DINI ARGEO
Scales - Weighing systems
A RICE LAKE WEIGHING SYSTEMS COMPANY

XSPEEDTOOL

Tool for diagnostic and configuration of the weighing filter

USER MANUAL **ENGLISH**

www.diniargeo.com

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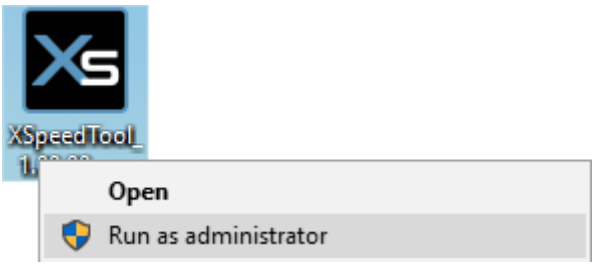
Recommended requirements

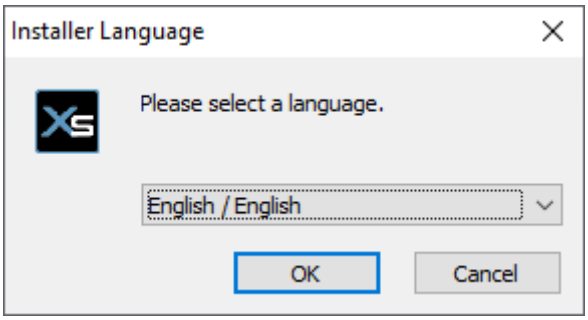
OS: Windows 10
Processor: 1,6 Ghz
Ram: 4 Gb
Free space on hard drive: 250 Mb

Installation procedure

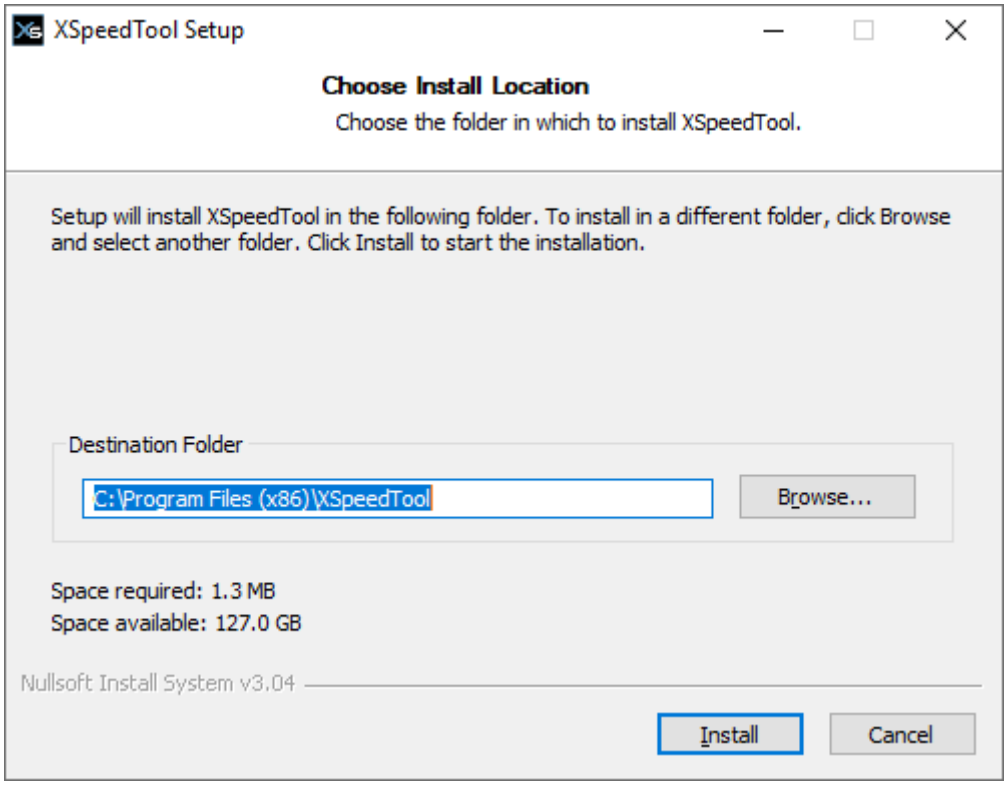
1. Run the setup file as administrator (Right click -> Run as administrator)



