| **KJLC Element RGA Software Guide** |
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## SCOPE

This procedure describes how to operate the KJLC Element RGA Software. If you would like to contact us regarding additional services and support, please contact Gauging@lesker.com.

You can also view much of our service and support offerings on our website at www.lesker.com.

How to Start a Scan using the KJLC Element RGA

1. Select the mass range you want or default to 1-100 or 1-200, pending on the RGA that you have.
2. Select 10 Points per AMU and 32 msec dwell time
3. Click the "+" next to display and choose:
    a. Mass: 18
    b. Diagnostics: Filament Current
    c. Measurement: Total Pressure
4. Change Save Data to "Ye"
5. Type in 10 for the Number of Scans
6. Change the file name if needed
7. Click the Emission Button (first circular button) to turn on the Emission Current followed by the Electron Multiplier Button (second circular button). Note that some units may not have an electron multiplier.
8. Click the "Scan Button"

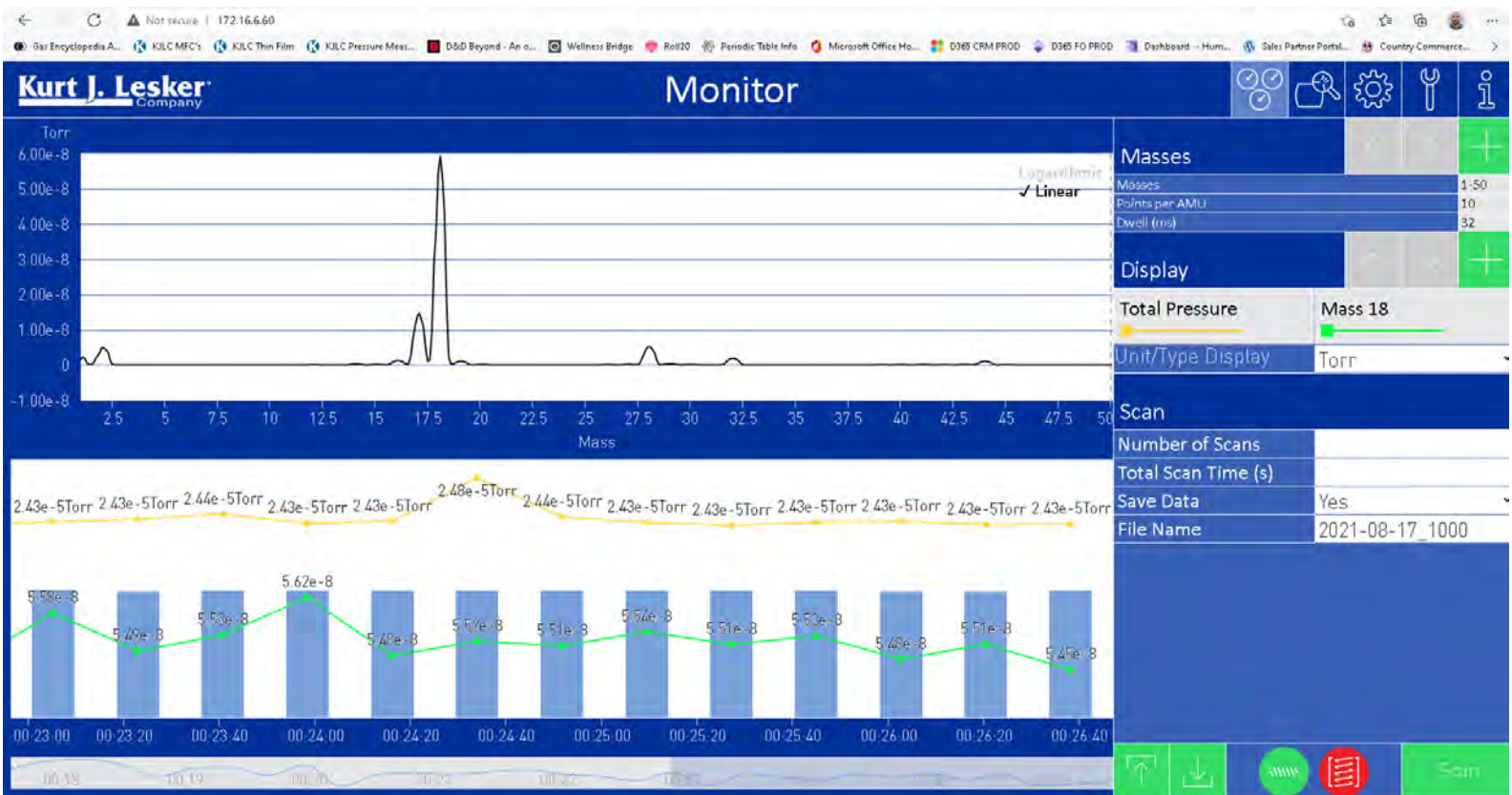| KJLC Element RGA Software Guide |
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1. What you see when you first log in, minus the data

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2. **Screen Selection – Top Right**

### Monitor Screen
- Main screen
- Monitor mass range or specific masses
- Trend analysis of a specific mass / masses, total pressure, and diagnostics
- Save Data
- Import or Export saved data

### Leak Detection Screen
- Trend analysis for leak detection
- User selectable gases (most common is Helium)
- Set audible thresholds / alarms based on partial pressure of selected gas

