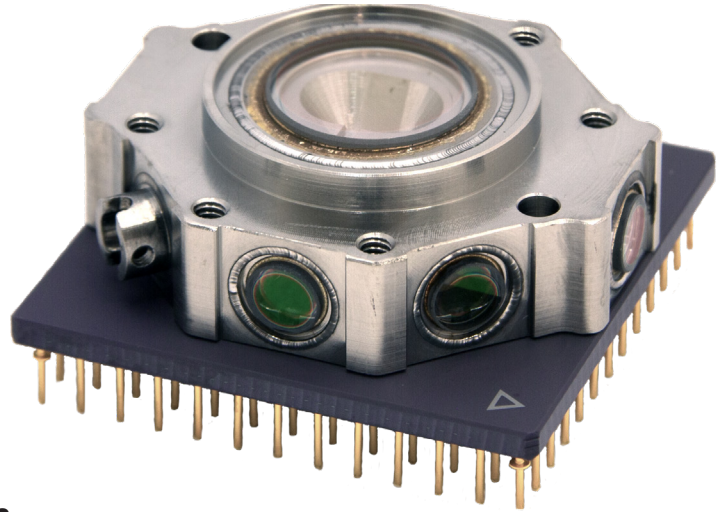


CRYOGENIC ION TRAP HOUSING

Product

- Compact vacuum cell
- UHV sealed package
- C-cut sapphire windows
- Ablation loaded ions
- 4 K compatible



Product Description

ColdQuanta's cryogenic ion trap housings give you a self-contained, high-optical access UHV environment for ion trapping with long trap lifetimes. The trap surface is ion milled before assembly into a UHV-baked chamber to provide an ultra-clean ion trap surface. The C-cut sapphire window material ensures a low birefringence and high UV transparency. The housing was initially designed to house a Sandia HOA trap.

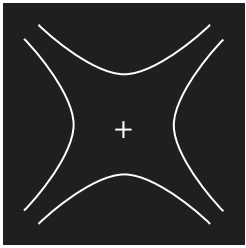
Product Specifications

| | |
|--------------------------------------|--|
| Optical Access | 2 through axes 45° 2 single-sided direction (see diagram on reverse) |
| Side Windows | 0.12 NA |
| Top Window | 0.7 NA |
| Single Sided Windows | Opposite ablation target |
| Window Material | C-cut sapphire |
| Reflectance | < 8 % per surface without AR coating |
| Chip Connector | 100 Pin CPGA |
| Dark Lifetime | -> ∞ |
| Vacuum Pressure | <10 ⁻¹² Torr |
| Trap Type | HOA |
| Body Material | Titanium |
| Integrated Pump | Non-evaporable getter pumping |
| Vacuum Volume | < 3 cm ³ |

Related Products

- Compact Ion Trap System
- Helical Resonator
- Helical Resonator Driver



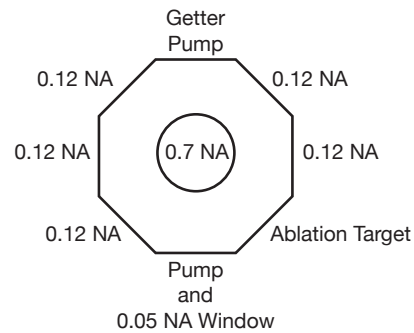
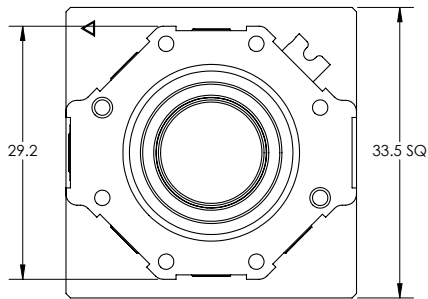


CRYOGENIC ION TRAP HOUSING

Options

| | |
|--------------------|--|
| Temperature Sensor | Lakeshore CX-1050-LR Customer specified in Lakeshore LR style body |
| Species | Ba (BaAl alloy) Yb (Metal) Inquire for other species |
| AR Coating | Inquire for options Coating designs optimized for Ba, Yb, and Ba-Yb co-trapping available |
| Bottom Window | High NA optical access from the trap bottom |
| Cryostat | Cryostat and coldfinger design |

Mechanical Drawing



Relative positions are reconfigurable

