

Janis DryMag Cryogen Free Magnet Systems

Overview

With worldwide helium prices soaring, researchers are searching for a more **cost effective** means to access both **high magnetic fields** and **low temperatures**. The Janis range of **cryogen free magnets** does just that, offering flexible solutions to researchers across the globe.

With initial cooldown time of only **16 hours** (with 9T magnet), and a **height of just 1.1 m**, the Janis model DryMag1.5 cryogen-free magnet system packs superior performance into a **compact design**. Standard features include:

- Continuous temperature range of 1.5 K – 300 K (420 K optional), even with the magnet at full field
- Sample located in static helium exchange gas for efficient cooling regardless of sample material or shape
- 80 minutes to change samples (magnet at zero field) using top loading sample positioner – no cryostat warm up required
- Simultaneous temperature control of sample mount and the surrounding helium exchange gas for accurate temperature control
- Recirculating cooling gas is separated from the sample cooling gas for blockage-free operation
- Optional automated needle valve allows adjustment of helium circulation rate, to optimize both base temperature and cooling power
- Supplied as a complete turnkey system, including gas recirculation pump, magnet power supply and temperature controller



DryMag1.5

Options include:

- 7 T, 9 T or 12 T vertical field magnets
- He-3 insert cryostat provides base temperature to ~300 mK
- Lower cost “single shot” design (Model DryMag5) for 5 – 300 K, with short excursions below 2 K no gas circulation system required
- Optical or non-optical configurations
- Horizontal field and vector magnets
- Sample positioner with gate valve and sliding seal
- 30 mm or 50 mm ID sample tube

JANIS

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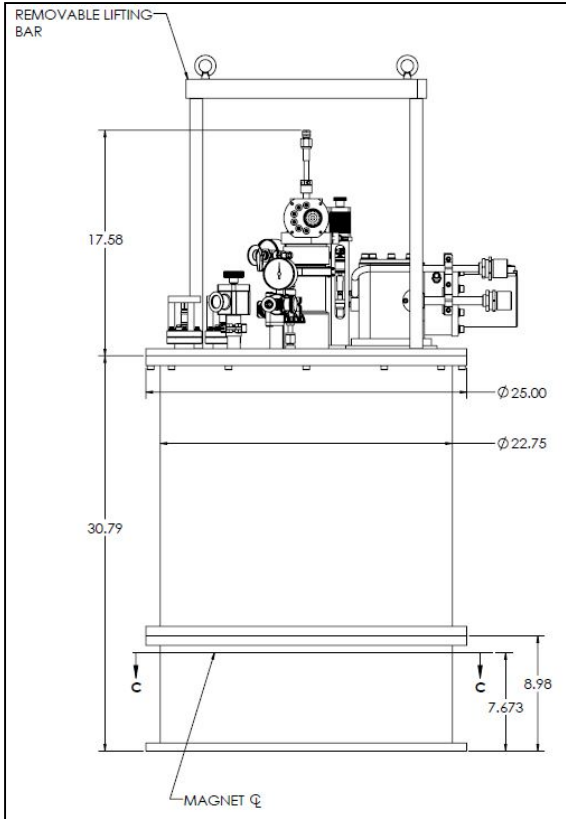
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System Specifications



Magnet Electronics

DryMag1.5

	DryMag1.5	DryMag5
Magnetic field	7T, 9T, 12T vertical*	
Field Homogeneity	+/- 0.1% over 1 cm sphere (typical)	
Sample tube ID	30 mm or 50 mm	
Cooldown time to 4 K	16 hours with 9T magnet	
Temperature range	<1.5 K – 300 K continuously (420 K optional)	<2 K in "single shot" mode; 5 K – 300 K with exchange gas pressure adjustment
Sample change time (magnet at zero field)	<80 minutes	~60 minutes
Cryocooler type	Pulse tube	Pulse tube or Gifford McMahon

* Horizontal and vector field optional



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