OPERATING INSTRUCTIONS

EN

Translation of the Original

GSD 350 OMNISTAR | THERMOSTAR

Operation via web interface and PV MassSpec

PFEIFFER VACUUM

Dear Customer,

Thank you for choosing a Pfeiffer Vacuum product. Your new gas analysis system is designed to support you in your individual application with full performance and without malfunctions. The name Pfeiffer Vacuum stands for high-quality vacuum technology, a comprehensive and complete range of top-quality products and first-class service. From this extensive, practical experience we have gained a large volume of information that can contribute to efficient deployment and to your personal safety.

In the knowledge that our product must avoid consuming work output, we trust that our product can offer you a solution that supports you in the effective and trouble-free implementation of your individual application.

Please read these operating instructions before putting your product into operation for the first time. If you have any questions or suggestions, please feel free to contact info@pfeiffer-vacuum.de.

Further operating instructions from Pfeiffer Vacuum can be found in the Download Center on our website.

Disclaimer of liability

These operating instructions describe all models and variants of your product. Note that your product may not be equipped with all features described in this document. Pfeiffer Vacuum constantly adapts its products to the latest state of the art without prior notice. Please take into account that online operating instructions can deviate from the printed operating instructions supplied with your product.

Furthermore, Pfeiffer Vacuum assumes no responsibility or liability for damage resulting from the use of the product that contradicts its proper use or is explicitly defined as foreseeable misuse.

Copyright

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1 About this manual

IMPORTANT
Read carefully before use.
Keep the manual for future consultation.

1.1 Validity

This document describes the function of the products listed in the following and provides the most important information for safe use. The description is written in accordance with the valid directives. The information in this document refers to the current development status of the products. The document retains its validity assuming that the customer does not make any changes to the product.

1.1.1 Applicable documents

Observe GSD 350 operating instructions
Read the GSD 350 operating instructions first before operating the GSD 350 via the web interface.

Designation	Document
"GSD 350 OmniStar/ThermoStar" operating instructions Gas analysis system	DA 0105
Software documentation PV MassSpec	(part of the software)

Tbl. 1: Applicable documents

You can find this document in the Pfeiffer Vacuum Download Center.

1.1.2 Variants

This document applies to products with the following part numbers:

Variant	Version	Analyzer with filament	Gas inlet	Mass range	Display
PT Q8 = OmniStar	**0** = Standard GSD 350 O **1** = Corrosive gas GSD 350 O C	**1** = Ir-Y_2O_3 (calibration unit) **2** = Ir-Y_2O_3 **5** = W (calibration unit) **6** = W	**161** = Stainless steel / without capillary tube	**1** = 100 u **2** = 200 u **3** = 300 u	**0** = yes **1** = no
			171 = Stainless steel / 1 m / heating 200 °C		
			172 = Stainless steel / 2 m / heating 200 °C		
			173 = Stainless steel / 1 m / heating 350 °C		
PT Q9 = ThermoStar	**0** = Standard GSD 350 T **1** = Corrosive gas GSD 350 T C	**1** = Ir-Y_2O_3 (calibration unit) **2** = Ir-Y_2O_3 **5** = W (calibration unit) **6** = W	**101** = Quartz / without capillary tube	**1** = 100 u **2** = 200 u **3** = 300 u	**0** = yes **1** = no
			111 = Quartz / 1 m / heating 200 °C		
			112 = Quartz / 2 m / heating 200 °C		
			113 = Quartz / 1 m / heating 350 °C		

Tbl. 2: Variants

Breakdown based on the example of part number PT Q80 217 110

- OmniStar version
- Standard version
- Analyzer with filament made of Ir-Y_2O_3, without calibration unit

- Gas inlet with 1 m stainless steel capillary and heating up to 200 °C
- Mass range up to 100 u
- Version with display

Feature	OmniStar	ThermoStar
Capillary	Stainless steel (OD = 1/16", ID = 0.13 mm)	Quartz (OD 0.23 mm, ID = 0.15 mm)
Gas inlet screen	Platinum/Iridium	Platinum/Iridium
Gas inlet	Controlled by 2 valves	Continuously open
Options	• Heating to 200 °C or 350 °C • Corrosive gas version with sealing gas connection • Calibration unit for calibrating the mass scale (Calibration medium for mass calibration: PFTBA)	

Tbl. 3: Features of variants

You can find the part number on the rating plate of the product.

Pfeiffer Vacuum reserves the right to make technical changes without prior notification.

The figures in this document are not to scale.

Dimensions are in mm unless stated otherwise.

1.2 Target group

These operating instructions are intended for all persons who

- install,
- operate and use the software.

The work described in this document may be carried out only by people who have completed suitable technical training (experts), or who have received equivalent training from Pfeiffer Vacuum.

1.3 Conventions

1.3.1 Instructions in the text

Usage instructions in the document follow a general structure that is complete in itself. The required action is indicated by an individual step or multi-part action steps.

Individual action step

A horizontal, solid triangle indicates the only step in an action.

► This is an individual action step.

Sequence of multi-part action steps

The numerical list indicates an action with multiple necessary steps.

1. Step 1
2. Step 2
3. ...

1.3.2 Pictographs

Pictographs used in the document indicate useful information.


Note


Tip

1.3.3 General safety information

The following 4 risk levels and 1 information level are taken into account in this document.

⚠ DANGER

Immediately pending danger

Indicates an immediately pending danger that will result in death or serious injury if not observed.

► Instructions to avoid the danger situation

⚠ WARNING

Potential pending danger

Indicates a pending danger that could result in death or serious injury if not observed.

► Instructions to avoid the danger situation

⚠ CAUTION

Potential pending danger

Indicates a pending danger that could result in minor injuries if not observed.

► Instructions to avoid the danger situation

NOTICE

Danger of damage to property

Is used to highlight actions that are not associated with personal injury.

► Instructions to avoid damage to property

Notes, tips or examples indicate important information about the product or about this document.

1.3.4 Abbreviations

Abbreviation	Explanation
DHCP	Communication protocol for assigning the network configuration (Dynamic Host Communication Protocol)
EM	Electron multiplier
IP	Internet protocol
VSM	Online tool for automatic service processing (virtual service management)
Web UI	Web user interface

Tbl. 4: Abbreviations used

1.4 Trademark proof

- OmniStar®, ThermoStar® and PrismaPro® are trademarks of Pfeiffer Vacuum GmbH.
- Windows® and Internet Explorer® are trademarks of Microsoft Corporation.
- Firefox® is a trademark of Mozilla Foundation.
- Chrome® is a trademark of Google Inc.
- Opera® is a trademark of Opera Software AS.
- Safari® is a trademark of Apple Inc.

2 Introduction to the web interface

Web interface does not support data storage

The web interface is a remote monitoring and diagnostic tool. The web interface is designed for data monitoring and simple vacuum diagnostics. It is not possible to store data or display data in a trend graph with the web interface.

Use a complete software program such as PV MassSpec for the storage of data, the selected peak mode or trend graphs.

Figures in this guide show examples

Depending on the configuration and operating status of the GSD 350, the figures in this guide, e.g., the vacuum diagram and the number and arrangement of control elements, may deviate from the actual view.

