

***SECO/WARWICK***

**FURNACE +**

What it is and what is for?

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# FURNACE +

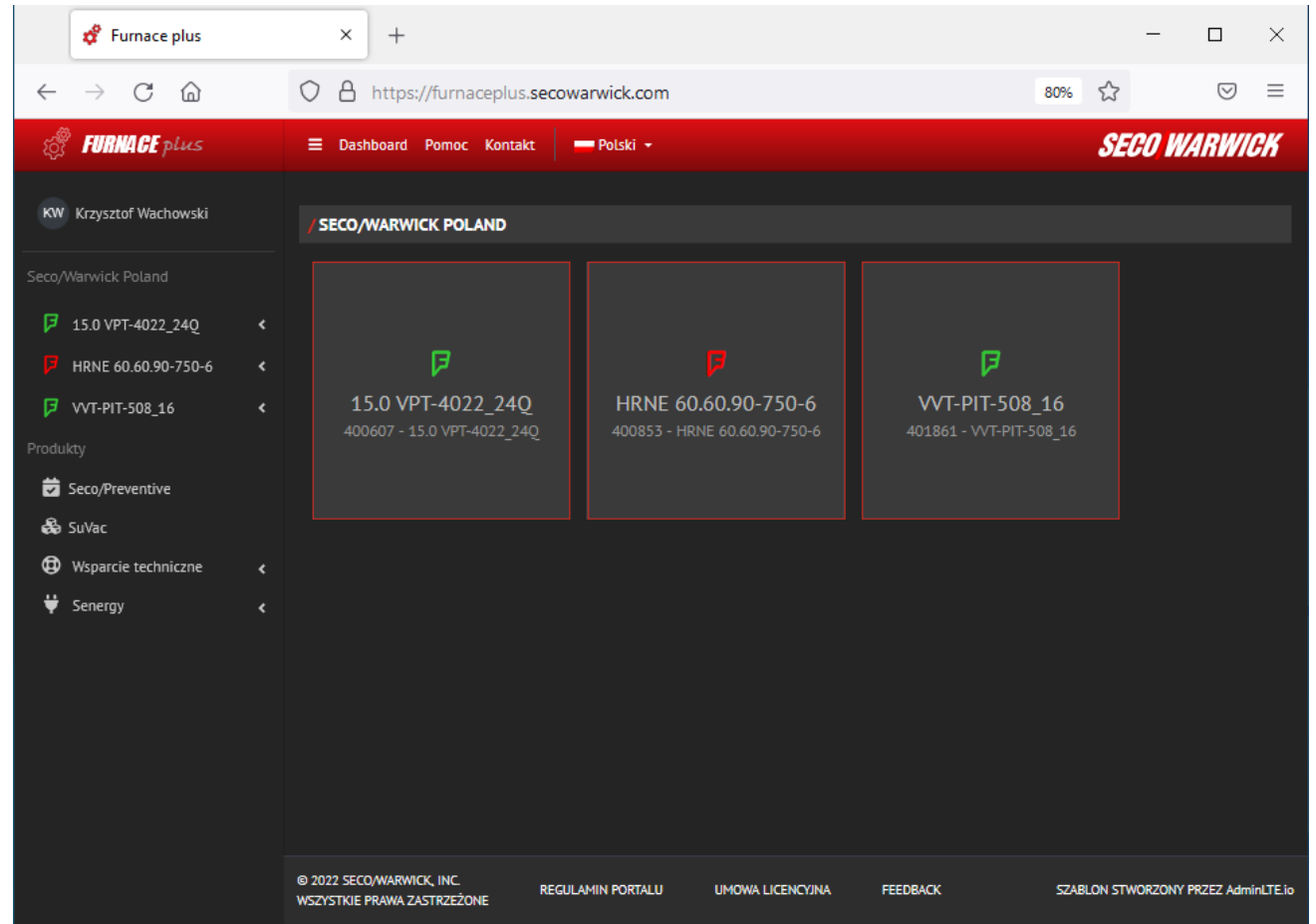
GENERAL INFORMATION

- / The customer portal is an online platform where all additional services available to the customer and their devices including access to information at any time and from anywhere in the world are collected.
- / The “FURNACE plus” portal offers:
  - access to additional services not available in the basic control system
  - trouble-free service and support
  - provides full access to relevant, up-to-date information around the clock, 24/7
  - gives the user the opportunity to get help online

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GENERAL INFORMATION

/ Access to the portal is password-protected, and the information presented comes only from devices assigned to a given user. Depending on the end user needs, it is possible to assign only those devices to which the user should have access within a given company.



