type and the printer type can be set here as well.

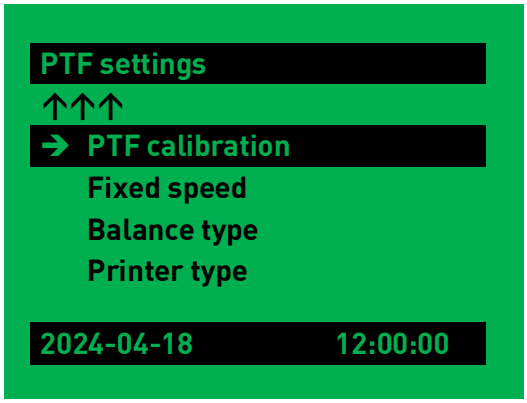


From the “Settings” menu select [Device settings].



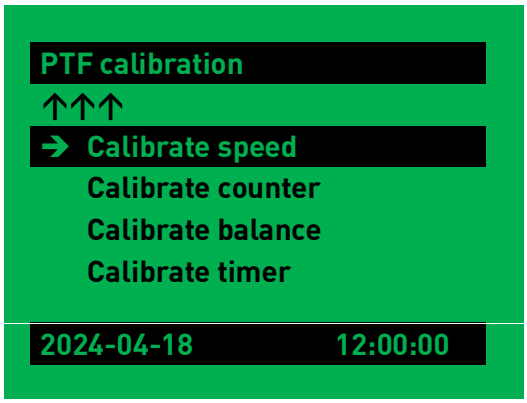
In this sub menu the PTF calibration can be done, a fixed revolution speed and the types of the used printer and balance can be set.

Section 3.4.1 Device Settings - The “PTF calibration” menu



In this sub menu the calibration menu is available.

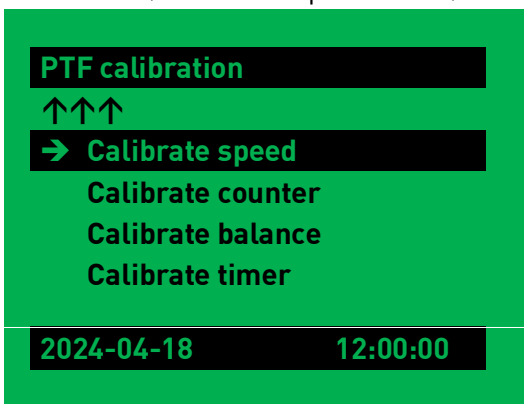
Choose [PTF calibration] to confirm.



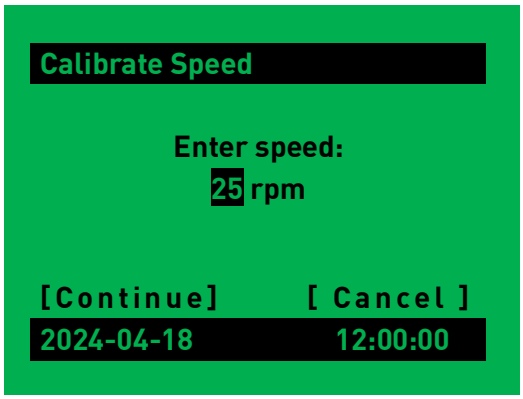
In the PTF calibration sub menu different features can be calibrated. The rotation speed, rotation counter and timer can be calibrated here.

3.4.1.1 Calibrate speed

To calibrate the speed, you will need a digital speed meter. It is used to measure speed of the drums (revolutions per minute). The calibration is to verify that the speed is correct.

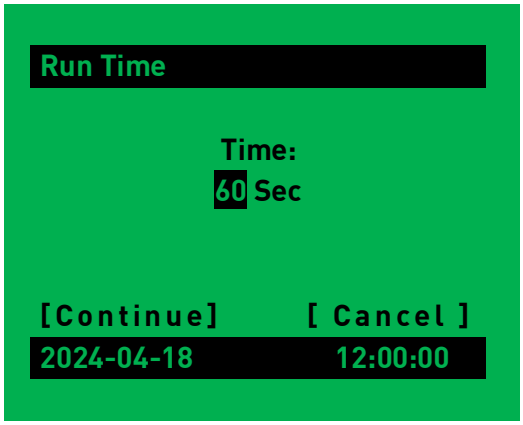


In the PTF calibration sub menu, choose [Calibrate speed] to calibrate the PTF drum speed.



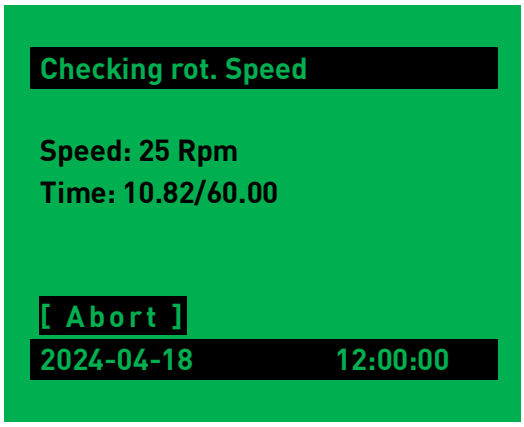
In the following screen you select the speed. Choose between “15 Rpm” up to “100 Rpm”. For that turn the click wheel from left to right. Confirm your entered speed by pushing the click wheel.

Choose [Continue] to confirm.



Now set how long the PTF will run with the selected speed. Choose between "2 Sec" up to "9999 Sec". Prepare the digital speed meter in a good place to measure the speed correctly.

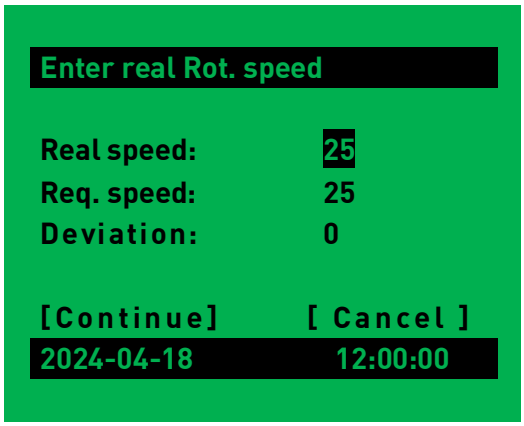
Choose [Continue] to confirm.



This window is the test screen and shows the state of the current calibration test run.

In the first line the set rotation speed is shown and in the second the expired time to measure the rotation speed (60 seconds) is shown.

