MagStation II™

Magneflow®

Process NMR analyzer for research and quality control applications

Benefits

❚ Highest performance off-line NMR technology available

❚ Large sample volume for more representative results

❚ Fast, non-destructive analysis

❚ Scalable to on-line MagModule II

❚ Optimized measurement accuracy with automatic sample temperature conditioning

❚ On-site calibration, operator training, commissioning, and start up assistance

Advantages

❚ Active internal sample conditioning

❚ Improved measurement performance from enhanced magnet performance

❚ Fully integrated chemometric analysis

❚ Worldwide support/training

Applications

❚ Polypropylene production
   - Xylene solubles   - Tacticity
   - Decalin solubles   - Melt flow
   - Ethylene content   - Flex modulus
   - Heptane insolubles

❚ Polyethylene production
   - Crystallinity   - Density
   - Melt index

❚ Phosphate mining and chemicals
   - BPL   - P_2O_5 - Fluorine

❚ Energy
   - Fuel oil viscosity - BTU
   - Biofuel qualification

The MagStation II Nuclear Magnetic Resonance (NMR) process analyzer is part of the world renowned range of products from Progression. The MagStation II provides off-line measurement and ensures quality control for scalable method development for on-line manufacturing applications utilizing Progression's on-line MagModule II™ product line.

The MagStation II is the only magnetic resonance system suited for advanced material analysis with no manual sample preparation such as pre-heating or pre-weighing. Patented data analysis methods provide the highest performance capable from an NMR spectrometer. Analysis of hydrogen, fluorine, phosphorus and lithium provide research and development, quality control, and other factory staff superior performance in material analysis technology.

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Specification

Magnet System
The permanent magnet system is housed in a fully insulated, temperature-controlled enclosure. Magnetic field adjustment coils provide fine automatic or manual control of field strength before measurement.

NMR Frequency
20 MHz nominal: 2 – 60 MHz available

Probe System
The probe provides active sample temperature conditioning. This results in fast sample conditioning and analysis in about 5 minutes as compared to 30 – 40 minutes in systems without active conditioning. Variable temperature probe is standard.

Standard Sample Diameter
0.710" (18 mm) (larger diameters available)

Typical Sample Volume
20 ml

Measurement Temperature Range
Ambient to 100°C standard (wider ranges available)

Overall Dimensions
60"W x 30"L x 55"H (152 x 76 x 140 cm)

Curve Fitting
Automatic and manual curve fitting of the free induction decay (FID) is included. A number of curve-fitting models including exponential, Gaussian, modified Gaussian and Weibull are provided. Outputs to third party software for chemometric analysis are available.

AutoSampler Carousel
Optional 16-station carousel provides automatic multiple measuring of up to 16 samples.

Receiver Gain
Adjustable over 55 dB range in 1 dB steps

Electronics Unit
Digital frequency synthesizer for RF pulse generation
Effective resolution at 1 Msps: 15 bit, at 200 ksps: 16 bit
Event resolution: 33 ns

Sample Heat Time
Adjustable in one second intervals

Pulse Sequences
Standard single- and multi-pulse sequences
Customized phase cycling and pulse schemes available

Utility Requirements

Electrical
85 – 132/180 – 264 VAC autoranging 50/60 Hz 10/5 A

Instrument Air
Dry and filtered, 80 psig minimum (5.5 barg), 150 SCFH (4250 l/hr)

Communication
Direct dial, outside phone line for sufficient quality is needed for reliable modem communication for support, training and remote diagnostics.

Covered by one or more of the following patents: USA: #5,530,350, #5,596,275, #5,675,253, #5,408,181, #5,420,508, #5,015,954, #5,049,819, #5,302,896, #5,162,103, #5,319,308, #5,302,897. Canada: #2,170,640. Germany, France, UK, Netherlands: #576,421. Other patents pending.

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Analyze with integrity.™

progression, inc.
15 Foundation Avenue
Haverhill, MA 01835 USA
phone +1 978 556 9555
fax +1 978 556 9551

www.progression-systems.com