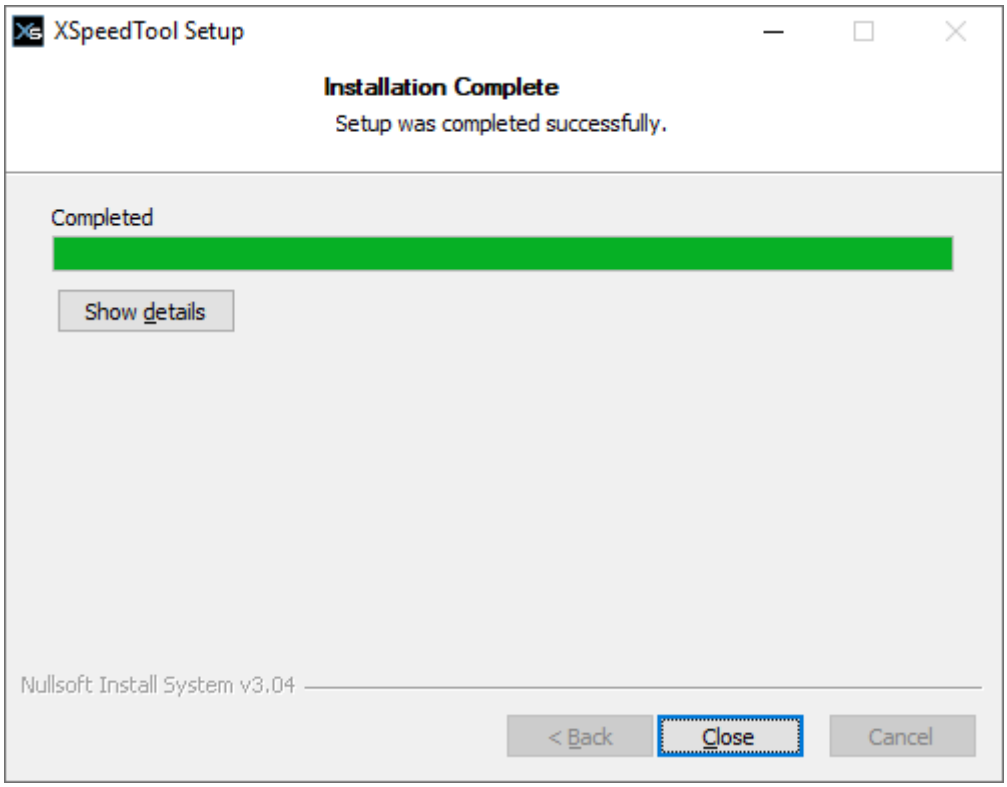
2. Select the installation language



3. Select the installation folder
(default: C:\Program Files (x86)\XSpeedTool)



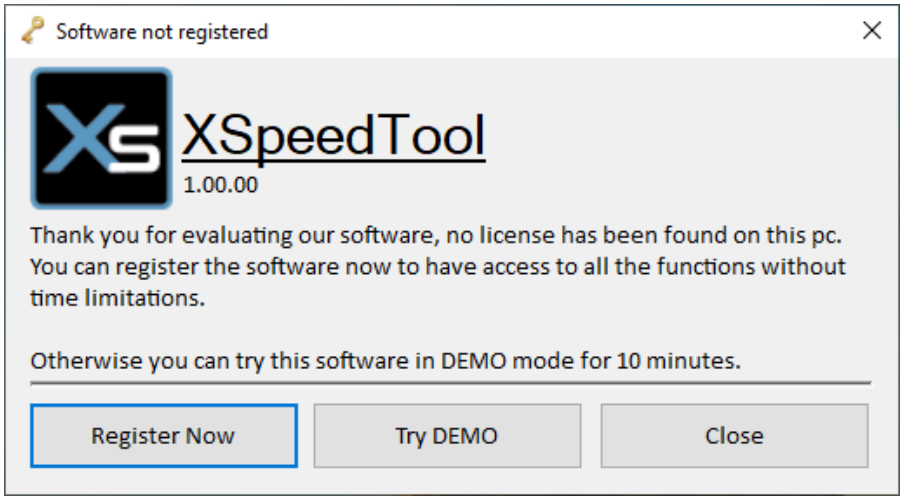
4. Wait the end of installation



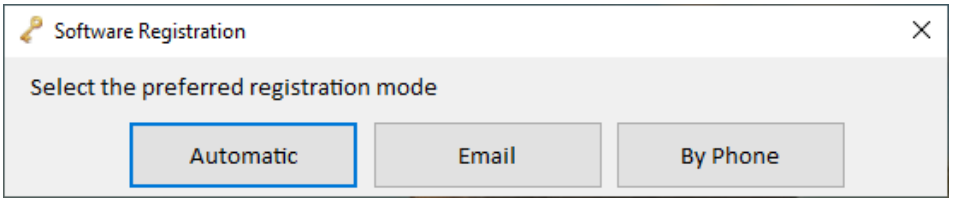
Once the installation is terminated, a shortcut will be created on desktop.

License activation

At first startup, the program requires you to enter your license. Click on “**Register Now**”