### Settings Screen
- Sensor, firmware, and network settings
- Update firmware here
- Tuning
- Reset to factory default

### Diagnostics Screen
- System information for troubleshooting
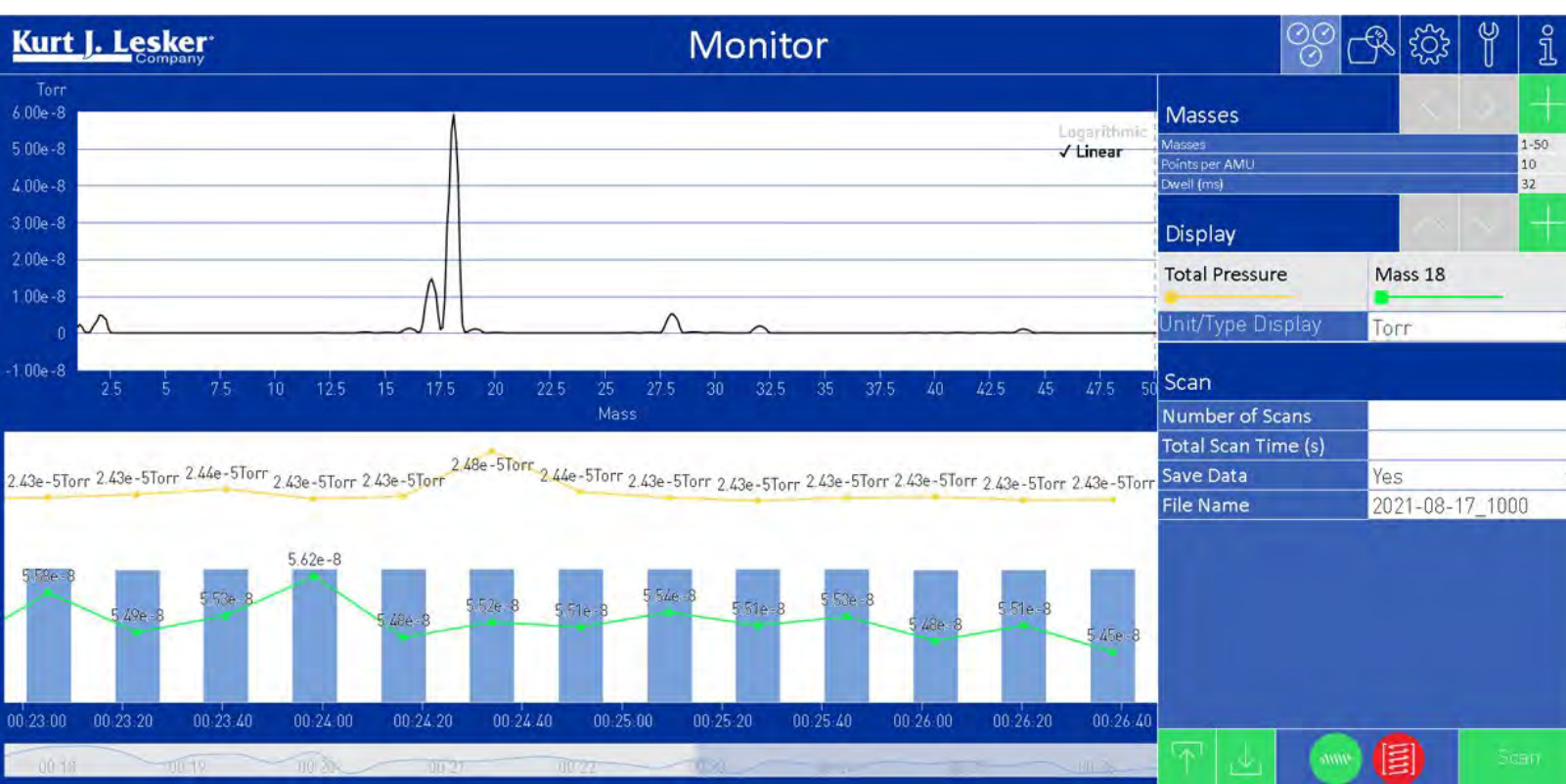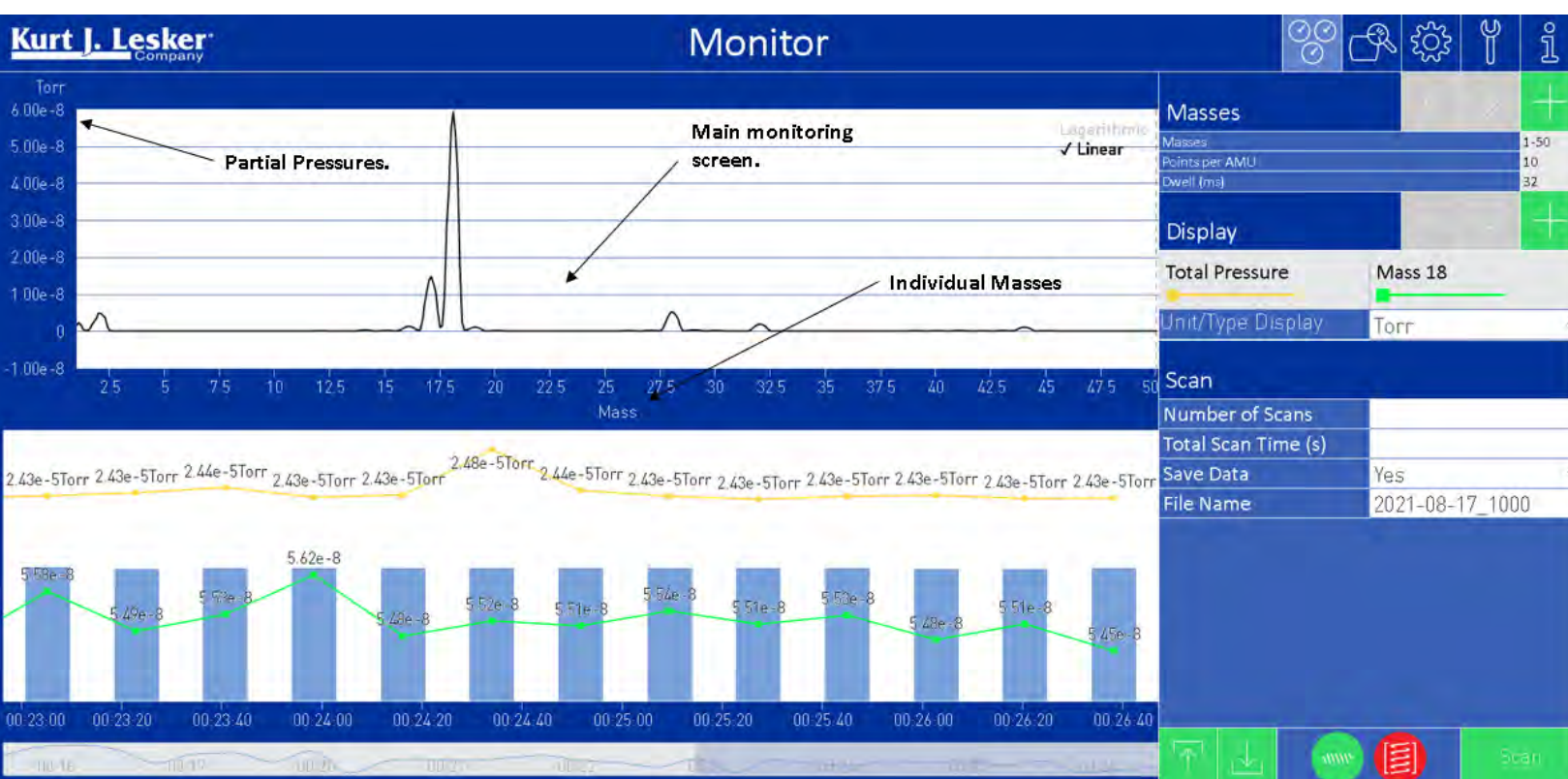- System error log (downloadable)

### Info Screen
- Manual, API guide, Python, and MatLab downloads
- Sensor Pinout photo for troubleshooting

# Software Guide

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## KJLC Element RGA Software Guide

