

# ICE

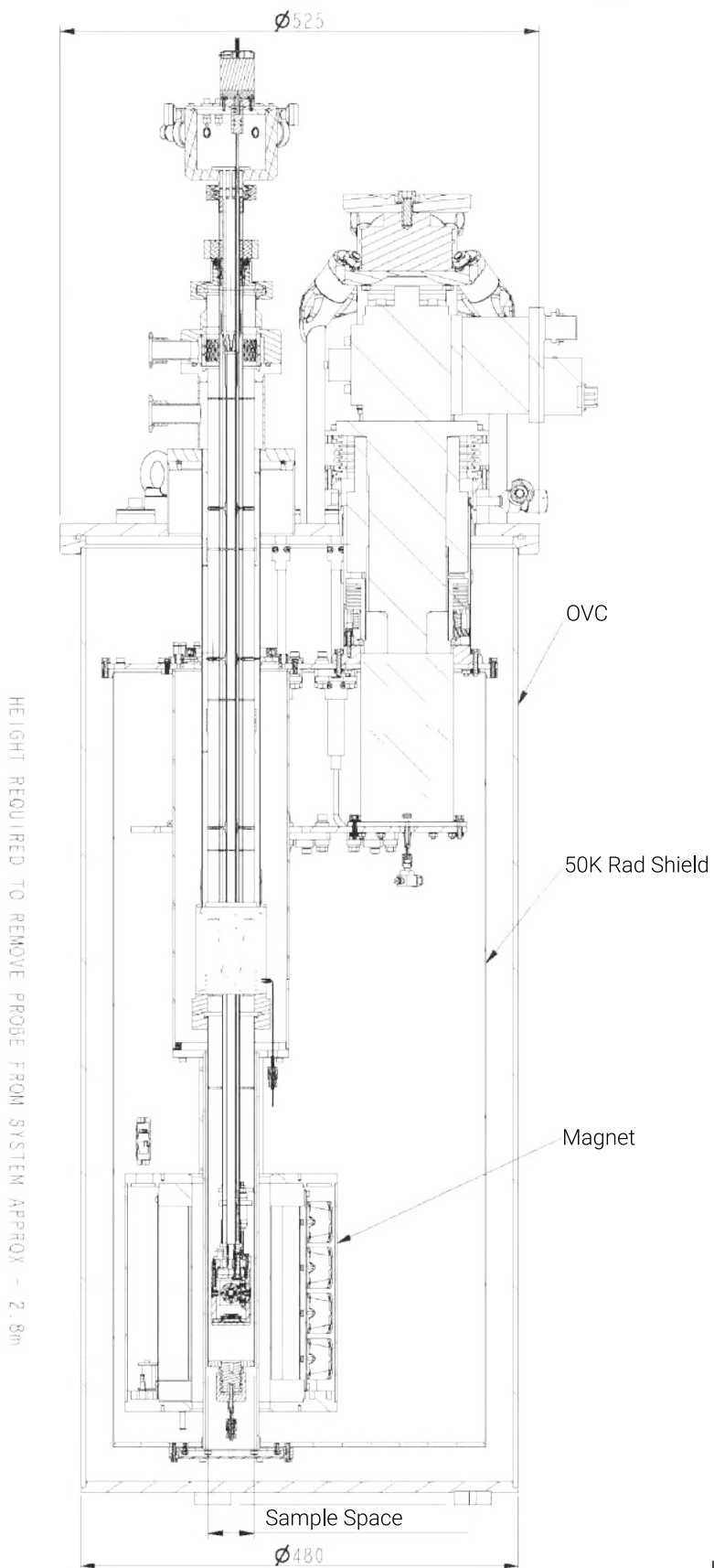
## DRYICE<sup>1.5K</sup> VTI SERIES

1.3K to 325K

**The DRYICE<sup>1.5K</sup> VTI SERIES is a fully customisable range of top loading, cryogen free systems designed to provide high cooling powers to the largest sample spaces on the market, perfect for pre-screening samples within quantum applications.**

The DRYICE<sup>1.5K</sup> offers excellent temperature stability, fast cool down times, low vibration at the sample space, 4 axes of sample manipulation and magnet options to suit the experimenter's field of research.





## KEY FEATURES

- Up to 100mm sample space
- Fast cool down times using our patented Dual-Cool technology
- Modular design, easily upgradable with a He3 or dilution insert to achieve 280mK and 25mK base temperatures respectively
- Fully customisable options for optical access, magnets, sample manipulation and wiring
- Excellent temperature stability
- Up to 80 coax lines to the sample space
- Continuous closed cycle operation
- Additional vibration reduction systems available, reducing vibrations down to  $\pm 20\text{nm}$

