

ICE

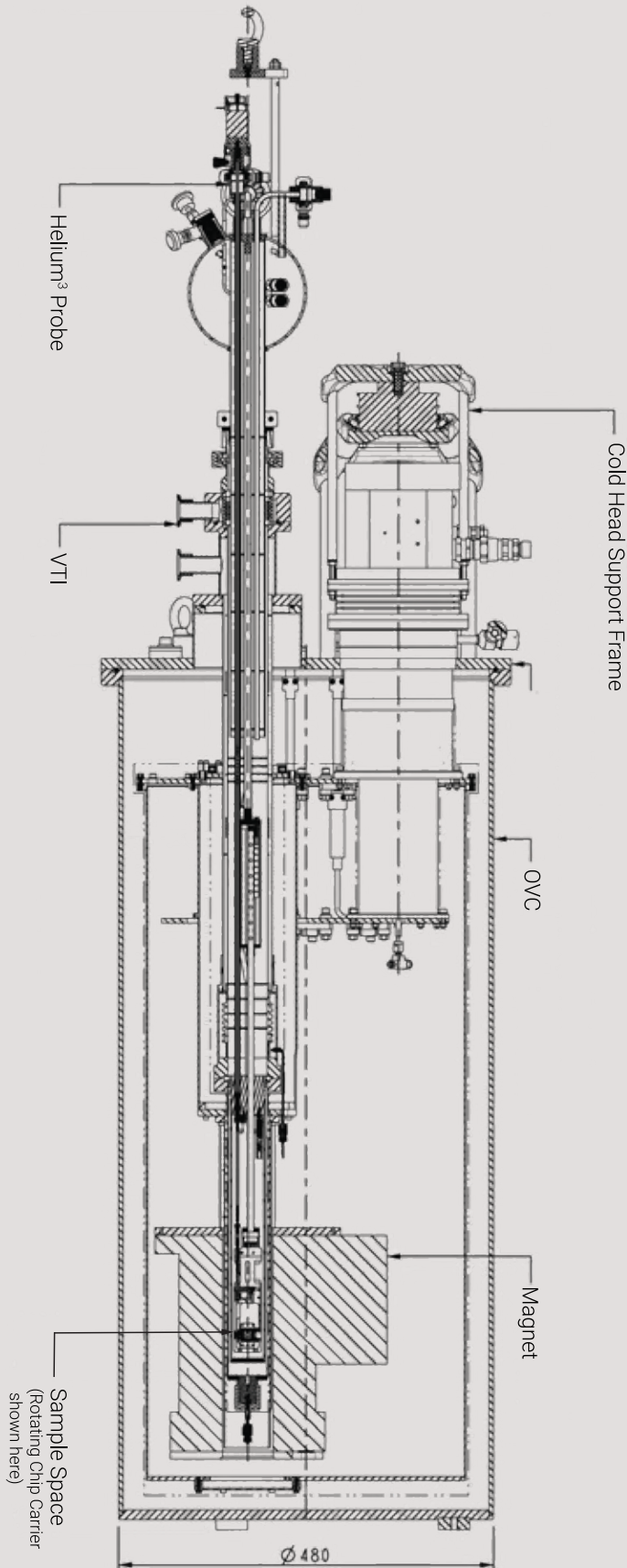
DRYICE^{1.5K} VTI SERIES

1.3K to 325K

The DRYICE^{1.5K} 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^{1.5K} 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