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3. **Monitor Screen**



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4. **Monitor Screen**

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5. **Monitor Screen**

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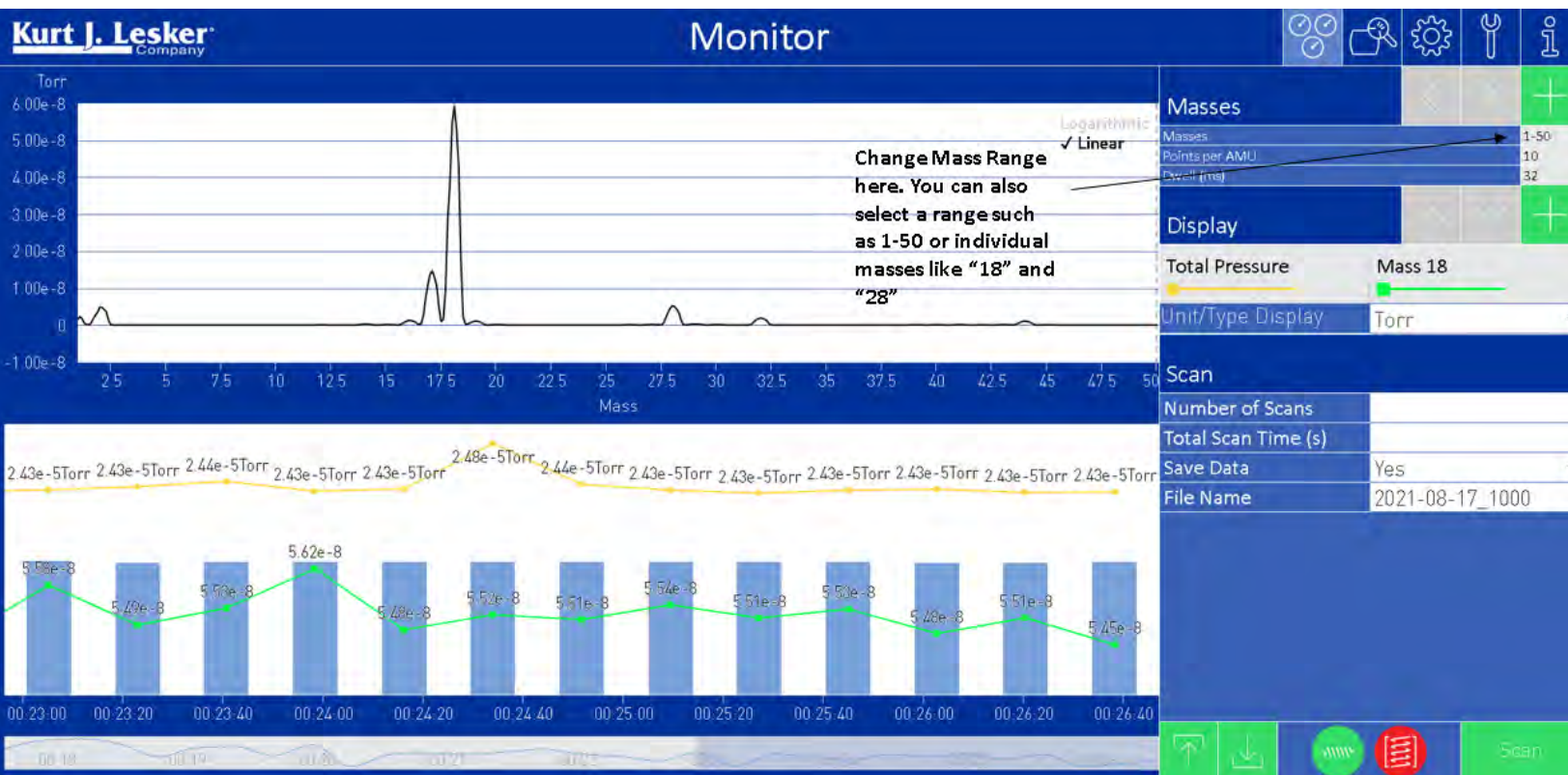
6.   **Monitor Screen - Units**