- / SECO/PREDICTIVE is a solution for collecting data from sensors and saving them in the SECO/WARWICK cloud, so that they can then be used to predict potential failures. The system is based on a separate logic controller responsible for continuous control of the furnace's monitored subsystems. If irregularities which may affect the furnace correct operation in the future are detected, the system informs the users about it on a regular basis.
- / Depending on the furnace type and equipment, it can be analyzed from different angles. The following systems can be monitored and controlled in the furnace:
  - Pumping system
  - Heating system
  - Furnace's tightness
  - Cooling system
  - Computer system with UPS

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SECO/PREDICTIVE

## / PUMPING SYSTEM

### PUMPING SYSTEM EFFICIENCY #1

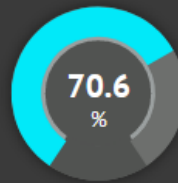


TEST IN PROGRESS

CORRECT WORK

SMALL LEAKAGE

MECHANICAL PUMP PURGING



## / FURNACE

### FURNACE LEAK TEST#1



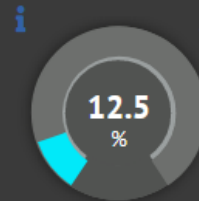
TEST IN PROGRESS

CORRECT WORK

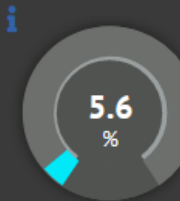
SMALL LEAKAGE OF THE FURNACE

CHECK ROOT PUMP OR GAS VALVES

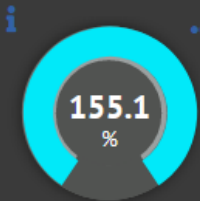
LARGE LEAKAGE- HOLE IN THE FURNACE



FURNACE VACUUM #1



PUMPING TIME  
FURNACE #1



LAMBDA #1

- / The SECO/PREVENTIVE system is a calendar-based module dedicated to maintenance services. It provides planning and organization of the devices and its individual components' inspections as a part of preventive maintenance of a given device.
- / Key features of SECO/PREVENTIVE:
  - possibility of confirming the performed inspections and previewing their history along with comments
  - system inspections transferred from the manual, with appropriate intervals
  - user inspections give the possibility to enter any user-defined inspections
  - email notifications about scheduled inspections
- / Thanks to this, maintenance service have all information about inspections in one place. This facilitates the inspections management, and consequently ensures fewer interruptions in the device operation.

**SECO WARWICK**

Dashboard Help Contact English
HOME / 15.0 VPT-4022\_24Q / SECO/PREVENTIVE / SCHEDULED INSPECTIONS

## SECO/PREVENTIVE

### Scheduled inspections

Refresh

Title	Description	Frequency	Next inspection	Last inspection	Action
Czujnik punktu rosy - sprawdzenie		Yearly	<span style="color: red;">2 months, 21 days late</span> 01/01/2023		<div style="background-color: #c00000; color: white; padding: 5px; margin-bottom: 5px;">Confirm</div> <div style="background-color: #c00000; color: white; padding: 5px;">History</div>
Czujniki i przetworniki ciśnienia - sprawdzenie	Sprawdzenie poprawności wskazań .	Yearly	<span style="color: red;">2 months, 21 days late</span> 01/01/2023		<div style="background-color: #c00000; color: white; padding: 5px; margin-bottom: 5px;">Confirm</div> <div style="background-color: #c00000; color: white; padding: 5px;">History</div>
Czujniki ciśnienia gazu procesowego - sprawdzenie	Odłączyć wtyczkę z czujnika ciśnienia i potwierdzić, że na ekranie komputera pojawił się komunikat alarmowy.	Yearly	<span style="color: red;">2 months, 21 days late</span> 01/01/2023		<div style="background-color: #c00000; color: white; padding: 5px; margin-bottom: 5px;">Confirm</div> <div style="background-color: #c00000; color: white; padding: 5px;">History</div>

- / As part of this module, the user will be given access to the technical support site, where they can independently review the tickets in order to look for a solution to a similar problem or report a new problem with the device. Each report will be assigned a number and a person responsible for its resolution, which significantly facilitates contact with the SECO/WARWICK service as well as problems' monitoring and solving. This guarantees that the request has been accepted and will be handled.



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ALARMS

- / This module presents the given device's historical alarms statistics. The user has a full view of active alarms and warnings and access to their history in a configurable time range.
- / Thanks to this, the user has the opportunity to make an accurate diagnosis and eliminate the problem's cause. This can prevent the furnace's permanent damage and keep it in good condition.

