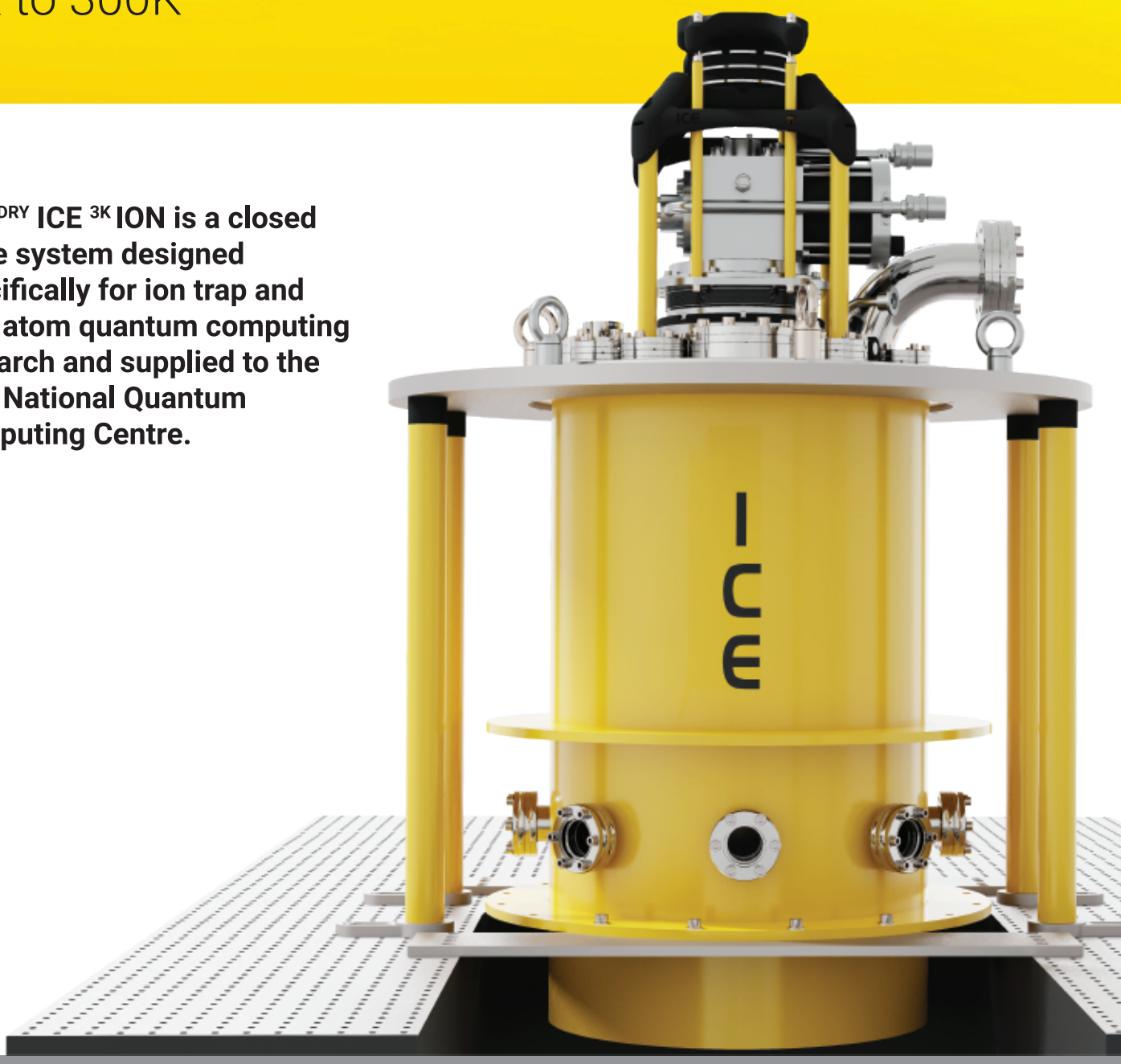
ICE

DRY ICE 3K ION

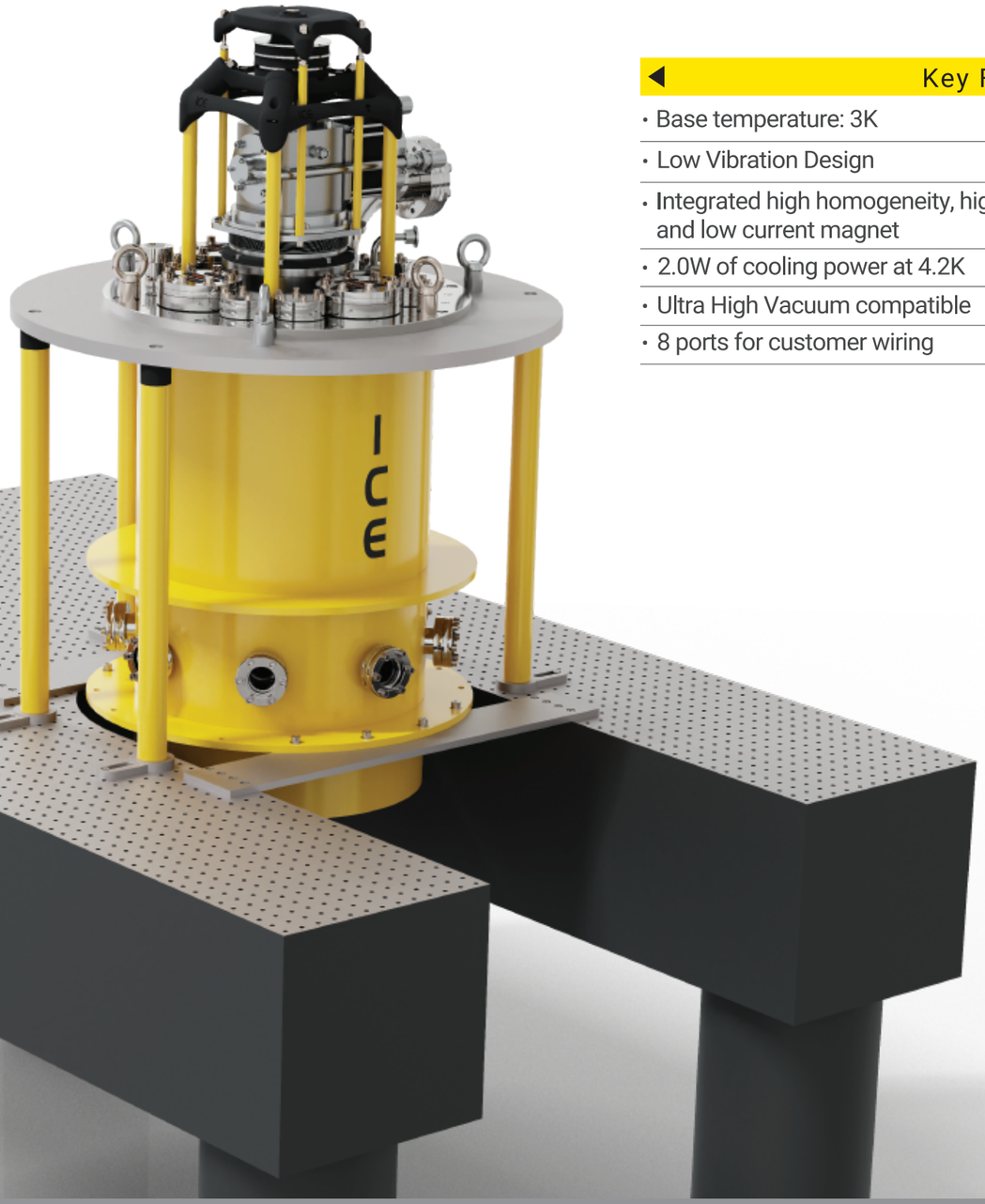
3K to 300K

The DRY ICE 3K ION is a closed cycle system designed specifically for ion trap and cold atom quantum computing research and supplied to the UK's National Quantum Computing Centre.



The Cryogenic Solution for Ion Trap and Cold Atom Quantum Computing Research

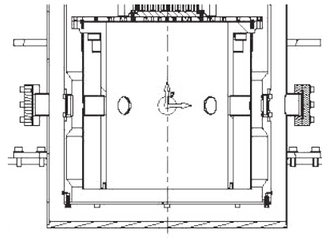
The DRY ICE 3K ION achieves a combination of low vibration at the sample, excellent optical access with a customised magnetic field, all at a base temperature of 3K.



Key Features

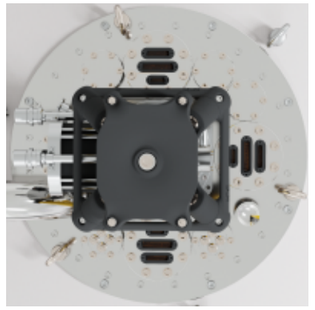
- Base temperature: 3K
- Low Vibration Design
- Integrated high homogeneity, high stability and low current magnet
- 2.0W of cooling power at 4.2K
- Ultra High Vacuum compatible
- 8 ports for customer wiring

Ultra Low Vibration
The cold head is held within our ICE Sock and supported by bellows to isolate vibrations from the cold head. Further vibration reduction is achieved by holding the cold head on an external frame and mounting the sample space on an optical table.



Optical Access
There are 8 radial CF40 ports providing optical access to the sample space. The ports have been postitioned 100mm above the optical table to allow lasers installed on the table to pass directly through them.

