

Luxon Ion Source®

Enter a new era of high-throughput
mass spectrometry



Phytronix

Compatible with
ThermoFisher
SCIENTIFIC

Bring your lab up to speed

Based on the patented **LDTD® technology**

Couple the **Luxon Ion Source®** to your Thermo Scientific mass spectrometer and reach an analysis runtime of less than 1 second. This apparatus is the second-generation sample introduction and ionization source based on the **LDTD® technology** for mass spectrometry.

Versatile multicomponent system adjustable to your bench setup:



Stack up to 10 plates or use a robotic arm to insert the LazWell plates in the Luxon with our Lazwell infeed System

Stay informed on the progress of your analysis with these flashy LEDs

Stretch or collapse the Luxon to fit to the height of your mass spectrometer

Easily move it around to swap out instruments

Your mass spec workflow has never been this fast

Here's what you get by switching your LC or immunoassay workflow to **Luxon Ion Source®**



Super fast ROI (days rather than months)



Plug-and-play



10x less solvents and consumables used



Robust process



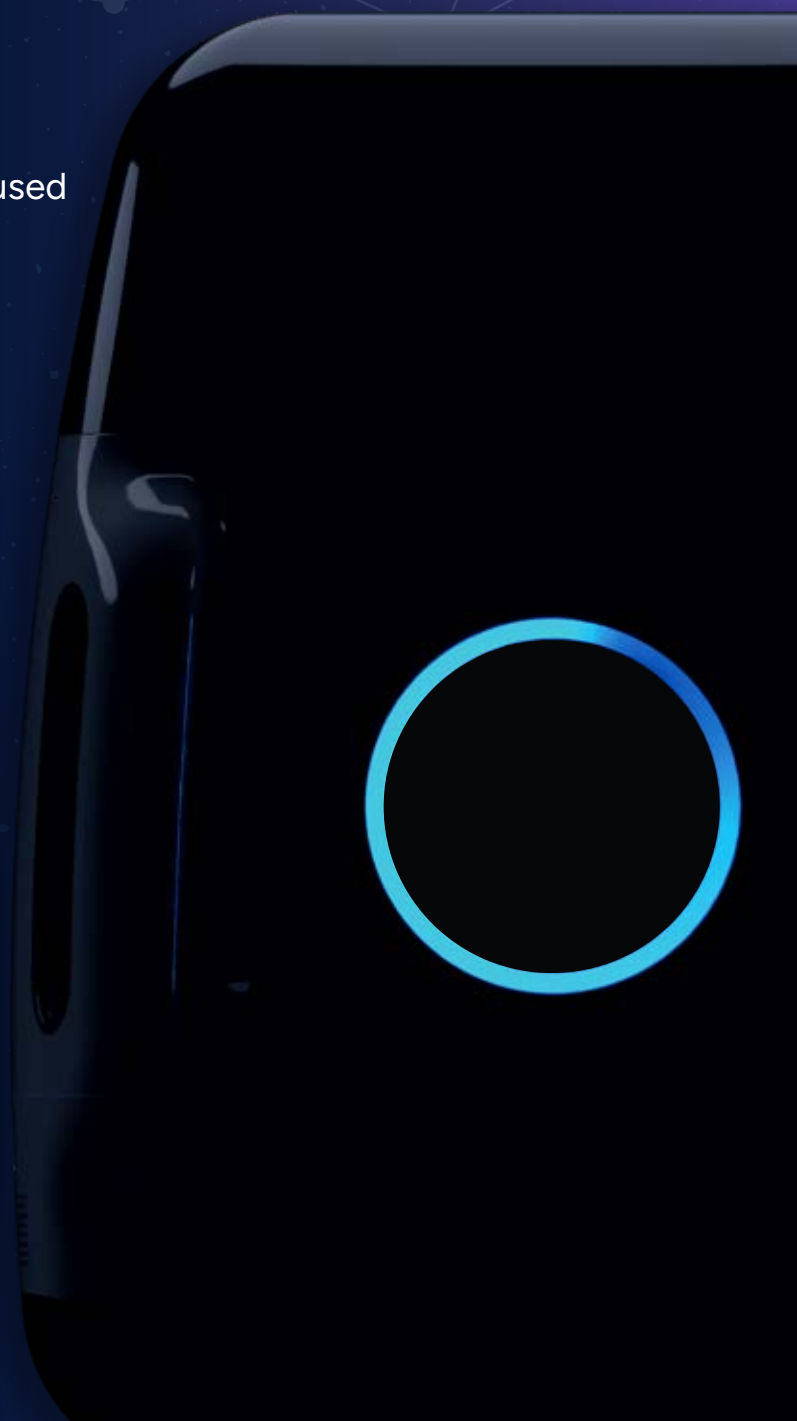
Possibility for 24/7 runtime



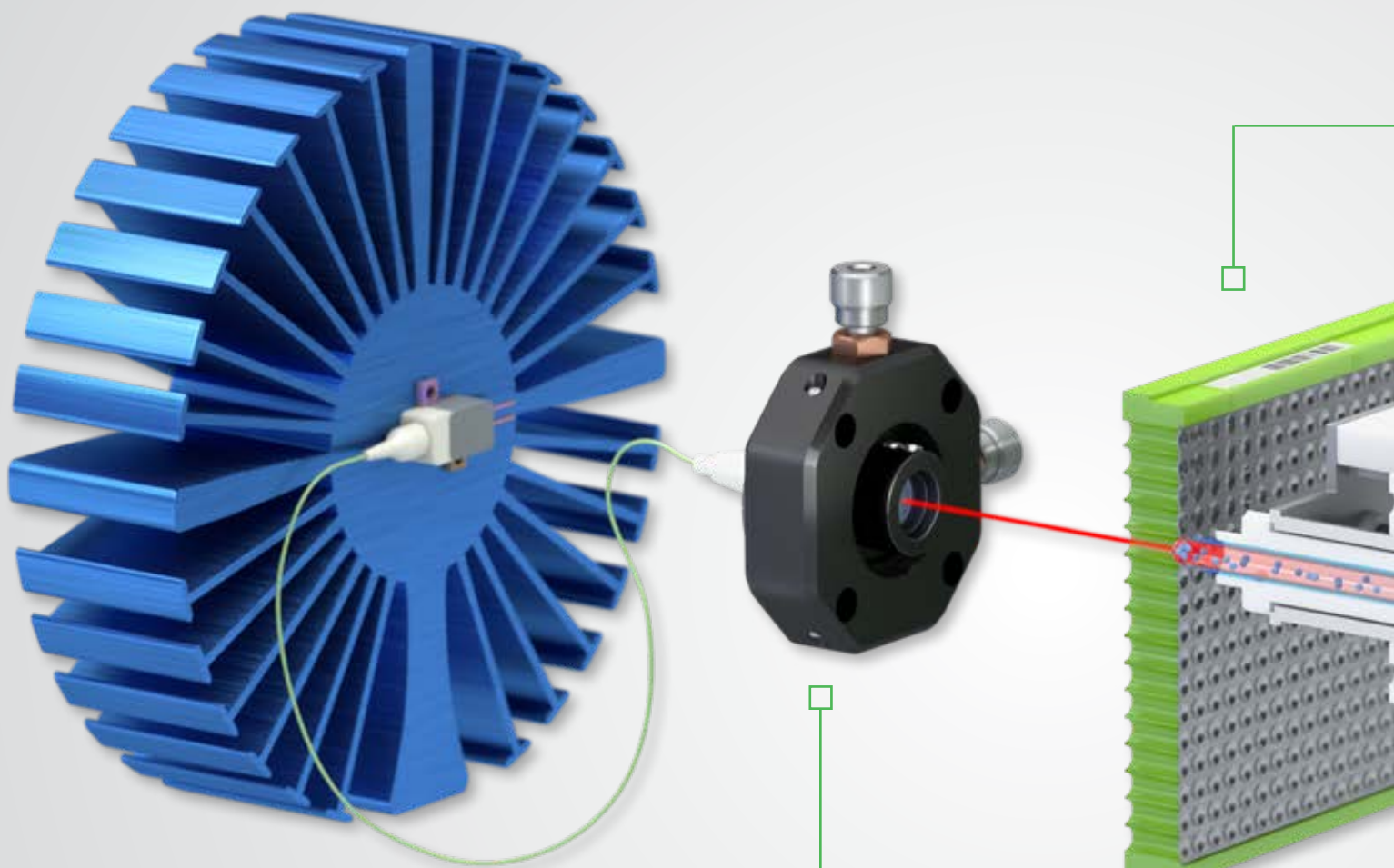
Virtually no false positives



As sensitive as your LC analysis



With that kind of speed...