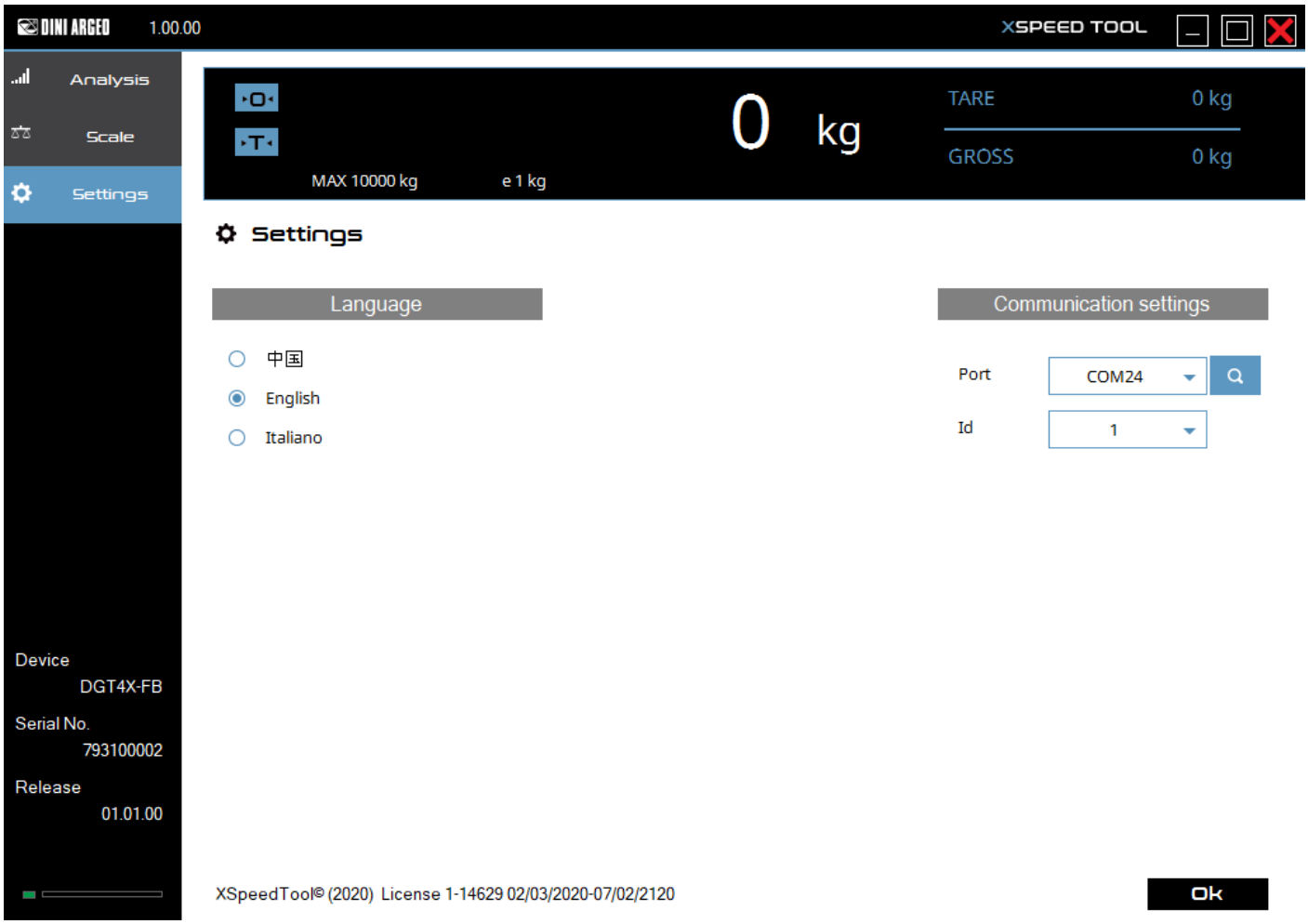
Select the software activation method:



Automatic: insert the activation code (supplied by the dealer).

Email: send an email to Dini Argeo with the license request file attached. (follow the instructions)

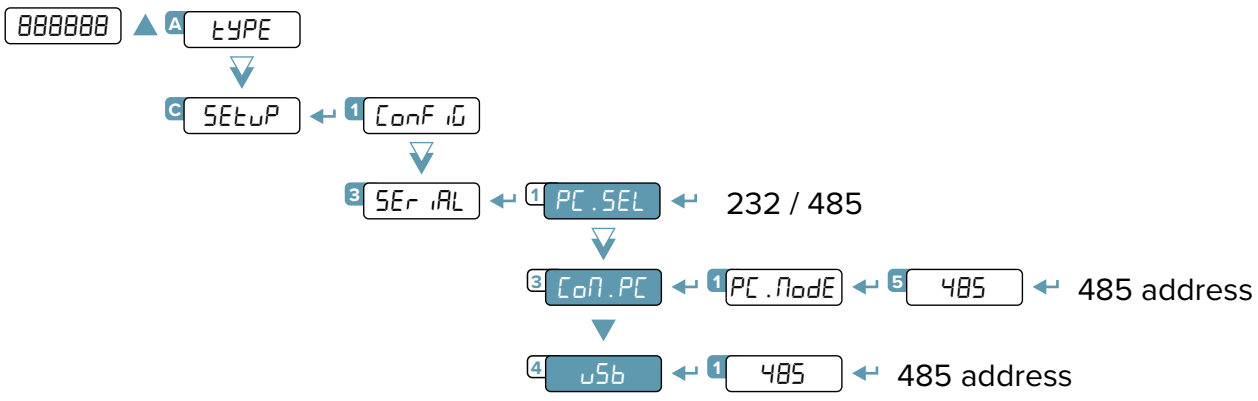
By Phone: call the Dini Argeo offices to get a license.