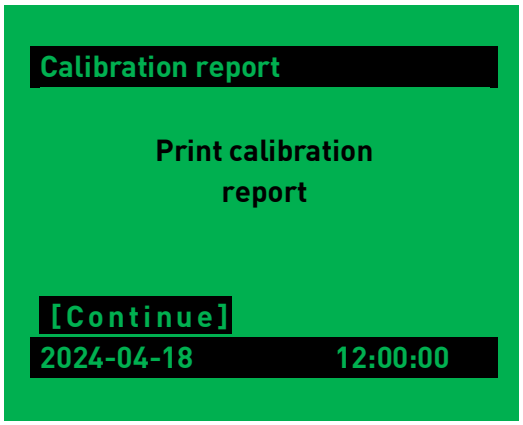
You can [Abort] the test.



After the time has elapsed, you are asked to enter the measured ("real") speed.

In the last line the deviation between the measured and the required speed is calculated according to your previous entry.

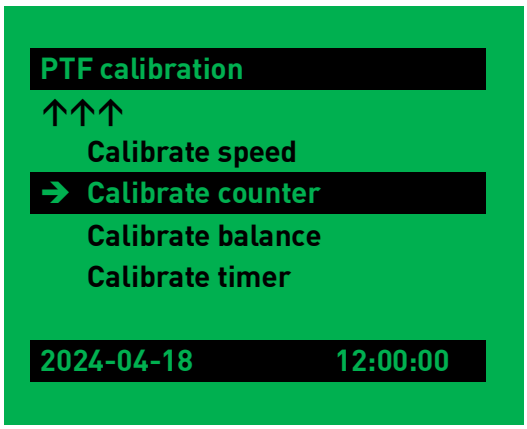
Choose [Continue] to confirm or [Cancel] to abort.



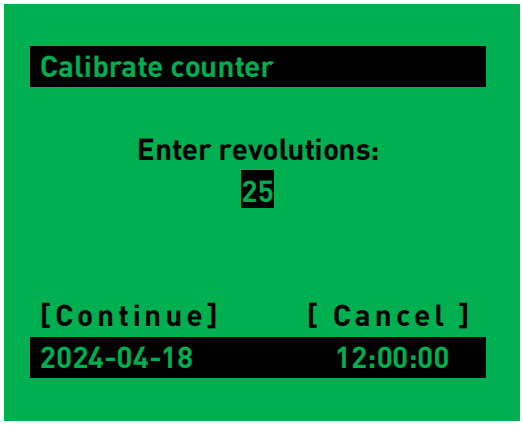
After finishing the calibration process, choose [Continue] to print out the calibration report in case you activated the printer function.

3.4.1.2 Calibrate count

To calibrate the correct counting of the revolutions you will need a digital speed meter. The difference between the calibration of rotation speed and count is to cover the correct performance of both operation modes. To calibrate the counting, you set a total number of revolutions and in a second step the rotation speed – no time. Check if the instrument counts right dependent from the set speed.

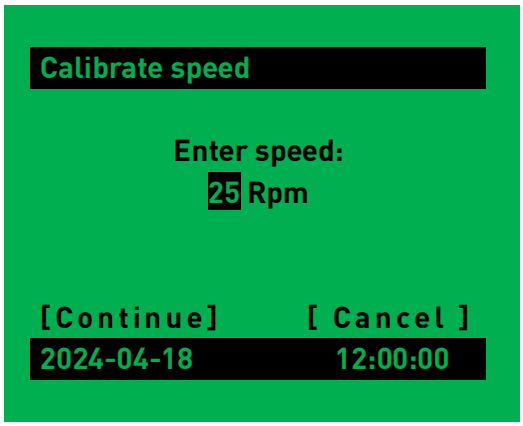


From the "PTF calibration" menu choose [Calibrate count] to calibrate the PTF counting.



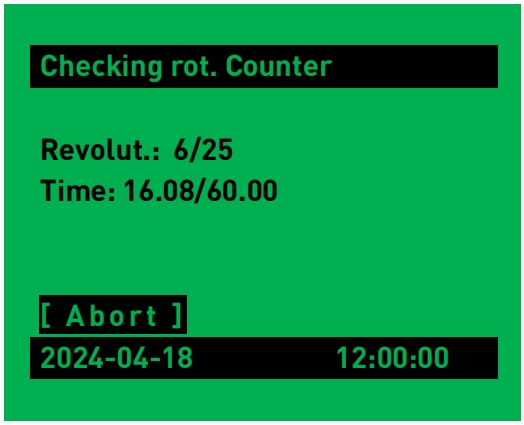
In this menu you choose the total number of revolutions which will be performed Choose between "0" up to "1000". For that turn the click wheel from left to right. Confirm your entered speed by pushing the click wheel.

Choose [Continue] to confirm.



Now set the speed for the counting test. Choose between "15 Rpm" up to "100 Rpm". For that turn the click wheel from left to right. Confirm your entered speed by pushing the click wheel.

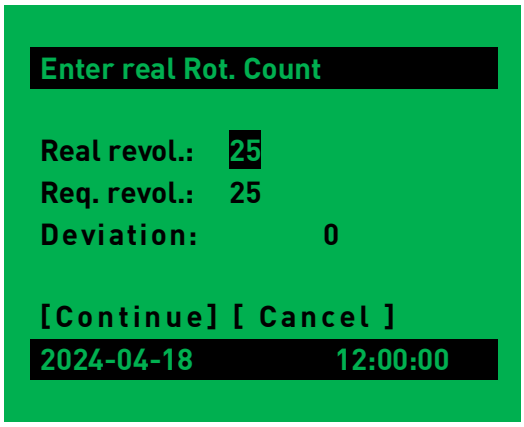
Choose [Continue] to confirm.



This window is the test screen and shows the state of the current calibration test run.

In the first line the set number of rotations is shown and in the second line the expired time to measure the drum rotations within the set time.

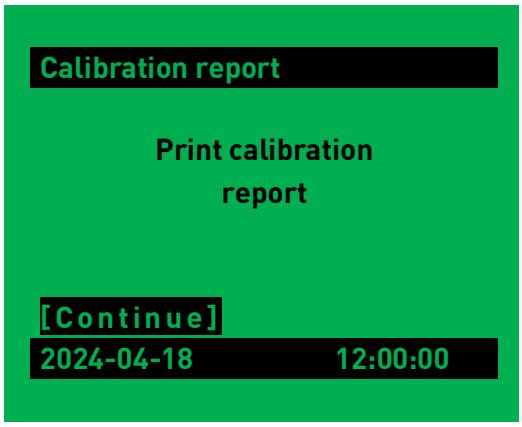
You can [Abort] the test.



