Base Specification

	^{3}He	200	400	UHV
Base temperature	≤ 300 mK for ≥ 50 h	≤ 10 mK (7 mK)	≤ 10 mK (7 mK)	≤ 20 mK (15 mK)
Low temperature stability	± 3 mK < 2 K	± 1 mK < 100 mK	± 1 mK < 100 mK	± 1 mK < 100 mK
Maximum temperature in magnetic field	30 K	30 K	30 K	30 K
High temperature stability	± 100 mK ≥ 2 K	± 1 % ≥ 100 mK	± 1 % ≥ 100 mK	± 1 % ≥ 100 mK
Mode of operation	Single Shot	Continuous	Continuous	Continuous
Sample environment	Vacuum	Vacuum	Vacuum	Vacuum
Cooling power at 20 mK	-	≥ 3 μW (5 μW)	≥ 3 μW (5 μW)	-
Cooling power at 100 mK	-	≥ 200 μW (250 μW)	≥ 400 μW	≥ 200 μW (250 μW)
Cooling power at 120 mK	-	≥ 300 μW (350 μW)	≥ 575 μW	≥ 300 μW (350 μW)
Cooling power at 350 mK	≥ 100 μW	-	-	-
Cooldown time	≤ 24 h (16 h); ≤ 36 h (32 h) with 30 kg magnet	≤ 24 h (16 h); ≤ 36 h (32 h) with 30 kg magnet	≤ 24 h (16 h); ≤ 36 h (32 h) with 30 kg magnet	≤ 24 h
^{3}He requirement	7 L	11 L	17 L	11 L

Note: where expected performance is better than specification typical values given in brackets

Experimental Access

Central line of sight	65 mm	65 mm	65 mm	65 mm
Line of sight	2 x 40 mm & 1 x 50 mm	2 x 40 mm & 1 x 50 mm	2 x 40 mm & 1 x 50 mm	2 x 40 mm & 1 x 50 mm
Non line of sight	2 x 50 mm	2 x 50 mm & 4 x 40 mm	2 x 50 mm & 4 x 40 mm	2 x 50 mm
Sample space	350 mm diameter, 240 mm length	240 mm diameter, 240 mm length	240 mm diameter, 240 mm length	240 mm diameter, 240 mm length
Vacuum	Common, room temperature O ring seal only	Common, room temperature O ring seal only	Common, room temperature O ring seal only	Common, room temperature Cu gasket seals

Control & Automation

RB200 LakeShore LS370 temperature controller	N/A	◆	◆	◆
VGHS Fully automated gas handling system	N/A	◆	◆	◆
VTSCS Triton system control software	N/A	◆	◆	◆
VPTR1WREM Remote motor pulse tube refrigerator	◆	◆	◆	◆
VREMPUMP Remote circulation pumping system	N/A	❑	❑	❑

◆ Included with system
❑ Optional item
● Needed to operate
■ Strongly recommended
N/A Not applicable

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Wiring & Services

		3He	200	400	UHV
VPT1	24 way twisted pair wiring looms for dc wiring; Constantan or Cu/NbTi as standard; Other materials on request	❑	❑	❑	❑
VPT2	4, 8 or 12 S1 flexible stainless steel coaxial cables useful frequency range up to 500 MHz; SMB or SSMC termination	❑	❑	❑	❑
VPT3	2, 4, or 8 UT85 semi-rigid coaxial cables; SS/SS, SS/B, Nb/Nb material; SMA (18 GHz) or SK (40 GHz) termination; PT1, PT2 & Still Plate Attenuation for SMA available	❑	❑	❑	❑
VPTCLAMP	Clamping brackets for DC and S1 coax lines	●	●	●	●
VLOSPORTS	Unwired line of sight port fittings	■	■	■	■
VHIGHTEMP	Extended temperature range	◆	❑	❑	❑
VROTH1	RuO_2 sensor with 30 point calibration	❑	❑	❑	❑
VROTH2	RuO_2 sensor with generic calibration curve	❑	❑	❑	❑
VLOADLOCKTOP	Top loading vacuum loadlock sample exchange	❑	❑	❑	❑
VLOADLOCKBOTTOM	Bottom loading vacuum loadlock sample exchange	❑	❑	❑	❑

Integrated Magnets & Tail sets

VS5TMAG	5 T integrated solenoid, 150 mm cold bore	❑	❑	❑	N/A
VS8TMAG	8 T integrated solenoid, 77 mm cold bore	❑	❑	❑	N/A
VS12TMAG	12 T integrated solenoid, 57 mm cold bore	❑	❑	❑	N/A
VS14TMAG	14 T integrated solenoid, 57 mm cold bore	❑	❑	❑	N/A
VS16TMAG	16 T integrated solenoid, 57 mm cold bore	❑	❑	❑	N/A
VR6-1-1MAG	6/1/1 3-axis integrated magnet, 90 mm cold bore	❑	❑	❑	N/A
VCUSTOMMAG	Customized magnet to suit individual application	❑	❑	❑	N/A
VPLAIN	Plain tail set to give 240 x 240 mm sample space	◆	◆	◆	Custom to suit
VPORT	4 off radial ports and 1 off axial port tail set to give; 240 x 240 mm sample space	❑	❑	❑	Custom to suit
VMAGPLAIN	Plain tail set to suit integrated magnet	❑	❑	❑	N/A
VMAGPORT	4 off radial ports and 1 off axial port tail set to suit integrated magnet	❑	❑	❑	N/A
VMAGRT	Stepped tail set to suit RT bore magnet	❑	❑	❑	Custom to suit
VEXTSAMPLE	Extended sample space to give 240 mm x 440 mm sample space	❑	❑	❑	Custom to suit

Support Stands & Frames

VDRSTAND	Floor mounted support stand	❑	❑	❑	Custom to suit
VDRAVSTAND	Floor mounted support stand with anti-vibration bellows	❑	❑	❑	Custom to suit
VDRFRAME	Ceiling mounted support frame	❑	❑	❑	Custom to suit
VDRAVFRAME	Ceiling mounted support frame with anti-vibration bellows	❑	❑	❑	Custom to suit

◆ Included with system ❑ Optional item ● Needed to operate ■ Strongly recommended N/A Not applicable