COLD ATOM SOURCE CELLS

Product

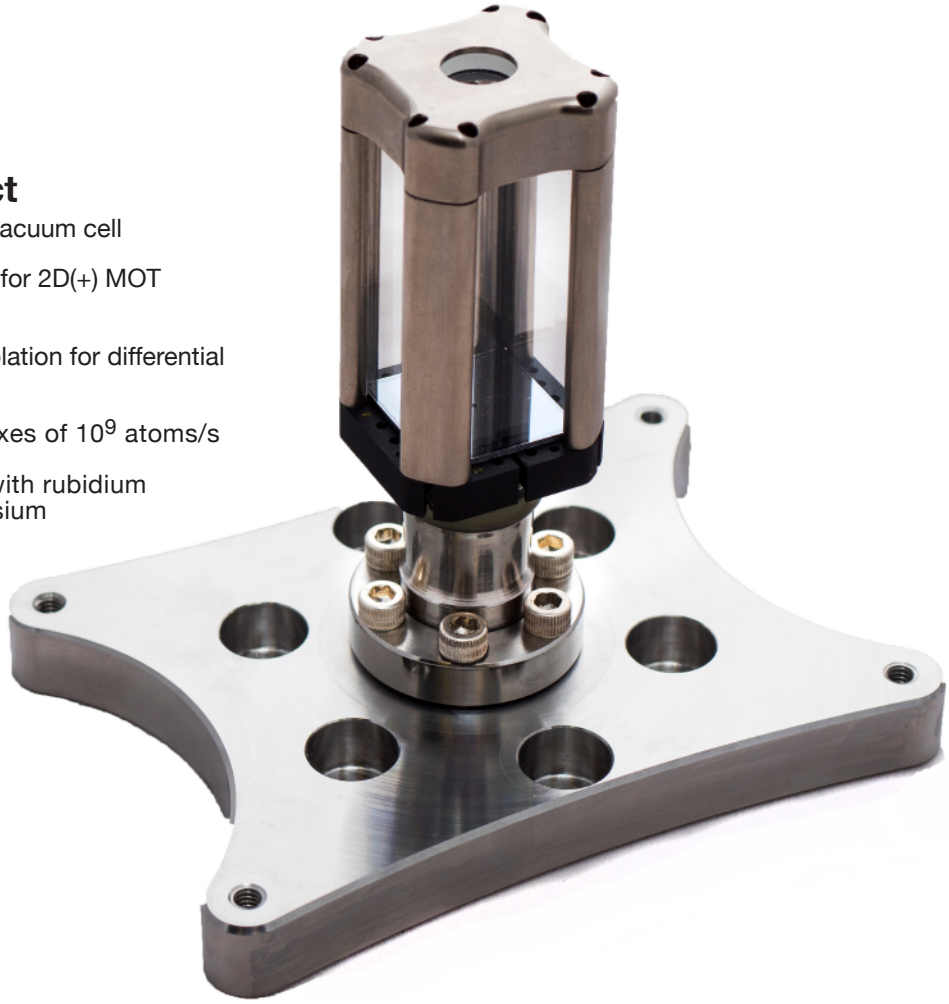
Ultrahigh vacuum cell

Optimized for 2D(+) MOT operation

Pinhole isolation for differential pumping

Output fluxes of 10^9 atoms/s

Available with rubidium and/or cesium



Product Description

ColdQuanta's cold atom source cell is a compact vacuum component that enables the production of high-flux beams of laser-cooled atoms using a 2D(+) MOT. The unit is easily integrated into the end user's vacuum system through a standard CF interface, and is bakeable to 225°C. Differential pumping of the system is maintained by an aperture in a silicon plate that isolates the user's vacuum system from the higher pressures required for 2D MOT operation. The CASC is based on a well-tested design used in ColdQuanta's RuBECi® two-chamber ultrahigh vacuum system. Fluxes greater than 10^9 atoms-per-second can be achieved with rubidium or cesium.

Related Products

The cold atom source cells are frequently used in conjunction with:

2D MOT magnet assembly — CAM-F2D

DN40 adapter plate — CAA-PSC

Product Specifications

Atom Sources	Two pre-installed sources (Rb, Cs or both)
Vacuum Connection	DN16 (1.33") CF (2.75" adapter plate available)
Vacuum Aperture	0.75 mm Ø
Vacuum Conductance	0.05 l/s
Electrical Connections	4 PCB pin connections (2 per source)
Temperature Range	up to 225 °C
Typical Atom Flux	10^9 pre-cooled atoms per second
Clear aperture	40mm x 16 mm side walls,10mm from end
Overal Dimensions	30m x 30mm x 93mm

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Product Options

Product numbers	Rubidium-rubidium configuration:	CSF-RR
	Cesium-cesium configuration:	CSF-CC
	Rubidium-cesium configuration:	CSF-RC

Mechanical Drawing