

Major Features Added to Zilien Since Version 4.0.0

Integrated Soft Ionization Parameters Control in Zilien

Configuration of **Soft Ionization parameters** are now fully integrated into **Zilien**. Users no longer need to switch to an external software to set or apply these parameters. All required controls are available directly within Zilien's workflow, ensuring a smoother and more efficient operation.

When running an experiment, Zilien automatically applies the selected Soft Ionization settings to the mass spectrometer. The system also records the **active Soft Ionization parameters** in the resulting **.tsv** file, providing complete traceability for downstream analysis and documentation.

Integrated Temperature Controller Configuration in Zilien

For EC-MS systems equipped with **Temperature Control**, configuration and monitoring of the **Temperature Controller** are now fully integrated into **Zilien**. Users no longer need to use the dedicated temperature control software to set and supervise temperature parameters. All relevant controls are available directly within Zilien, creating a unified and streamlined workflow.

Zilien automatically applies the selected temperature settings to the controller, and when an experiment is running the active temperature parameters are recorded in the resulting **.tsv** file, providing accurate traceability for experimental conditions and data analysis.

Reloading .tsv Files in Measurement View

Zilien now supports reloading existing .tsv result files. When a **.tsv** file is opened, Zilien automatically switches to the **Measurement** view and displays the corresponding data graphs, including full zoom capability for examining areas of special interest. To use this feature, simply double-click a .tsv file and Zilien will open and present the results for that experiment.

Adding Notes to Graphs

Zilien now allows users to add notes directly to the graphs. When a specific action occurs during an experiment, a note can be attached to the relevant point in any graph to document what happened. Notes are anchored to the selected position in the graph, making it easy to correlate actions with data. To add a note, simply right-click in a graph and select **Add note**.

Experiment Configuration Presets

The Experiment Configuration now supports **presets**, making it easy to switch all settings to a previously saved configuration. This is especially useful when different users run different types of EC-MS experiments, allowing each user to quickly load their preferred setup without manually adjusting parameters.

Keeping Previous MS Scan Results in Graphs

When performing MS Scans, Zilien now retains the results from previous scans in the graph. This allows users to compare individual MS scans directly, making it easier to identify changes, trends, or differences between scans during an experiment.

WEB API for Component Value Change Events

A new **WEB API** has been added, allowing customers' own client applications to listen for events when component values change. This enables external equipment to react automatically to conditions in the EC-MS system. For example, if a Pirani sensor reaches a specific threshold, the customer's setup outside the EC-MS instrument can trigger an action in response. For further details, please contact **Spectro Inlets**.

Full Changelog

5.0.1 - 2026-09-02

Changed

- At startup check the Turbo Pump valve configuration, and update it if needed
- If EC-lab is not started successfully, then show the steps to perform the registration in the popup dialog

5.0.0 - 2026-08-17

Added

- Added support for new PCB boards with multiple RS-485 drivers
- Different user profiles (or presets) can be selected in the Measurement Dialog
- Added WEB API where a client can listen to events when components change value
- Added menu to collect diagnostic files in a .zip archive, that might be used for support cases
- Disable power saving modes while Zilien is running

Changed

- Removed 'Include Electrochemistry' checkbox in measurement settings, and always make it possible to start EC by pressing the 'Run EC' button
 - Improved the initialization of the connection to EC-lab, and re-establish the connection if EC-lab has been shutdown
 - Added EC 'next technique' button
- Renumbered the Gas Supply names. Notice: The effect is the gas names are changed in the GUI, e.g. the name shown at Valve 12 will now be shown at Valve 10 (MFC1)
- Added tooltips to GUI controls
- Removed gas manifold pressure box showing 'Last Observed Pressure' and 'Last Observed Pressure Gas'

