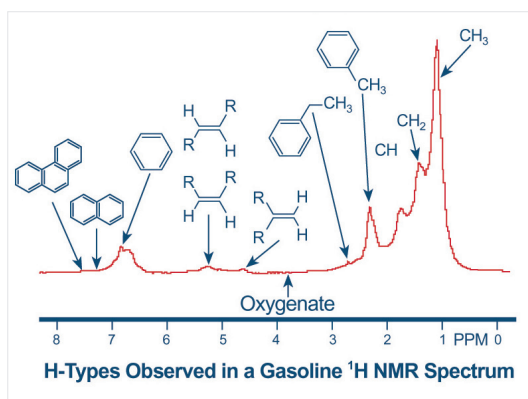


THE D-MASH NMR LABORATORY ANALYZER

Qualion NMR is pleased to present its new laboratory NMR spectrometer. The new spectrometer forms an important addition to Qualion's series of process NMR analyzers, designed for use in a variety of applications. The analyzer offers a wider range of physical, chemical and biological parameters that can be measured at line with superior accuracy and repeatability. Samples can be analyzed at various temperatures as the glass sample probes can be heated up to 80°C (176°F), allowing analysis of high-temperature heavy material. The product incorporates extensive improvements and enhancements such as a self-diagnosis function, which can also be remotely monitored, enabling online application services and support.

This new laboratory analyzer is a significant step forward in Qualion's proactive model building activities



FEATURES

- Permanent magnet system (neodymium) of 1.35 Tesla with automatic shim control
- Resonance of hydrogen nuclei
- Non-invasive measurement technology
- Remote calibration and diagnostics.
- Standard glass tubing in various diameters
- Linear spectral response
- High spectral resolution

INNOVATIVE IMPROVEMENTS

- New integrated magnet and shimming heater (MASH) assembly to enhanced reliability
- A new Laboratory Dewar Pipe probe with an integrated RF pre-amplifier
- New heating unit for the samples up to 80°C (176°F)
- Significant improvement in signal-to-noise ratio, resulting in easier application of chemo-metric modeling
- Portable and compact design with reduced installation costs
- Logical layout requiring simple wiring installation for utilities
- Complete remote connectivity using the Internet via Ethernet or modem connection for control, diagnosis, and service and support of the customer and spectrometer

NMR BENEFITS

- Enabling analysis of opaque and optically dense materials
- Self diagnosis and monitoring system
- Non destructive method
- Rapid online implementation at low cost
- Low maintenance – resulting in low running costs

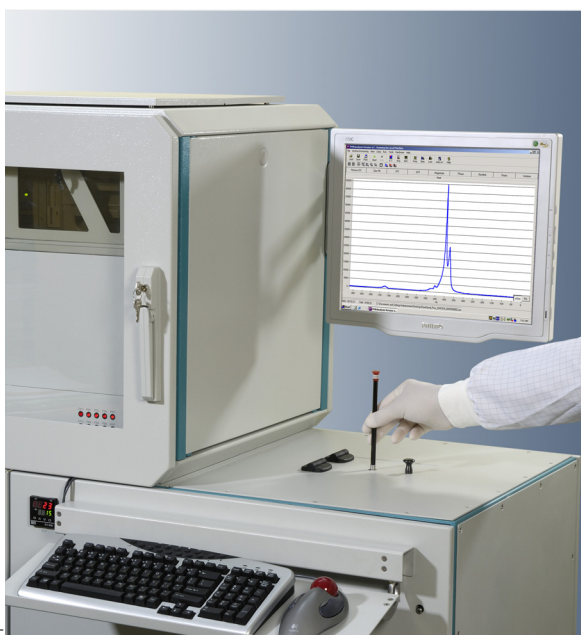
MARKET APPLICATONS

- Refinery
- Pharmaceuticals
- Polymers and plastics
- Food and beverages

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ABOUT NMR ANALYSIS

Qualion NMR technology uses a permanent magnet to analyze a wide range of hydrogen, containing components. The non-intrusive measurement enables NMR to analyze dark and opaque liquid streams that are beyond the reach of optical measuring, while keeping the sampling extremely simple. Values for multiple control parameters are readily available from a single measurement. High spectral resolution and linear response yields an extremely robust calibration model that allows rapid online implementation with significant improvements in overall production throughput and ROI.

SPECIFICATIONS

Nuclei Observed	H+ (primary)
Operating Frequency	58±1.0 MHz for H+
Sample Tube	Standard laboratory glass tube L: 35.5 cm O.D 8 mm - I.D 7 mm Other size optional
Sample Temperature Heating	Controlled between 30°C – 80°C (86°F to 176°F)
Magnet System	Temperature stabilized, self-condensed field, permanent (neodymium) magnet with integral field gradient (shim) coils and automatic shim control
Field Strength	1.35 Tesla at 45°C
Fringe Field	Less than 1 gauss on external enclosure of magnet
Dimensions	145 cm H x 106 cm W x 65 cm D (57 in H x 42 in W x 26 in D) Add 15 cm (6 in) to height for shipping pallet
Enclosure	Self standing, wheel driven carriage
Weight	400 kg (882 lb) net weight 444 kg (980 lb) gross shipping weight
Power Requirement	220-240 Vac, 3500W maximum 110-120 Vac, 3500W maximum
Other Utilities	Internal Air condition system for higher stability
Operating temperature	Ambient Range: Temperature controlled environment
Relative humidity	Min / Max 30%-50%.
Vibration	Max: 0.3 mm/s ² on the 3 axes
Communication	Local Ethernet Base -10/100. Remote connection via modem.

THE COMPANY

Qualion NMR is a developer and manufacturer of innovative process analyzers, based on its unique NMR technology. The company delivers cutting edge solutions that improve process optimization and control, to customers in the petrochemical, refinery, plastics, pharmaceuticals and food industries.

It has successfully installed NMR process solutions in numerous sites throughout the world.

The company's team of experienced specialists provides full technical support covering planning, implementation, operation and maintenance.

For more information contact:

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