After the revolutions are done, the shown window appears. Here you must enter the measured "real" number of revolutions in the first line.

In the last line the deviation between the measured and the required number of revolutions is calculated according to your previous entry.

Choose [Continue] to confirm or [Cancel] to abort.

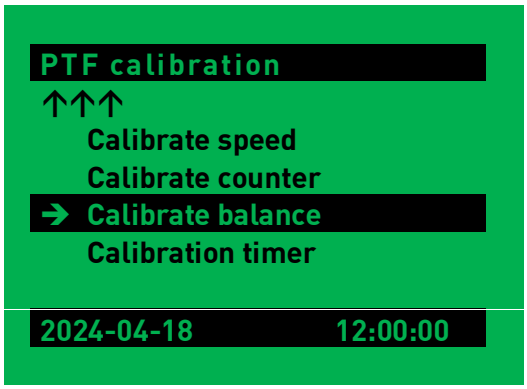


After finishing the calibration process, choose [Continue] to print out the calibration report in case you activated the printer function.

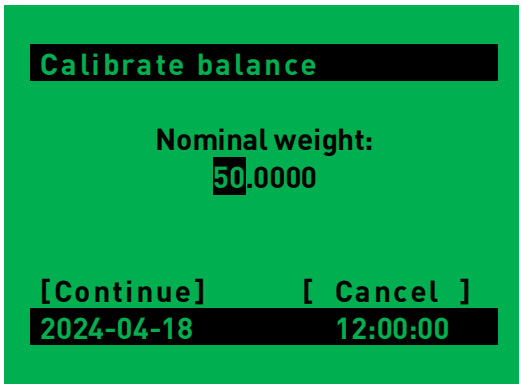
3.4.1.3 Calibrate balance

A connected balance (which is optional!) is not an integrated part of the PTF. If the balance doesn´t measure correctly, the PTF has no effect on this and no options for correction. The calibration is meant only for completeness and to verify, that the balance readings appear correctly in the PTF. This check (balance display value compared to the value which appears in the PTF) must be done visually by the operator.

You need a properly connected and configured balance as well as a calibration weight free of choice.

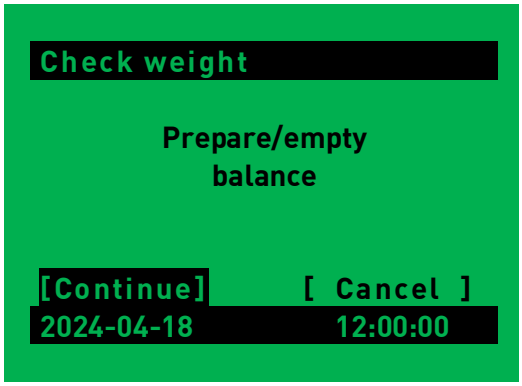


From the "PTF calibration" menu select "Calibrate balance" to check the communication between the PTF and the external balance.



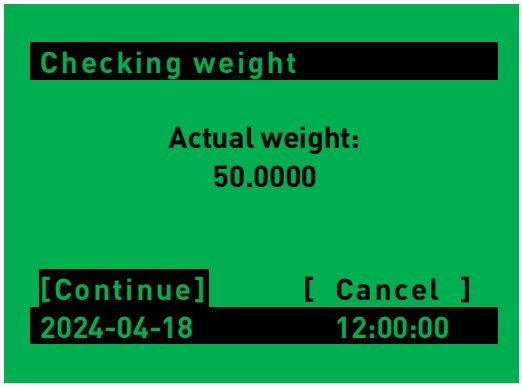
Enter the nominal weight (here: 50.0000 g) which you are going to put on the balance.

Choose [Continue] to confirm.



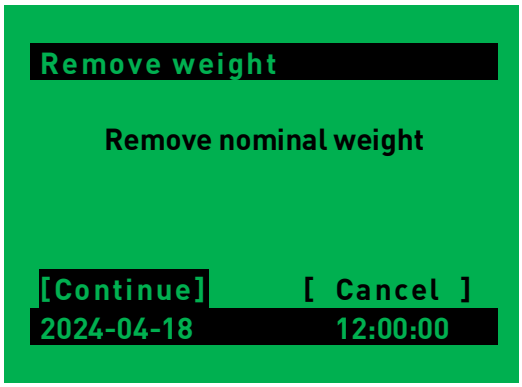
Before you put the weight on the external balance ensure that the balance is empty and tared.

Choose [Continue] to confirm.



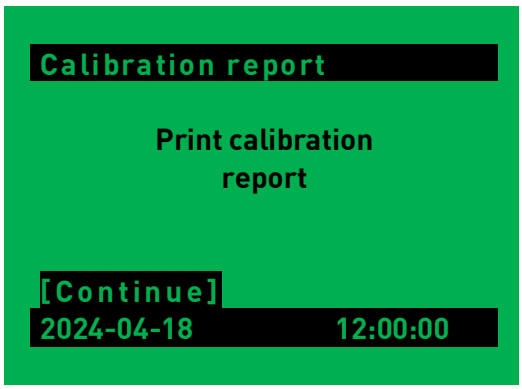
Now put the nominal weight (in this example 50.0000 g) on the external balance. The display of the PTF should show the same weight as the balance.

In case the correct actual weight is shown push [Continue] to confirm.



Now remove the nominal weight from the external balance.

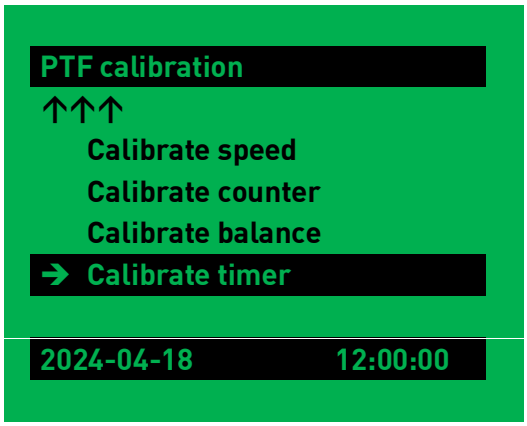
Choose [Continue] to confirm.