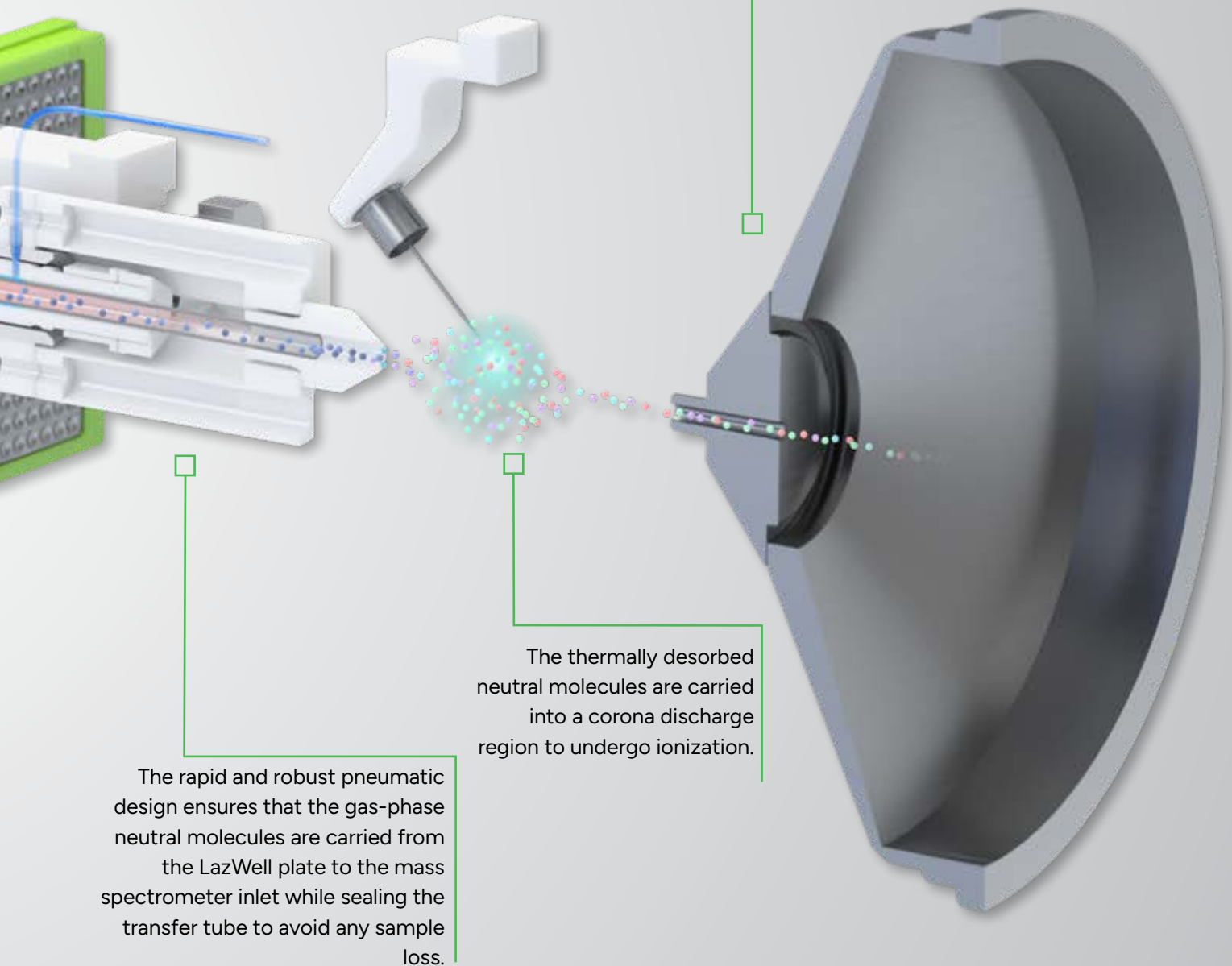
A cooled Fiber-Coupled Laser Diode Array and a heatsink to disregard room temperature variations.

The Fiber Optic Collimator allows unmatched thermal uniformity at the back of the LazWell plate without having to directly interact with the sample.

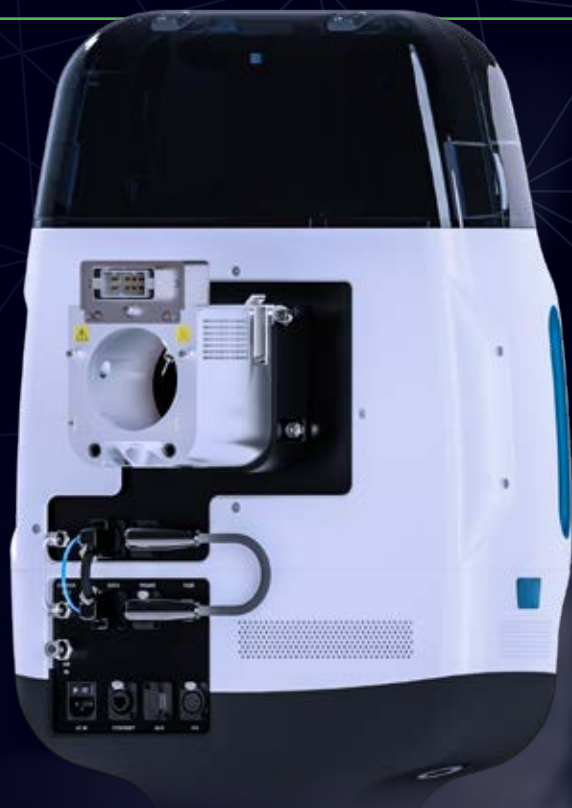
... you'll be laughing your mass off!

