Accessible. Affordable. Automatable.

Benchtop NMR
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Why benchtop NMR spectrometers?

Nanalysis’ benchtop NMR spectrometers add another layer of NMR technology to increase accessibility and affordability within your teaching, research, processing or industrial QA/QC lab.

Contact us for more information or talk to our team about the feasibility of your application.

sales@nanalysis.com

>> Structural elucidation
>> Check for impurities in starting materials
>> Reaction completeness
>> Byproduct formation
>> Product purity
>> Routine QA/QC
>> qNMR

Variety of Options
Select the model, nuclei and resolution that fit with your need and budget!

Rapid Results
Discover how high-performance NMR spectra located directly on your bench can improve your productivity!

Low Maintenance
With no required cryogens, these permanent magnet NMR spectrometers can significantly reduce operating expenditures.

Simple Sample Prep
Using industry standard 5 mm NMR tubes, sample preparation is simple and can be used on other spectrometers without requiring additional preparation.

Automatable
With an autosampler and optional software, an easy-to-use interface that can be customized for data acquisition and processing by technicians.
Benchtop NMR
Technical specifications overview

High Performance
With a powerful 2.35 Tesla magnet at 100 MHz, the Nanalysis 100 represents the highest performing benchtop NMR spectrometer. This affords better peak separation and superior sensitivity, while still maintaining an accessible, all-in-one, easy to use footprint.

Customizable Experience
With the same ease of use and convenience as our 60 MHz product line, the 100 MHz is a robust, compact NMR magnet platform with modifiable acquisition/processing parameters and an ergonomical touchscreen.

Operating Frequency
100 MHz (2.35 T)

Magnet
Permanent, no cryogens

User Interface
- Integrated touchscreen computer
- Remote accessibility
- Connect to external computer, if desired

Nuclei
**100e** – Single-channel; e.g., $^1$H

**100PRO** – Dual-channel; e.g., $^1$H/$^{13}$C, $^1$H/$^{31}$P, $^1$H/$^{19}$F
Please inquire about custom options

Lock
Internal $^1$H or $^2$H

Sample
Standard 5 mm NMR tubes

Compatibility third party softwares such as:
Software: Mnova, ACD/Labs, Delta, TopSpin, MatLab
File: JCAMP-DX and CSV

Resolution
LW(50%) < 1.0Hz (<0.01ppm)

Sensitivity
220 : 1
(1% EtBz, 1 scan)

Operating Temperature
16 – 28 °C

Power Supply
100 – 240 VAC, 50 – 60 Hz

Connectivity
Ethernet/WiFi, USB, Serial, HDMI

Dimensions with screen (wxhxd)
17 x 15.3 x 32”
43.2 x 38.7 x 81.3 cm

Screen size and resolution
15.6”, 16:9, 1920x1080

Weight
240 lbs /109 kg

* Specifications are subject to change without notice
60 MHz

Compact and Accessible

60e is a 60 MHz single-channel NMR spectrometer. It can easily address one of the most important components of teaching NMR – gaining access to an NMR spectrometer.

Multinuclear Capability

60PRO is a dual-channel, all-in-one benchtop NMR spectrometer. It is lightweight and easy to site with its small footprint. Quick and easy-to-use.

Operating Frequency
60 MHz (1.4 T)

Magnet
Permanent, no cryogens

User Interface
Built-in touchscreen or Windows, Mac or Linux compatible. It can connect to external computer, if desired.

Nuclei
60e – Single-channel; 1H or 19F
60PRO – Dual-channel; e.g., 1H/13C, 1H/31P, 1H/19F, 1H/11B, 19F/7Li
Please inquire about custom options

Lock
Deuterium & non-deuterium options

Sample
Standard 5 mm NMR tubes, flow options

Compatibility
File: JCAMP-DX and CSV
Software: Mnova, ACD/Labs, Delta TopSpin, MatLab

Resolution & Lineshape
LW(50%) <1.0 Hz (<0.017 ppm)

Sensitivity
100 : 1
(1% EtBz, 1 scan)

Stray Field
2 Gauss line contained within enclosure

Operating Temperature
18 – 26 °C

Power Supply
100 – 240 VAC, 50 – 60 Hz

Connectivity
Ethernet/WiFi, USB, Serial, HDMI

Dimensions
11.8 x 11 x 19.2”
30 x 28 x 49 cm

Weight
55 lbs / 25 kg

* Specifications are subject to change without notice
FEATURED ACCESSORIES

AUTOsample-60

A top mounting autosampler that is compatible with 60e or 60PRO benchtop NMR spectrometer. This allows for painless interconversion between autosampler and manual modes, while still maintaining the notably minimal footprint. Data acquisition and processing is controlled via the onboard software.

