

PPMS® DynaCool™ System Specifications*

Temperature Control

Range:	1.8 to 400 K @ 60Hz; 1.85 to 400 K @ 50Hz (Continuous Low Temperature Control and Temperature Sweep modes)
Stability:	+/-0.1% for T < 20 K (typical) +/-0.02% for T > 20 K (typical)
Sample Cool Down Time:	300 to 1.9 K (stable) in 40 minutes (typical)
System Startup Time:	9 T: 16 hours (typical); 12 T: 30 hours (typical); 14 T: 40 hours (typical)

Magnet Options

Range and Orientation:	Longitudinal: ± 9 T, ± 12 T, ± 14 T
Control Modes:	Driven Mode: Linear, Oscillating, No Overshoot
Sweep Rate Over Entire Field Range:	9 T: 200 Oe/sec (typical); min. ramp rate 0.1 Oe/sec 12 T: 100 Oe/sec (typical); min. ramp rate 0.2 Oe/sec 14 T: 40–120 Oe/sec (typical); min. ramp rate 0.2 Oe/sec
Min Time to Full Field:	9 T: less than 8 min (typical) 12 T: less than 25 min (typical) 14 T: less than 40 min (typical)
Field Uniformity:	9 T: $\pm 0.01\%$ over 3 cm on axis; magnet center located 4 cm above puck surface 12 T: $\pm 0.1\%$ over 5.5 cm on axis; magnetic center located 4 cm above puck surface 14 T: $\pm 0.1\%$ over 5.5 cm on axis; magnet center located 4 cm above puck surface
Power Supply:	9 T: 60 A; 12 T: 120 A; 14 T: 120 A

General System Details

Sample Space Size:	Clear bore 2.5 cm (1 inch) diameter
Maintenance Interval:	~2 years for the Cryocooler compressor (maintenance includes replacement of the adsorber in the compressor unit) and; ~4 years for the Pulse Tube cryocooler (designed for maintenance every 40,000 to 60,000 hours – this assumes that the cryocooler compressor is connected to a water chiller at 20°C.) ~6 months scroll pump tip-seal replacement
Power Requirements*:	System: 200-230V, 50/60 Hz, 30A, single-phase Customer chooses the compressor power: 1) 220/230 VAC 3-phase, 60 Hz, 40A 2) 460 VAC 3-phase, 60 Hz, 30A 3) 200/220 VAC 3-phase, 50 Hz, 40A 4) 380/420 VAC 3-phase, 50 Hz, 30A
Cooling Water Requirements*:	Recommended Flow Rate: 15 LPM Recommended Water Temperature: 20°C
System Dimensions and Weights*:	Cabinet: 67 cm x 70 cm x 100 cm (D x W x H); ~70 kg Cryostat & Can Rack 9 T: 92 cm x 123 cm x 127 cm; ~271 kg Cryostat & Can Rack 12 T: 94 cm x 132 cm x 127 cm; ~318 kg Cryostat & Can Rack 14 T: 94 cm x 132 cm x 127 cm; ~328 kg Compressor: 69 cm x 50 cm x 62 cm (D x W x H); ~134 kg

*Please see PPMS DynaCool system configuration document for more detailed information about product specifications and laboratory layout requirements.



Quantum Design, Inc.
10307 Pacific Center Court, San Diego, CA 92121
Tel: 858.481.4400 Fax: 858.481.7410
www.qdusa.com



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