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## ALARMS

**FURNACE plus** | Dashboard | Help | Contact | English

HOME / 15.0 VPT-4022\_24Q / ALARMS

### ALARMS

**Alarms statistics**

09/24/2022 12:00 AM - 03/24/2023 08:29 AM Refresh

Description	Number of occurrences	Relative frequency
A01.301.01.ALG7/107. Algorithm 7 - HED - Water exchanger temperature delta too small	46	34%
A/01. A01.101.01/04.01 Heating zone #1.1 controller failure	12	9%
A/01. A01.303.01/04.01 Root's pump inverter/softstart failure	9	7%
A/01. A01.108.01/04.01 Convection fan inverter/softstart failure	9	7%
A01.014.01.ALG10/110. Algorithm 10 - CCT - Disk C full	9	7%
A01.014.01.ALG10/110. Algorithm 10 - CCT - Disk D full	6	4%
A01.351.02.ALG2/102. Algorithm 2 - LLT - Low furnace leakage, vacuum reached, Lambda probe reading incorrectly.	6	4%
A01.351.02.ALG2/102. Algorithm 2 - LLT - Low furnace leak, vacuum not reached, correct Lambda probe reading	6	4%

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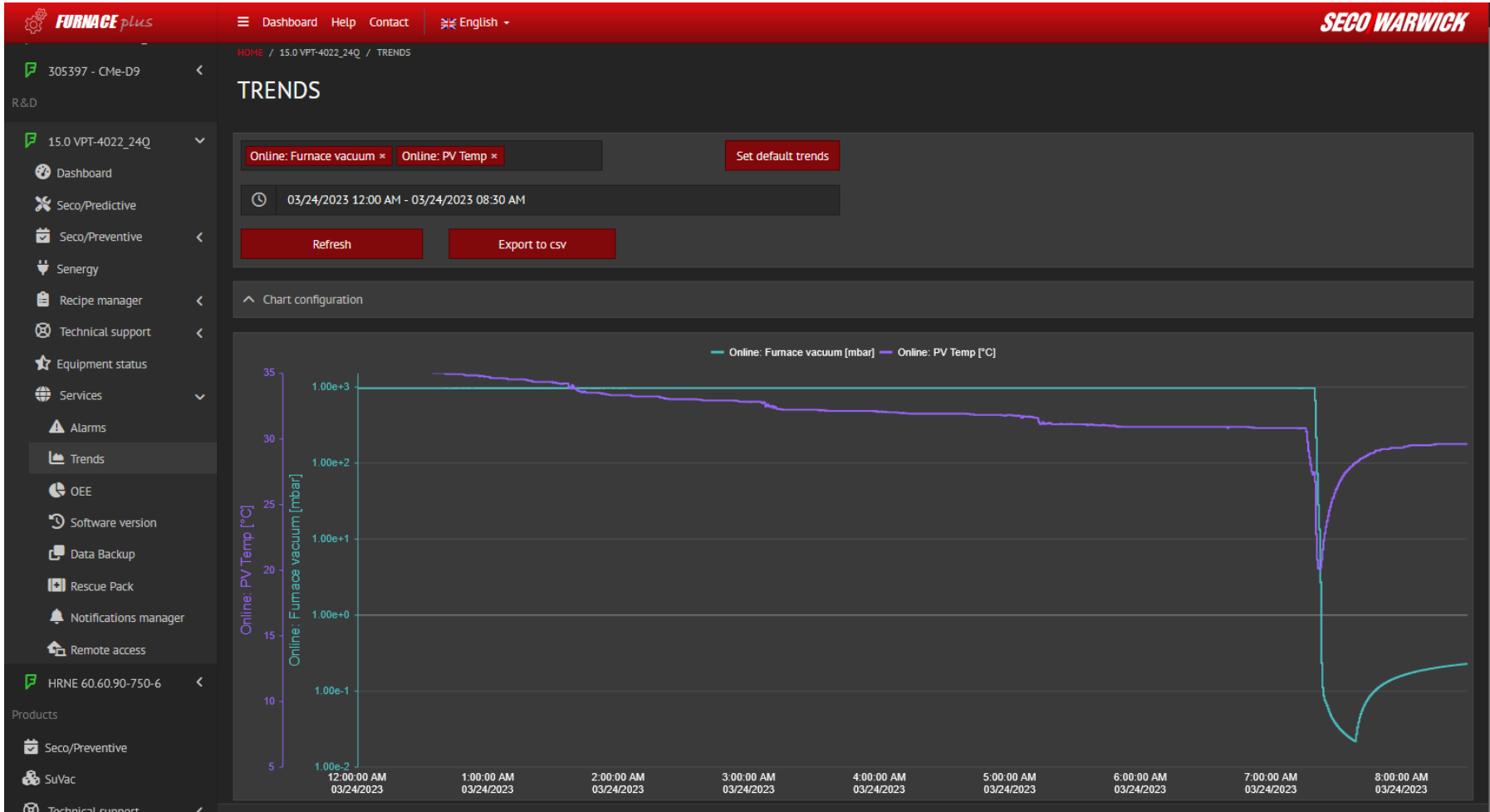
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TRENDS