The GSD 350 gas analysis system offers an onboard, browser-based user interface in the form of the web interface. The web interface supports control and monitoring of the GSD 350 by network devices.

You can use the web interface to

- Configure basic settings
- View unit parameters
- Edit unit settings
- Control the vacuum system, heating, valves, and mass spectrometer components
- Create and edit measurement recipes
- Start measurements
- View warnings and alerts

3 System requirements

Browsers for GSD 350 communication via web interface

- Google Chrome (recommended)
- Mozilla Firefox
- Microsoft Internet Explorer
- Apple Safari
- Opera

Browsers for PrismaPro communication via web interface

- Google Chrome (recommended)
- Mozilla Firefox
- **Not supported:**
  - Microsoft Internet Explorer (11 and Edge)
  - Apple Safari
  - Opera

Parameter	Requirement
Processor	4.0+ GHz Quad Core
Random access memory (RAM)	16+ GB recommended
Hard disk storage unit	500 GB to 1 TB SSD
Resolution	1024 x 768, 16-bit color or higher
Operating system [1)]	Windows 10
Components	Exclusively Microsoft specified
Connection	Ethernet

Tbl. 5: Minimum computer requirements

1) The web interface itself has no operating system requirements. The requirements depend on the browser used.

4 Connect to web interface

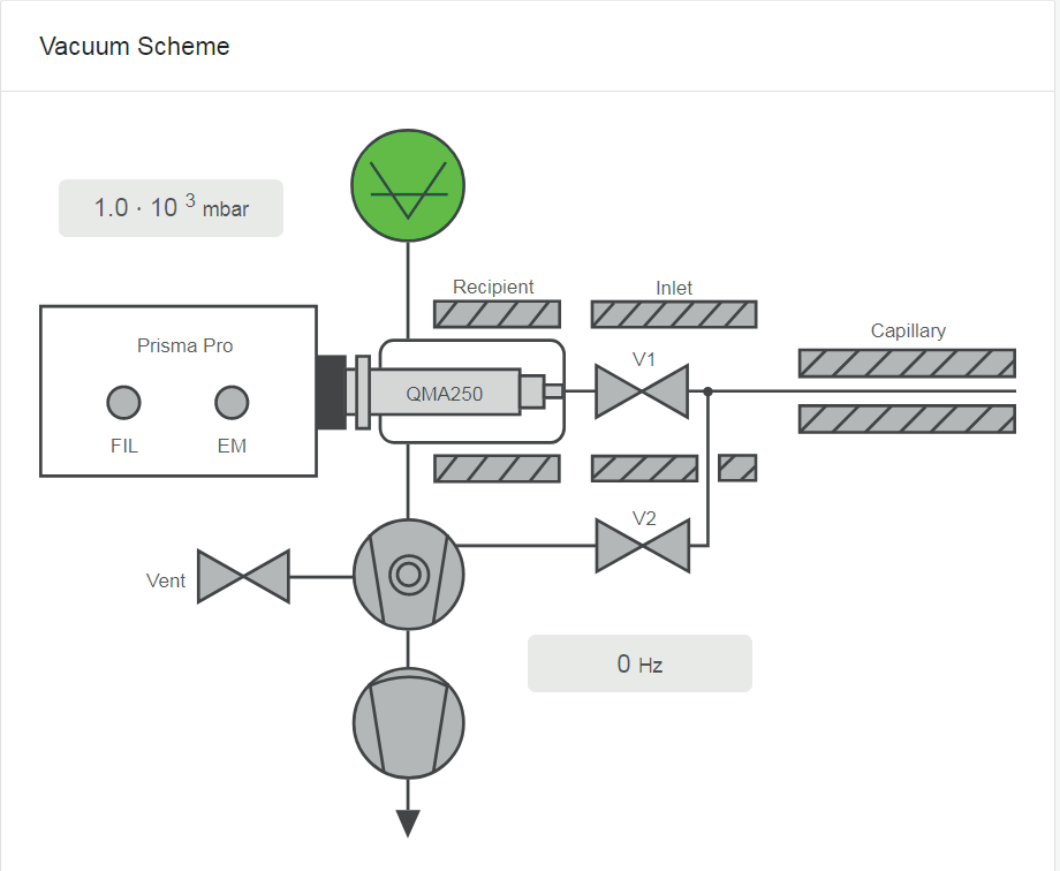

Fig. 1: "Monitoring" window with vacuum diagram

Connect operating unit with web interface

- ► Connect operating unit to same network as GSD 350.
- ► If needed, open connection to computer using Remote Desktop to access same network as GSD 350.
  - – The web interface runs on the Remote Desktop computer in this case.

4.1 Connect web interface via pre-set IP address

Prerequisite

- Operating unit configured with an IP address on the same network as the GSD 350 (e.g., 192.168.1.101)

Procedure

1. Type the default IP address **192.168.1.100** into the browser address bar.
2. Press Enter.
   - – The browser connects to the GSD 350.

If the GSD 350 is switched on, the web interface "Monitoring" window is displayed.

4.2 Connect web interface via user-defined IP address

Unknown IP address

If you have changed the IP address and lost the new IP address, please contact Pfeiffer Vacuum.

Procedure

1. Type the user-defined IP address into the browser address bar.
2. Press Enter.
   – The browser connects to the GSD 350.

If the GSD 350 is switched on, the web interface "Monitoring" window is displayed.

5 Operate via web interface

The GSD 350's functions are distributed across various menus and windows in the web interface. You can use the menu bar at any time and in any window to navigate to the 4 main menus. You can use the System settings icon's dropdown list to configure settings for all units.

The first window that the web interface displays is the "Monitoring" window.

The following sections identify and describe the further windows.

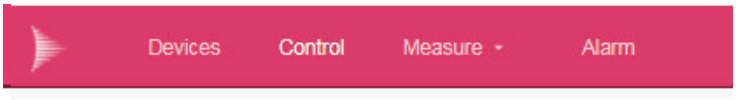

Fig. 2: Buttons in the menu bar's main menus

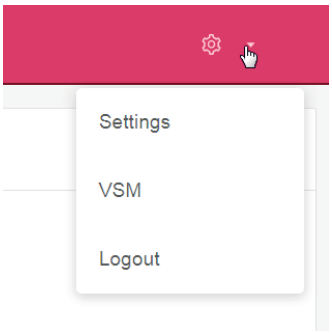

Fig. 3: Icon for system settings with dropdown list

Navigate between menus

► Click on desired menu in menu bar.

5.1 "Units" menu

The "Units" menu provides information on the GSD 350's components and on the complete system. You can use the "Units" menu to view and edit unit parameters of the individual assembly groups such as vacuum pumps, sensors, valves, heating, and fans.