A low-volume sample (50nl-10 μ l) is deposited on the LazWell plate and then fully dried. The patented LazWell design allows for the formation of a precisely centered nanolayer on the well surface.

High-efficiency protonation and strong resistance to ionic suppression characterize this type of ionization and is the result of the absence of solvent and mobile phase.



Other features of Luxon Ion Source®



Plug-and-play

Light-weight and easy to use

With the Luxon Ion Source® you can now easily switch between your LC and Luxon within minutes! It is simple to install and remove which allows you to run your mass spectrometer and analyze your data as usual. The Luxon Ion Source® provides a robust walk away solution.

Traceability

Luxon follows your samples for you

The Luxon Ion Source® contains an incorporated barcode reader for an optimal traceability of your samples which makes it an ideal solution for regulated environments. The Luxon Ion Source® driver is supported by most Thermo Scientific™ mass spectrometers.

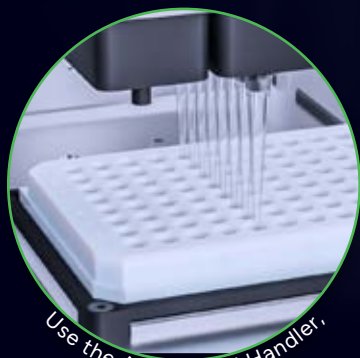


All LazWell™ plates are automatically scanned by Luxon to insure traceability

24/7 Process for mass spectrometry

Luxon takes care of your samples while you're away

The Luxon Ion Source® can be coupled with a robotic arm and a liquid handler for a completely automated solution, allowing you to run millions of samples without interruption and in a record time. It can also be delivered with a fully-integrated software workflow solution - from liquid handling batch files to the LIMS.



Use the Azeo Liquid Handler,



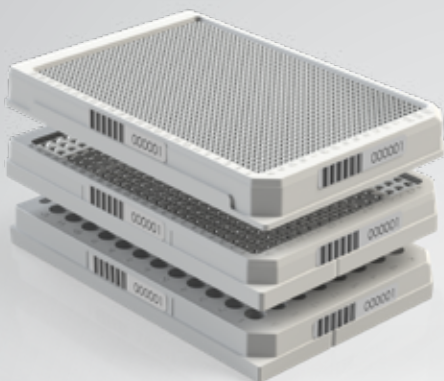
pair it with a robotic arm



and let it feed your samples to Luxon Ion Source®

LazWell™ plates

Our patented LazWell™ plates work exclusively with the LDTD® technology to provide accurate and reproducible results at incredible speed with microvolumes to decrease the cost per sample dramatically. Manufactured in a highly controlled environment, all LazWell™ models are barcoded on three sides ensuring a perfect fit with the volume-dispensing precision and sample traceability of conventional liquid handling systems.

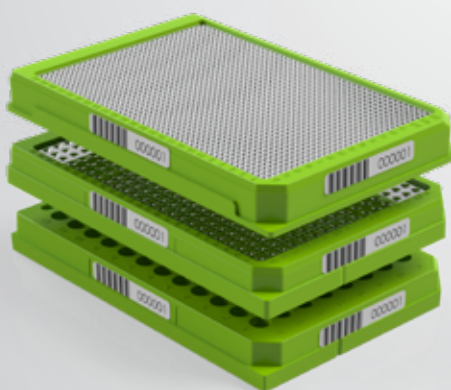
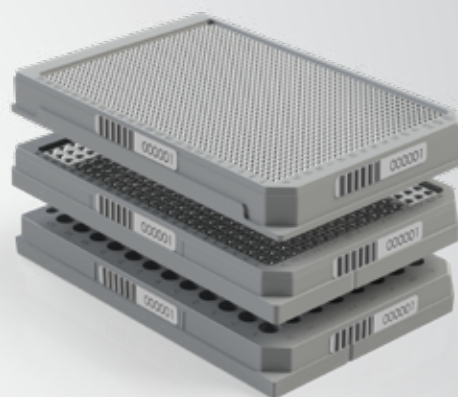


LazWell™

The LazWell™ plate is the standard model used in most analysis. As for all other types of plates, it is available in 96-, 384- and 1536-well formats.

LazWellAD *Acid Desorption*

The LazWellAD (Acid Desorption) plate is used to desorb acidic molecules found in loaded matrices. It is very efficient for drug tests.