- / The module presents graphically the signals coming from the furnace. These can be both technological (e.g., vacuum, pressure, temperature) and technical (e.g., voltage, current, power) parameters. The analyzed data can be exported to a CSV file.
- / This enables the device operation analysis and possible correction of its parameters.

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TRENDS

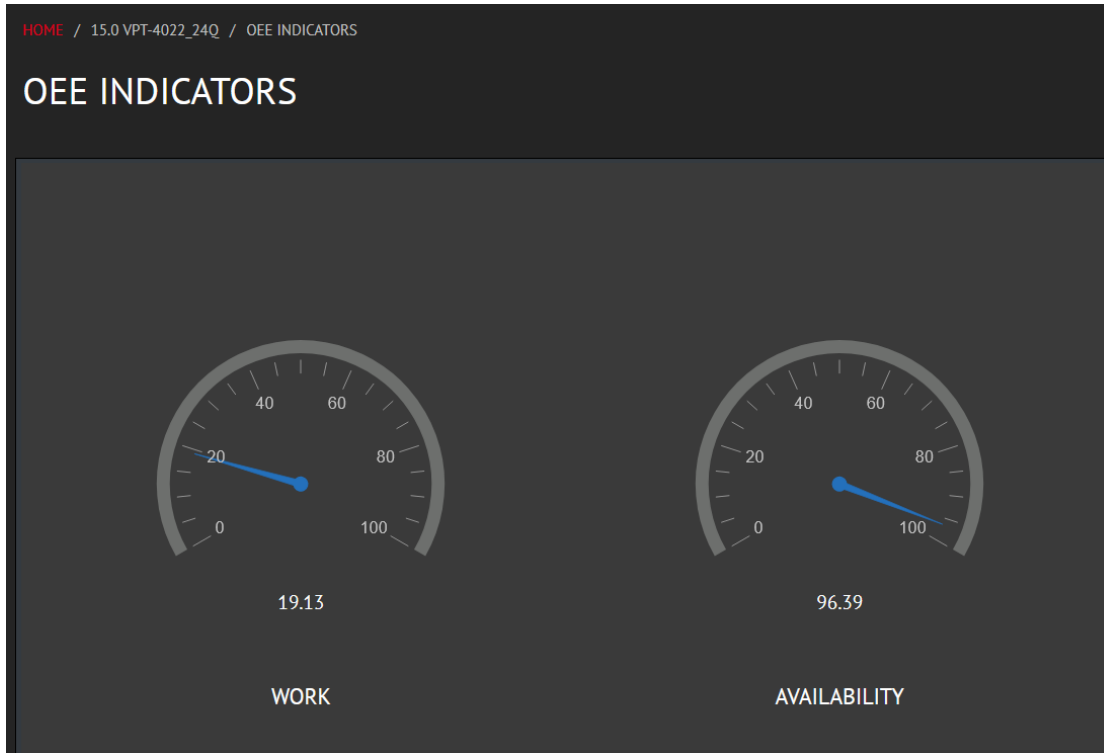


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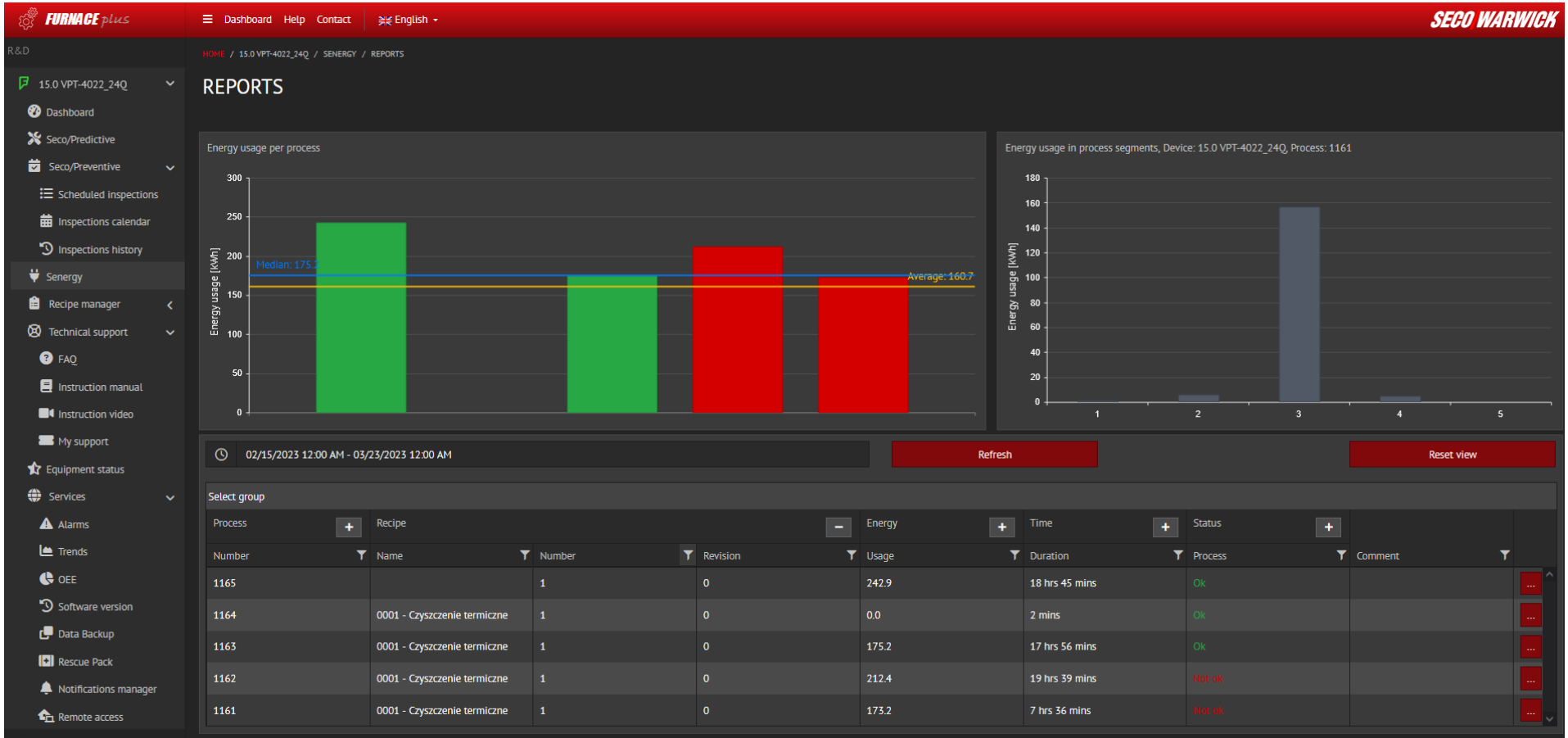
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OEE

- / OEE indicators (Overall Equipment Effectiveness) are defined as the overall equipment efficiency. The module is responsible for calculating and presenting the values determining the furnace's production capacity utilization degree.
- / Proper interpretation of the presented indicators helps in planning production and increasing work efficiency.



- / SENERGY is a module thanks to which the user can analyze electricity consumption for a selected process, in relation to the average or median consumption of other processes with the same or different recipe.
- / Here it is possible to observe changes in energy consumption and track any anomalies. Thanks to the recipe revisions' and deviation indicators' introduction, the specific process can be compared with others (difference between energy consumption during the process and average consumption, difference between process duration and average time). As a result of this analysis, the user can reduce electricity consumption.





/ There is a "Help" available on the portal, where there is access to full documentation describing individual modules and how to work with them.

The screenshot displays the 'FURNACE plus' documentation portal. At the top left, there is a gear icon followed by 'FURNACE plus' and 'Documentation'. On the top right, there is a language dropdown set to 'English', a 'Go to FURNACE plus' link with an external icon, and a settings icon. A left-hand navigation menu lists 'Introduction' (highlighted), 'System features', and 'Products', each with a right-pointing chevron. The main content area shows a breadcrumb 'Introduction' and a large heading 'Introduction'. Below the heading, there is introductory text: 'Here you will find all information about our platform and related products. This documentation will help you to get familiar with our solution and dig out everything what is important for you.' and 'Go through the documentation and explore all features which we created in our solutions or just go directly to section or product in which you are interested in.' At the bottom right of the main content area, there is a 'Next Trends >>' button. The footer is a dark grey bar with three columns: 'Docs' (with a link to 'Documentation'), 'Community' (with links to 'LinkedIn', 'Facebook', and 'Youtube'), and 'More' (with links to 'Company', 'FURNACE plus', and 'Status').



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