

Three-Dimensional Magneto-Optical Trap

High-Performance Integrated 3D MOT

- **Plug-and-Play** Power up the vacuum system, connect the laser via optical fiber, and input the appropriate current to the magnetic field coils to output a stable cold atom cloud.
- **High Flexibility** Equipped with an independent compound pump set sealed with standard vacuum blind flanges, usable as a standalone system or integrated as a module via standard flanges into your existing system. Portable with the vacuum system, improving flexibility while significantly reducing maintenance costs.
- **High Reliability** Compact integrated design reduces size, weight, and power consumption while significantly enhancing system reliability and robustness against vibration and ambient temperature fluctuations.
- **Compact Design** Integrates high-purity alkali metal vapor sources (Rb/Cs) with optimized vacuum pressure gradient management, ensuring high atom numbers in extremely short loading times.
- **Long-Life Vacuum** Advanced non-evaporable getter (NEG) and compact compound ion pump technology maintains better than 1×10^{-6} Pa vacuum for over 60 days without power as a standalone system.
- **Stable Optical Path** Anti-vibration, temperature-drift-resistant integrated structural design with all cooling, repumping, and Raman beams factory pre-aligned for maximum power stability in complex environments.
- **Versatile Design** (1,1,0) MOT configuration supports atom cloud ejection from standard flanges, meeting diverse operational requirements.



Product Specifications

Dimensions	220 mm x 220 mm x 260 mm
Ultimate vacuum	$< 1 \times 10^{-8}$ pa
Weight	7.4kg
Vacuum Interface	CF35
Central Magnetic Field Gradient	0~25G/cm (Adjustable)
Optical Clear Aperture	6mm
Fiber Optic Interface	FC/APC
Atomic Species	^{87}Rb , ^{85}Rb , ^{133}Cs
Atomic Beam Flux	$\geq 1 \times 10^9$ /s
Residual magnetic field at the atomic center	≤ 10 mG (Dynamically compensable)
Relative Magnetic Permeability (Housing)	≤ 1.05
Quantization axis coil	Three pairs of orthogonal coils (for magnetic field compensation)
Data interface type	USB2.0 2 pcs/set

Application Fields

High-Performance Atomic Clocks Core component of miniaturized atomic fountain clocks, providing microsecond-level timing accuracy.

Atom Interferometry Precision measurement of gravitational acceleration (gravimeter) or angular rotation rate (gyroscope).

Quantum Networking Efficient cold atom ensemble source for quantum storage and relay experiments.

Fundamental Physics Education Demonstrates core quantum phenomena including atom launching, free fall, and energy level transitions.

Contact Us

Web: <http://www.linqquantum.com>

Email: contact@linqqquantum.com

Phone: (+86)181 0192 5927

Add: 12F, Building 1, Xindai Sci-Tech Innovation Park, Pinghu City, Jiaxing, Zhejiang, China

"We transform cutting-edge technology into batch-deliverable standard products through engineering — so you can focus on **exploring physics** instead of **building systems**."