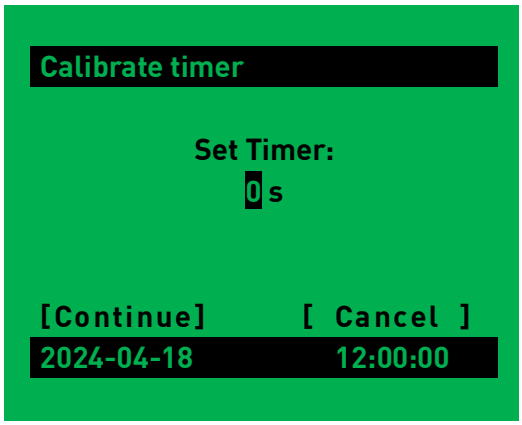
After finishing the calibration process push [Continue] to print out the calibration report in case you activated the printer function.

3.4.1.4 Calibrate Timer

To calibrate the timer you will need a calibrated stop watch.

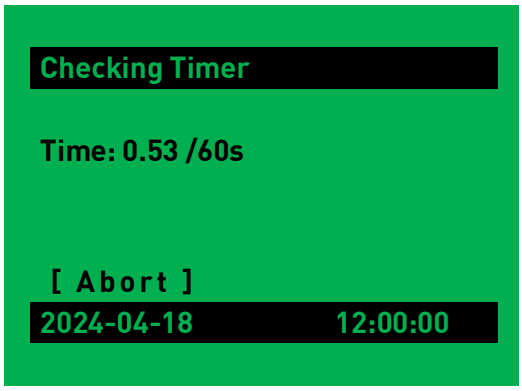


From the "PTF calibration" menu choose [Calibrate timer] to check the correct function of the internal timer of the PTF.



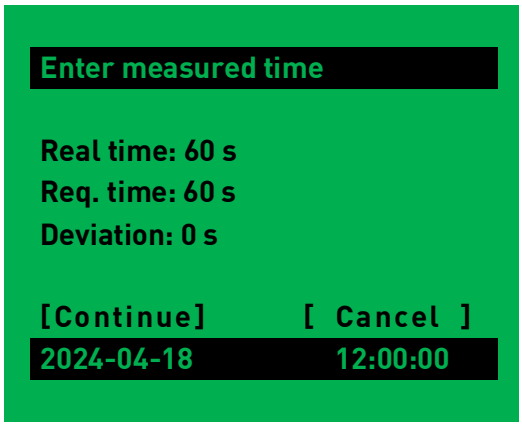
Enter the time which should be counted by the instrument. Choose between 0 s and 1000s. Consider that it is just meaningful to manually measure "long" times.

Choose [Continue] to confirm.



Now the timer starts to count the preset seconds where you simultaneously measure the time with the stopwatch.

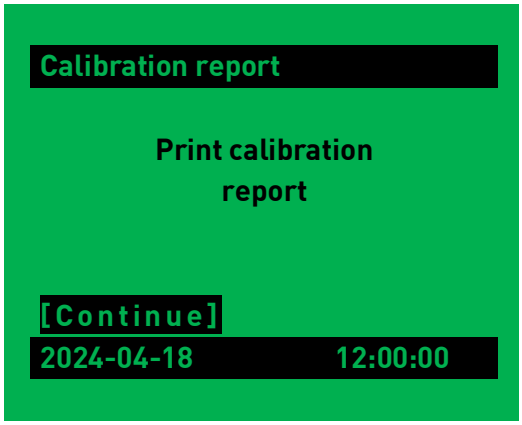
You can [Abort] the test.



After the time has elapsed, the shown window appears. Here you have to enter the measured "real" time in the first line.

In the last line the deviation between the measured and the required time is calculated according to your previous entry.

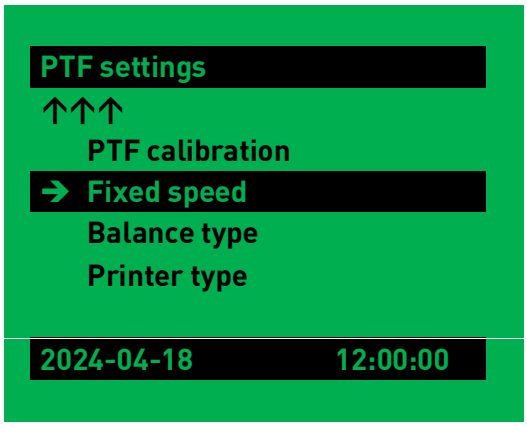
Choose [Continue] to confirm or [Cancel] to abort.



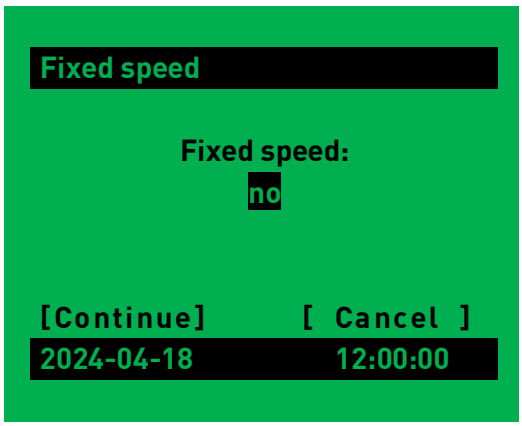
After finishing the calibration process choose [Continue] to print out the calibration report in case you activated the printer function.

Section 3.4.2 Fixed speed

Within the PTF series it is possible to have a fixed speed setting for all possible tests. If you want to have a fixed speed (no option to change the rotation speed within method creations) you must enter this sub menu and set the preferred speed value.

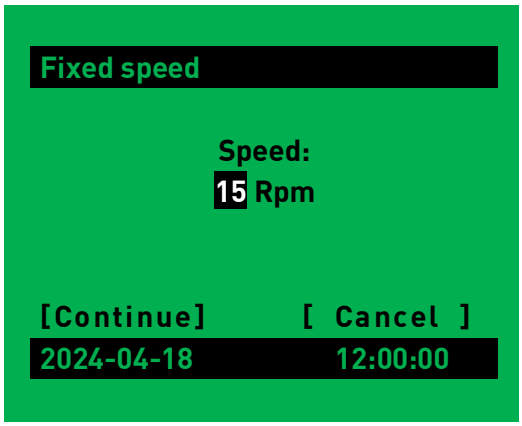


In the "PTF Settings" menu choose [Fixed speed].



