

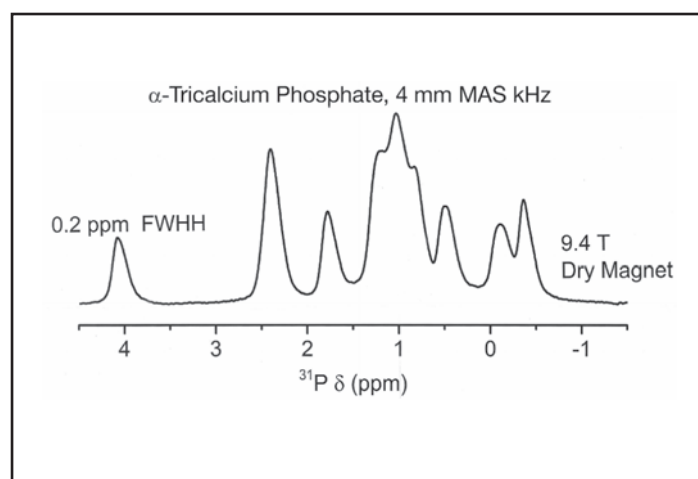
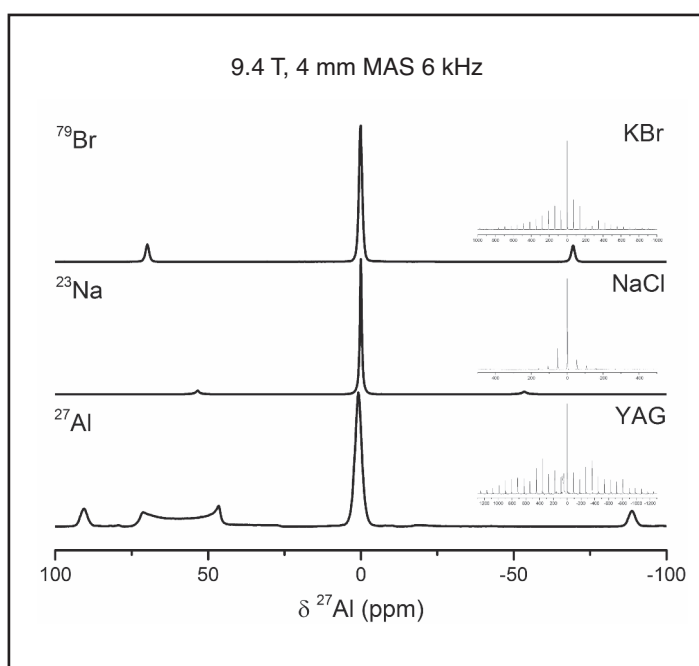
# CRYOGEN-FREE MAGNETS FOR SOLID STATE NMR

## 300 MHZ AND 400 MHZ WIDE AND NARROW BORE MAGNETS

NMR superconducting magnets deliver high magnetic field homogeneity over the sample volume and excellent temporal field stability. The NMR experiments are typically conducted at fixed field, in persistent mode. Our cryogen-free systems provide this environment, while eliminating the need for liquid cryogens.

The Cryogenic NMR magnets are very flexible compared to traditional systems. With a cryocooled NMR magnet, there is no consumption of liquid helium, so there is no need to have removable current leads to reduce the heat load to the system. This allows the user to set the field at any level up to the maximum rated field for long term operation. It also allows the magnetic field to be dynamically swept between zero to maximum field as required, making them the most versatile NMR magnets available commercially.

- Active shield for low stray field
- Ø89 mm room temperature bore as standard
- Optional variable temperature inserts down to 2 K with 50 mm sample space
- Superconducting shim coils
- Resistive shims for higher homogeneity



**CRYOGENIC**

[www.cryogenic.co.uk](http://www.cryogenic.co.uk)

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## 300 MHZ AND 400 MHZ WIDE AND NARROW BORE MAGNETS

### Technical Specifications

Ø54/89 mm room temperature bore systems		
Model	CFM-300 MHz	CFM-400 MHz
Maximum central operating field @4K	7.05 Tesla	9.4 Tesla
Equivalent Maximum Proton frequency	300 MHz	400 MHz
Shimmed central homogeneity	2 ppm over 20 mm sphere HHLW	
Cryo-shims	Z1, Z2, X, Y, C2, S2, ZX, ZY	
Stabilised long term drift rate	≤ 0.1 ppm/hr	
Clear room temperature bore	Ø89 mm and Ø54 mm	
Field Sweep	-7.05 to +7.05 T	-9.4 to + 9.4 T
Typical initial cool-down to operating temperature	~24 - 36 hrs	~36 - 48 hrs
Active magnetic field shielding	Optional	Included

Optional Ø50 mm VTI systems		
Model	CFM-300 MHz-50-VTI	CFM-400 MHz-50-VTI-AS
Maximum central operating field @4K	7.05 Tesla	9.4 Tesla
Equivalent Maximum Proton frequency	300 MHz	400 MHz
Shimmed central homogeneity	1 ppm over 10 mm sphere HHLW	
Stabilised long term drift rate	≤ 0.1 ppm/hr	
Top loading VTI space	Ø50 mm	
Typical initial cool-down to operating temperature	~ 24 hrs	~ 36 hrs
Active magnetic field shielding	Optional	Included

### Key benefits of Cryogen-free technology

- No cryogenic experience required
- Turn-key operation
- Overnight cool-down
- Low cost of ownership
- Minimal maintenance
- Minimal quench hazards

*Helping you to focus on the science...*