Communications

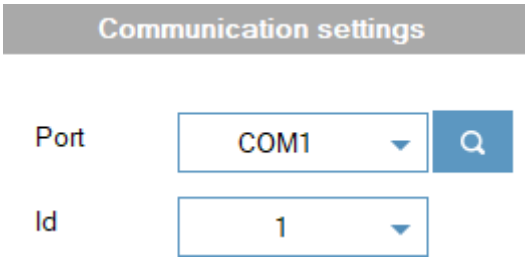
INSTRUMENT

To communicate correctly with the PC, the transmitter transmission protocol must be set to 485. You can use the USB port (DGT4X model) or one of the two ports 232 / 485 as long as it is selected as PC port.



XSPEEDTOOL

Select the COM port and the 485 address of the instrument in the Settings tab.



CONNECTION STATE

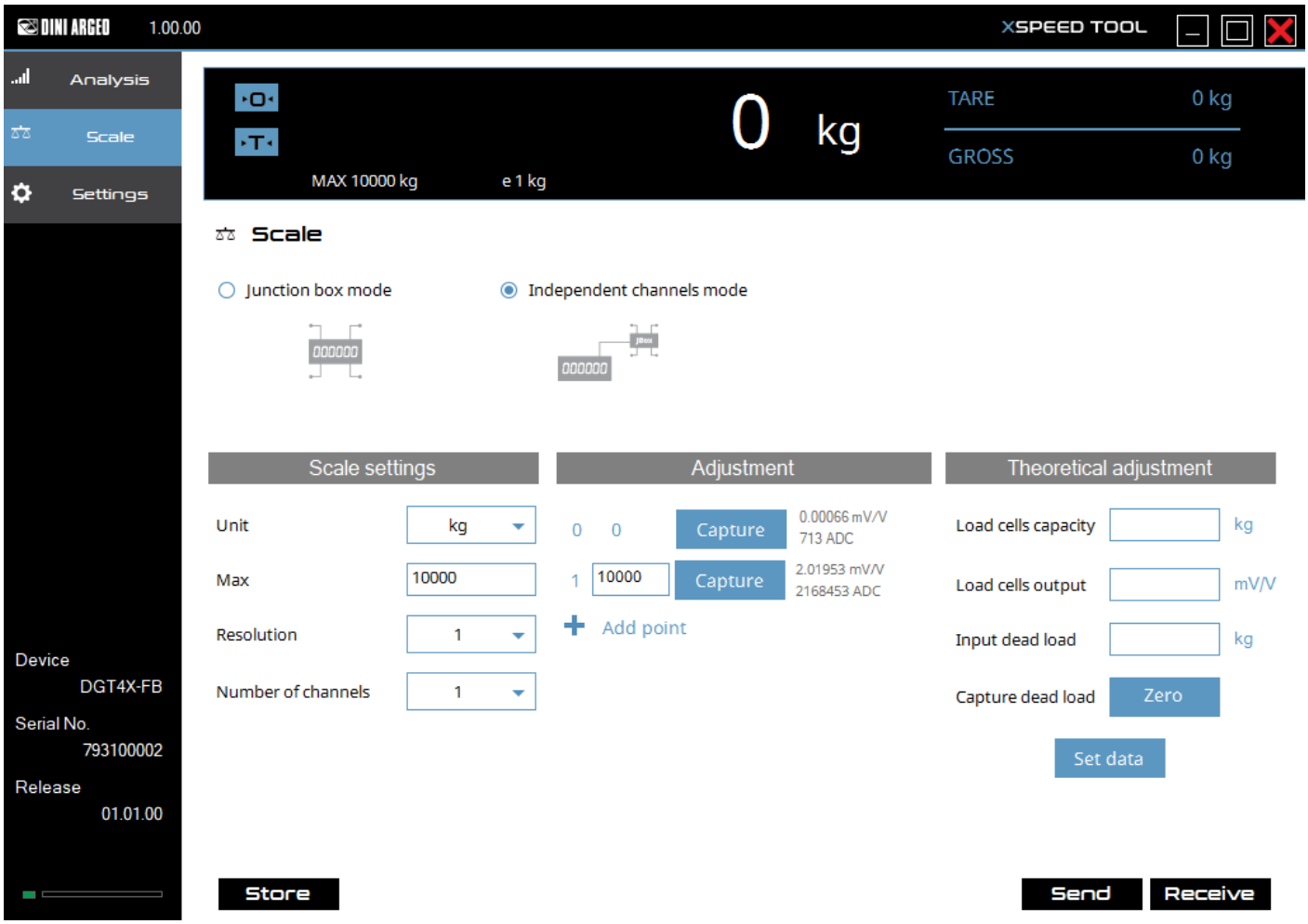
Green - ➔ Connection OK

Grey - ➔ Ongoing connection

Red - ➔ Missing connection

Language

Select the desired language and press Ok.



Calibration parameters

Set the scale calibration parameters:

Unit of measure
Max capacity
Division
Number of used channels (in indipendent channel mode only one channel can be used)

Points acquisition - Real calibration

It's possible to calibrate the instrument with sample weights.
For each point (up to 8), insert the weight value in the text box.
Load the weight on the scale and press Acquire.