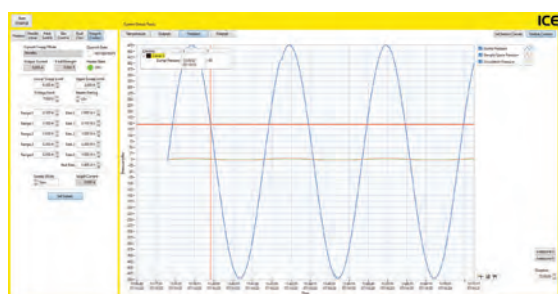
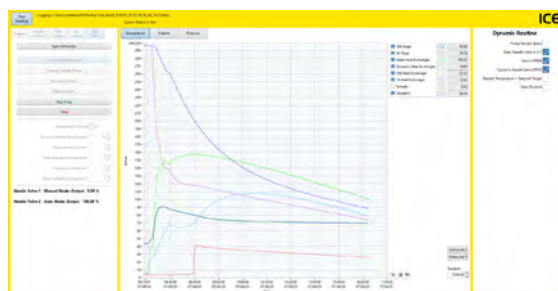


ICE<sup>CP</sup> 300mK Cold Probe



ICE<sup>CP</sup> 15mK Cold Probe

## ICE SOFTWARE



Our LabVIEW based software provides a user friendly interface for the plotting, logging and control of:

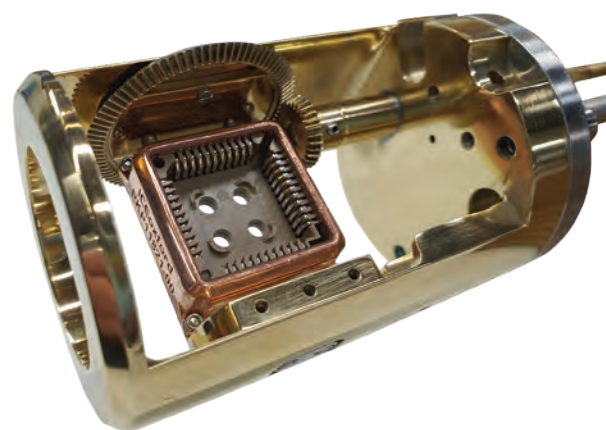
- 8 temperature sensors
- Heaters
- Needle valves
- Pressures
- Magnet
- ICE Mini Cube - our gas handling system
- He3 and Dilution Inserts
- Our patented Dual-Cool Routine

This enables automatic cool down, sample purge and temperature ramping. Our software observes system progress by monitoring performance graphs, reducing the chance of errors.

## SAMPLE MANIPULATION

ICE's range of sample holders and chip carriers can provide users with sample movement and rotation in 4 axes with up to 0.1° of accuracy.

- Automated rotation stages
- Options for 24-pin or 48-pin chip carriers
- Direct copper thermal link between the sample holder and the sample for quicker cooling
- Compatible with our full range of probes and inserts
- Optional ICE SAMPLE SAFE for protection against ESD



## MAGNET OPTIONS

Solenoid



Fields up to 16T

Vector Rotate



9T/3T for 2D  
6T/3T/3T for 3D

Split-Pair



Fields up to 7T as standard, up to 12T available upon request



	DRY <b>ICE</b> <sup>1.5K</sup> 30mm	DRY <b>ICE</b> <sup>1.5K</sup> 50mm	DRY <b>ICE</b> <sup>1.5K</sup> 70mm	DRY <b>ICE</b> <sup>1.5K</sup> 85mm	DRY <b>ICE</b> <sup>1.5K</sup> 100mm
<b>COOLING POWER*</b>	150mW @ 1.6K	150mW @ 1.6K	75mW @ 1.5K 150mW @ 1.6K	50mW @ 1.5K 150mW @ 2K	50mW @ 1.5K 150mW @ 2K
<b>BASE TEMPERATURE</b>	<1.3K	<1.4K	<1.5K	1.65K	1.65K
<b>SAMPLE COOLDOWN<sup>†</sup></b>	<40 minutes	<45mins	<1 hour	<1.5hours	<2 hours
<b>SAMPLE SPACE</b>	ø30mm	ø50mm	ø70mm	ø85mm	ø100mm
<b>DIAGNOSTIC WIRING</b>	24-way Fischer				
<b>CUSTOMER DC WIRING</b>	Constantan, Manganin or Copper looms fitted on request.				
<b>COAX</b>	UT-85, SS, S1, BeCu and Niobium available. Other COAX available on request. Up to 80 coax				
<b>OPTICAL FIBRES</b>	Available with FC-APC feedthroughs				
<b>ACCESS TO SAMPLE SPACE</b>	Top loading probe				
<b>OPTICAL WINDOWS</b>	Sapphire, Quartz and Spectrosil windows. Other materials available on request.				
<b>INTEGRATED SUPER-CONDUCTING MAGNETS</b>	Split-pair, 2D and 3D vector rotate and solenoid magnet options available				
<b>TEMPERATURE STABILITY</b>	± 2mK at 1.5K, ± 5mK between 1.5K and 20K, ± 10mK between 20K and 50K, ±20mK between 50K and 200K, ± 40mK above 200K (with high stability option)				
<b>SAMPLE ENVIRONMENT</b>	Vacuum or Exchange Gas				

\*varies depending on cold head

<sup>†</sup>with CF probe and dual-cool