LazWellIDEC

Desorption Enhancing Coating

The LazWellIDEC (Desorption Enhancing Coating) plate is designed to enhance analysis of polar compounds, whether acidic or basic.

| Models | Lazwell™ | LazWellAD | LazWellIDEC |
|------------------------|-------------|----------------|-----------------|
| Luxon T-960 fits with | LazWell96 | LazWell96-AD | LazWell96-DEC |
| Luxon T-3840 fits with | LazWell384 | LazWell384-AD | LazWell384-DEC |
| Luxon T-HTS fits with | LazWell1536 | LazWell1536-AD | LazWell1536-DEC |

Combine the Luxon Ion Source® with Thermo Scientific™ Mass Spectrometers: Orbitrap™, Triple Quadrupole and Ion Trap Families

The Luxon Ion Source® is fully integrated on Thermo Scientific™ mass spectrometers and is **the ultimate solution** for ultra high-throughput in quantitative and qualitative analyses.

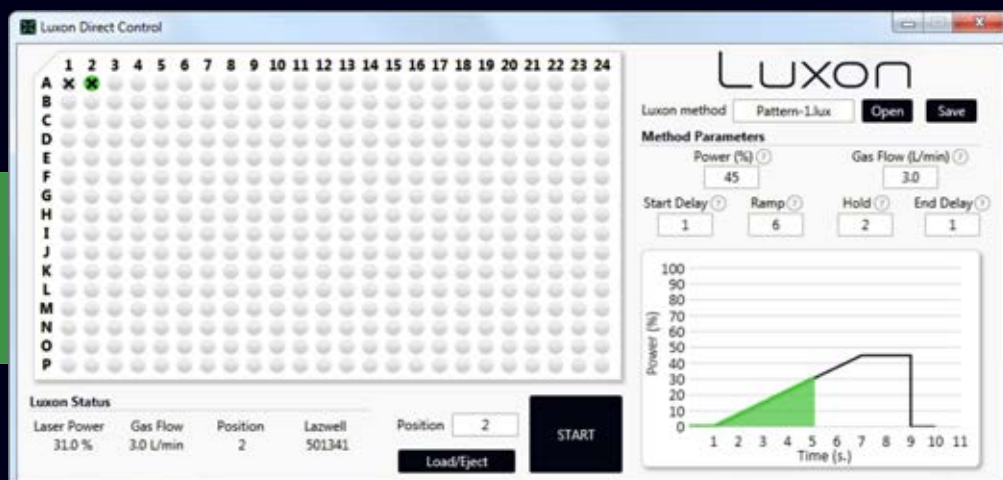
Luxon Ion Source® is completely integrated on :

- **Orbitrap™ mass analyzers** : The disruptive power and speed of Luxon Ion Source® redefines high-resolution, accurate-mass (HRAM). With Luxon Ion Source® coupled to an Orbitrap™ system, get the best of both worlds - the speed and resolution to create high-throughput workflows. Luxon is compatible with the entire portfolio of Orbitrap-based MS systems.
- **Triple Quadrupole mass spectrometers** : Combine the speed of the Luxon Ion Source® with the robustness of Thermo Scientific™ TSQ Triple Quadrupole mass spectrometers and attain unmatched runtime for your high throughput targeted quantitation workflows.
- **Ion Trap mass spectrometers** : The ultra-fast polarity switching of the LTQ family matches the Luxon Ion Source® perfectly for an enhanced high sensitivity analysis of unknowns.



Luxon Direct Control Software

Our Direct Control software offers a fast track for manual tuning while developing a method. Watch your peak take shape in real time!



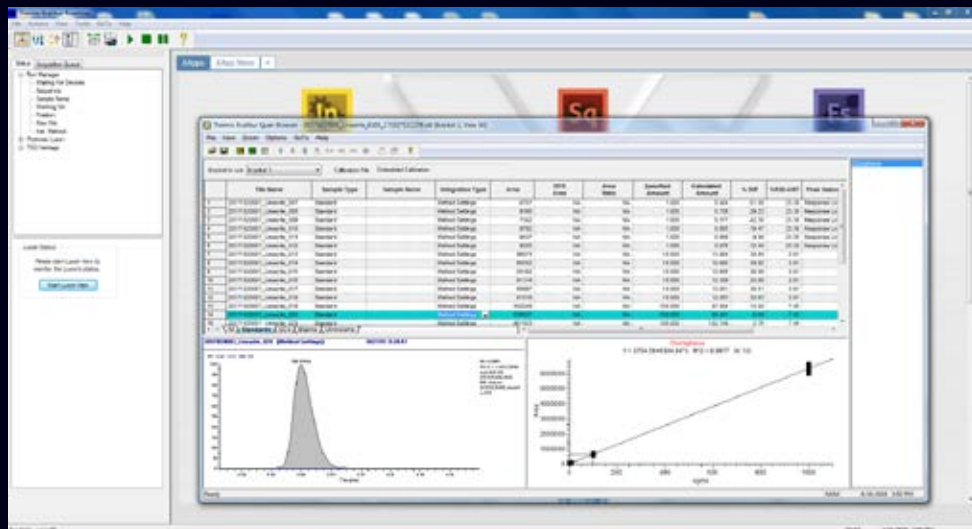
Complete integration
within **Thermo Scientific™** Software

Luxon Ion Source® was not only designed to be compatible with MS hardware from **Thermo Scientific™**, but also to be controlled by softwares created by **Thermo Scientific™** through our Luxon driver.