Once you have acquired all the points, send the calibration to the instrument by pressing Send.

Save the calibration on the instrument by pressing Store.

Theoretical calibration

Impostare i valori di calibrazione teorica:

Total load cells capacity (sum of each load cell capacity).
Load cells sensitivity (in junction box mode, insert the sum value of the signals).
Mechanical tare (If not known, unlaod the scale and press Zero)

Once you have entered the values, calculate the value of the points by clicking Set data.

Save the calibration on the instrument by pressing Store.

Data acquisition

Acquisition can be done in several ways:

START/STOP

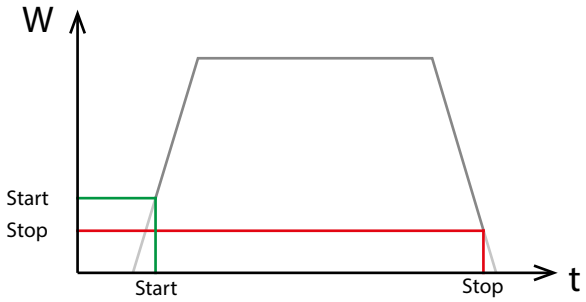
The acquisition begins pressing Start and ends when Stop is pressed.

TIME

The acquisition begins pressing Start and ends automatically after the time set in Time (s).

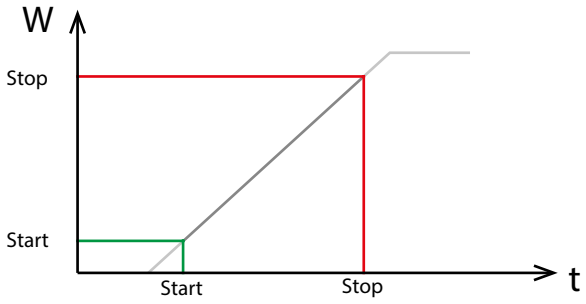
TRIGGERS LOAD PULSE

Once pressed **Start** the acquisition begins when the weight exceeds the upper threshold (Start) and ends when the weight falls below the lower threshold (Stop).



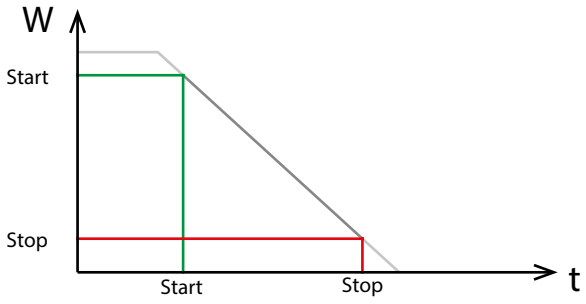
TRIGGERS LOAD STEP

Once pressed **Start** the acquisition begins when the weight exceeds the lower threshold (Start) and ends when the weight reaches the upper threshold (Stop).



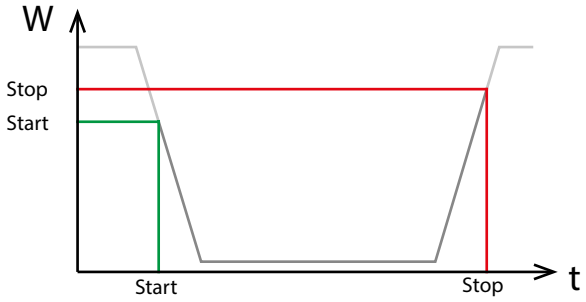
TRIGGERS UNLOAD STEP

Once pressed **Start** the acquisition begins when the weight falls below the upper threshold (Start) and ends when the weight reaches below the lower threshold (Stop).



TRIGGERS UNLOAD PULSE

Once pressed **Start** the acquisition begins when the weight falls below the lower threshold (Start) and ends when the weight reaches the upper threshold (Stop).



Weighs list

On the right side all the acquired weighs are saved.
Select a weight to show it on the graph.

	Saves the weight on the PC.
X	Deletes the weight.
Load	Loads the weight saved on the PC (**.xsd** format).
Clear all	Deletes all the weight.

Graph processing

After the acquisition, the graph shows the weighing trend.
The grey curve indicates the unfiltered signal. To hide it, remove the tick on ☐ Raw data

The Zoom function is activated by checking the magnifying glass  ☑.

Dragging the mouse over the graph zooms the selected area.

To restore the graph, remove the tick and click Refresh.

Clicking the buttons ⊖ reduces the zoom to the desired axis only.

Passing the mouse over the curve, the coordinates of the point are highlighted at the top of the graph: W 201.50 g T 1.966 s.