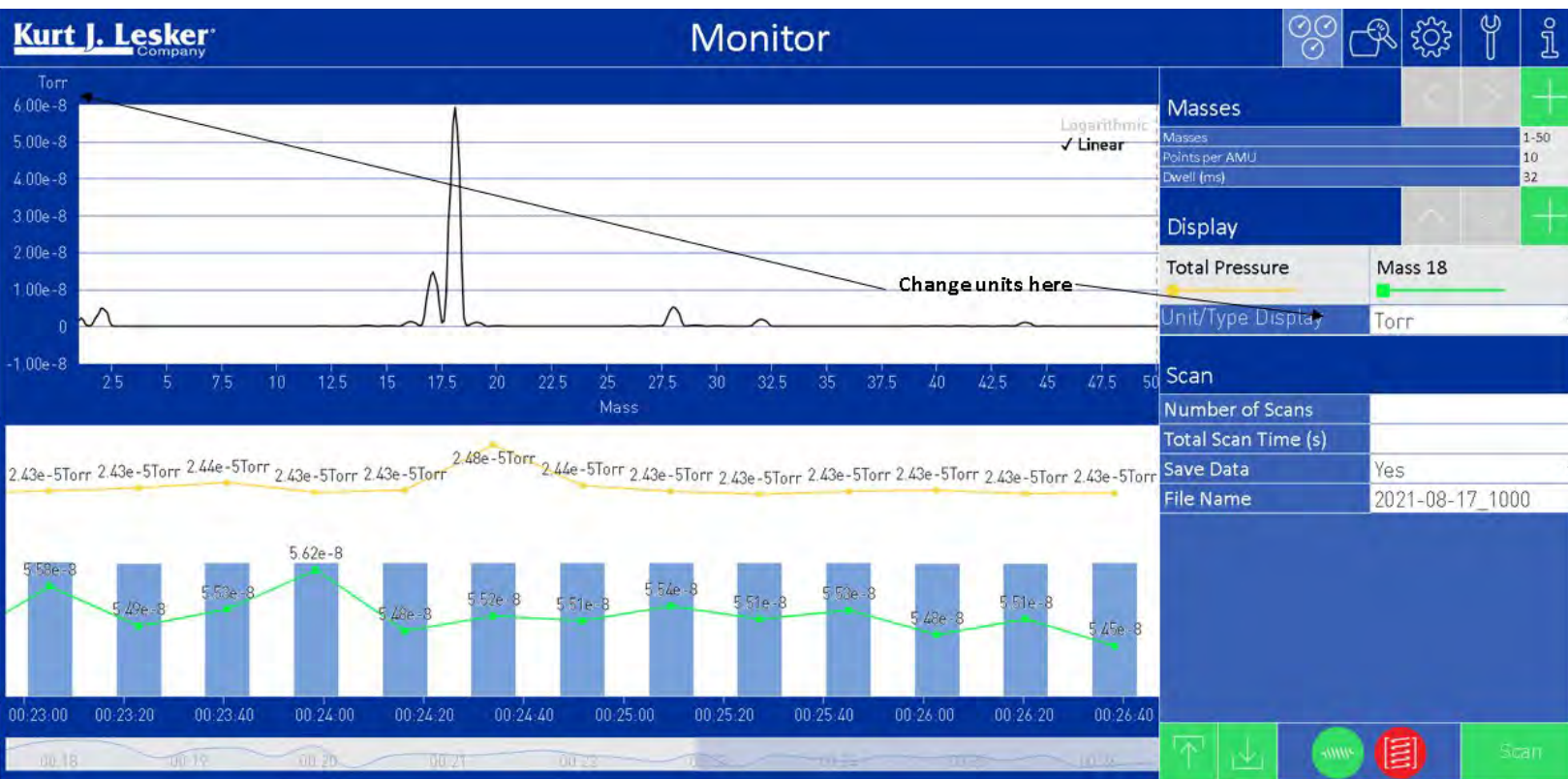
| KJLC Element RGA Software Guide |
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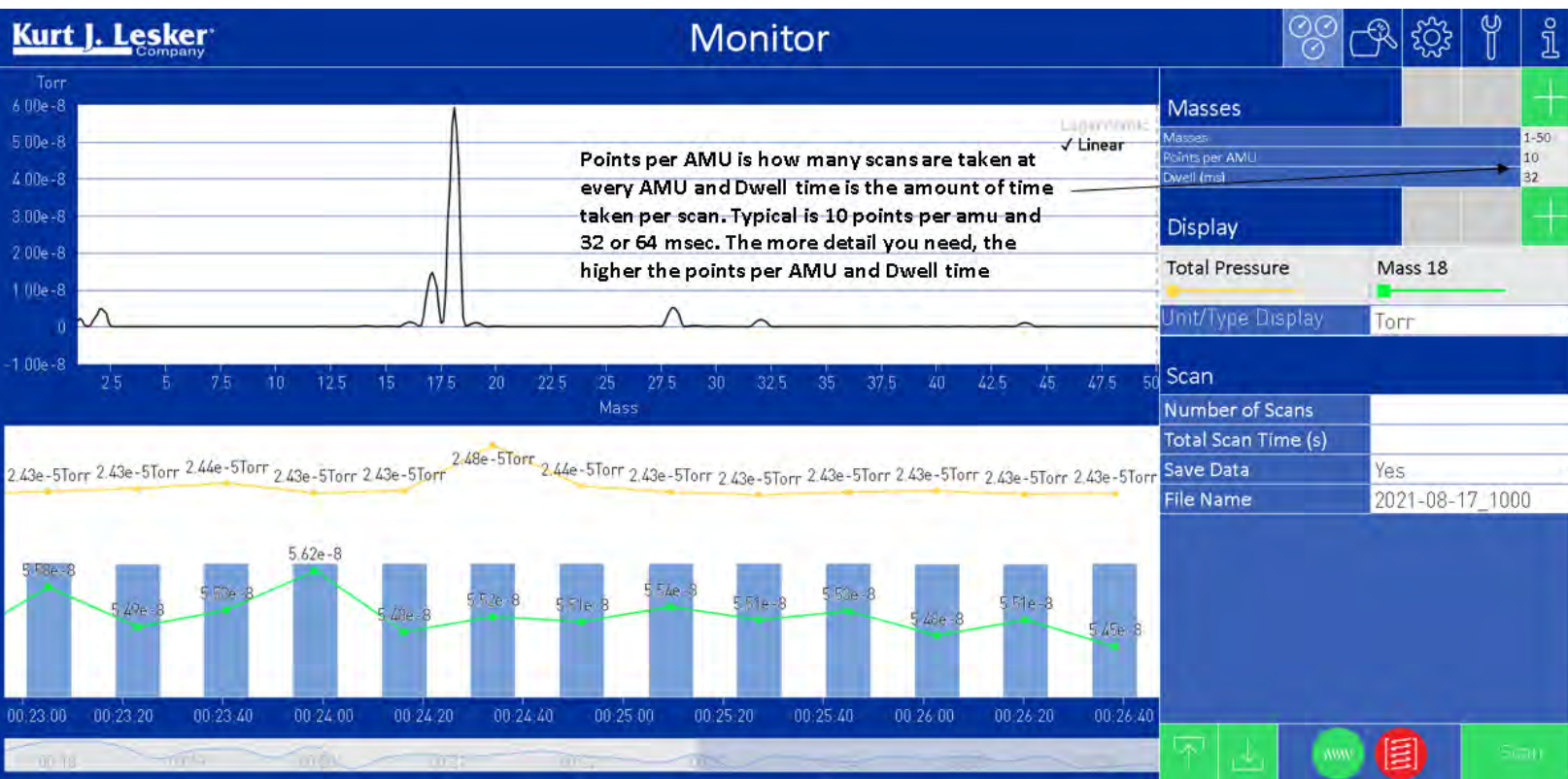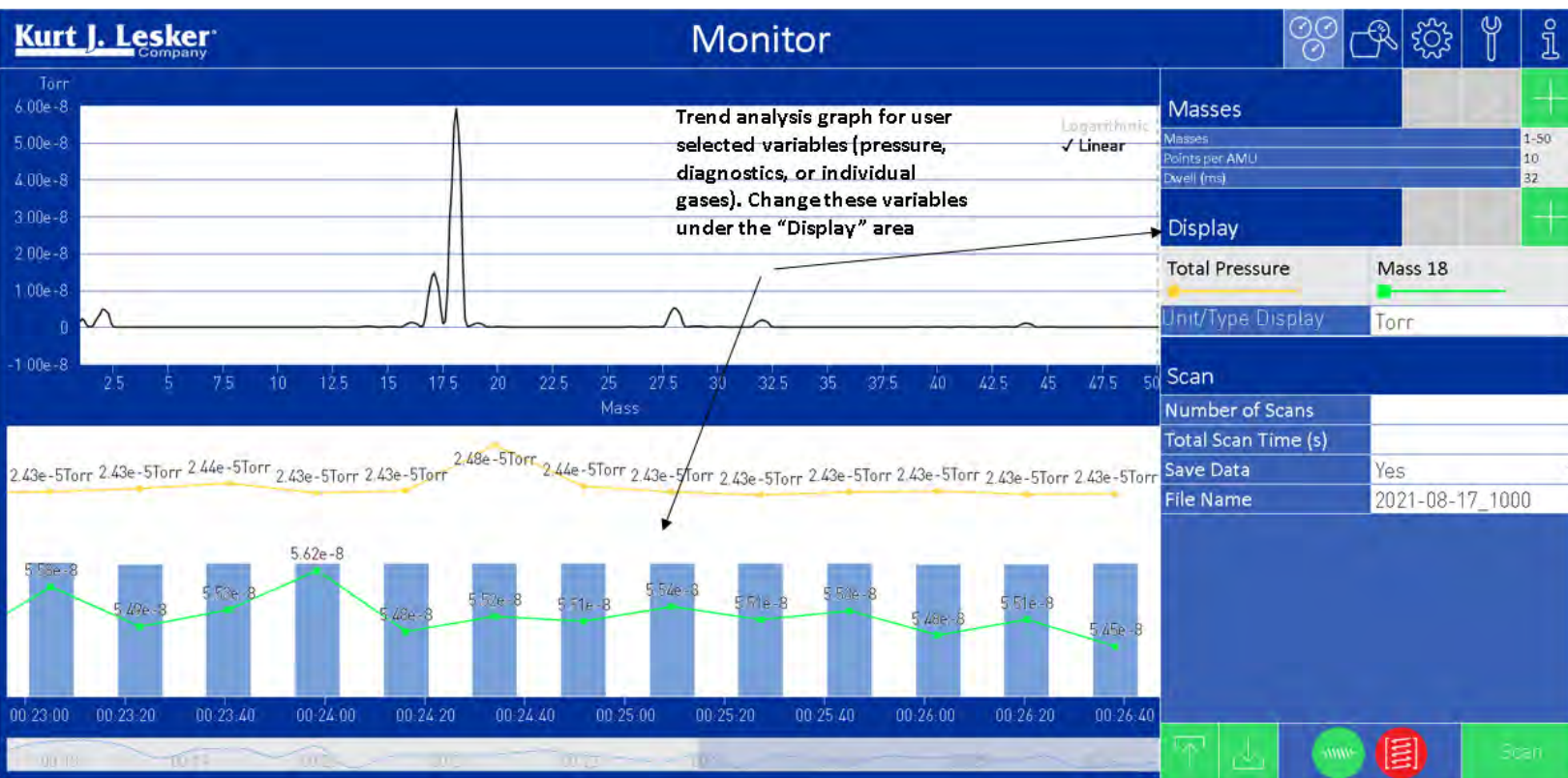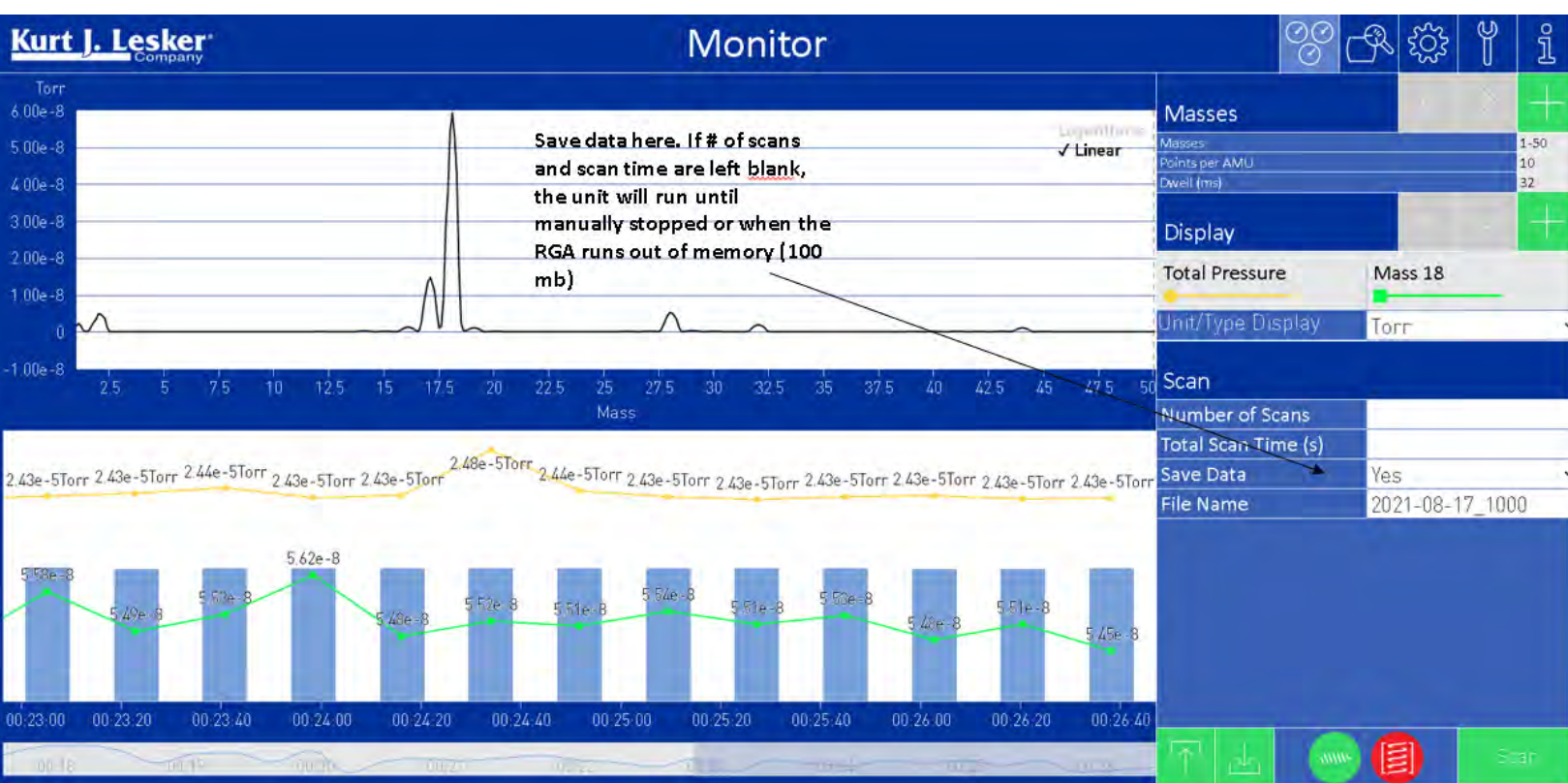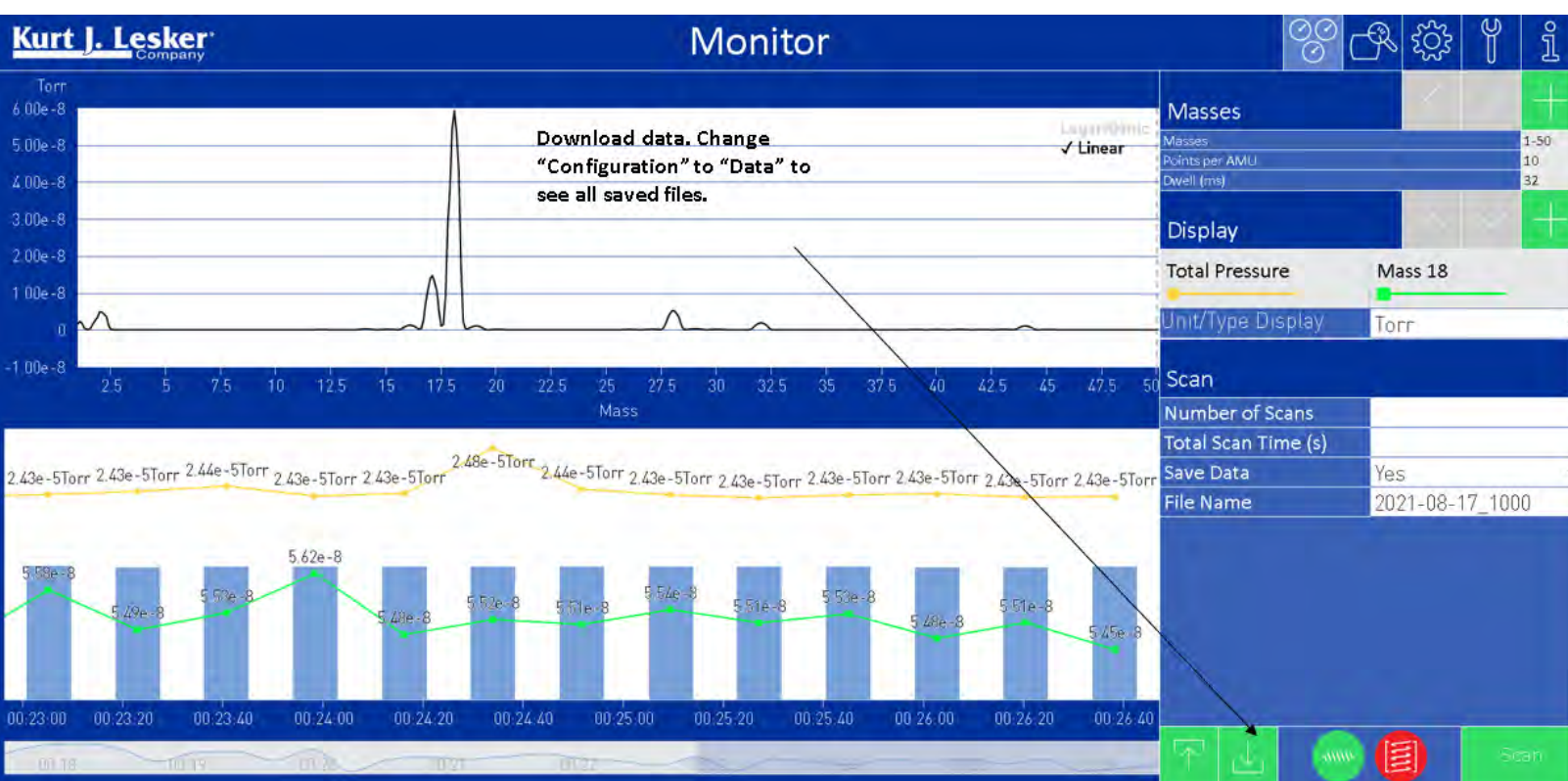
7. **Monitor Screen – Mass Range**

