

PICAS

Photonically Integrated Cold Atom Source

Product

Alignment-free, 2D+ MOT source

Robust, fixed optics and opto-mechanics

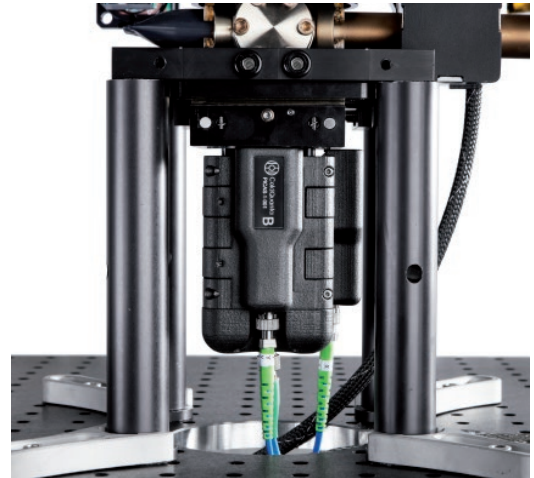
Compact unit with flexible orientation

Fiber-coupled input

Integrated source cell

Available with rubidium or cesium

Flexible orientation



Product Description

ColdQuanta's PICAS, Photonically Integrated Cold Atom Source, is a compact, alignment-free package that produces a high-flux beam of laser-cooled atoms, using user-supplied, fiber-coupled light. When combined with a ColdQuanta source cell, the PICAS is easily integrated into the end user's vacuum system through a standard CF interface, and the opto-mechanics unit can be removed during bake-out.

The PICAS employs our patent-pending, ultra-compact beam expansion system. This unit produces a rectangular beam of circularly polarized light with an approximately uniform intensity profile via a combination of cylindrical lenses and a distribution optic. The complete system comprises two of these expander units, along with two retro-reflection mirror units and a push beam.

All of the PICAS optical systems are pre-aligned and securely glued in place prior to cold atom testing. This approach ensures that the system is robust, immune to vibration, requires no user-alignment, and can be used in any orientation with respect to gravity.

Related Products

The PICAS is used in conjunction with ColdQuanta Cold Atom Source Cells:

Fixed Source: [CASC-2016-XX](#)

Exchangeable: [CSJXX](#)

Product Specifications

[Atom Sources](#)

Rubidium (Cs available soon)

[Electrical Connections](#)

4 PCB pin connections (2 per source)

[Typical Laser Input Requirements](#)

2x 20mW and 0.4mW repump for 2D MOT
1x 2mW and 0.1mW repump for Push
Polarization keyed on fast axis of fiber

[Optical Input](#)

3x FC/APC Fiber Optic Inputs

[Magnetics](#)

Incorporated MAG-2000 magnet assembly

[User Adjustment of Optics / Magnets](#)

Via single incorporated XY translation stage

[Temperature Range](#)

Vacuum cell up to 225 °C (with PICAS removed)

[Dimensions](#)

67mm x 67mm x 93mm

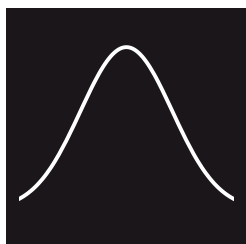


ColdQuanta

303.440.1284

info@coldquanta.com

To Request a Quote Go to www.coldquanta.com

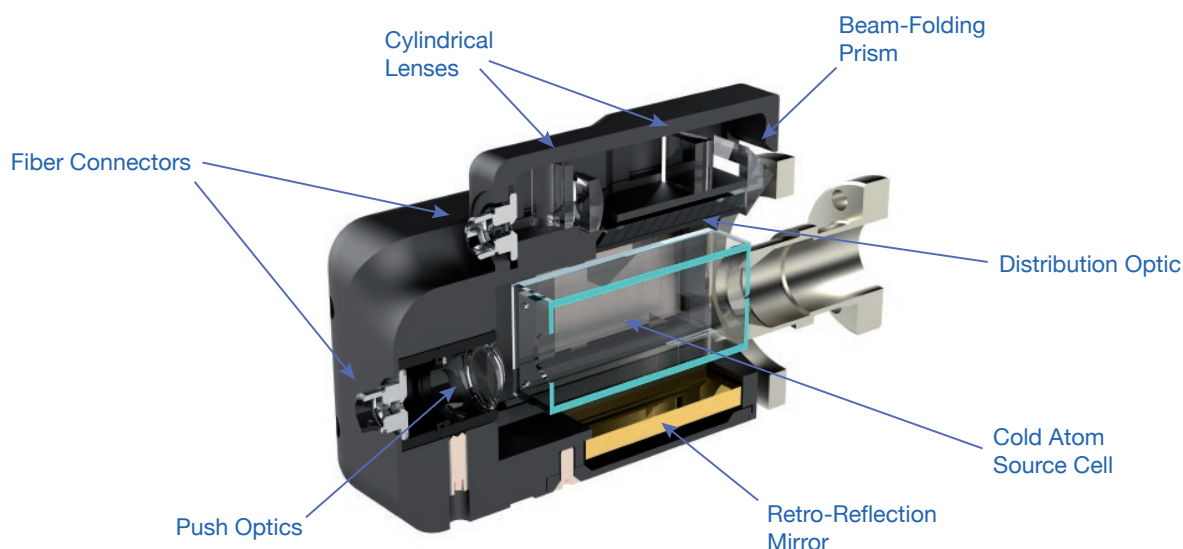


Photonically Integrated Cold Atom Source - PICAS

Product Options

Product numbers

Rubidium-rubidium configuration:	PICAS-1000-RB
Cesium-cesium configuration:	PICAS-1000-CS



Mechanical Drawing