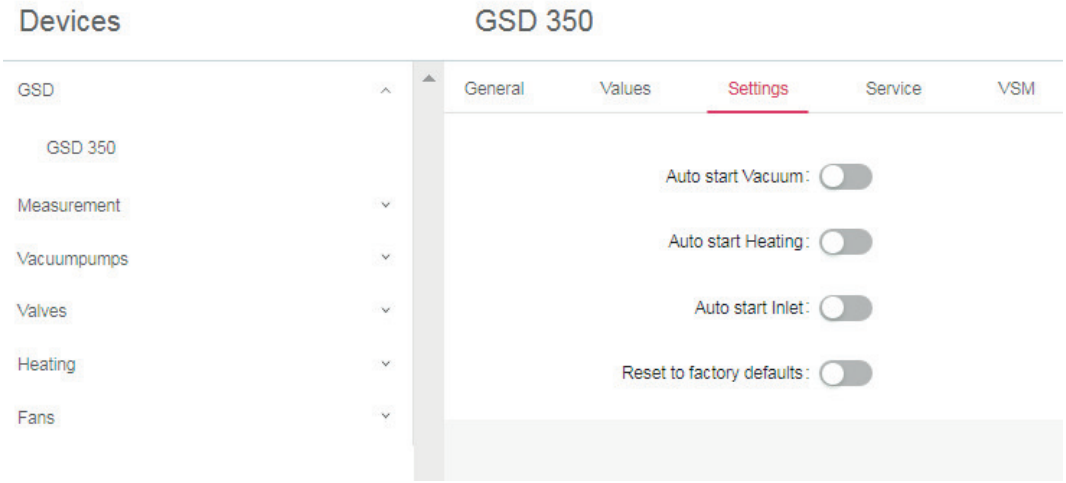

Fig. 4: Equipment group and equipment list with information and settings

"General" submenu
This is where you will find the unit designations, serial and article numbers of the respective individual components.

"Values" submenu
This is where you will find information on set values and immutable defaults.

"Settings" submenu
This is where you can edit unit parameters.

"VSM" submenu
Online tool for automatic service processing. For further information, select Virtual Service Management.

5.1.1 Change parameters

Procedure

1. Select unit from equipment list.
2. Select "Settings" submenu.
3. Edit desired parameter in line with defined input function.
   – Input functions are numeric values or slide controls.
4. Save changes.

5.1.2 Explanations of settings

"Autostart" function
The activated components vacuum, capillary heating and inlet valve are started automatically when the GSD 350 is next switched on. The heaters activated in Autostart do not switch on immediately, but only once there is a sufficient vacuum in the system.

"Sensor on/off" function of total pressure gauge
The Pirani sensor in the total pressure gauge normally switches the cold cathode sensor on and off automatically as a function of the pressure. The software continuously displays the pressure value determined by the total pressure gauge. The pressure value is additionally used to shut down the mass spectrometer's filament and electron multiplier in case of an unforeseen pressure rise. You can use the Sensor on/off function to stop the cold cathode sensor switching on automatically if this is advantageous for certain gas analyses.

"Ignore sensor error" function of the total pressure gauge
If the cold cathode sensor fails, e.g., due to contamination, you can use this function to suppress automatic shutdown of the filament and electron multiplier by the total pressure gauge. The latency in the filament flow monitoring and turbopump speed monitoring functions ensures a safety shutdown. You can still continue ongoing measurements with the GSD 350 if the total pressure gauge is defective. Replace the defective gauge to restore the best possible safety shutdown by the total pressure gauge.

Pre-set temperature of capillary and vacuum chamber heating
For input values outside the permissible range, the GSD 350 automatically assumes the highest or lowest permissible temperature. You will find the permissible temperatures, depending on the unit configuration, in the GSD 350 operating instructions.

Pre-set bake out time for the vacuum chamber
Selectable time for beak out: 1 to 24 hours

"Tempering mode on/off" function of the vacuum chamber
In normal cases, the GSD 350 does not heat the vacuum chamber during a measurement. For certain analytical measurements, you can activate the "Tempering mode" function. If tempering mode is enabled, the GSD 350 always heats the vacuum chamber to the configured set temperature when the GSD 350 switches on the capillary heating.

5.1.3 Unit overview

Device group	Stand-alone unit	Submenu			
		General	**Values**	**Settings**	**VSM**
DMD	GSD 350	Unit designation Serial number Order number	Controller cycle GSD mode Heating coil type GSD operating time in days GSD operating time in hours Housing temperature Controller firmware	Autostart vacuum Autostart heating Autostart pump inlet [2] Reset to as-delivered condition	VSM-ID Config. Push message Push config. attributes
Sensors	Mass spectrometer	Unit designation Serial number Order number	Status code Mass range Selected filament	Filament selection	VSM-ID Config. Push message Push config. attributes
	Measuring tubes		Pressure Sensor on/off Ignore sensor errors	Sensor on/off Ignore sensor errors	
	Sealing gas sensor [3]	Unit designation Serial number (none) Order number	Valid sealing gas pressure Ignore sensor errors	Ignore sensor errors	
Vacuum pumps	Turbopump	Unit designation Serial number Order number	Rotation speed Nominal rotation speed Drive current Electronics temperature Pump lower part temperature Bearing temperature Motor temperature Pump operating hours Electronics operating hours	-	VSM-ID Config. Push message Push config. attributes
	Diaphragm pump		Rotation speed Nominal rotation speed Drive current Pump temperature Pump operating hours Electronics operating hours	-	
Valves	Inlet valve V1 [4]	Unit designation Serial number (none) Order number	Valve status Delay time V1	Delay time V1	VSM-ID Config. Push message Push config. attributes
	Inlet valve V2 [5]		Valve status	-	
	Calibration valve [6]				

2) Only for OmniStar
3) only for corrosive gas version
4) Only for OmniStar
5) Only for OmniStar
6) Only for version with calibration unit

Device group	Stand-alone unit	Submenu			
		General	Values	Settings	VSM
Heating units	Capillary	Unit designation Serial number (none) Order number	Temperature	Set temperature	VSM-ID Config. Push message Push config. attributes
	Inlet			Set temperature (cannot be changed)	
	Vacuum chamber		Temperature Bake out timer Tempering mode on/off	Bake out set temperature Bake out duration Tempering mode on/off Tempering set temperature	
Fan	Pump inlet fan	Unit designation Serial number (none) Order number	PWM duty cycle Rotation speed Temperature	-	VSM-ID Config. Push message Push config. attributes
	Pump outlet fan				

Tbl. 6: Unit overview

5.2 "Control" menu

In the "Monitoring" menu, you can use the individual control fields to control various features of the GSD 350. Scroll to display further control fields. In case of warnings or error messages, a matching malfunction message is displayed top left. The vacuum diagram shows the current operating statuses.