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8.   Monitor Screen – Points per AMU and Dwell Time

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9. **Monitor Screen – Trend Analysis Graph**

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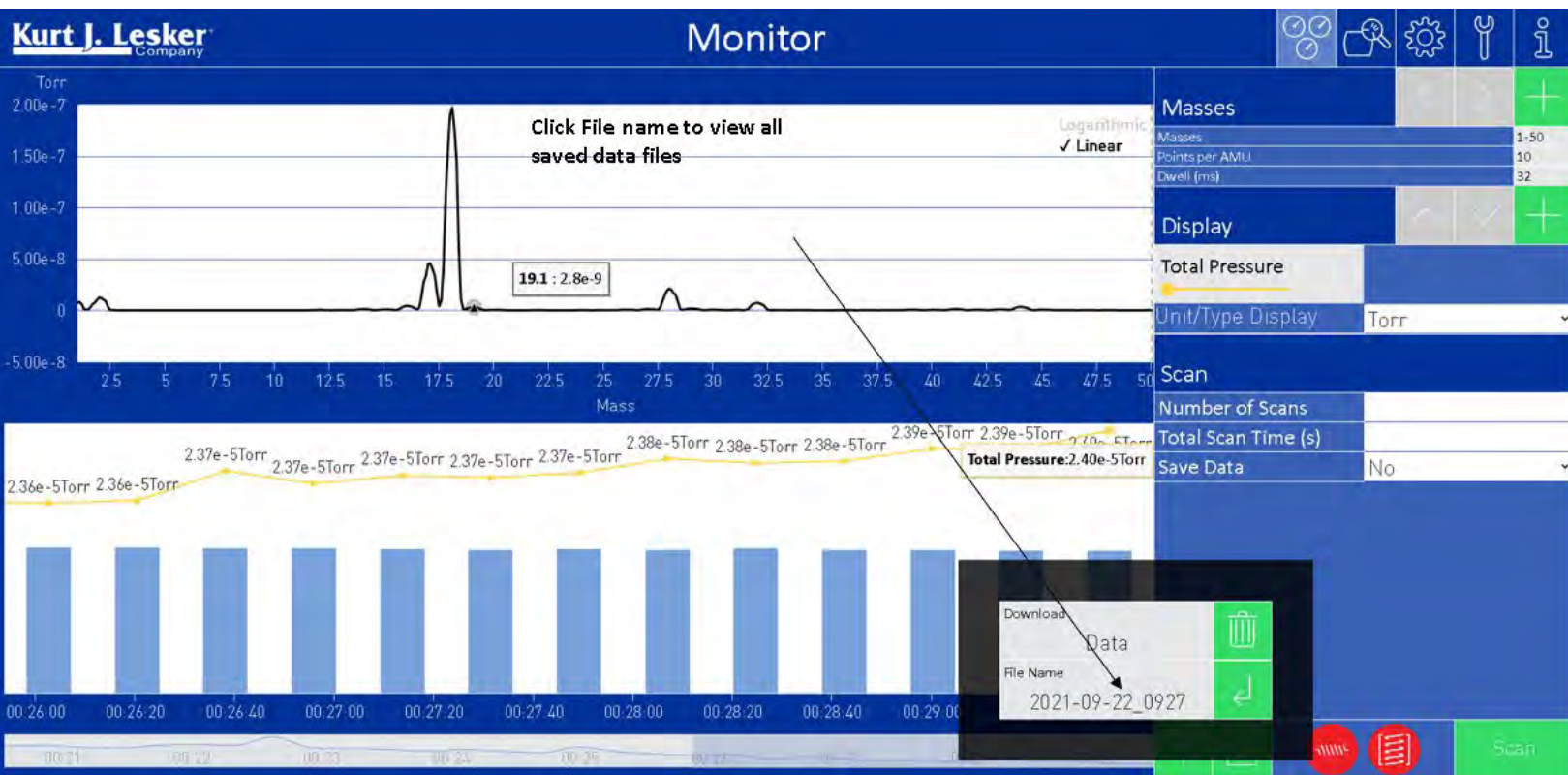
10. **Monitor Screen – Save Data**

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11. **Monitor Screen – Download Saved Datra**

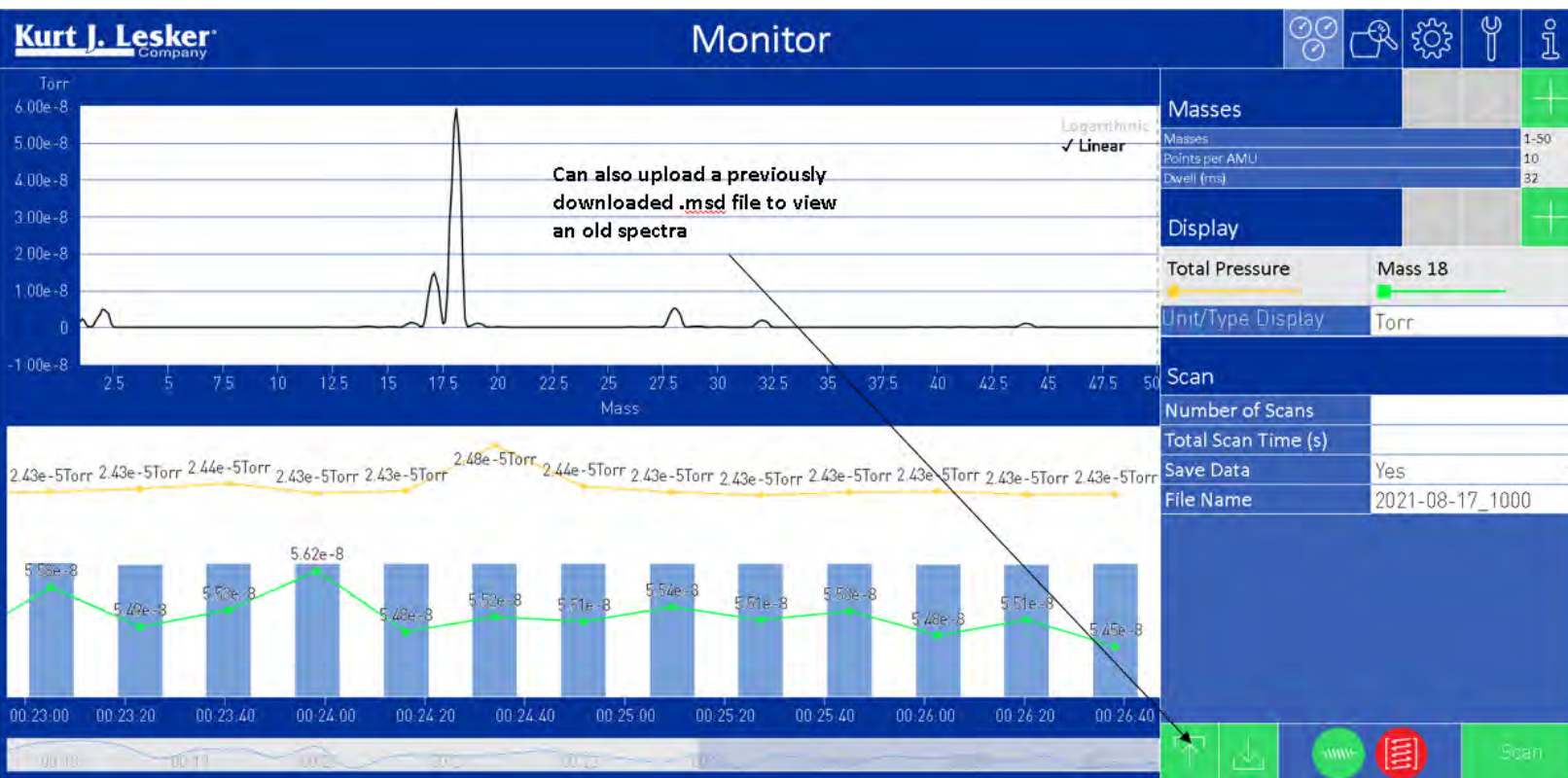| KJLC Element RGA Software Guide |
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12. **Monitor Screen – Download Saved Data**



Note: Download will currently be a .MSD file. You will need to use the Python script that can be downloaded from the RGA to convert the .MSD file to a .CSV file.