4.8.1 - 2026-05-04

Changed

- Increased power monitor max limit for the Ion Gauge from 5W to 20W

4.8.0 - 2026-04-29

Added

- Added option to start Communication Tool from Zilien

4.7.4 - 2026-04-20

Fixed

- Added support for testing Inficon Ion Gauge in Communication Tool
- Enable temperature control on all Premium models without a hw_spec.toml in EEPROM (not only HW v1.5)
- MID data collected at the rate specified by the Mass Spec without an extra delay

4.7.3 - 2026-04-16

Fixed

- Close all MS connections made in the initial startup, before making the persistent connection used during normal operation

4.7.1 - 2026-04-15

Changed

- Changed Start bottom to only starts measurements (without entering measurement settings)
- Minor changes in the UI to give a more consistent look

Fixed

- Made is more visible when an EM tuning is in progress by show a blinking status text in red
- Improved the MID data point resolution to be consistent throughout the measurement and fix the phenomena where the time is increasing

4.7.0 - 2026-03-19

Added

- Reload .tsv files is possible, which will open Zilien in the *Measurement view* and show the graphs for the data in the loaded .tsv file
- Added option to add notes to the plots by right click in a plot and select the *Add note* option

Fixed

- Fixed issues with connected sessions to a Pfeiffer Mass Spec with firmware 1.9.x

4.6.3 - 2026-02-26

Added

- Added control of the fan by the TEC module (only in new EC-MS systems).

4.6.2 - 2026-02-20

Fixed

- Reduced the TEC controller max current from 4.0A to 2.0A

4.6.1 - 2026-02-16

Fixed

- If starting Zilien with no EC-MS connected a proper error message is shown
- If Power Monitor's measure too high power consumption or Pressure Sensor too low pressure, then the reporting is not repeated more frequently than every 15. min (only in new EC-MS systems).
- If a critical message is already reported for a pump, then don't also report a warning message (only in new EC-MS systems).

4.6.0 - 2026-02-06

Added

- Added Temperature Control into Zilien
- Keep previously generated MS Scan plots visible, and display new scans on top of them so users can easily compare results
- Added pumps, pressure sensor and power monitors as testable devices in Communication Tool (only in new EC-MS systems)
- Monitor pressure air sensor and power monitors and show warnings when the values are not acceptable (only in new EC-MS systems)

Fixed

- Check that the length of the full TSV file path is within valid range, and replace spaces with underscores in the path
- Only allow turn on Emission when Chamber Gauge is on and turn off Chamber Gauge when Emission is off
- Reject to start EM Tuning when Valve 5 is closed

4.5.0 - 2026-01-13

Added

- Added support for EC-MS Base Professional model
- Auto detect Mass Spec IP address, which remove the need to configure the IP address of the EC-MS ethernet interface in Windows (only in new EC-MS systems)

Fixed

- Improved the robustness of the internal connection between Zilien frontend and Olefn backend. Also improved the robustness of the Mass Spec communication

4.4.0 - 2025-12-01

Added

- Integrated control of the Turbo and Rough pumps into Zilien

Fixed

- Improved co-running PVMassSpec and Zilien detection and improved the info shown for the user. Fix issue #39, #47 and #48.

4.3.1 - 2025-10-29

Added

- Integrated Soft Ionization configuration of Mass Spectrometer into Zilien
- Auto detect COM ports removing the need to set COM port numbers in Windows Device Manager (only in new EC-MS systems)

Fixed

- When initializing and checking the communication with external devices, eventual errors are reported more clearly to the user

4.2.0 - 2025-09-02

Added

- Added Valve 14 safety check - only allow open Valve 14 when Valve 1 is closed. Fix issue #170.

4.1.0 - 2025-07-04

Added

- Added logging of timezone information to .tsv data files. Fix issue #168.

Fixed

- Don't trigger an error when changing one of the the Gas Supply names. Fix issue #249.
- Check validity of 'Project Name' and 'Measurement Name' settings

4.0.0 - 2025-05-22

Added

- Added an MS configuration dialog for filament manipulation and SEM voltage tuning