AUTOsample-60 allows users to:

» Maximize efficiency by improving throughput during or after work hours
» Run a series of 1D experiments or set up basic structural elucidation routines through queuing module (e.g., 1H, COSY, HSQC, DEPT-135, 13C(1H) etc.)
» Acquire and save data automatically
» Integrate the benchtop spectrometer into a centralized laboratory system

System Requirements
60e or 60PRO
Dimensions
10.3 x 10.3 x 14.2”
26 x 26 x 36 cm
Weight
12 lbs / 5.5 kg
Carousels
2
Voltage
24 V
Time per Tube Change
~10 sec

Nanalysis Benchtop NMR
Optional Software Packages

Every benchtop NMR comes with NMR software to allow easy and modifiable spectral acquisition and processing. However, there are a number of optional software modules that can be added:

» NMReady-CONNECT – an application programmatic interface to allow users to communicate with their spectrometer programatically
» Experiment Designer – advanced module allowing expert users to design and/or modify their own NMR pulse programs
» Queuing – allows users to run a series of experiments on the same tube in succession
» Kinetics – allows users to run multiple scheduled 1D NMR experiments and track reaction progress over a set period of time
» Installation Qualification/Operational Qualification (IQ/OQ) – helps user understand and qualify their benchtop NMR spectrometer over time to help with regulatory and GxP compliance
» Remote Access – for those that want to control their spectrometer externally

Easy-to-mount on both 60e and 60PRO

Simple operation
Easy-to-mount and install
Safe, accurate and fast
The NMReady-flow cell kit allows easy interconversion of any 60e or 60PRO benchtop spectrometer into an NMR online detector either as a stand-alone tool or in conjunction with other analytical techniques.

For more information, check out nanalysis.com/nmready-flow

Reaction Monitoring
NMReady-flow cell kit

NMReady-flow allows users to:
» Understand and optimize chemical reactions in real time
» Improve reaction yield and safety
» Automate repeated syntheses
» Integrate the 60 MHz benchtop NMR spectrometer in a centralized Laboratory System

If you would like further information about any of the featured accessories, please contact sales@nanalysis.com
Materials & Polymers

Pharmaceuticals & Biotech

Energy

Cannabis & Botanicals

Food Science

Security & Defence

Flavour & Fragrances

Synthetic Chemistry

Mining & Minerals

Academic Teaching

Reaction Monitoring/Process Analytical Technology (PAT)

For more information, please visit nanalysis.com/applications-overview-benchtopnmr
“Purchasing an instrument is often a complex interplay of multiple criteria, including cost, quality, ease of use, and maintenance. For Southwestern College, the NMReady-60e was the perfect match for our criteria, and we have no regrets about our choice.”

Dr. Michael Tessmer, Professor
Department of Chemistry, Southwestern College
Academic Teaching

“The fact that the NMReady-60 leaves a very small footprint, and is portable, is an incredible asset. We can use it in whichever lab we need it in. If we develop new experiments in a different course that needs the instrument we can transport it to that lab and we can set it up basically where we need to.”

Nicholas Oakley, Chem Technician
Department of Chemistry, University of Calgary
Academic Teaching

“The Nanalysis has gone out of its way to aid us technically, without question, the best manufacturer support for our analytical equipment.”

Dave Horton
Chief Technology Officer, CES Energy Solutions
Chemical Processing

“It is great to add benchtop NMR to our characterization toolbox. The instrument has saved us time and money, and has allowed us to view structural information more quickly.”

Dr. Ng Chee Mang, Managing Director
Penchem Technologies Sdn Bhd
Polymers/Materials

“Our catalogue contains more than 10000 complex organic molecules. Spirochem specializes in the design, synthesis and production of novel building blocks to accelerate drug discovery. Despite open and unrestricted access to high-field NMR, we knew we could increase our productivity and maximize our workflow through the incorporation of benchtop NMR directly in the lab. We still use high-field NMR, of course, but our use is down as much as 80% meaning that we are saving both money AND time by using the benchtop NMR. Nanalysis™ has made an extremely positive impact on my business”

Dr. Thomas Fessard
Chief Executive Officer, SpiroChem
Contract Research Organization (CRO)
is a public company (TSXV:NSCI, FRA:1N1, OTC:NSCIF). The company is a global manufacturer and seller of compact Nuclear Magnetic Resonance (NMR) spectrometers. The NMReady-60™ was the first portable, high-resolution 60 MHz benchtop NMR spectrometer released in the market in 2013. These instruments are notable for their ease of use, low-maintenance, accessibility, affordability and automatability.

Recently, Nanalysis introduced the 100 MHz spectrometer, representing the highest resolution instrument available on the market. Designed with flexibility in mind, the instruments can be configured as traditional NMR spectrometers or programmed as analyzers for specific industrial applications (oil and gas, chemical, pharma, biotech, food science, atomic agencies, cannabis, mining). With global sales network, manufacturing, product development and corporate headquarters located in Calgary, Alberta, Canada, Nanalysis has sold instruments in over 45 countries. Nanalysis’ product line has been widely recognized, including being named Company of the Year in Global Portable NMR in the prestigious Frost & Sullivan award for three consecutive years. The company has sold instruments in over 45 countries and is expanding our North American sales team.

Nanalysis expanded its portfolio of magnetic resonance technology acquiring RS²D and their superior Cam⁴™ technology offering their high-field NMR Pulse™ console (200-600 MHz), preclinical MRI and MR product line. RS²D, founded in 2004, designs and manufactures a suite of magnetic resonance products powered by the versatile Cam⁴™ which will soon power all our spectrometers, including MRI consoles and the Pulse™ NMR console suitable for 200-600 MHz instruments. These are powered by powerful software PRim and SPINit for MRI and NMR respectively. In 2011, RS²D helped pioneer preclinical imaging with the first rodent MRI system made from a superconducting cryogen-free magnet.