Choose if a fixed speed is preferred or not by choosing "no" if the rotation speed should be set freely or "yes" if you want a fixed value for the revolution speed.

Choose [Continue[confirm your entry.



In case of selecting "yes":
Choose if a value between "15 Rpm" and "100 Rpm" as a fix value for the rotation speed.

Choose [Continue] confirm your entry.

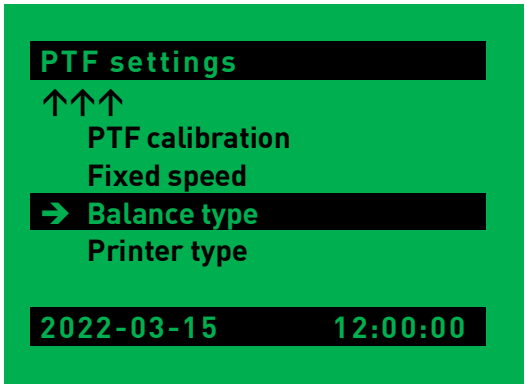
Please note: if you set "fixed speed = yes", the set speed will also be used in the Quick Test! With "fixed speed = no" the Quick Test runs with 25 rpm only!

Section 3.4.3 Balance type

In this device setting the use of a balance can be activated and deactivated.

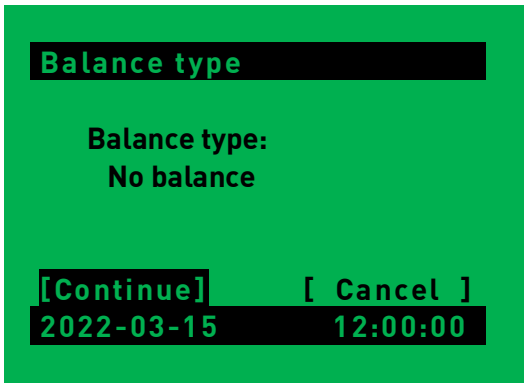
The configuration of the serial interface parameters must be done in the balance! The parameters in the PTF are fixed to:

Speed: 9600 baud
Data bits: 8
Parity: none
Stopbits: 1
Handshake: none



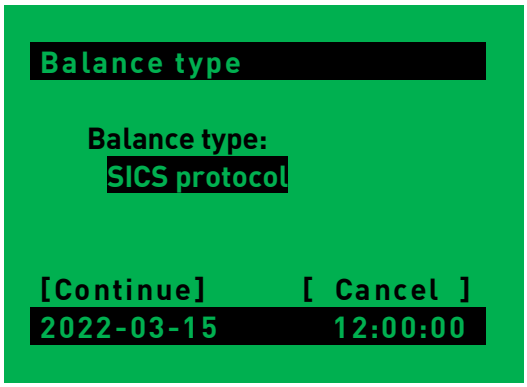
From the "PTF settings" menu select [Balance type].

The following options are available:



"No balance":

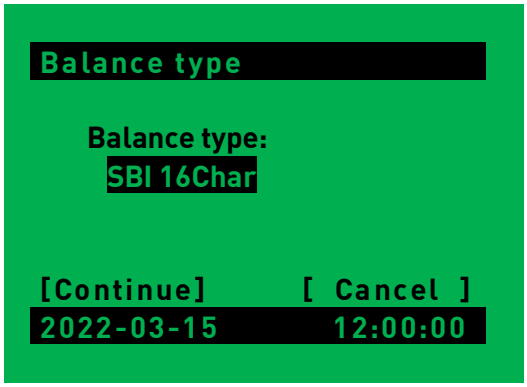
There is no balance connected to the PTF. The operator must input the sample weight manually by use of the click wheel. The input of inital- and final weight can´t be deactivated! This would run counter to the purpose of the PTF series.



"SICS protocol":

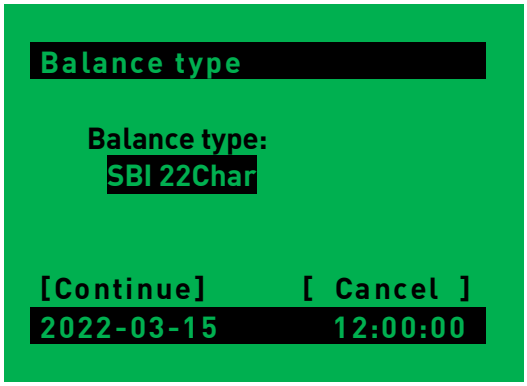
Balance protocol which is standardly used from Mettler Toledo balances.

With this setting, the PTF expects an electronic weight transmission. A manual input is not possible. A missing transmission leads to an error message!



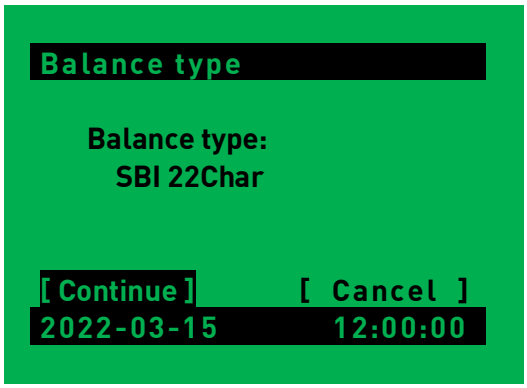
"SBI 16Char":
Balance protocol with 16 characters, which is usually transmitted by older Sartorius balances.

With this setting, the PTF expects an electronic weight transmission. A manual input is not possible. A missing transmission leads to an error message!



"SBI 22Char":
Balance protocol with 22 characters, which is usually transmitted by actual Sartorius balances.

With this setting, the PTF expects an electronic weight transmission. A manual input is not possible. A missing transmission leads to an error message!

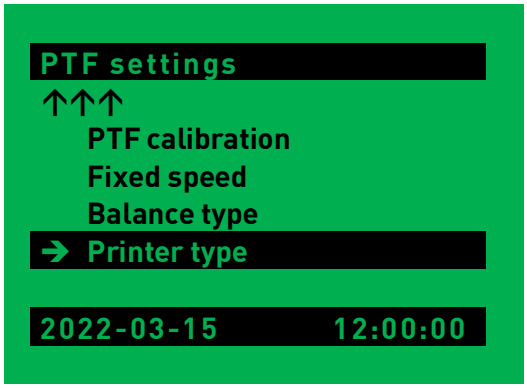


Check the balance manual which protocol is actually provided and select the protocol in the PTF accordingly.

