Kelvinox® JT

A dilution refrigerator insert compatible with Cryofree® or liquid-helium system variable temperature inserts

- Compatible with our Cryofree TeslatronPT or any variable temperature insert (VTI) with a 50 mm sample tube diameter
- Joule-Thompson condensation, not requiring 1 K pot pump
- Automated gas handling system with software for data visualisation and remote control
- Inner vacuum chamber (IVC) with automatic exchange gas control
- IVC sealed using vacuum grease or CAF paste (no indium required)
- One spare 6 mm line-of-sight port for installing additional experimental wiring
Options and Accessories

Flexible Coax Option:
- Two flexible S1 stainless steel coaxial cables, from room temperature to the mixing chamber suitable for low frequencies
- Suitable for signals up to MHz frequency
- Fischer connector at room temperature

DC Wiring Option:
- 24-way constantan loom with 12 twisted pairs wired to the mixing chamber
- 24-way Fischer connector at room temperature

Beamline IVC Options:
- Special AI IVCs available for neutron scattering applications, with thinned area matched to scattering angles
- Special IVCs for muon and x-ray applications available on enquiry

Key Specifications

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<th>Specification</th>
<th>Details</th>
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<td>Base temperature</td>
<td>25 mK, in a VTI</td>
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| Temperature control stability | T < 100 mK: ≤ ±1 mK  
                           | 100 mK < T < 1 K: ≤ ±1%                                                |
| Temperature control range | 25 mK to 1 K                                                            |
| Cooling power at 100 mK  | ≥ 20 μW                                                                  |
| Sample space             | Inner diameter 43 mm x length 180 mm in TeslatronPT                     |
| System cooldown          | From room temperature to < 100 mK typically 12 hours in TeslatronPT or other CryoFree systems, 6 hours in liquid cryogen systems |

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