Wiring
The cryostat has 6 CF40 ports and 2 CF63 ports for customer wiring which can house up to 32 coax lines, 32 optical fibre feedthroughs, 600 DC lines or, a combination of the three. All wiring can be upgraded so that it is UHV compatible.



Ultra High Vacuum
The system can achieve a vacuum of 10^{-7} millibar at room temperature when using the indium seal on the connection between the top plate and the outer vacuum can.

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ICE

	DRY ICE 3K ION	
BASE TEMPERATURE	3K	
COOLING POWER	2.0W @ 4.2K	
SAMPLE COOLDOWN TO BASE	6.5 hours	
SAMPLE SPACE	⌀320mm plate x 300mm height	
DIAGNOSTIC WIRING	24-way Fischer	All wiring can be upgraded to be UHV compatible.
CUSTOMER DC WIRING	Up to 600 lines. Constantan, Manganin or Copper looms fitted on request.	
COAX	Up to 32 coax. SS, SC, C, BeCu and NbTi as standard. Other COAX available on request.	
OPTICAL FIBRES	Up to 32 optical fibres.	
ACCESS TO SAMPLE SPACE	Bottom Loading via latch mechanism for easy removal of OVC and radiation shields.	
OPTICAL WINDOWS	8 radial CF40 windows. Sapphire, Quartz and Spectrosil or other materials available on request.	
INTEGRATED SUPER-CONDUCTING MAGNETS	High homogeneity, high stability and low current magnets.	
TEMPERATURE STABILITY	± 50mK at 4K	
SAMPLE ENVIRONMENT	Vacuum	