Spectrum

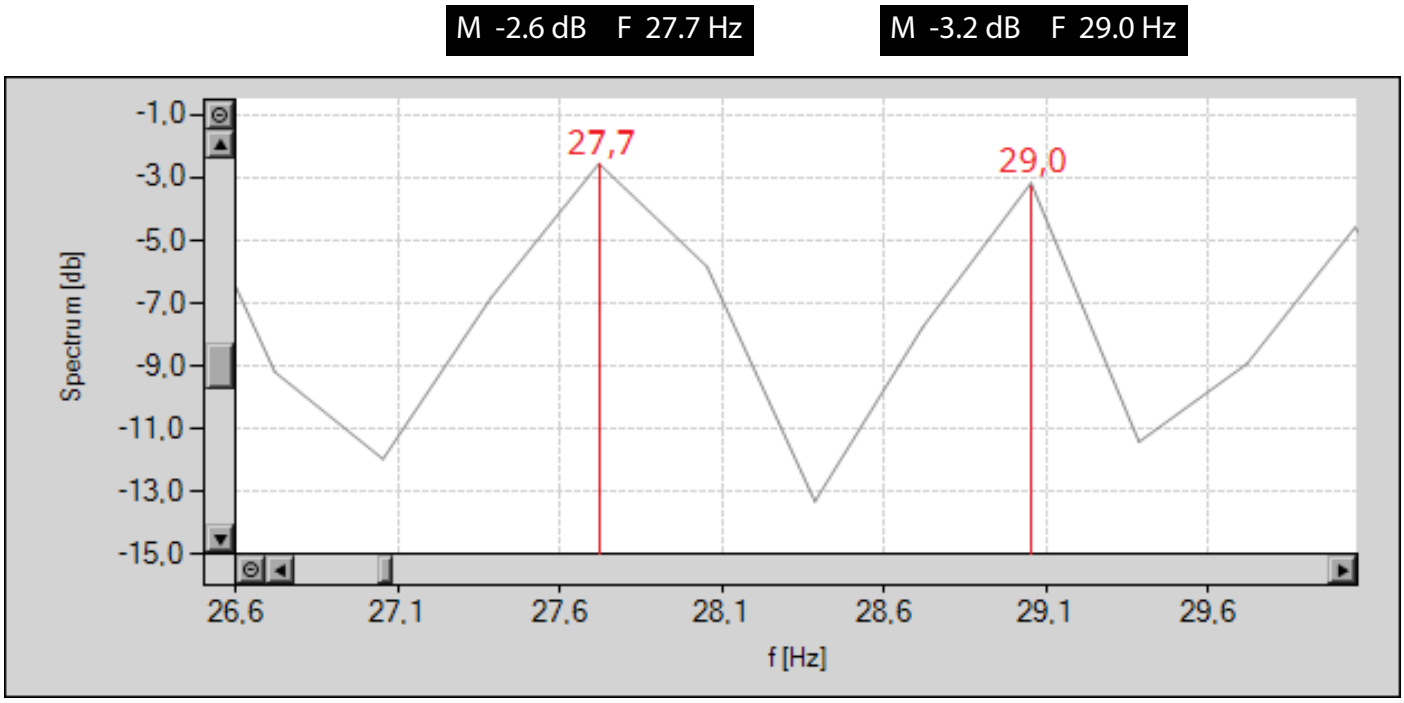
The spectrum describes the acquired signal in the frequency domain.
By analyzing the spectral graph of the signal and applying the appropriate filters, you can eliminate the vibrations and disturbances that negatively affect system performance.

Click on the tick ☑ Spectrum to activate the spectrum visualization.

Note: The spectrum calculation may take several seconds, depending on the amount of data to be analyzed.

Spectrum analysis

To evaluate the vibration frequency, zoom in on the graph until you see the wavelength of the signal.



In the example of the above graph, the wavelength is given by the difference 29,0 - 27,7 = 1,3 Hz

Filters list

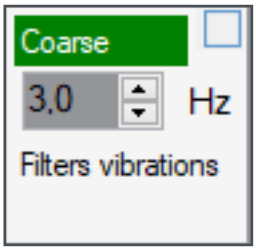
Click on  to save a filter in the filters list.

Click on a filter and then on 

to see the filter action on the graph.

	Saves the filter on the PC.
	Deletes the filter.
Load	Loads a filter saved on the PC(**.xsf** format).
Clear all	Deletes all filters.

Filters



Coarse filter

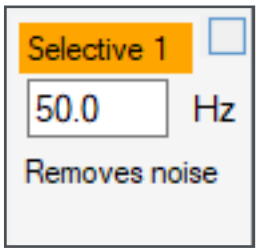
Filter for removing background vibrations of the signal.

A smaller value makes the weight more stable, but reduces the weighing speed.

Fine filter

Predictive Kalman filter, expressed in percentage.

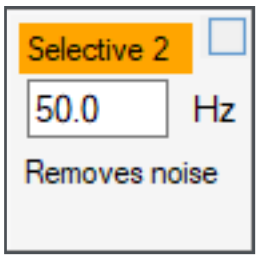
A smaller value makes the weight more stable, but reduces the weighing speed.



Selective filter 1

Filter for the removal of noise from the power supply.

Enter the mains frequency.



Selective filter 2

Filter for the removal of noise from the power supply.

