

## Standard Specification

	MX100	MX400	400HA	VT	JT	TLM
Base temperature	≤ 15 mK	≤ 7 mK	≤ 7 mK	≤ 25 mK	≤ 50 mK	≤ 15 mK
Base temperature stability	± 1 mK	± 1 mK	± 1 mK	± 1 mK	± 1 mK	± 1 mK
Maximum temperature	1 K	1 K	1 K	300 K	30 K	1 K
Continuous Operation	Standard					
Sample environment	Vacuum	Vacuum	Vacuum	Vacuum (No liquid He in horizontal sample path)	Vacuum (No liquid He in horizontal sample path)	Liquid
Cooling power at 100 mK	≥ 100 μW	≥ 400 μW	≥ 400 μW	≥ 40 μW	≥ 30 μW	≥ 400 μW
Cooling power at 120 mK	≥ 140 μW	≥ 580 μW	≥ 580 μW	≥ 60 μW	≥ 30 μW	≥ 580 μW
Sliding seal assembly	◆	◆	◆	◆	◆	N/A
<sup>3</sup> He / <sup>4</sup> He mixture	□	□	□	□	□	□

◆ Included with system □ Optional item N/A Not applicable

## Experimental Access

KelvinoxMX	Uses 50 mm line-of-sight port on primary insert	EX100 Basic insert	Line of sight to IVC, 6 mm diameter
		EX200 High frequency insert	12 twisted pairs of constantan wired to the mixing chamber 2 x UT85-SS-SS semi-rigid coaxial cables wired to the mixing chamber 4 x S1 flexible coaxial cables wired to the mixing chamber Line-of-sight port to sample space, 15 mm diameter to mixing chamber
		EX300/EX310 Rotator insert	Retractable drive rod (Manual or Automatic) to suit Swedish rotator mounted on mixing chamber 12 twisted pairs of constantan wired to the mixing chamber 2 x UT85-SS-SS semi-rigid coaxial cables wired to the mixing chamber 2 x S1 flexible coaxial cables wired to the mixing chamber Sample space 15 mm x 15 mm x 15 mm
		EX400 Basic insert	Line-of-sight port to sample space, 15 mm diameter to mixing chamber 3 x non line-of-sight ports to IVC, 8 mm diameter <b>PT wiring options</b> available
		VB100 Dipper insert	<b>EX400</b> Versatile insert with <b>VB100</b> IVC tail to allow use with He storage dewar
Kelvinox400HA	Ports 1, 2, 3	Line of sight to sample space, 38 mm diameter to mixing chamber	
	Ports 4, 5, 6, 7	12.7 mm ports from the 4 K helium bath to the IVC, 2 x fitted with tubes between top plate and IVC and 2 x fitted with demountable solder caps	
KelvinoxVT / KelvinoxJT	Port 1	Line of sight to IVC, 6 mm diameter	
KelvinoxTLM	TLM Sample Probe	34 mm diameter sample access Top loading probe assembly with 6 x line of sight access ports One port used for diagnostic wiring One port used for 24-way constantan loom wired to the sample space 4 x ports for customer use, 6 mm diameter (nominal)	

**Note:** 24-way twisted pairs terminated with 24-way Fischer connectors at room temperature and miniature D-type connector at mixing chamber