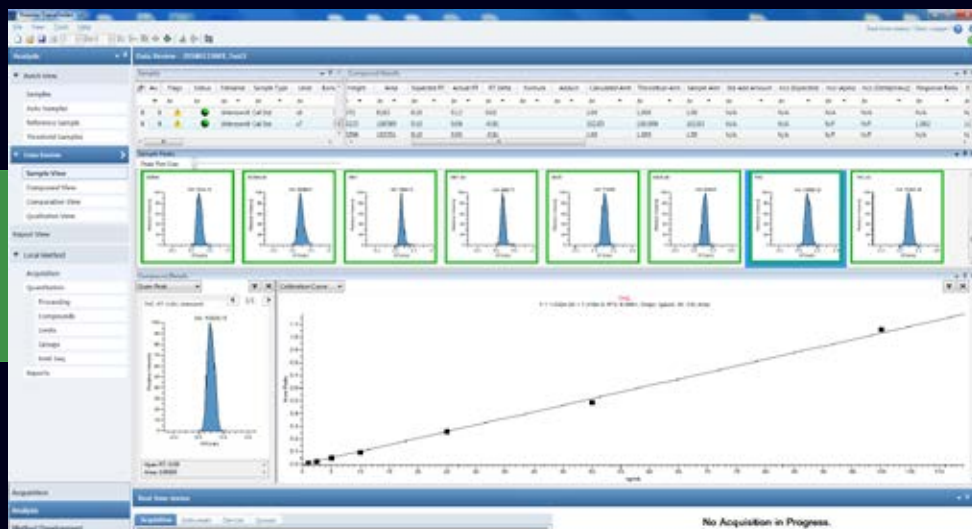
Xcalibur™ Software

Thermo Scientific™ Xcalibur™ Software is the single point of control for the Luxon Ion Source®. Your Luxon batch launches will be identical to your HPLC's.

Phytronix Luxon
Driver
integration with
Xcalibur™ Software

TraceFinder™ Software

The complete integration of Luxon Ion Source® with Thermo Scientific™ TraceFinder™ Software boosts mass spectrometry to a new level of productivity.



Luxon Ion Source®
integration with
TraceFinder™
Software

Luxon Ion Source® can be used for various applications such as:

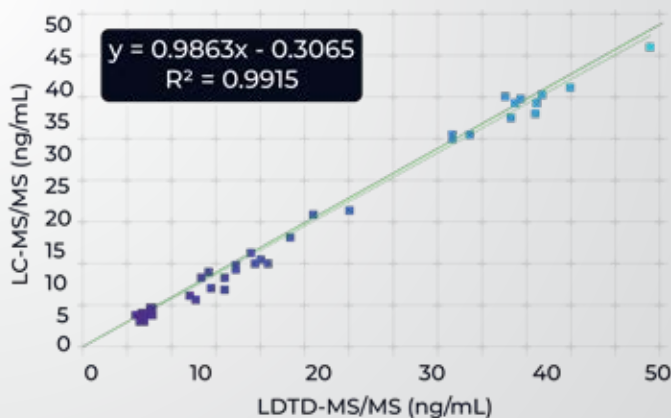
Clinical Applications

Immunosuppressants, anti-retroviral, therapeutic drugs, biomarkers, etc.

The Luxon Ion Source® is a robust, rapid and precise solution with your Thermo Scientific™ mass spectrometer for clinical applications.

It is capable of completing the quantification of hundreds of samples, in less than 30 minutes, of a multitude of molecules in various matrices such as :

- Testosterone in plasma
- Vitamins A, C and E in serum
- Cotinine in human plasma
- Biomarker creatinine in serum
- Immunosuppressant drugs



Up to 3600

Nb of samples/hour

17x

Less expensive per sample
than EIA

2000%

Faster than EIA

Forensic and Toxicology Applications

Pain management, doping, forensic, newborn testing and more...

The Luxon Ion Source® is a quantitative solution for forensic and toxicology laboratories thanks to its many features such as traceability, runtime and low-volumes required for analysis.

