

# OPEX<sup>®</sup>

## AUTOMATED MULTI-TEMPERATURE STORAGE

Cold Chain Fulfillment for Refrigerated and Frozen inventory

OPEX<sup>®</sup> automated storage solutions give healthcare, clinical lab, and pharmaceutical operations the ability to store, track, and retrieve temperature-sensitive inventory with speed, accuracy, and built-in redundancy, without sending workers into cold or frozen environments. OPEX configures a system around your facility, your temperature zones, and your throughput requirements.



## FEATURES

### MULTI-TEMPERATURE STORAGE

A single ASRS handles ambient, refrigerated, and frozen inventory within one platform. Peltier temperature-controlled totes manage chilled and frozen products at the tote level, eliminating the need for dedicated freezer infrastructure while maintaining precise temperature control across all three zones.

### HIGH-DENSITY STORAGE

Racking builds up to 38.5 feet (11.7m) high and ~200 feet (61m) long, maximizing every square foot of expensive refrigerated space. The totes are equipped with insert sleeves that create customizable compartments, allowing various product types to be efficiently stored together.

### TOTE I/O AUTOMATED RETRIEVAL

When an existing refrigerated room is already part of your facility, the ASRS installs inside the cold room and Tote I/O automatically conveys totes directly to pick stations in an ambient environment. Workers fulfill orders at a comfortable temperature without entering the refrigerated space.

### BUILT-IN SYSTEM REDUNDANCY

Distributed architecture ensures no single point of failure. iBOT<sup>®</sup> robots are self-charging and individually removable for maintenance without taking the system offline, delivering continuous access to inventory around the clock.

## ADVANTAGES

### RELIABLE

Maintains precise temperature control throughout storage and retrieval, minimizing excursions that compromise drug efficacy. Automated FIFO/FEFO rotation reduces waste from expired inventory, and handling errors drop significantly when workers no longer pick manually in cold environments.

### EFFICIENT

Maximizes storage density in high-cost refrigerated square footage while delivering fast, accurate goods-to-person retrieval. Workers retrieve orders at ambient-temperature pick stations, eliminating the fatigue and error rates associated with manual cold-zone picking.

### COMPLIANT

Automated item tracking supports DSCSA electronic traceability requirements with complete chain-of-custody documentation, serial numbers, lot numbers, expiration dates, and GTINs, integrated directly into cold storage operations.

### COST-EFFECTIVE

Eliminates the capital and ongoing expense of dedicated cold infrastructure including construction, energy, maintenance, and PPE costs associated with traditional cold room operations.

### WORKER-FRIENDLY

Removes workers from cold and frozen environments entirely, eliminating shift differentials, PPE costs, and the high turnover that cold-zone labor conditions typically drive.

### SUSTAINABLE

Peltier ACT totes use R744 (CO<sub>2</sub>), a natural refrigerant with a global warming potential of 1 versus thousands for common HFCs. IoT connectivity allows totes to power down when empty, eliminating unnecessary energy draw.

## SPECIFICATIONS

	Peltier Freezer Tote	Peltier Refrigerator Tote
Internal volume	32L	35L
Weight	21 lbs. / 9.53 kg	21 lbs. / 9.53 kg
Temperature setpoint	-0.04°F (-17.8°C)	37.94°F (3.3°C)
Temperature stability	Less than 0.9°F (-17.27°C)	Less than 0.9°F (-17.27°C)
Pull-down time	~80 minutes at 75.2°F (24°C) / 55% RH	45 minutes at 75.2°F (24°C) / 55% RH
Energy consumption	290W pull-down, 140W steady state	125W pull-down, 40W steady state
Input	48 VDC	48 VDC
Refrigerant	R744 (CO2)	R744 (CO2)
Noise level	52 dB max	52 dB max
Operating ambient range	37°F - 82°F (1.1°C - 27.7°C)	37°F - 82°F (1.1°C - 27.7°C)
Operating humidity	no more than 65% RH, non-condensing	no more than 65% RH, non-condensing

## APPLICATIONS

### Clinical Pathology & Diagnostic Labs

Secure, automated storage for high-volume diagnostic samples including:

- Blood Samples
- Urine Samples
- Stool Samples
- Lab Specimen Containers

### Pharmaceutical & Chemistry Sciences

- GLP-1 medications
- Insulin injections
- Organic compounds
- Clinical trial materials
- Temperature-sensitive pharmaceuticals



Have questions?

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