Symbol		Meaning
Color	light green	activated, operating status reached
	dark green	activated, operating status not yet reached
	light gray	not activated
	dark gray	switched off, switched off status not yet reached

Tbl. 7: Symbols and colors of the vacuum diagram and manual control elements

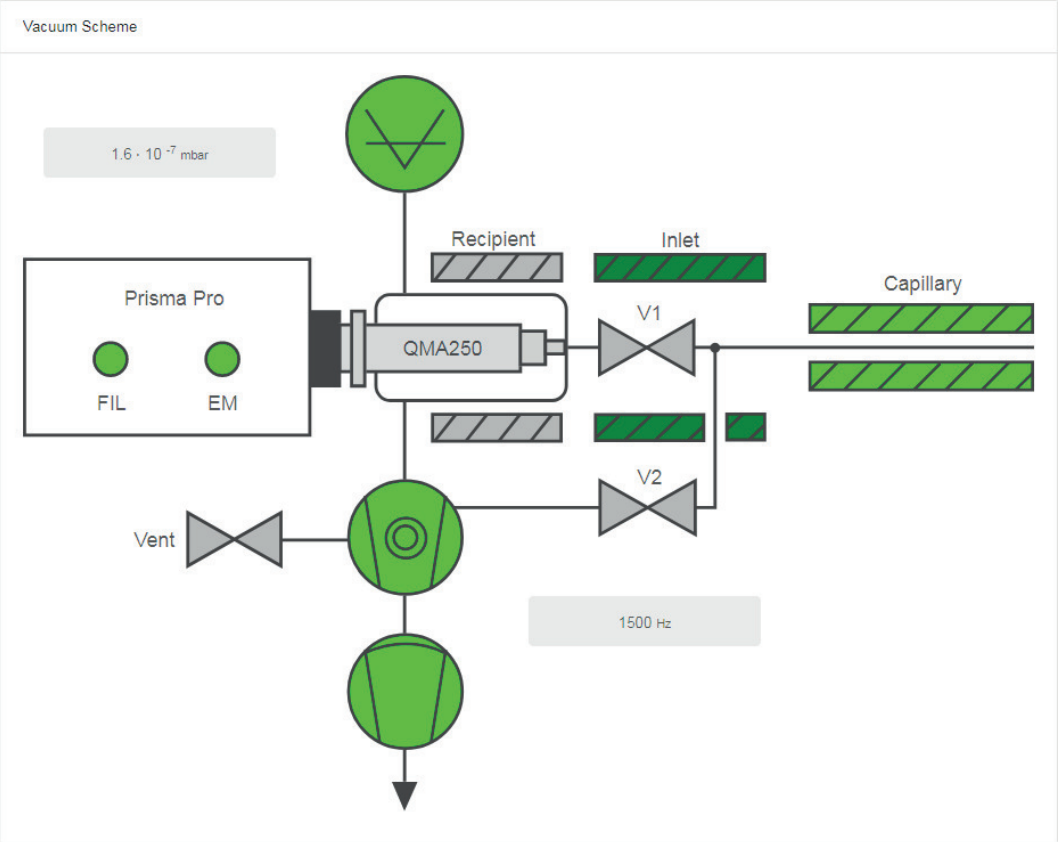

Fig. 5: Vacuum diagram

Color	Meaning
light green	activated, operating status reached
dark green	activated, operating status not yet reached
light gray	not activated
dark gray	switched off, switched off status not yet reached

Tbl. 8: Colors of the status and components icons

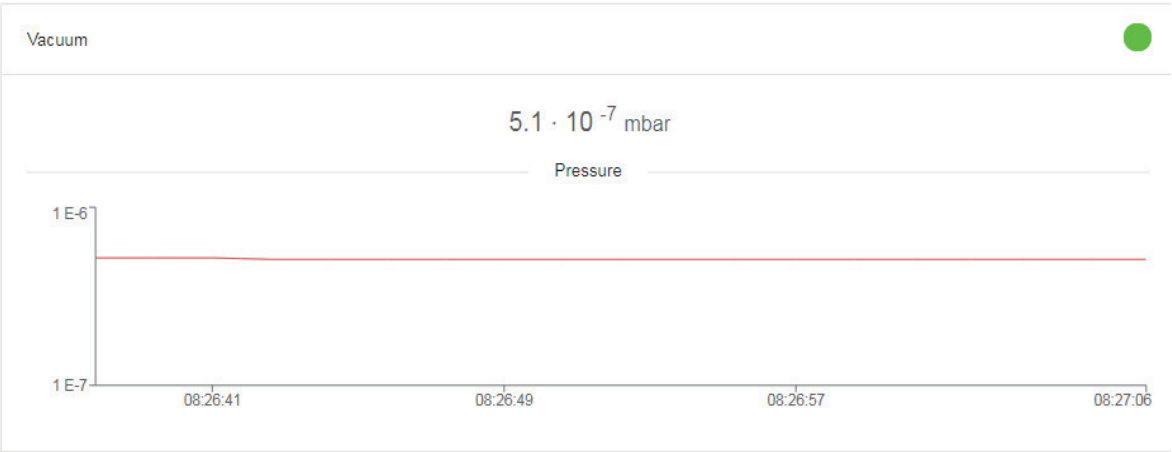

Fig. 6: Status of the vacuum system with total pressure curve

Control functions

- Pump down and vent
- Open and close gas ballast valve
- Switching emission on and off

- Switch electron multiplier on/off
- Define "Autostart" function
  - Vacuum system
  - Heating units
  - Inlet

Indicate (to)

- Vacuum system operating statuses
- Total pressure curve with current total pressure
- Heating temperatures
- Status of gas inlet, emission and electron multiplier
- Current turbopump rotation speed

5.3 "Measurement" menu

You can carry out various measurement functions in the "Measurement" menu.

Measurement functions

- Call up measurement data
- Start measurements
- Add, edit or delete measurement recipes