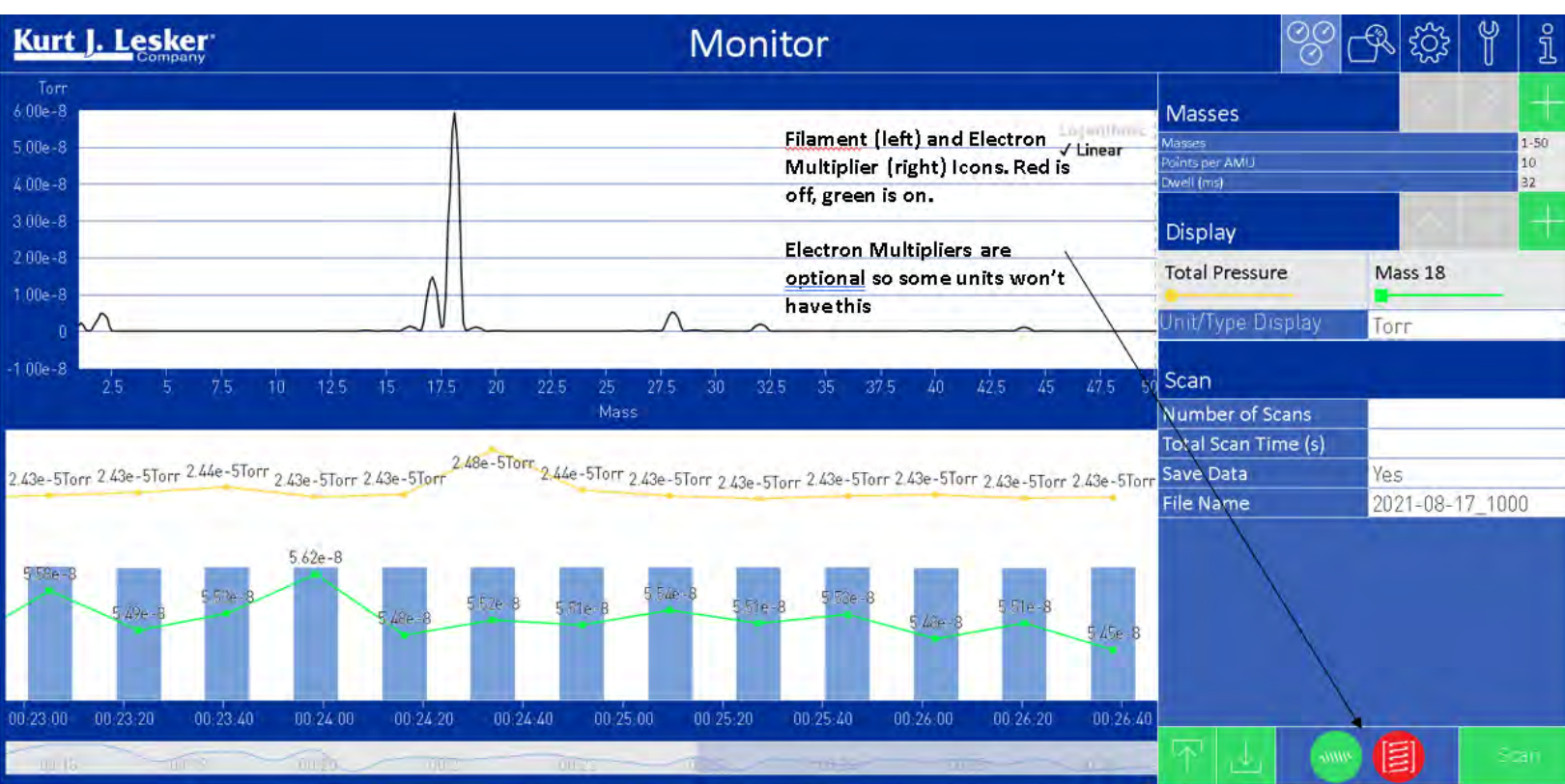| KJLC Element RGA Software Guide |
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### 13. Monitor Screen – Uploading an MSD file

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14. **Monitor Screen – Filament turn on and Electron Multiplier**

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15. **Leak Detection Screen**



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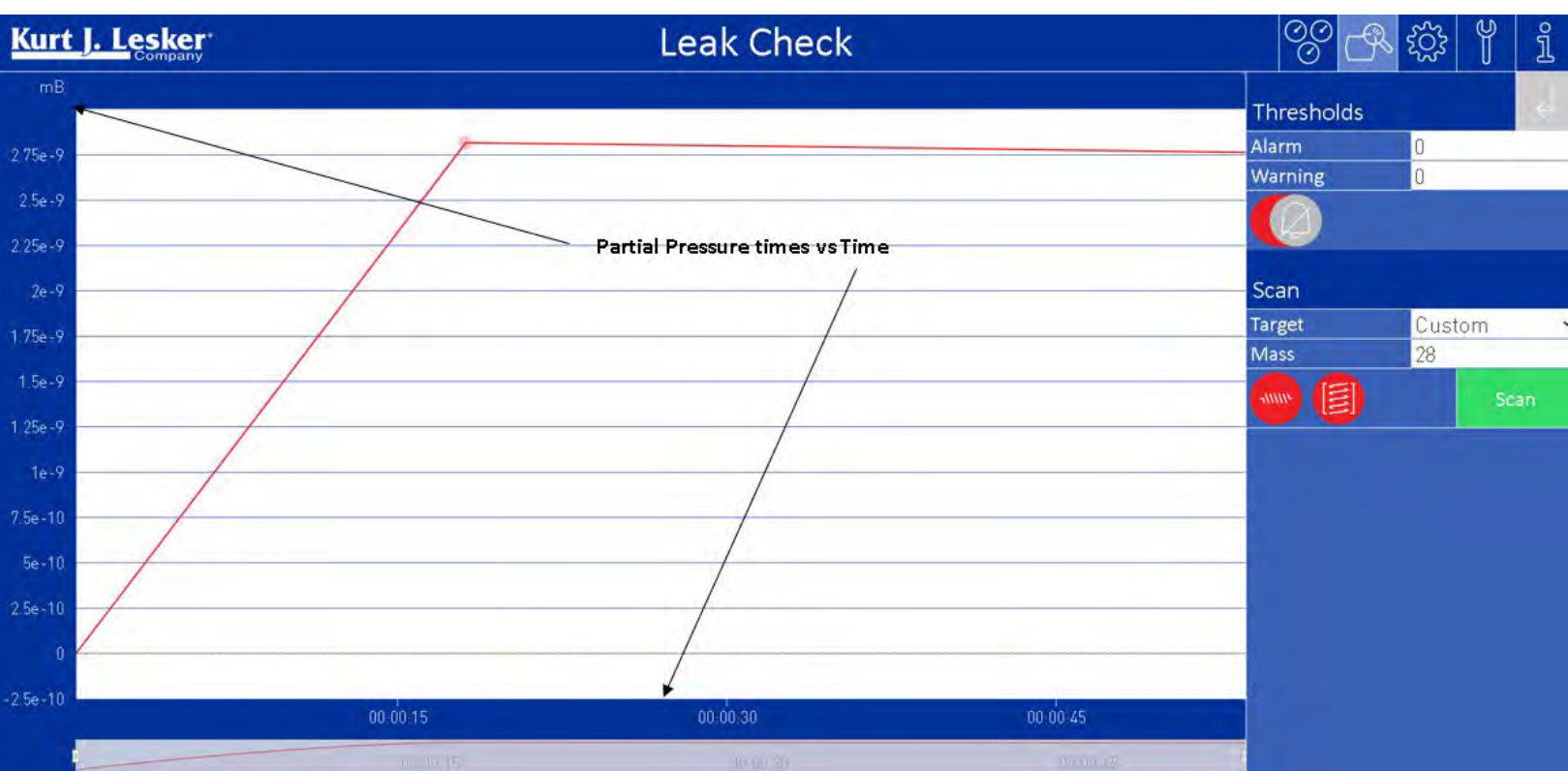- System error log (downloadable)