Visible only on some models

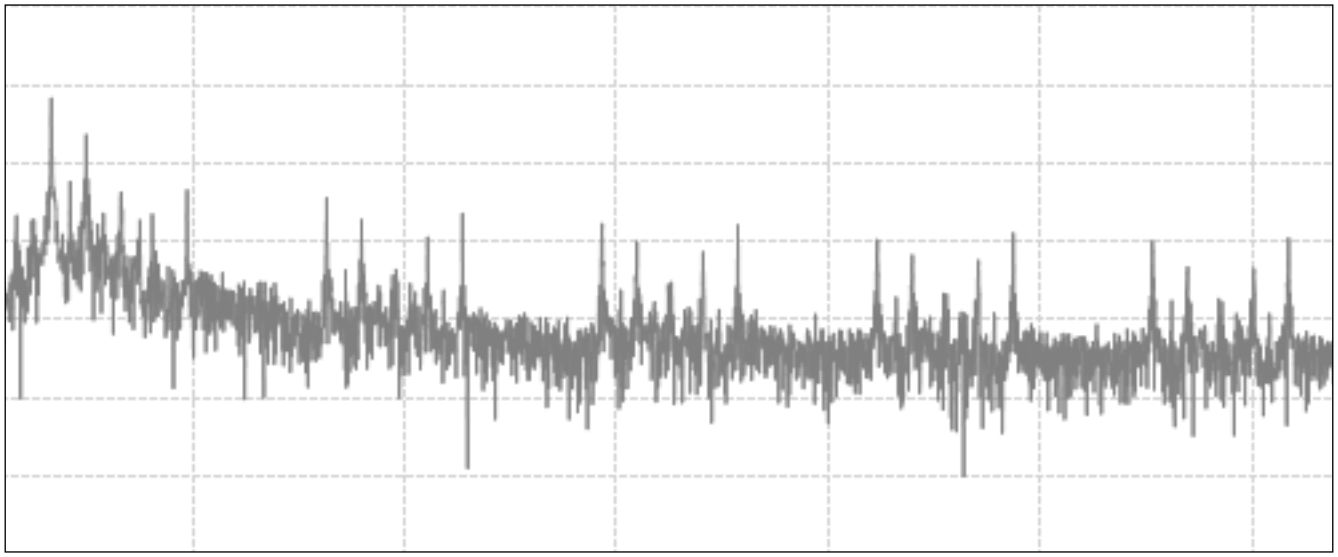
Send / save the filter

To send the filter to the instrument, click on **Send**.

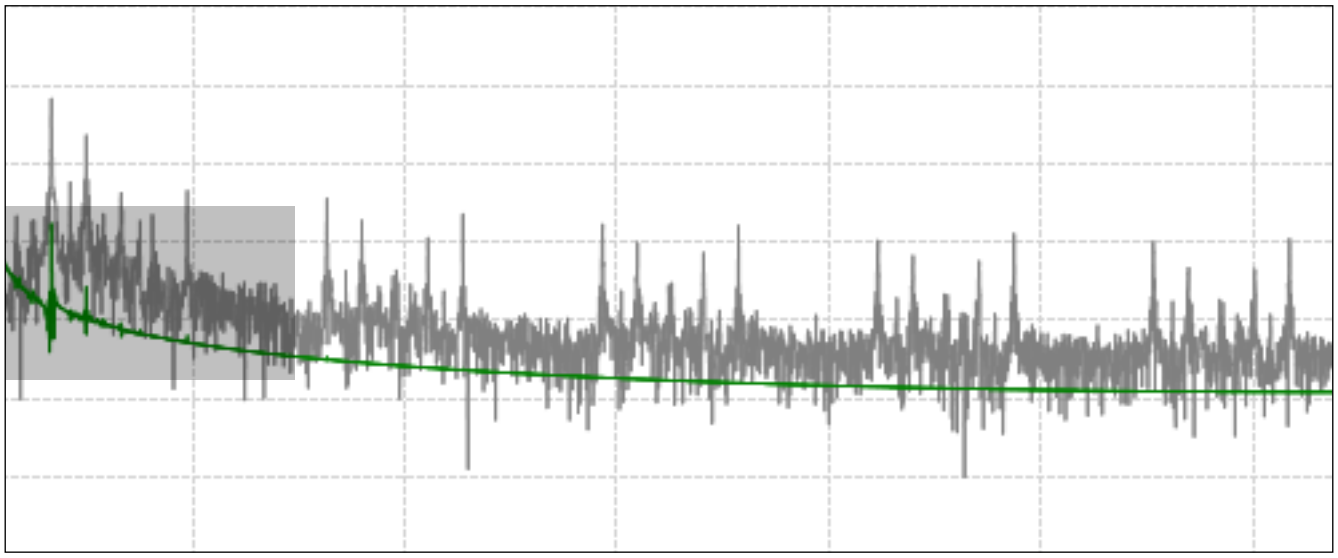
By restarting the instrument, you lose the filter sent.
To save the filter on the instrument click **Store** on the “Balance” tab.