5.3.1 Perform measurement

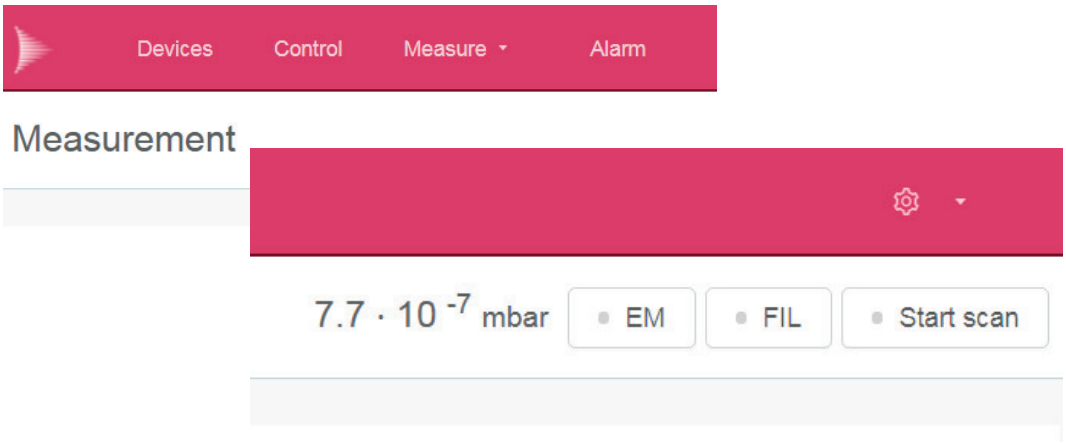

Fig. 7: Select measurement program

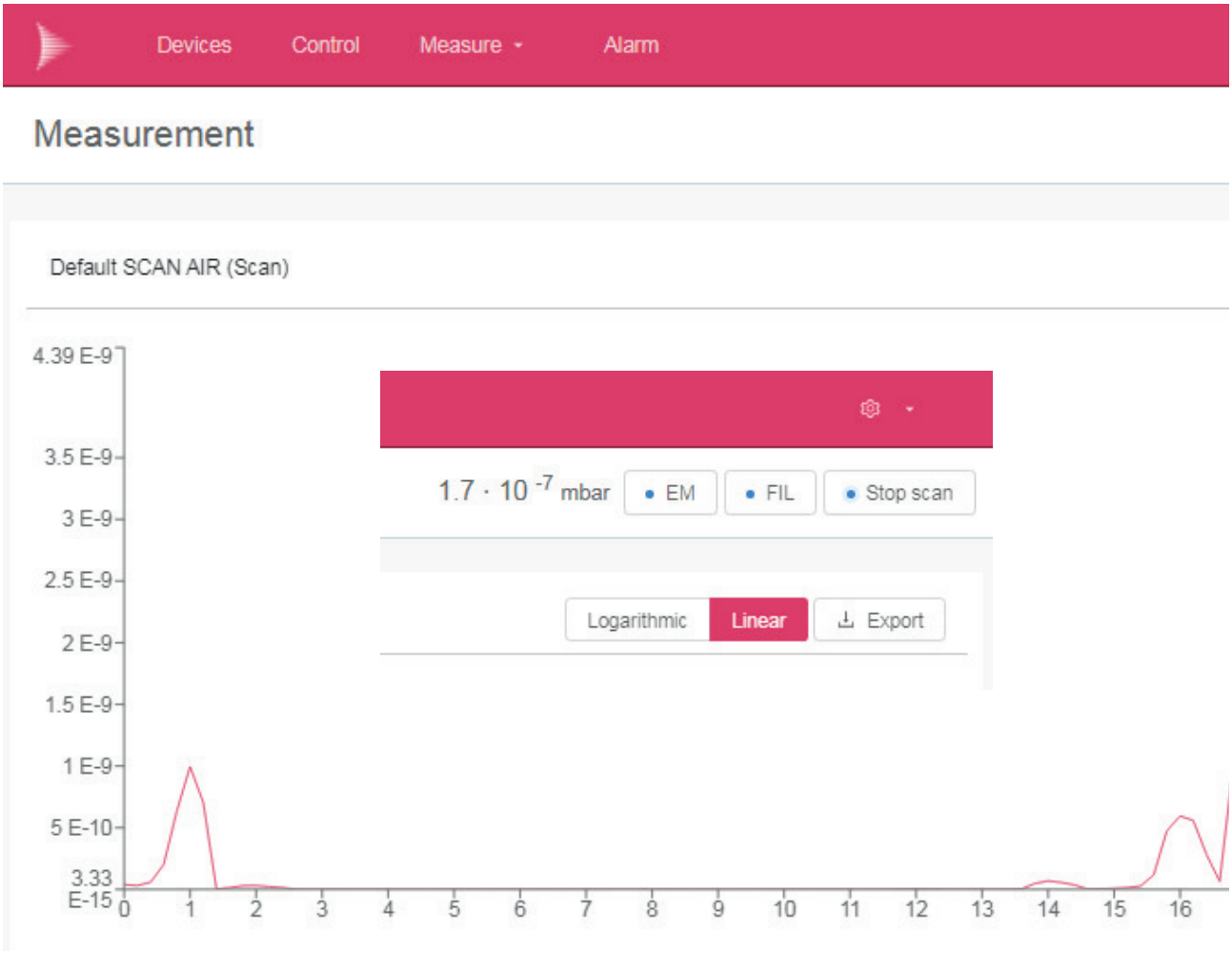

Fig. 8: Measurement

Procedure

1. Select "Measurement" in menu bar.
2. Select "Measurement" submenu.
3. Click on "Start scan" top right.
4. Select desired measurement program in drop-down menu.
5. If required, toggle the axis scaling for the ion current between logarithmic and linear display.
6. If required, switch the electron multiplier and emission on or off.
7. Use "Stop scan" to stop the measurement.

5.3.2 Creating and editing measurement recipes

The following measurement recipes are preset:

- Measurement recipe for a scan (default SCAN AIR)
- Measurement recipe for measuring various masses over time (default Selected Masses Air)

You can utilize these pre-set measurement recipes as the basis for your own recipes.

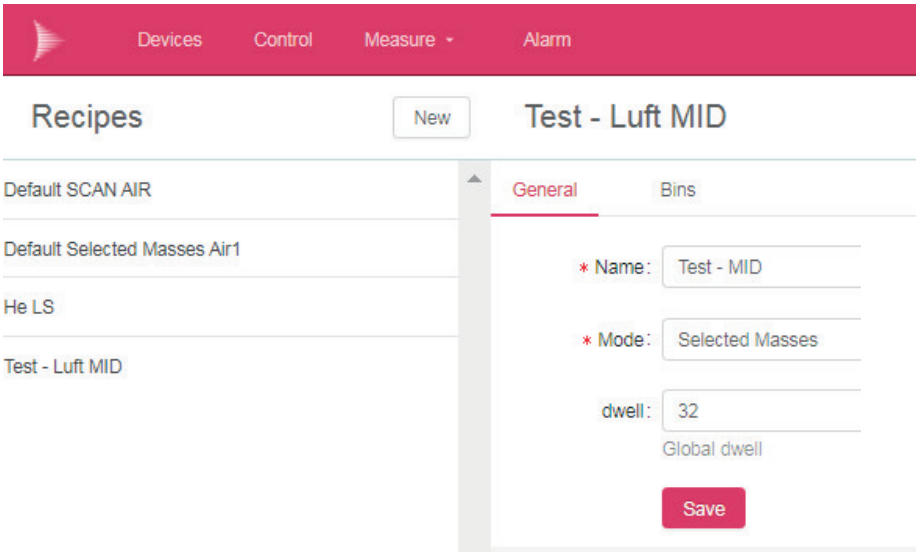

Fig. 9: Create measurement recipe

Create new recipe

1. Select "Measurement" in menu bar.
2. Select "Recipe" submenu.
3. Enter a name for the measurement recipe.
4. Select measurement mode in "Mode".
   – Spectrum Scan or Selected Masses (single mass measurement)
5. Save measurement recipe.

Use pre-set measurement recipe as new measurement recipe

1. Select pre-set measurement recipe in recipe list.
2. Double click to open measurement recipe.
3. Enter a name for the measurement recipe.
4. Save measurement recipe.

Edit measurement recipe

1. Select measurement recipe to be edited in recipe list.
2. Double click to open measurement recipe.
3. In **Spectrum Scan**, define mass range, number of measurement points per mass and measurement speed (dwell).
4. In **Selected Masses**, define measurement speed (dwell).
5. If required, add individual masses (bins) in **Selected Masses**.
6. If required, delete individual masses (bins) in **Selected Masses**.

5.4 "Alarm" menu

The "Alarm" menu provides an overview of the current and historic warnings and alerts as well as more detailed information about the messages.

5.5 System settings

NOTICE

Property damage due to unintended changes in the Service menu

Improper changes in the Service menu impair unit functions and cause damage to the unit and its components.

The Service menu is reserved for use by Pfeiffer Vacuum Service and is only accessible after logging in.

► Contact Pfeiffer Vacuum Service.