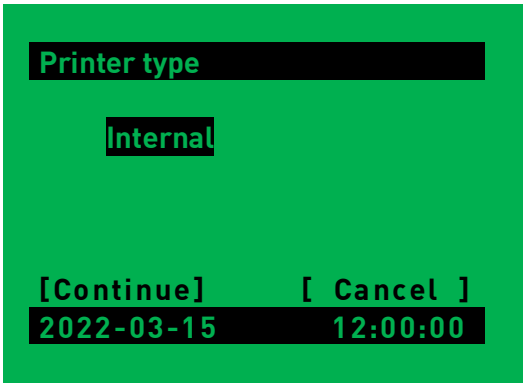
Choose [Continue] to confirm.

Section 3.4.4 Printer type

In this device setting the use of a printer can be activated and deactivated.



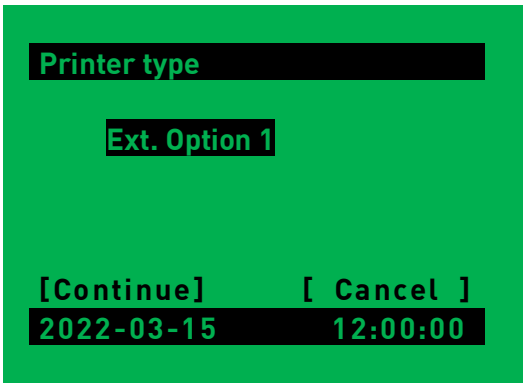
From the "PTF settings" menu select [Printer type].



This screen offers three possibilities for the printer. Choose between

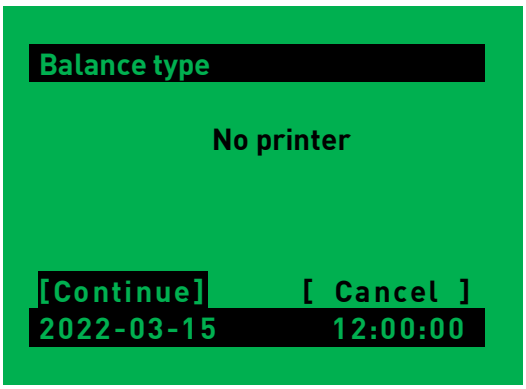
"Internal"

for using the built-in printer. The printer port at the backside can be used parallel. Every data which is sent to the built-in printer is also available at the port at the backside.



"Ext. Option 1"

With this setting a "carriage return / line feed" (CR/LF) is added to every line. This means a serial data capturing by the backside port will appear in a readable form. The built-in printer at the front is not affected by this.



or

"No printer".

With this setting there will be no data output at the serial printer ports. Neither at the built-in printer nor at the backside port.

Choose [Continue] to confirm.

The printout respectively data output is done by the serial port "Printer" at the backside or at the built-in printer at the front.

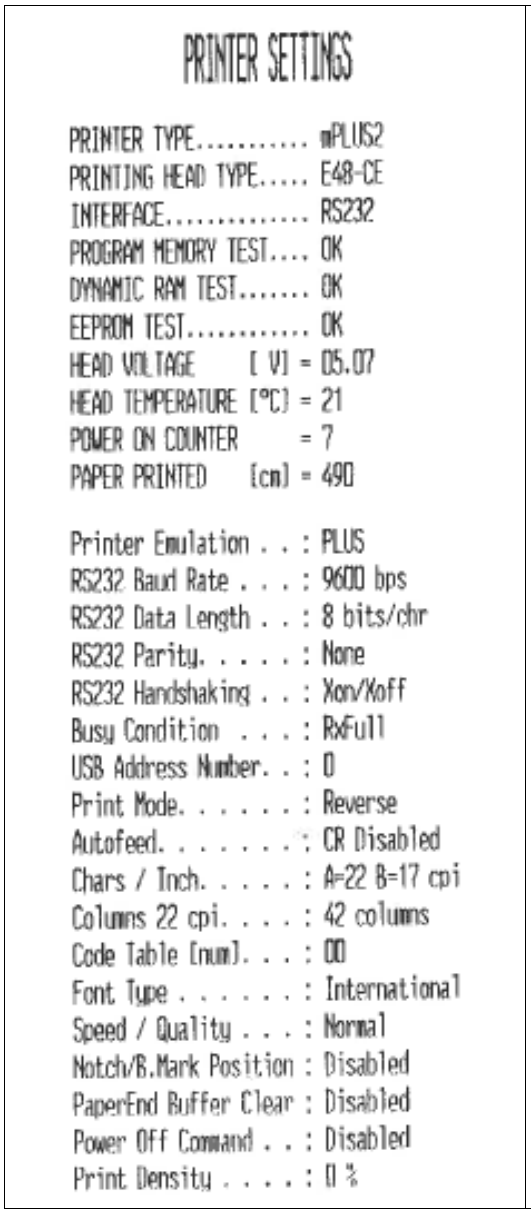
The serial interface parameters are fixed to **9600-8-N-1**.

As external printer Pharma Test supports the PT-RP80 thermal printer and the EPSON TM-U220D ticket printer as well as the PT-Node.

Section 3.4.5 Settings of the Build-in Printer

Maybe after an update to version 2.9 (see also section 3.3.1.3), the print layout of the Build-in printer doesn´t fit anymore and shows larger symbols, line feeds and so on.

In this case correct the internal printer settings:



Hold the paper feed button for appr. 5s while power-up the PTF.

The printer will print a list with its actual settings. (left picture)

Use a „long push“ of the paper feed button (>1s) to enter the setup

Use a „long push“ to confirm the current setting and to switch to the next parameter.

Use a „short push“ (<0.5s) to change the current setting. Always the last printed setting is the currently selected one!

Do the „long pushes“ as often as the printer prints a complete list again. Then the setup is finished. Skip the „Font test“ by a short push.

Set the printer as shown in the left picture.

