

HPD IQ2000 Base

Large Volume, Low Vibration, True 4 K Probe Station

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➤ Overview

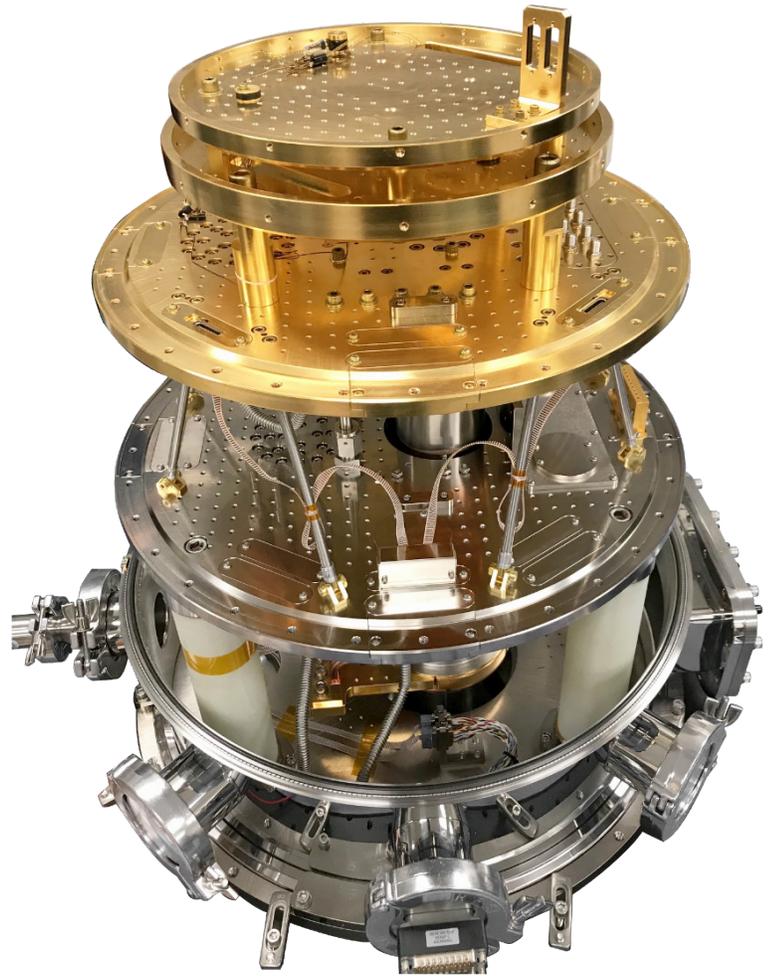
The HPD IQ2000 is a superior 4 K solution to meet all your probing needs in an ergonomic, low vibration system. This chip-scale prober addresses problems such as long turnaround times, high noise, and low signal capabilities. FormFactor's extensive knowledge of probing solutions and cryogenic systems puts us in the best position to help you meet your goals.

The IQ2000 incorporates a variety of thermal isolation techniques to fully harness the available cooling power to achieve a genuine 4 K system with temperature stability down to 5 mK.

Mechanical vibration poses a significant challenge in probing applications, potentially leading to sample damage and introducing noise into measurements. Triboelectric noise can further contaminate signals when mechanical vibrations propagate through cables. This system ensures a probe-to-DUT displacement of less than 50 nm RMS.

Designed with customization in mind, the IQ2000 offers a multitude of configurable ports to facilitate signal transmission to your sample. Each stage plate boasts multiple easily accessible vacuum feedthroughs and numerous light-blocking ports, simplifying the integration of various signal capabilities (DC, RF, FO) as per your requirements.

The HPD IQ2000 delivers genuine 4 K measurement capabilities across all probing operations within an ultra-low vibration environment. Its robust and dependable nature, coupled with an extensive range of optional features and multiple upgrade paths, ensures its suitability for diverse future needs.

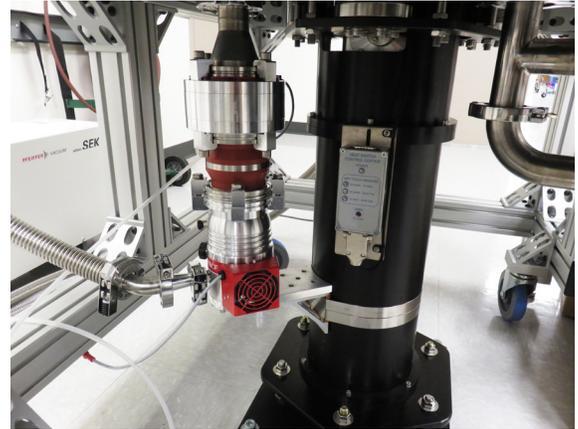


Features

- Large experimental volume at 4K
- Low vibration from < 1 Hz to 1 kHz
 - Opposed bellows
 - Passive isolation
 - Active isolation (optional)
- 4 K platform with quick access
- 4 K electrical and fiber optic feedthroughs
- Expandable, modular construction
- Easy, flexible I/O
 - 7x easily accessible NW50 flanges above the table
 - 1x large rectangular customizable flange
 - 18x HPD standard feedthroughs on 50 K stage and 10x on 3 K stage
 - Large rectangular customizable feedthroughs on 50 K and 3 K stages
 - Standard ports for DC, RF & optical fibers
- Smart controls
 - Pushbutton auto cooldown from atmosphere
 - TCP/IP control
- Cryogen-free



Create the right sample environment with optional double layer magnetic shields

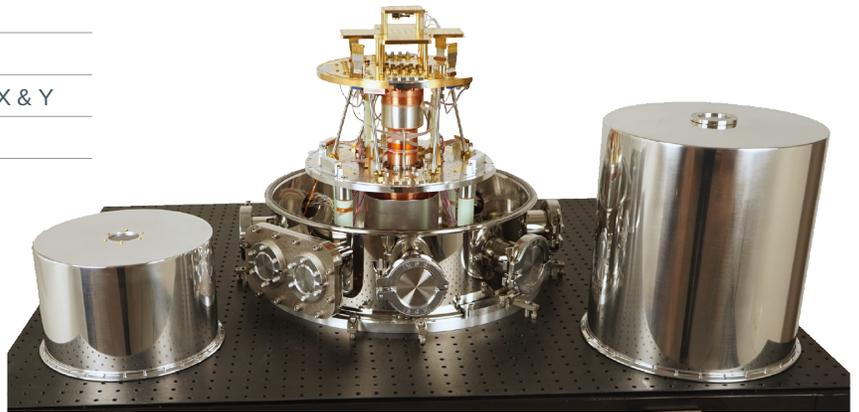


Counterbalanced bellows and a rigid support tube isolate the cryocooler's vibrations from the rest of the system

Design Specifications

- Ø34 cm x 25 cm tall 4 K experimental space
- 1.5 W cryocooler
- 1 W thermal lift at cold stage at 4.2 K
- < 4 K base temperature
- < 50 nm vibration stability, peak to peak
- < 5 mK temperature stability
- < 14 hr cooldown
- System will scan a 20 mm chip
- Attocube positioners with 5 mm travel in Z, 20 mm in X & Y
- 50 K and 4 K radiation shields

50 K and 4 K thermal shields help ensure a 4 K sample environment.



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