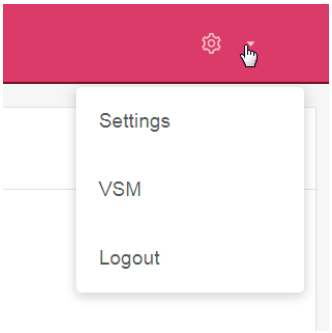

Fig. 10: Icon for system settings with dropdown list

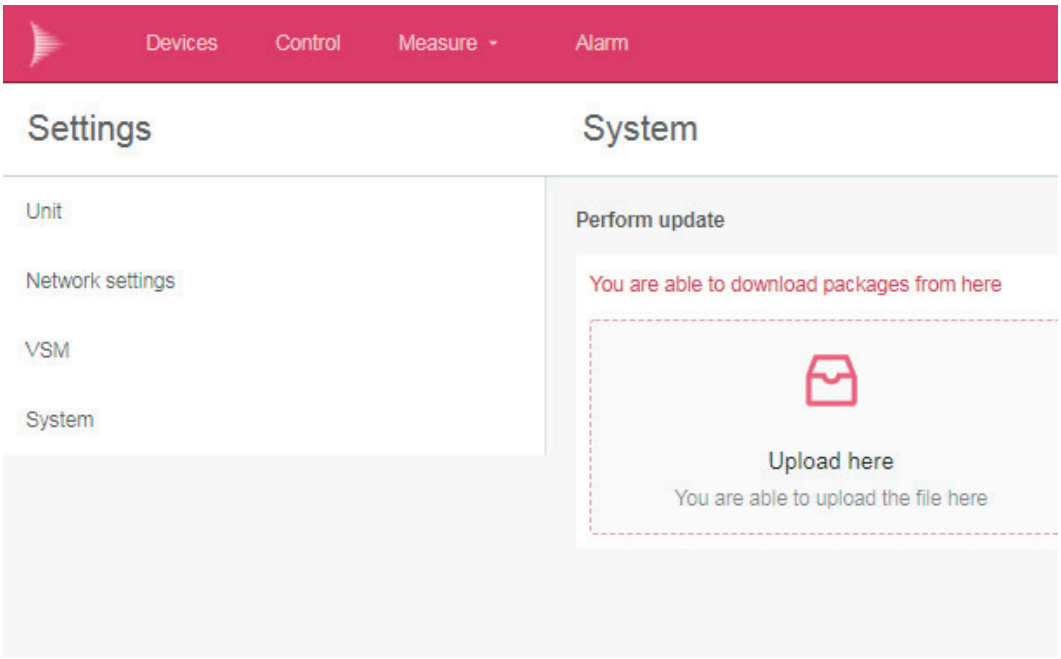

Fig. 11: Submenu for settings

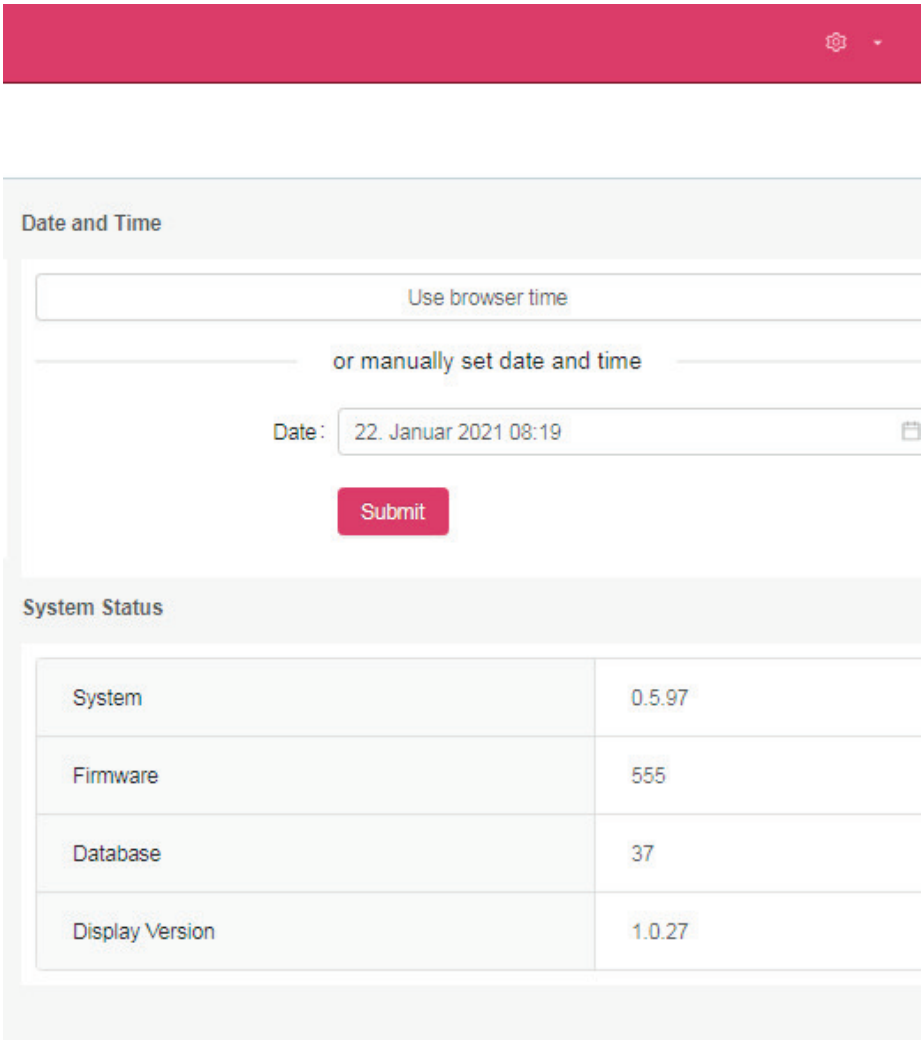

Fig. 12: Set date and time

You can use the "System settings" menu to view and edit parameters for all units. The "Login" submenu is used by Pfeiffer Vacuum Service for service purposes. Access to this submenu is protected by a code.

System settings

- **Unit**

  Unit of pressure (hPa, Pa, mbar, Torr)

  Unit of temperature (°C, °F)
- **Network settings**

  IP address and subnet mask
- **VSM**

  Online tool for automatic service processing. For further information, select Virtual Service Management.
- **System**

  Firmware updates, date and time adjustment

Open System settings submenu

1. Click on icon for System settings in menu bar.
2. Select "Settings" in drop-down list.

6 PV MassSpec

Information about PV MassSpec
You can find detailed information in the "**Help**" section of the software.

6.1 Installing the PV MassSpec software

Demanding analytical measurement tasks, and applications in which measured values are to be stored, require direct operation of the PrismaPro integrated in the GSD 350 using the PV MassSpec software. The PV MassSpec software is used to parameterize the PrismaPro and create, call and start measurement recipes. All other GSD 350 unit parameters and functions can still be controlled via the display or the web interface.

NOTICE

Errors and communication issues due to changes in the web browser

If you type the GSD 350's IP address in the web browser and add port 8080 to the address line, you are taken directly to the internal PrismaPro's web interface. Changing the settings or IP address via this page will result in errors and communication failures.

► Make changes to the settings via the web interface or the display of the GSD 350 only.

Information for PrismaPro
Detailed information on the setup, parameterization and measurement recipes can be found in the PrismaPro operating instructions.

