MagStation™ II

Process analyzer for research and quality control applications

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

The MagStation II is recommended by the world's leading polyolefin licensors and used by the world's leading phosphate producers.

Benefits

❚ Highest performance off-line MR 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

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Specifications

Magnet System	The permanent magnet system is housed in a fully insulated, temperature-controlled enclosure.
MR 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.
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	Secure internet connection or direct dial, outside phone line of sufficient quality for reliable modem communication for support, training and remote diagnostics
Control System	Integrated Windows compatible system control PC
Software	LexMar Global's proprietary A/Ztec™ viewer database software (Windows based) pcAnywhere™ remote access software

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