

$$\Rightarrow \sqrt{L \cdot C} = \frac{1}{2 \cdot \pi \cdot f} \Rightarrow C = \frac{1}{L \cdot (2 \cdot \pi \cdot f)^2}$$

9V

$$I = \frac{U_0}{R} = \frac{10V}{2\Omega} = 5A$$

$\omega =$

$$Z =$$

$$U_C$$

$$\frac{1}{\sqrt{L \cdot C}} \Rightarrow \sqrt{L \cdot C} = \frac{1}{2 \cdot \pi \cdot f} \Rightarrow C = \frac{1}{L \cdot (2 \cdot \pi \cdot f)^2}$$

$$\omega L$$

$$Q = \frac{I_L}{I_C}$$

200°C  
70°C  
-20°C

$$R$$

$$\omega C$$

$$\omega L$$

$$b = \frac{\omega_U - \omega_L}{2 \cdot \pi}$$

$$Z = R + j \left( \omega L - \frac{1}{\omega C} \right)$$

$$2\pi \sqrt{LC}$$

$$\Rightarrow \sqrt{L \cdot C} = \frac{1}{2 \cdot \pi \cdot f}$$

# LiCotel

Automated Plate Hotels for Robotic Integration

Initially designed on customer request, LiCONiC Plate Hotels have become the most popular workhorses in thousands of applications requiring automated open storage space. Back in the early 90's LiCONiC for the first time introduced fully automated storage with single plate random access capability.

Today LiCONiC offers the most complete selection of plate hotels that cover all needs of modern laboratory automation. All LiCONiC Plate Hotels support full-random access. Unique flexibility is built into the design. Various options and a huge selection of accessories make each plate hotel configurable to best meet the specific needs of any integration.

Designed and built especially for automation, LiCONiC's Plate Hotels provide full remote operation while maintaining extremely simple integration. Many years of experience and close focus on highly specialized technology made LiCONiC's LiCotel-Series plate hotels the market's most trusted choice for automated plate storage solutions.

### Main Features

- Capacity - from 44 to 880 MTP-equivalent size plates and beyond
- Compact - the smallest footprints in the industry
- Fast - loading times down to 3 seconds
- Multiple configurations – bench-top, stand-alone, under-bench or movable
- Easy integration - 100% software compatible
- LiCONiC's unique True Orbital Shaking from 1-6mm

# Plate Hotel Series and Product Overview

## LPX Series

LPX Plate Hotels are the classic series of open storage applications. Capacity ranges from 44 to 880 MTP-equivalent locations. These instruments consist of removable cassettes that hold plates during storage and a stationary lift mechanism that handles one plate between cassettes and transfer station. The ability to handle labware from shallow high density plates to tall tip boxes, combined with great configuration flexibility and a huge variety of accessories and options, make the LPX-Series instruments a true all-rounder for open storage applications.

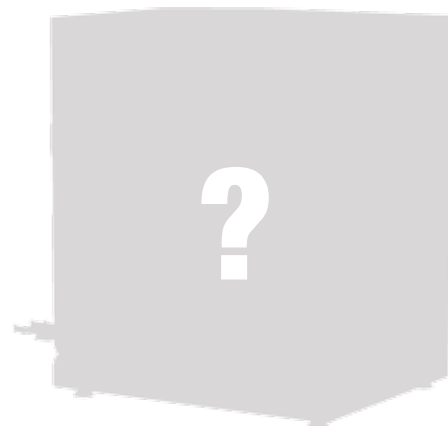


## LPR Series

The LPR series is designed to make compact workstations without compromise to the functionality of the LPX series. The LPR44 and the LPR240 deliver the sample through the top surface so it can fit under any liquid handler deck or workstation. This will leave ample room on the upper surface for additional equipment and increases the capacity of any automated workflow. In addition, the star-like concept will save thousands of dollars by eliminating the need for special transfer-stations or special extended robotic arms. These unique features are achieved by adding a second vertical axis that extends the lift above the top of the instrument. With the periscope delivery system, extended grippers or complicated robotic arms become obsolete. The implementation of multiple transfer stations to greatly increase workflow by reducing bottlenecks at the transfer-location has become straightforward by this unique design.