Perform quantitative analysis of over 120 compounds with Luxon Ion Source® such as :

- Cannabinoids (Natural and Synthetic)
- Street Drugs (Heroin, Cocaine, etc.)
- Pain Management Drugs (Fentanyl, Oxycodone etc.)
- Antidepressant Drugs
- Explosives

"We have used the Phytronix LDTD source for several years and have reported out over a 1,000,000 combined tests on LDTD/MS-MS instruments, and of course have submitted many proficiency samples with never an error [...] it made a 16-hour run by LC decrease to a 15-minute run for 96 samples, and greatly decreased sample volumes required, so fewer QNS samples ..."

Director of Toxicology Lab

The more you know...

You can use the Luxon Ion Source to analyze a variety of matrices:

- Hair
- Urine
- Umbilical Cord
- Nails
- Blood
- Meconium
- Swabbed Surfaces

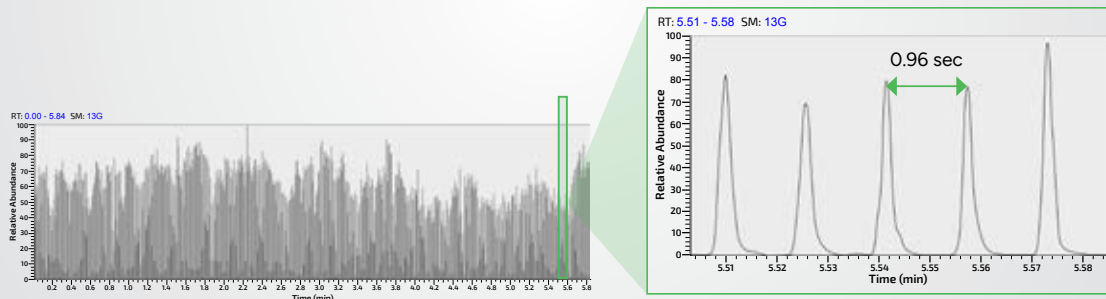
Pharmaceutical Applications

Drug discovery and development

The Luxon Ion Source is a quantitative solution for **High-Throughput Screening** environments thanks to its sub-second runtime.

Perform both In Vitro and In Vivo assays such as :

- CYP Inhibition Assays
- Permeability Assays
- Microsomal and Plasma Stability
- Pharmacokinetic Studies (ADME Assays)
- Dried Blood Spot Analysis



Food and Environment Applications

Pesticides, pharmaceuticals, steroidal hormones in waste water, trace analysis of explosives in soil and more...

The Luxon Ion Source® meets the industrial needs for quality control in terms of robustness, reproducibility and absence of carryover.

Analyze pathogens in complex matrices such as :

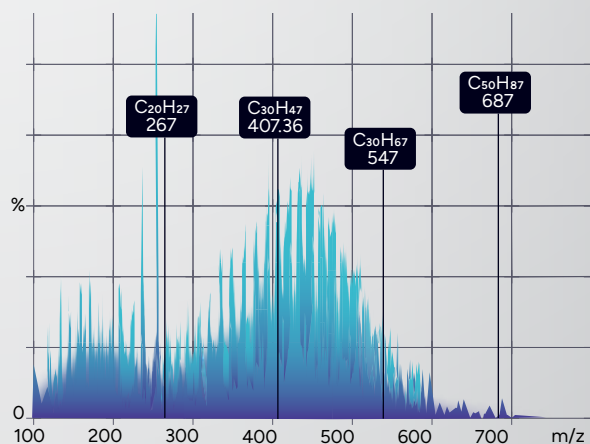
- Boar taint related compounds in pork fat
- Neonicotinoids in honey or water
- Emerging contaminants in wastewater
- Antibiotics in meat
- Mycotoxins in animal feed

Exclusive to Orbitrap

Analysis of hydrocarbon profiles from C20 to C50.

Applications:

- Petrochemistry
- Food Fraud Investigation



Bring on data!

With Luxon Ion Source, you can amass millions of data entries in a couple of weeks. Perfect for ...

- ▶ The detection of metabolome patterns with machine learning
- ▶ DMPK studies
- ▶ Clinical trials
- ▶ Optimization of bioreactions in food

Specifications



19.5" (50 cm)

Max 57.5" (146 cm)

Min 50.25" (128 cm)



18" (46 cm)

Dimensions

| | |
|--------|---|
| Weight | 116 lbs (52.5 kg) |
| Height | <ul style="list-style-type: none">• Max: 57.5" (146 cm)• Min: 50.25" (128 cm) |
| Width | 19.5" (50 cm) |
| Depth | <ul style="list-style-type: none">• 18" (46 cm)• Int. Thermo: 7.25" (18.5 cm) |

Positioning

| | |
|----------------------|---|
| Height adjustments | <u>Touchscreen:</u> Units can be change between cm. and in. , store 3 heights in memory |
| Connection to the MS | Uses the Thermo interface, moves on 4 lockable wheels |