Information about PV MassSpec
You can find detailed information in the "**Help**" section of the software.

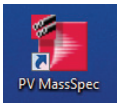

Fig. 13: Desktop shortcut

Procedure

1. Open web browser.
2. Enter **IP address** and **port 8080** of GSD 350, for example, 192.168.1.100:8080.
   – The **PrismaPro Web UI** page is displayed.
3. Select the **HELP** menu.
   – **Chapter 2.1 "Installing PV MassSpec"** in the **Quick-Start Guide** provides the link to the cloud with the software and the required password.
4. Open Software PV MassSpec -> Vnn.nn.nn-n (choose the latest version) -> Standard folder
5. Download the executable **PVMassSpec_Installer.exe** file.
6. Start the **software installation** by double-clicking on " **PVMassSpec_Installer.exe**".
7. If necessary, acknowledge the **User Account Control** prompt with "Yes".
8. Follow the installation in the wizard.
9. Accept the **license** with "Yes".
10. Enter your name and company name in the "**Customer Information**" window.
11. Confirm your entries with "Next".
    – The software performs and completes the installation, and stores the program data on the C drive in the newly created "Pfeiffer Vacuum" folder.

There is now a **desktop shortcut**.

6.2 System setup

Information for PrismaPro

Detailed information on the setup, parameterization and measurement recipes can be found in the PrismaPro operating instructions.

Information about PV MassSpec

You can find detailed information in the "**Help**" section of the software.

Prerequisites

- GSD 350 switched on
- System booted and ready for operation
- Ethernet connection established
- Network connection established
- PV MassSpec software installed

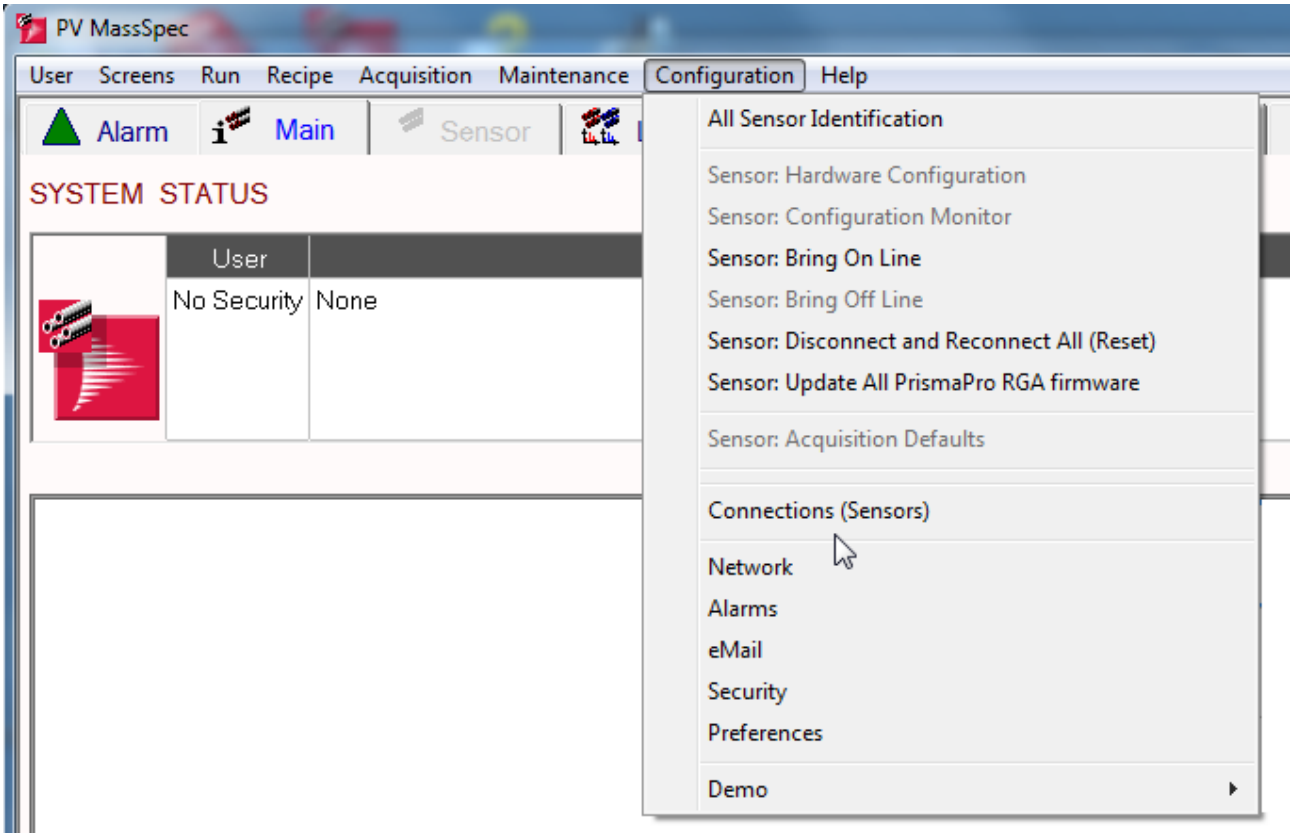

Fig. 14: PV MassSpec connection (sensors)