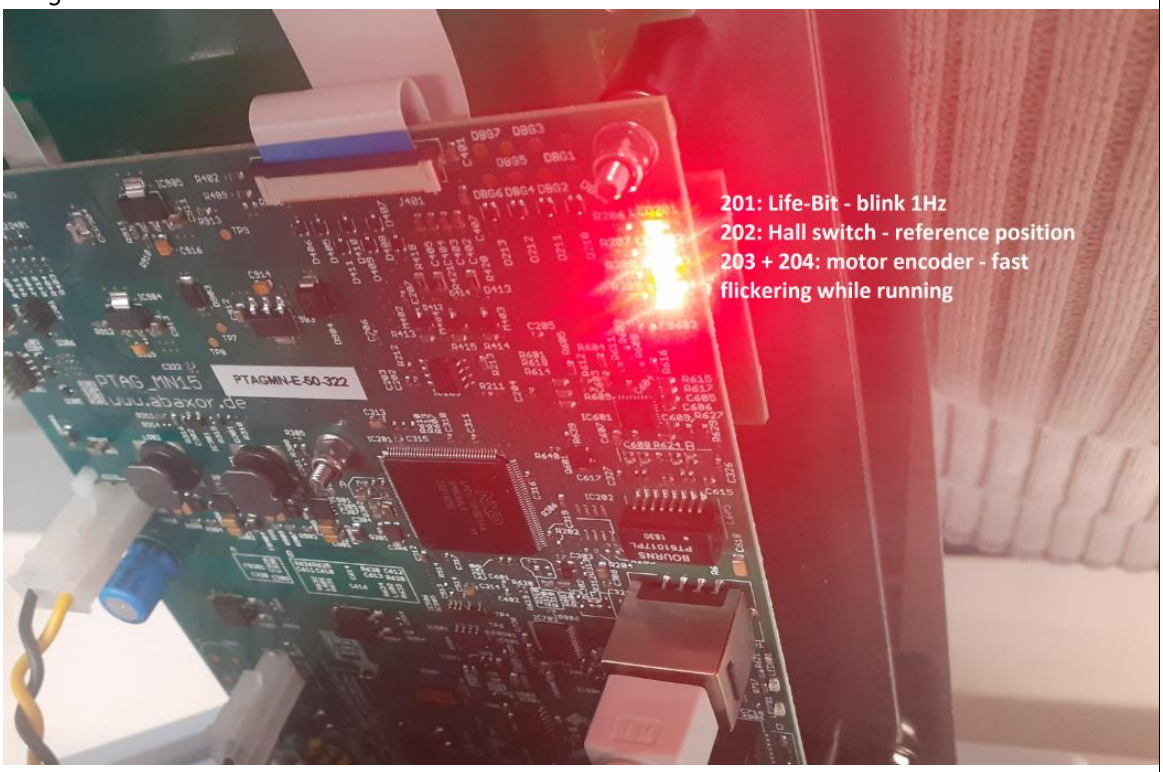
If you do a mistake, you must start the procedure from the beginning.

Figure 6: Build-In Printer settings

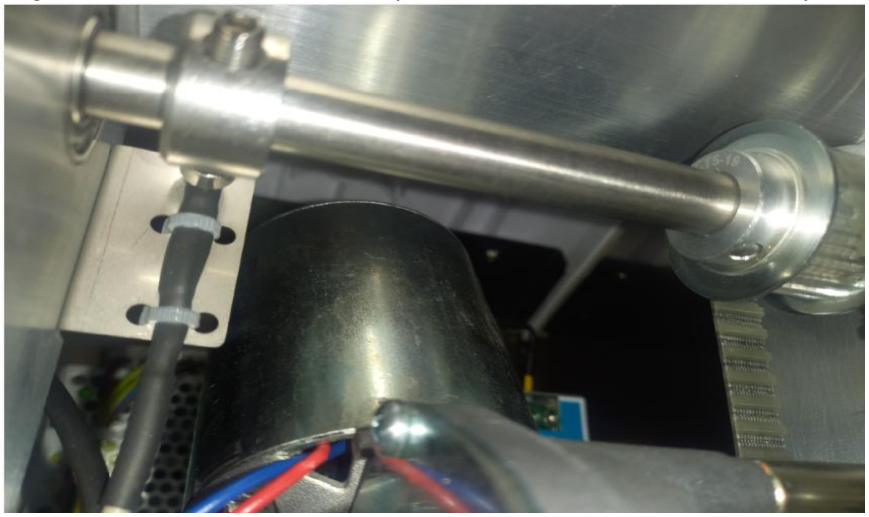
Section 4 Troubleshooting

Error	Solution
The PTF does not turn on	1.) Mains connection is faulty Check is main connections is present and properly connected
	2.) The fuse is blown Check the fuse and replace it if necessary