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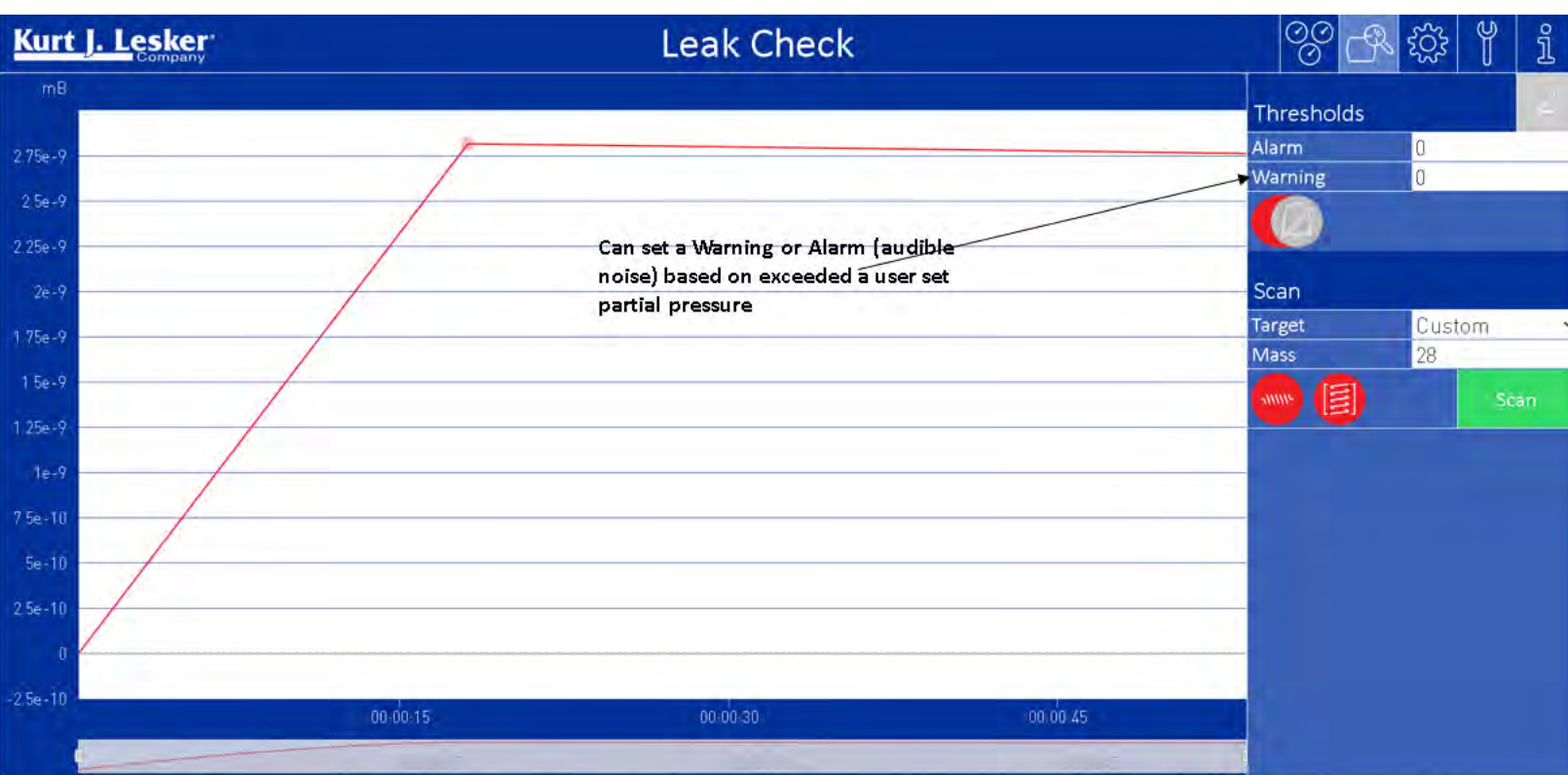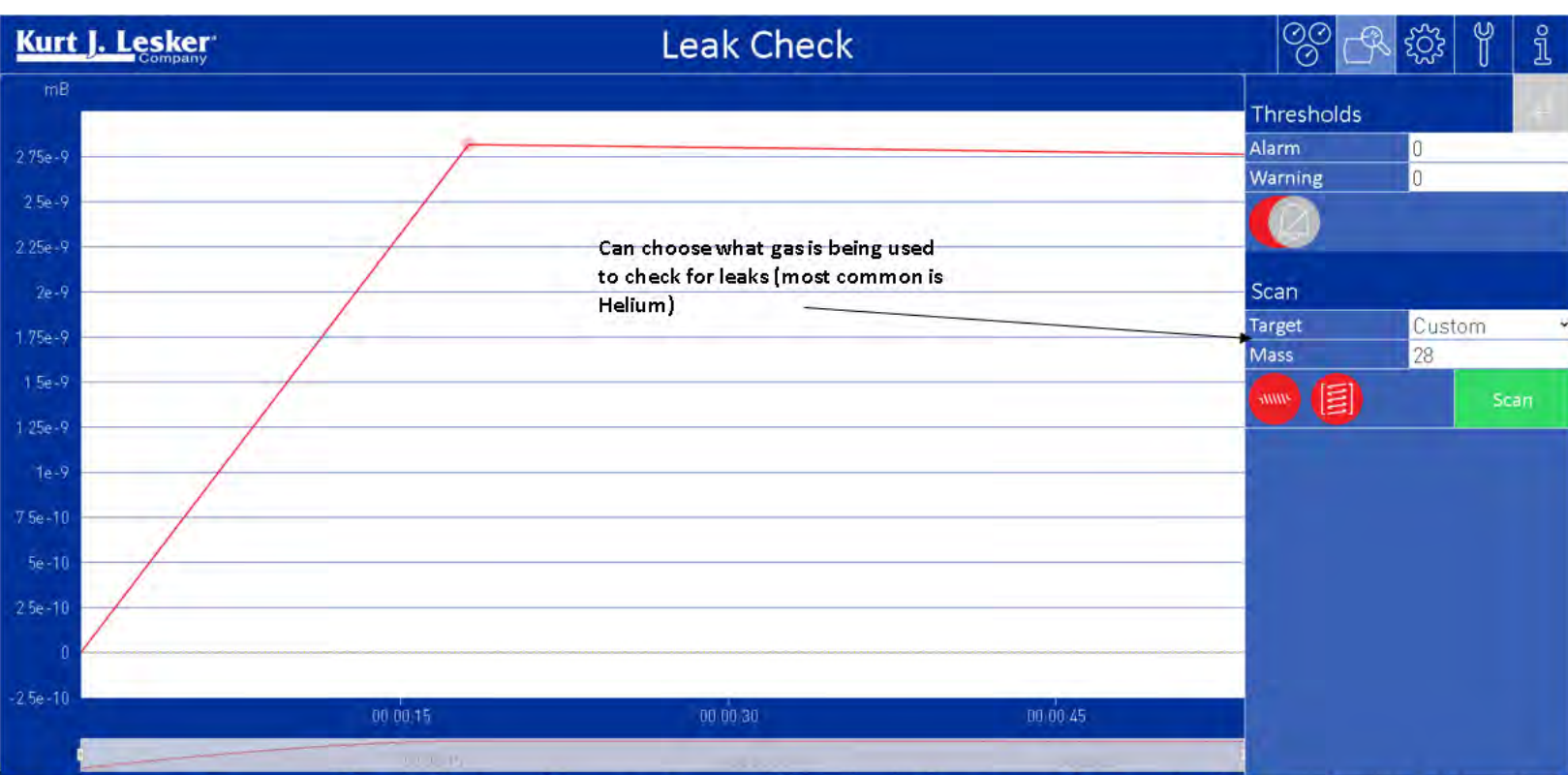
16. **Leak Detection Screen – Units**

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17. **Leak Detection Screen – Warning and Alarm**



Can set a Warning or Alarm (audible noise) based on exceeded a user set partial pressure

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18. **Leak Detection Screen – Target Mass**



Can choose what gas is being used to check for leaks (most common is Helium)

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### 19. Settings Screen



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![Kurt J. Lesker Company logo]

# Software Guide

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20. **Settings Screen**



Upload new firmware (if available)

Sensor Info (amu range and optional EM or not)

Change network settings; should discuss with internal IT before changing

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21. **Settings Screen**



Tuning – used when the RGA is showing signs of drift (i.e control gas, such as N2, is showing up at a mass other than 28). Should contact gauging@lesker.com before tuning if it is your first time.

Revert to Factory Default is tuning is done incorrectly

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22. **Diagnostics Screen**



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### 23. Diagnostics Screen

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24. **Info Screen**



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### 25. Info Screen



Documentation

Web UI Manual

API Guide

Quick Start Guide

Python Examples

MATLAB Examples

API – open access to API so end user can integrate into their system
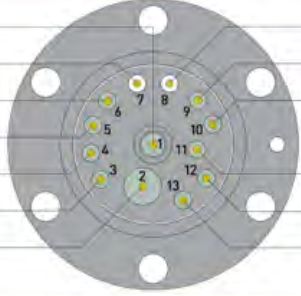
Python script – convert saved .msd to .csv
Must have python downloaded on computer
Download saved msd file, drag it over the python file, and drop. This will automatically convert msd to csv.

Sensor Pinout

To check filament continuity:

- Use a multimeter to measure the resistance of Pins 3 and 10 for Filament #1
- Use a multimeter to measure the resistance of Pins 4 and 10 for Filament #2
- Resistance should be around 0.8 Ohms

1 PP
7 GND
6 RF-
5 Anode
4 Filament 2
3 Filament 1
2 EM

8 GND
9 RF+
10 Filament Common
11 Reserved
12 Focus
13 TP

Sensor pinout for troubleshooting. If "open", filaments are physically damaged. If over 0.8 ohms, filaments are contaminated, and sensor should be baked out.

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**KJLC Element RGA Pin Resistances**

1  Measure the resistance of each filament. This can be accomplished while the sensor is under vacuum by measuring the resistance between pins 3 and 10 for filament 1 and pins 4 and 10 for filament 2. A failed filament will measure open while an intact filament will measure 0.3Ω.

