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INNOVATIVE NMR SOLUTIONS

PRE-OWNED NMR · AVAILABLE NOW

Bruker Avance III HD 400 MHz NMR System

Bruker's high-definition digital console in a compact NanoBay cabinet, on a 2018 Ascend 400 magnet with a 5 mm BBO probe. Crated by Bruker; delivered, installed and supported by Open Technologies.

400 MHz	25 ns	300 days	16 days
Ascend 400'54 magnet, 9.39 T	Event timing, fully digital RF	Helium hold time between fills	Nitrogen hold time between fills

WHAT'S INCLUDED

Avance III HD NanoBay console

Direct digital RF synthesis, digital receiver, DigiLock and HPLNA preamplifiers in one compact cabinet, plus a BCU cooler.

Ascend 400'54 magnet

BZH 1306/400/70I, built 2018, S/N MSC09895. With anti-vibration legs, transit fixtures and helium fill kit.

5 mm BBO probe with Z-gradient

BBO 400 S1, F-H-D: broadband X, $^{1}H/^{19}F$ and ^{2}H lock. BOSS3 room-temperature shims.

Workstation, manuals, system files

Host computer running TopSpin, and the original Bruker documentation.

INSTALLED BY OTI

Delivery to your lab

Crated by Bruker and shipped from our Tempe, AZ facility.

Magnet set-up

Cool-down, energization and shimming by our magnet specialist.

Commissioning and training

Console and probe installation, calibration and acceptance testing; TopSpin and IconNMR training.

Options

SampleXpress autosampler (built 2020) for unattended runs in IconNMR; IQ/OQ/PQ qualification for GMP labs; a FLEXuport annual service contract.

Liquid helium and nitrogen for the cool-down are not included. Console features and full specifications overleaf.

Ask for an installed-price quote

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The Avance III HD console

Bruker built the Avance III HD around a fully digital signal path: fast, precise RF generation and data acquisition, with a modular transmitter and receiver architecture.

Direct digital RF synthesis

Bruker's patented one-chip RF generation on the SGU3 digital synthesizer, for exceptionally pure NMR frequencies.

Digital receiver (RXAD/2)

Second-generation digital receiver: high dynamic range, high digital resolution and wide-band digital filtering.

HPLNA preamplifiers

GaAs low-noise front end with a 4 kW active transmit/receive switch; well shielded against outside RF pick-up.

NanoBay cabinet

Compact single cabinet with internal IPSO acquisition unit and switched-mode power supplies; CryoProbe ready.

25 ns event timing

12.5 ns clock, with phase, frequency and amplitude switched simultaneously for demanding pulse sequences.

DigiLock digital lock

FPGA-based lock with converters up to 320 MHz. Locks on solvents with several deuterium peaks and rejects external RF interference.

SmartVT temperature control

Multi-channel VT architecture with airflow monitoring and regulation, for stable sample temperature.

TopSpin software

Bruker's acquisition and processing suite, with IconNMR for queued, automated runs.

CRYOGEN HOLD TIMES · ASCEND 400'54

HELIUM

300 days

between fills
94 L refill · 13 mL/h boil-off
106 L helium vessel

NITROGEN

16 days

between fills
86 L refill · 220 mL/h boil-off
106 L nitrogen vessel

MAGNET

400 MHz · 9.39 T · 54 mm bore

Drift ≤ 0.01 ppm/h

5 G line: 0.5 m radial, 1.0 m axial

Min. ceiling height 2.52 m

Built 2018, S/N MSC09895

Console features from Bruker's Avance III HD product pages (bruker.com, 2015) and service documentation. Magnet values are Bruker's published figures for the Ascend 400'54 (manual Z31928); hold times are Bruker's maximum interval between fills. Installed options are confirmed with each quote.

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