Example

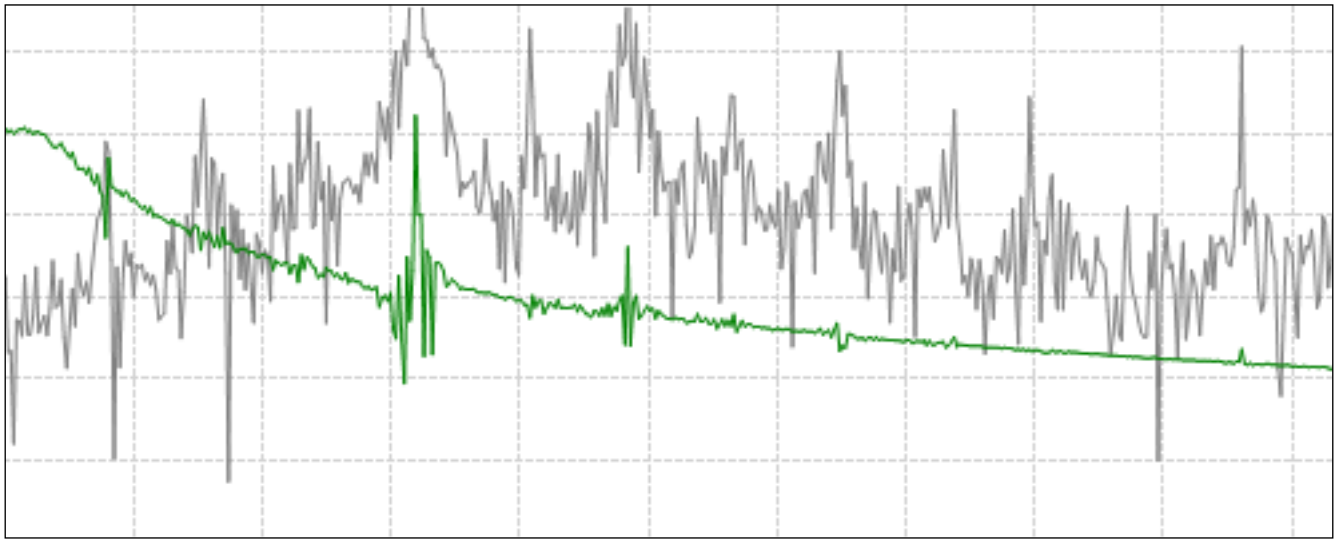
After acquiring the weight, the spectral representation of the signal appears to be:



By applying a coarse filter at 10 Hz:

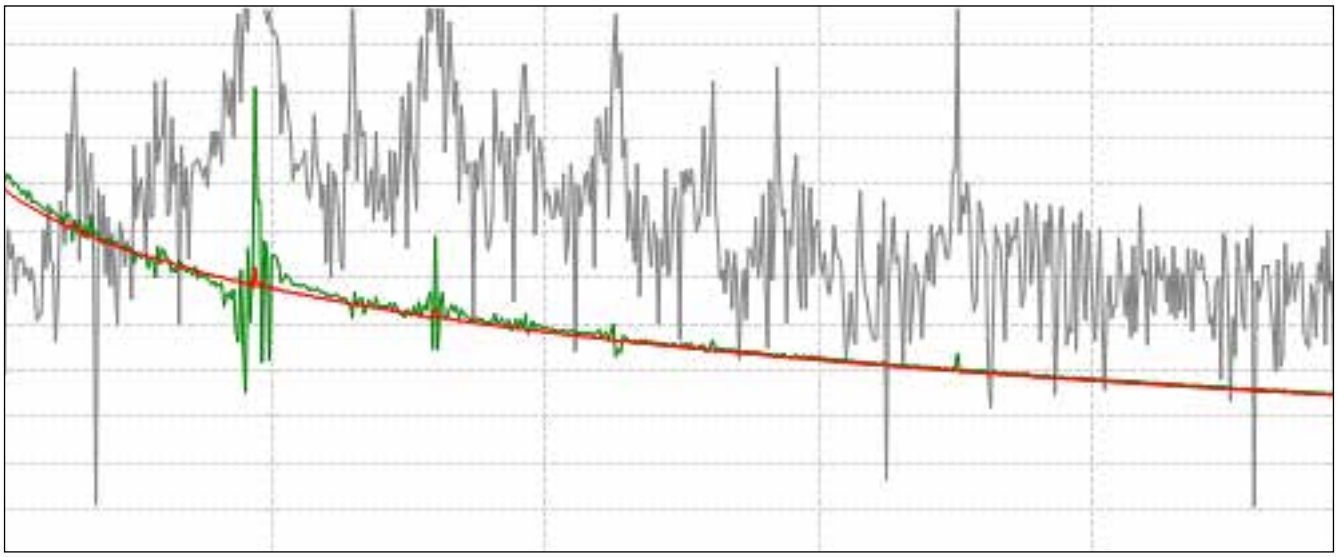


The signal is still not stabilized (zoom in to check the stability in each area of the graph):



There are two ways to proceed:

1. Further reduce the frequency of the Coarse filter, reducing the reactivity of the system.
2. **Activate the Fine filter:**



Fine filter set to 50%.

The combination of the two filters removes instability due to vibration and at the same time maintains an excellent weighing speed.

È disponibile inoltre un ulteriore filtro (due per alcuni modelli) per la rimozione del rumore. Applicarlo nel caso in cui si osserva l'alterazione del segnale a causa dell'alimentazione.

Notes

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