**Note:** UT85 coaxial cable terminated with SMA connectors at room temperature and mixing chamber

**Note:** S1 coaxial cable terminated with SMB connectors at room temperature and mixing chamber

## Services and sample holders

		MX100	MX400	400HA	VT / JT	TLM	
<b>EX100</b>	Basic Experimental insert for <b>KelvinoxMX</b>	<input type="checkbox"/>	<input type="checkbox"/>	N/A	N/A	N/A	
<b>EX200</b>	High Frequency Experimental insert for <b>KelvinoxMX</b>	<input type="checkbox"/>	<input type="checkbox"/>	N/A	N/A	N/A	
<b>EX300</b>	Manual Rotator Experimental insert for <b>KelvinoxMX</b>	<input type="checkbox"/>	<input type="checkbox"/>	N/A	N/A	N/A	
<b>EX310</b>	Automatic Rotator Experimental insert for <b>KelvinoxMX</b>	<input type="checkbox"/>	<input type="checkbox"/>	N/A	N/A	N/A	
<b>EX400</b>	Versatile Experimental insert for <b>KelvinoxMX</b>	<input type="checkbox"/>	<input type="checkbox"/>	N/A	N/A	N/A	
<b>PT100</b>	24-way constantan loom wired to mixing chamber for use with <b>EX400</b> Versatile insert	Select from standard experimental Inserts or select <b>PT wiring options</b> for use with <b>EX400</b> Versatile insert		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>PT110</b>	24-way copper/supercon loom wired to mixing chamber			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>PT200</b>	2 x S1 co-axial cables wired to mixing chamber			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>PT210</b>	4 x S1 co-axial cables wired to mixing chamber			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>PT300</b>	2 x UT85-SS-SS coaxial cables wired to mixing chamber			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>CAPV/CAP</b>	Capillary line with or without valve			<input type="checkbox"/>		N/A	<input type="checkbox"/>
<b>KELMSWR</b>	Swedish Rotator - manual			<input type="checkbox"/>		N/A	<input type="checkbox"/>
<b>KELMSRWA</b>	Swedish Rotator - automatic	<input type="checkbox"/>		N/A	<input type="checkbox"/>		
<b>LE100</b>	LECSH Low Eddy Current sample holder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A	
<b>CS100</b>	ROTH1, 30 point calibrated RuO <sub>2</sub> sensor to 50 mK	■	■	■	■	■	
<b>CS200</b>	ROTH2, generic calibration RuO <sub>2</sub> sensor	■	■	■	■	■	

## Control and automation

<b>RB100</b>	AVS47 Resistance Bridge with rf filtering, cables & IEEE interface	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>TS530</b>	Temperature controller for use with AVS47 resistance bridge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>IPC</b>	Isobus Picobus converter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>KELIGH</b>	Intelligent gas handling system	◆	◆	◆	◆	◆

## Additional options

<b>VB100</b>	Bucket IVC for <b>EX400</b> insert	<input type="checkbox"/>	<input type="checkbox"/>	N/A	N/A	N/A
<b>VM100</b>	Magnet IVC for <b>EX400</b> insert	<input type="checkbox"/>	<input type="checkbox"/>	N/A	N/A	N/A
<b>VS100</b>	Adapter baffle for <b>EX400</b> insert	<input type="checkbox"/>	<input type="checkbox"/>	N/A	N/A	N/A
<b>VI100</b>	ISO-K adapter for <b>EX400</b> insert	<input type="checkbox"/>	<input type="checkbox"/>	N/A	N/A	N/A
<b>HCT</b>	Helium Cold Trap	◆	◆	■	■	■
<b>TTN2F</b>	Transfer tubes are often customised items to suit relative heights of storage dewars and cryostats on site	●	●	●	●	●
<b>TTN2FDH</b>	Transfer tube, demountable in horizontal section	●	●	●	●	●
<b>MSTM400HA</b>	Tail set to suit 52 mm cold superconducting magnet	N/A	N/A	<input type="checkbox"/>	N/A	N/A
<b>TLMP3</b>	Spare top loading probe, 34 mm access - tested with system	N/A	N/A	N/A	N/A	<input type="checkbox"/>
<b>TLMP4</b>	Spare top loading probe, 34 mm access - supplied untested at later date	N/A	N/A	N/A	N/A	<input type="checkbox"/>
<b>HE3F</b>	<sup>3</sup> He flow meter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>BK100</b>	Bucket IVC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A	N/A
<b>VIN</b>	Valves in pumping lines	■	■	<input type="checkbox"/>	■	<input type="checkbox"/>

◆ Included with system

 Optional item

● Needed to operate

■ Strongly recommended

N/A Not applicable

Email us at: [nanoscience@oxinst.com](mailto:nanoscience@oxinst.com)Visit our website: [www.oxford-instruments.com](http://www.oxford-instruments.com)