![Kurt J. Lesker Company logo]

# Software Guide

## Dimensional Drawings



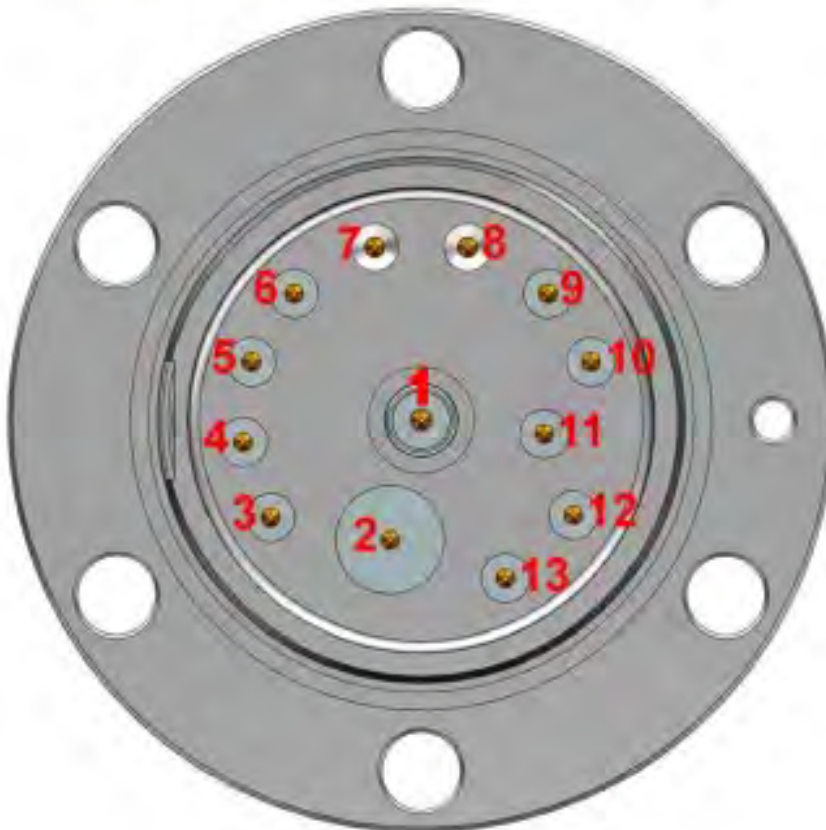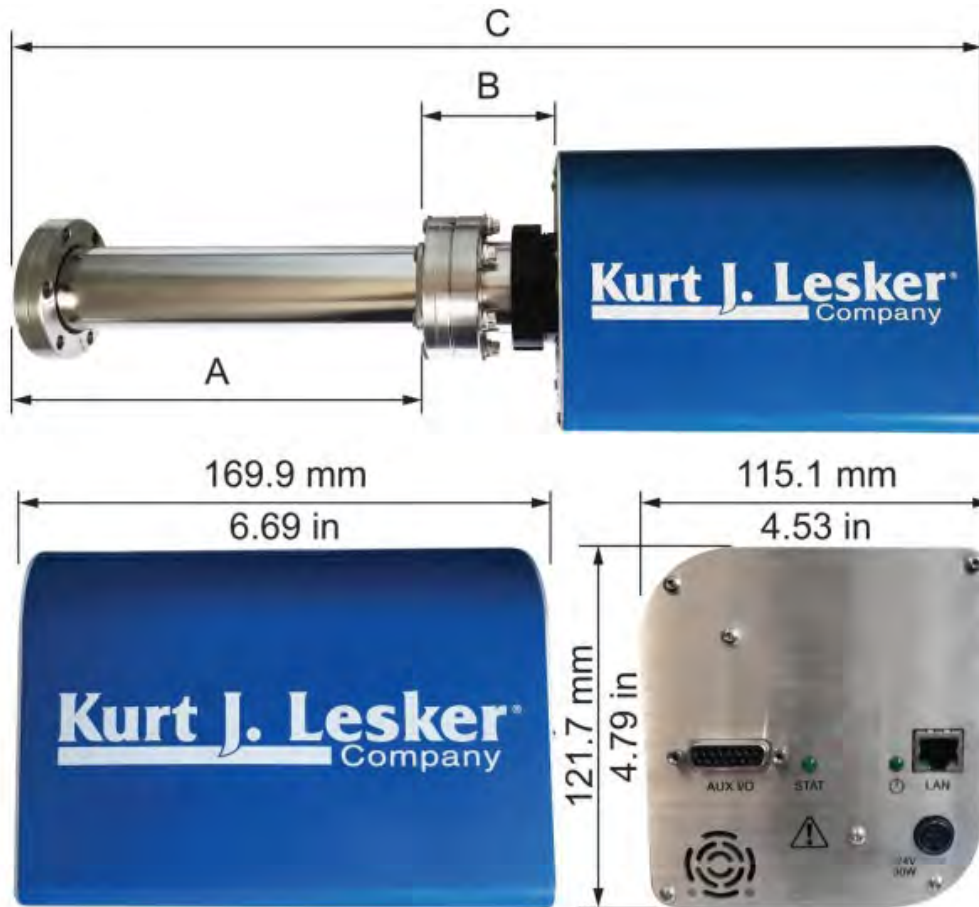| Element | (A) | (B) | (C) |
| --- | --- | --- | --- |
| 100F, 200F | 143 mm (5.63 in.) | 50 mm (1.98 in.) | 365.7 mm (14.40 in.) |
| 100M, 200M | 199 mm (7.83 in.) | 50 mm (1.98 in.) | 421.6 mm (16.60 in.) |

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## Replacement Parts

ELE163312: REPLACEMENT PART, FILAMENT KIT, DUAL YTTRIA-COATED IRIDIUM
ELE163311: REPLACEMENT PART, FILAMENT KIT, DUAL TUNGSTEN
ELE163212: REPLACEMENT PART, ION SOURCE KIT, DUAL YTTRIA-COATED IRIDIUM
ELE163211: REPLACEMENT PART, ION SOURCE KIT, TUNGSTEN
ELE163500: REPLACEMENT PART, EM KIT
ELE163604: CABLE, ETHERNET COMMUNICATIONS, 7m
ELE163605: CABLE, ETHERNET COMMUNICATIONS, 15m
ELE163600: POWER SUPPLY KIT,  RGA, 80-250 VAC, 4ft (1.2m), US PLUG
ELE163601: POWER SUPPLY KIT,  RGA, 80-250 VAC, 4ft (1.2m), EU PLUG
ELE163602: POWER SUPPLY KIT,  RGA, 80-250 VAC, 4ft (1.2m), UK PLUG
ELE163603: POWER SUPPLY KIT,  RGA, 80-250 VAC, 4ft (1.2m), IL PLUG
EL-A10S: ELECTRONICS BOX, FC, 100 AMU, STANDARD I/O
EL-A11S: ELECTRONICS BOX, FC, 100 AMU, EXTENDED I/O
EL-A20S: ELECTRONICS BOX, FC, 200 AMU, STANDARD I/O
EL-A21S: ELECTRONICS BOX, FC, 200 AMU, EXTENDED I/O
EL-B10S: ELECTRONICS BOX, EM / FC, 100 AMU, STANDARD I/O
EL-B11S: ELECTRONICS BOX, EM / FC, 100 AMU, EXTENDED I/O
EL-B20S: ELECTRONICS BOX, EM / FC, 200 AMU, STANDARD I/O
EL-B21S: ELECTRONICS BOX, EM / FC, 200 AMU, EXTENDED I/O
EL-1FAS: SPARE RGA SENSOR, 100 AMU, FC, DUAL YTTRIA-COATED IRIDIUM FILAMENTS
EL-1MAS: SPARE RGA SENSOR, 100 AMU, EM /FC, DUAL YTTRIA-COATED IRIDIUM FILAMENTS
EL-2FAS: SPARE RGA SENSOR, 200 AMU, FC, DUAL YTTRIA-COATED IRIDIUM FILAMENTS
EL-2MAS: SPARE RGA SENSOR, 200 AMU, EM /FC, DUAL YTTRIA-COATED IRIDIUM FILAMENTS
EL-1FBS: SPARE RGA SENSOR, 100 AMU, FC, DUAL TUNGSTEN FILAMENTS
EL-1MBS: SPARE RGA SENSOR, 100 AMU, EM /FC, DUAL TUNGSTEN FILAMENTS
EL-2FBS: SPARE RGA SENSOR, 200 AMU, FC, DUAL TUNGSTEN FILAMENTS
EL-2MBS: SPARE RGA SENSOR, 200 AMU, EM /FC, DUAL TUNGSTEN FILAMENTS
FN-C3113080: EXTENSION TUBE, DN35CF-DN40CF (2.75" OD), THRU HOLES, 8"OAL, 1.5" OD TUBE
HBS25028138: BOTL SET FOR DN35CF-DN40CF (2.75" OD) FLANGE, 2.25" LENGTH, 25 SETS
SA0150MCCF: ANGLE VALVE, MANUAL, METAL,  COPPER BONNET BELLOWS SEALED, DN35CF-DN40CF (2.75" OD)
SA0150PCCF: ANGLE VALVE, PNEUMATIC, METAL,  COPPER BONNET BELLOWS SEALED, DN35CF-DN40CF (2.75" OD)

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