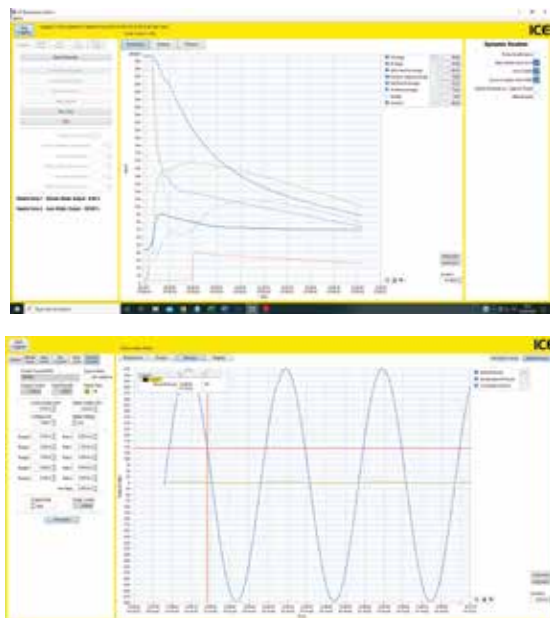
- Up to 100mm diameter sample space
- Fast cool down times using our patented Dual-Cool technology
- Modular design, easily upgradable with a He3 or dilution insert to achieve 280mK and 10mK base temperatures respectively
- Fully customisable options for optical access, magnets, sample manipulation and 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^{CP} 300mK Cold Probe



ICE^{CP} 10mK Cold Probe



ICE SOFTWARE

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

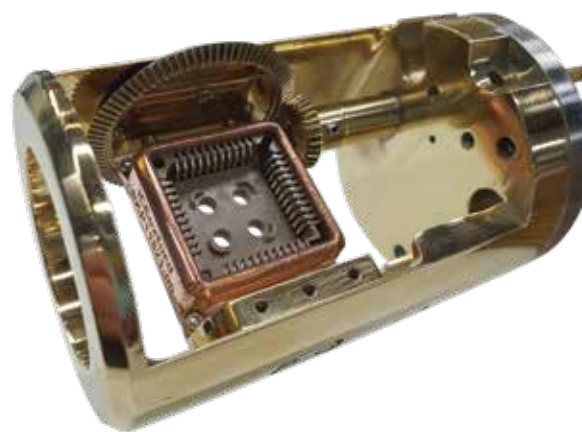
- 8 temperature sensors
- Heaters
- Needle valves
- Pressures
- Magnet
- ICE Mini Cube - our gas handling system
- He3 and Dilution Inserts
- Our patented Dual-Cool Routine

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



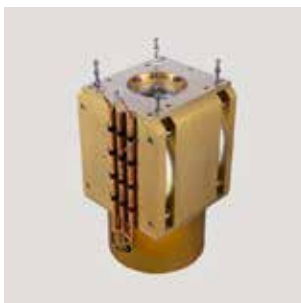
MAGNET OPTIONS

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 ICE ^{1.5K} 30mm	DRY ICE ^{1.5K} 50mm	DRY ICE ^{1.5K} 70mm	DRY ICE ^{1.5K} 85mm	DRY ICE ^{1.5K} 100mm
COOLING POWER*	150mW @ 1.6K	50mW @ 1.5K 250mW @ 1.7K	50mW @ 1.5K 75mW @ 1.6K	250mW @ 1.65K 500mW @ 2.3K	50mW @ 1.5K 150mW @ 2K
BASE TEMPERATURE	<1.3K	<1.4K	<1.5K	1.5K	1.65K
SAMPLE COOLDOWN†	<30 minutes	<30mins	<1 hour	<1.5hours	<2 hours
SAMPLE SPACE	ø30mm	ø50mm	ø70mm	ø85mm	ø100mm
DIAGNOSTIC WIRING	24-way Fischer				
CUSTOMER DC WIRING	Constantan, Manganin or Copper looms fitted on request.				
COAX	UT-85, SS, S1, BeCu and Niobium available. Other COAX available on request. Up to 80 coax				
OPTICAL FIBRES	Available with FC-APC feedthroughs				
ACCESS TO SAMPLE SPACE	Top loading probe				
OPTICAL WINDOWS	Sapphire, Quartz and Spectrosil windows. Other materials available on request.				
INTEGRATED SUPER-CONDUCTING MAGNETS	Split-pair, 2D and 3D vector rotate and solenoid magnet options available				
TEMPERATURE STABILITY	± 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)				
SAMPLE ENVIRONMENT	Vacuum or Exchange Gas				

*varies depending on cold head

†with CF probe and dual-cool