

iQuantum He3 for MPMS[®]3

Quantum Design has just released iQuantum He3 for MPMS3. This option allows magnetic property measurements below 2 K, extending the minimum temperature for magnetization measurements to below 0.5 K, of single-molecule magnets, organic magnets, heavy-fermion systems, frustrated magnets, and other magnet types.

Features:

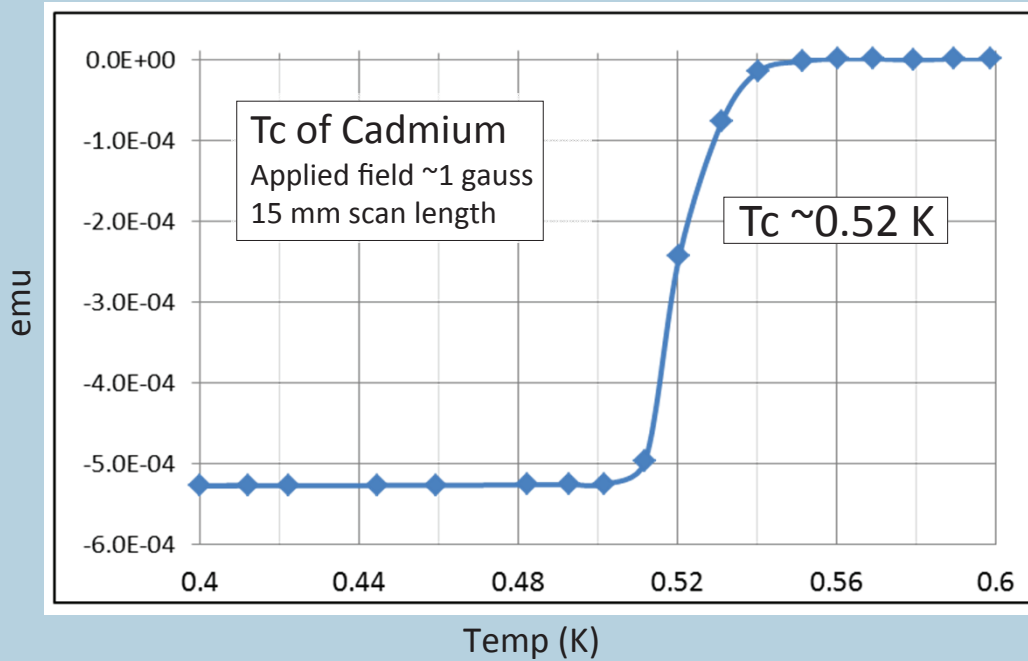
- 0.42 K to 1.8 K temperature range
- < 3 hours cooldown time
(300 K to 0.5 K)
- 10 hours ³He lifetime
- < 30 min. ³He re-condense time
- EverCool™ Compatible



System Requirements:

- AC measurement option installed on base MPMS3 system if AC mode is measured
- DC measurement mode required, as He3 option is not compatible with VSM mode

Example data



Preliminary Specifications

Temperature range	0.42 to 1.8 K
Temperature stability during measurements	+/- 1%
Temperature calibration accuracy (based on T_c of Cd reference sample)	2%
Cooldown time (300 K to 0.5 K)	< 3 hours
^3He gas requirement	3 liters
^3He lifetime (Typical)	10 hours
^3He lifetime (Base temp)	40 hours
^3He re-condense time (Typical)	< 30 minutes
Magnetic field rage	+/- 7 T
Measurement modes supported	AC, DC scans
Data collection speed (m vs h, time/one data point)	20 to 30 seconds