Loader Capacity

| | |
|----------|----------------------|
| Quantity | 10 or ∞ if automated |
|----------|----------------------|

Electrical Requirements

| | |
|-------------|--------------------------------------|
| Voltage | 100-240 V~ |
| Frequency | 50/60 Hz |
| Power | 120 VA (W) |
| Power cable | Supplied with cable for your country |

Analysis v

| |
|---|
| Can be reduced to less than one second sample-to-sample |
|---|

Source

Electronic Controller

Motorized Base



Environmental Conditions

| | |
|-----------------------|---------------------------|
| Operating temperature | 15 to 35 °c (59 to 95 °f) |
|-----------------------|---------------------------|

| | |
|-----------------------|-----|
| Max relative humidity | 80% |
|-----------------------|-----|

Gas Requirements

| | |
|-----|-------------------------|
| Gas | Oil-free compressed air |
|-----|-------------------------|

| | |
|---------------|------------------------|
| Water content | Between 3 and 1800 ppm |
|---------------|------------------------|

| | |
|----------|------------|
| Pressure | 60-120 psi |
|----------|------------|

| | |
|-------------|---|
| Consumption | If left at 3L/min. for the workday: 1440 L. |
|-------------|---|

Computer Requirements

| | |
|------------------|-------------|
| Ethernet port(s) | 1 available |
|------------------|-------------|

| | |
|------------------------------|--|
| Windows 7 (32-bit or 64-bit) | |
|------------------------------|--|

| | |
|-------------------------------|--|
| Windows 10 (32-bit or 64-bit) | |
|-------------------------------|--|

Software Requirements

| | |
|--------|---|
| Thermo | <ul style="list-style-type: none">• Xcalibur 2.1 SP1 or later• QuickQuan 2.4 or later• TraceFinder 3.2.513.0 or later |
|--------|---|

Automate your workflow with **Luxon Ion Source®**

EVACUATION TRAP
FOR SAFE FUME
REMOVAL



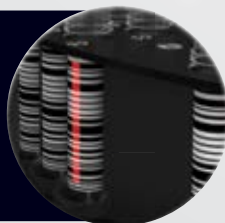
START A PROTOCOL WITH
THE TOUCHSCREEN AND A
USER-FRIENDLY APP



REMOVABLE
CAROUSEL THAT
HOLDS UP TO 96
VIALS



- TWO VIAL-BARCODE SCANNERS
- ONE LAZWELL™ PLATE BARCODE SCANNER
- BARCODE INTEGRITY VERIFICATION



In a single step, upload the .csv sample list directly
into **Xcalibur™**



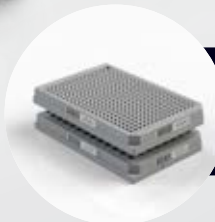
ONE 4-CHANNEL AND
ONE 8-CHANNEL
PIPETTE TO MAXIMIZE
EFFICIENCY



OPTIONAL LUMO
VORTEXER
ORBITAL PLATE
SHAKER



OPTIONAL
LAZWELL™ DRYER
TO SPEED UP THE
EVAPORATION
PROCESS



COMPATIBLE WITH 96 OR
384 LAZWELL™ PLATES

| Scanned Vials | | LazWell Barcode: 218292 | | | |
|---------------|-------------|-------------------------|-------------|----|-------------|
| | | | | | |
| 1 | RT000000080 | 25 | RT000000045 | 49 | RT000000036 |
| 2 | RT000000082 | 26 | RT000000040 | 50 | RT000000039 |
| 3 | RT000000091 | 27 | RT000000046 | 51 | RT000000037 |
| 4 | RT000000087 | 28 | RT000000105 | 52 | RT000000060 |
| 5 | RT000000102 | 29 | RT000000049 | 53 | RT000000035 |
| 6 | RT000000125 | 30 | RT000000047 | 54 | RT000000056 |
| 7 | RT000000121 | 31 | RT000000050 | 55 | RT000000059 |
| 8 | RT000000077 | 32 | RT000000063 | 56 | RT000000051 |
| 9 | RT000000096 | 33 | RT000000069 | 57 | RT000000106 |
| 10 | RT000000021 | 34 | RT000000074 | 58 | RT000000062 |
| 11 | RT000000103 | 35 | RT000000064 | 59 | RT000000033 |
| 12 | RT000000034 | 36 | RT000000048 | 60 | RT000000064 |
| 13 | RT000000034 | 37 | RT000000048 | 61 | RT000000033 |



A blue-tinted photograph of a medical device, likely a ventilator, with a central circular fan labeled 'Luxon'. The device is overlaid with a white network diagram consisting of nodes and connecting lines. The word 'Phytronix' is printed at the top center.

Phytronix

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