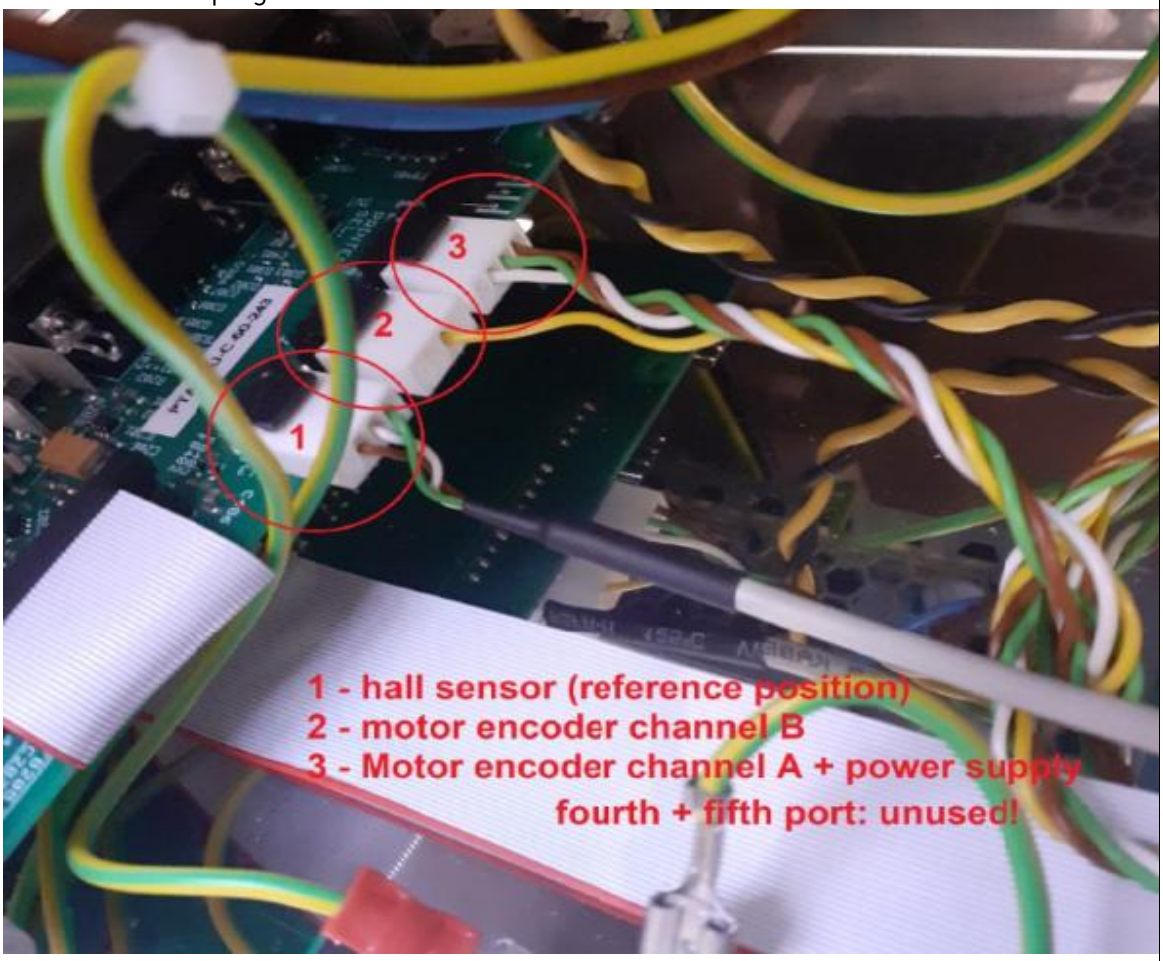
Diagnostic LEDs on the main board



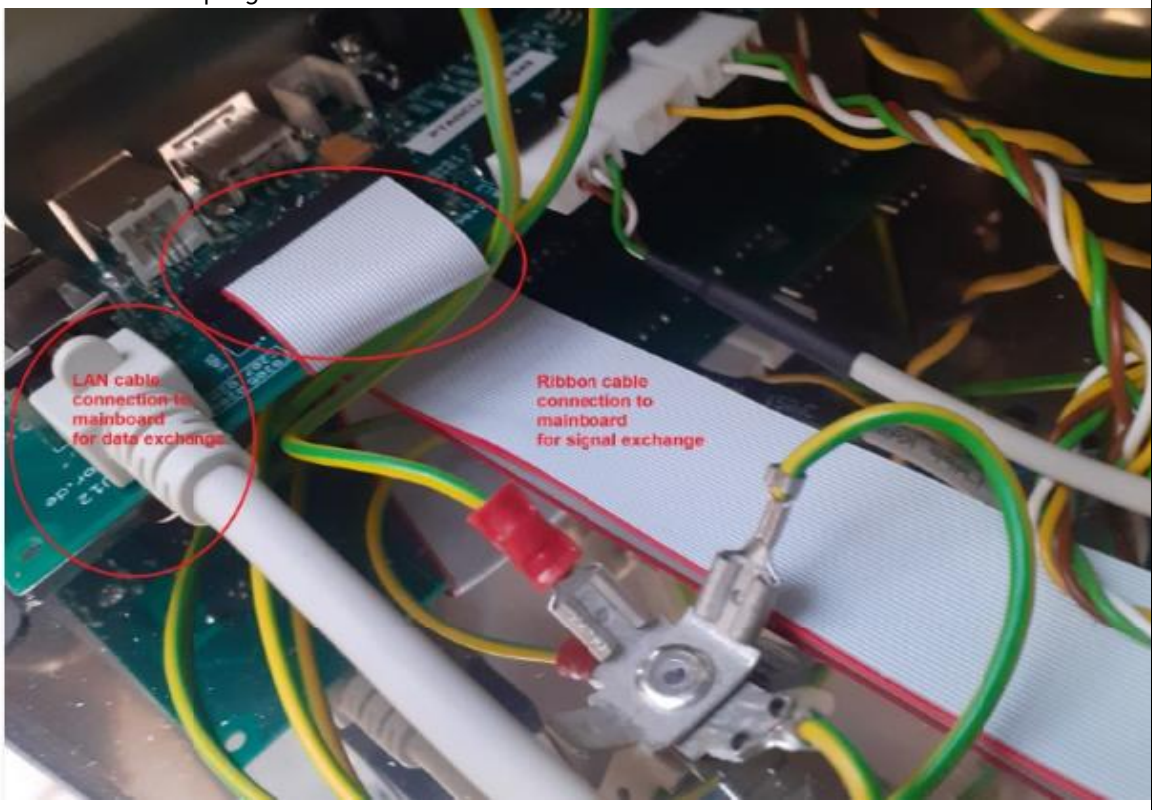
Magnet on the drum axis must pass the hall switch (reference position)



Interface board plugs:



Interface board plugs:



Motor connection

Section 5 Cleaning and Maintenance

The spare parts consistent of acrylic glass should be cleaned every day. Never use solvent-containing cleaning supplies like alcohol, ethanol, etc., they are able to destroy the acrylic glass. Please use exclusively soaps containing cleaning supplies with lukewarm water or cleaning cloths. Do not use the dishwasher to clean the drums or spare parts containing acrylic glass.

Stainless steel parts have to be cleaned immediately in case solvents, test solutions (like gastric juice etc.) are detected on the surface. Wipe away the solutions with a cloth.

The devices did not include any other spare parts, which should be maintained by the user. Any repairs are exclusively allowed to be done via the PHARMA TEST Service or any other authorized service partner.

Clean the stainless steel part using a soft cloth and a suitable cleaner.

The instrument does not include any other parts which the user can maintain or repair. Repair works should be done by authorized service agents only.

In case the instrument cannot be operated anymore without the possibility to damage or harm anybody it has to be stopped from operation immediately. This is valid always when:
- The mains cord shows any damage
- The instrument shows visible damages
- Any supply cable is damaged

Section 6 Safety Information

Before you open the Instrument always remove the mains cord from the mains socket. Only authorized personnel (electrician, Pharma Test service technician) should open the instrument.

Do not use the instrument in case:

- The mains cord shows any damage
- The instrument shows visible damages
- Any supply cable is damaged

Before transporting the instrument, make sure that it is cleaned and emptied from any test substances.

Always use gloves while moving the instrument, even while unpackaging, to avaoid bruising hands and fingers.

While operation, it can´t be excluded that dust comes out of the drums. Don´t hold eyes and head in direct closeness to the test drum while running or use protective glasses.

In case of any parts are needed, please use only Pharma Test Apparatebau AG original parts.