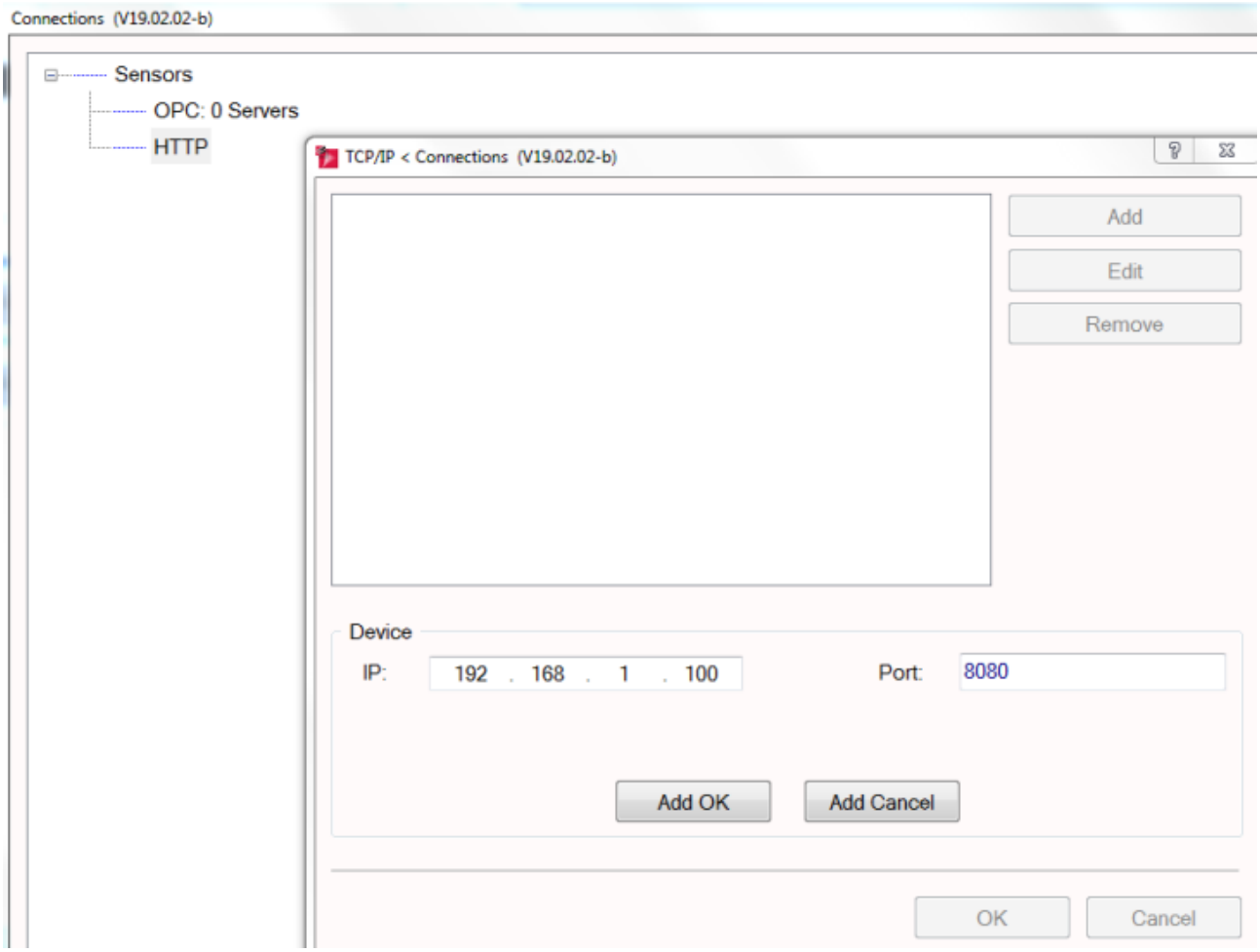

Fig. 15: PV MassSpec TCP/IP connection

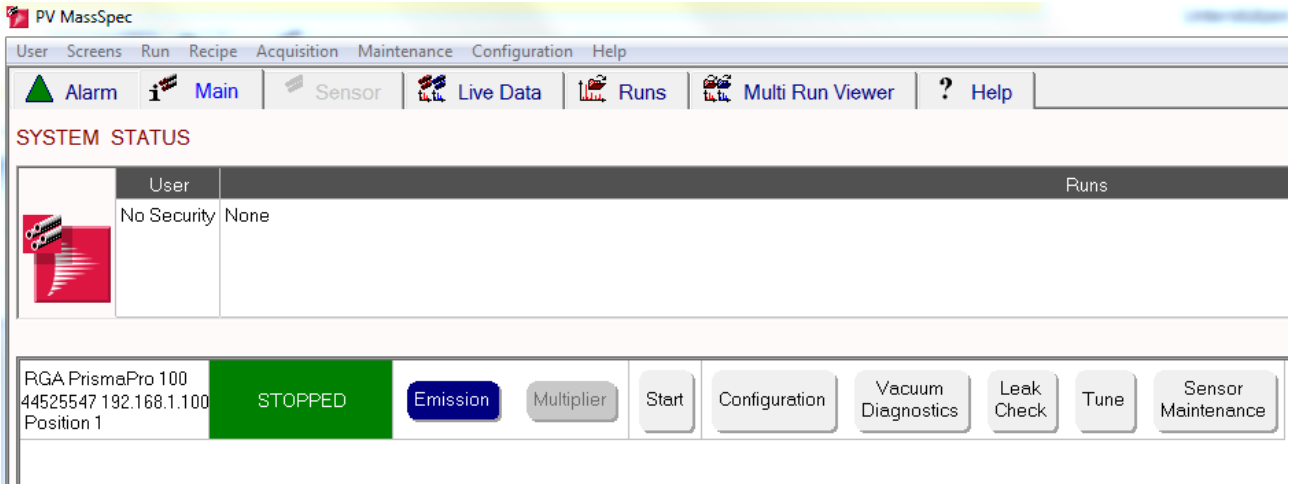

Fig. 16: PV MassSpec system status

Procedure

1. Start the PV MassSpec software.
2. Use **Configuration** menu item to navigate to **Connections (Sensors)**.
3. Select **HTTP**.
4. Press **Edit** and then press **OK** to confirm.
5. Press **Add**; enter **IP address of GSD 350** and **port number 8080**.
6. Press **Add OK** to apply input.

7. Press **OK**.
8. Press **Close** to close input window.
   – The data for the connection to the PrismaPro is saved.

The PrismaPro is now integrated into the PV MassSpec software and available for analytical measurements.

7 Operate QMG 250 PrismaPro via Web UI

You can use the PrismaPro Web UI in a web browser to directly access the GSD 350's PrismaPro mass spectrometer.

Detailed information on the use of PrismaPro Web UI can be found in the corresponding operating instructions.

PrismaPro Web UI does not allow data storage

PrismaPro Web UI is a remote monitoring and diagnostic tool, and is designed for data monitoring and simple vacuum diagnostics. The storage of data or display of data in a trend graph is not possible with PrismaPro Web UI.

Use a complete software program such as PV MassSpec for the storage of data, the selected peak mode or trend graphs.

As the PrismaPro, in the case of the GSD 350, is integrated into a higher-level system, the following special circumstances apply:

- PrismaPro and GSD 350 have the same IP address, but are accessed via different ports.
- To enter the IP address for the PrismaPro in the browser, you need to add port 8080, e.g., 192.168.1.100:8080.

8 Decommissioning

Shut down unit via web interface or PV MassSpec

1. If still active, close PrismaPro Web UI or quit PV MassSpec software to shut down direct access to GSD 350's PrismaPro.
2. In "Monitoring" menu, switch off electron multiplier (EM) and emission (FIL).
3. Shut off inlet valve (OmniStar only).
4. Vent vacuum system to switch it off.
5. Wait until the GSD 350 vents the system and has switched off the vacuum pumps.
6. Switch off the main switch of the unit.
7. Disconnect the mains cable from the power supply.

9 Malfunctions

The main problems that can occur with web interface operation, are related to communication. If you cannot open the web interface, check the following points.

Troubleshooting

- ► Make sure no one else is using the web interface.
  - – The web interface blocks all incoming requests when you are actively using it.
- ► Make sure Ethernet cable is connected between GSD 350 and network.
- ► Make sure web address (GSD 350 IP address) is correct.
  - – You can discover the current IP address via the "Network" submenu on the unit's display.
- ► If required, connect web interface via user-defined IP address.
- ► If you have recently changed the IP address, make sure that you have set the browser to the correct address.
- ► Make sure GSD 350 is switched on and has booted.
  - – It can take up to 5 minutes for the GSD's internal processor to boot.
- ► Clear the browser cache.
  - – You can find instructions on how to do this in your browser help files.
- ► If the "Monitoring" window does not appear: Refresh the browser window.
- ► If these steps do **not** solve the issue, connect GSD 350 directly to computer (= bypass router/network), and try to connect units.
  - – If the web interface starts working, it is likely that the GSD 350 has an IP address conflict (another unit on the network has the same IP address) or the network/router is blocking the port that the GSD 350 uses.
- ► If the connection to the web interface still does not work, contact Pfeiffer Vacuum.

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