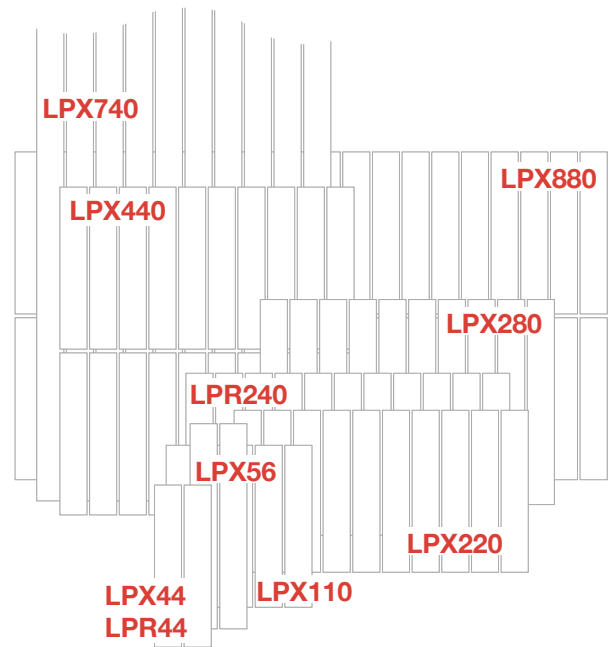
## OEM Series

LiCotel OEM plate hotels make LiCONiC's LiCotel technology available to customers who have need for larger numbers of instruments over longer periods of time. OEM versions seamlessly match into specific applications by adopting any given design, color and / or features. OEM Plate Hotel Series are manufactured in large volumes over long periods with frozen design and competitive pricing.



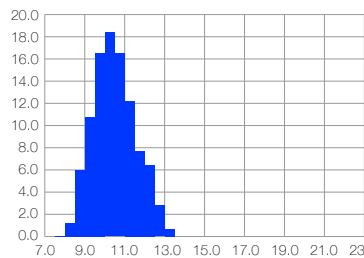
# Capacities

Because of the instrument's extreme flexibility, capacity-specifications are normalized to MTP-equivalent size plates assuming 17mm height that includes the plate plus its lid. Capacities of LiCotel-Series instruments range from tiny 44 to massive 880 MTP-equivalent plates.

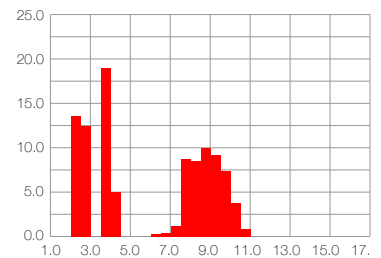


The LiCotel Series instruments are incredibly fast. In addition to high speed plate transfer where applicable, intelligence has been added in order to guarantee safe and gentle plate motion. As a unique feature, speed can be adjusted to specific application's needs.

PlateReady Times Distribution



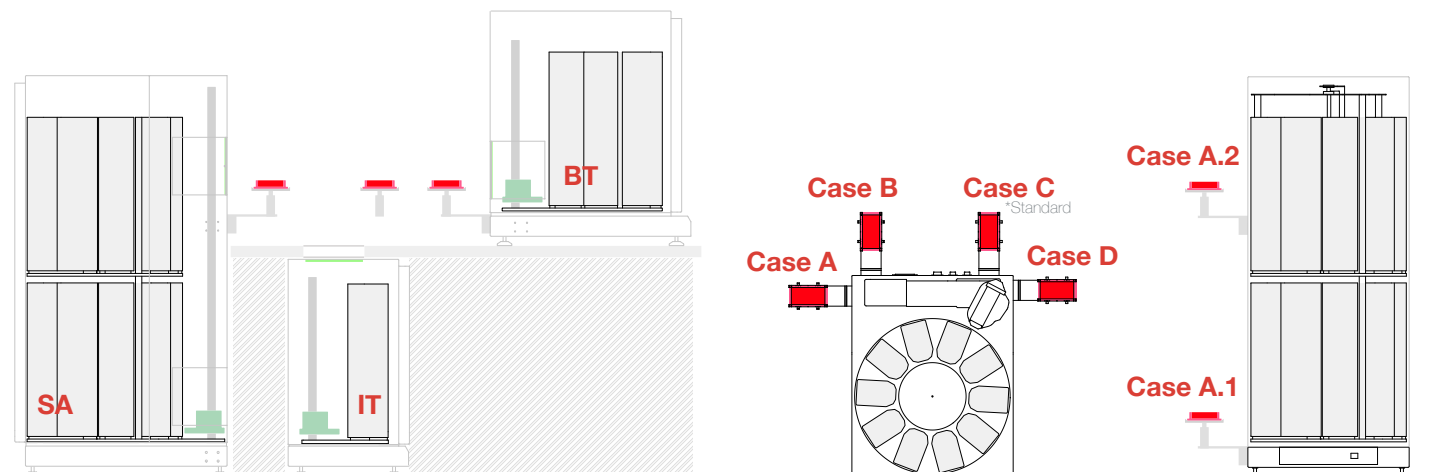
Access Times Distribution



Above plots show typical access times for a LPX110. LiCONiC's PlateReady information allows for even further increase of throughput.

# Configurations

LiCotel Plate Hotels have been designed for integration into fully automated laboratory applications. For seamless integration, maximum flexibility has been implemented in the instrument's system design. Next to the classic bench-top integration, integrations where the instrument stands on the floor or even integrations where the instrument is located under the platform (LPR-Series) become possible. Great flexibility is added by allowing to freely chose the locations of the operator panel, connector panel and – of course – the transfer station. Even multiple transfer location are possible.



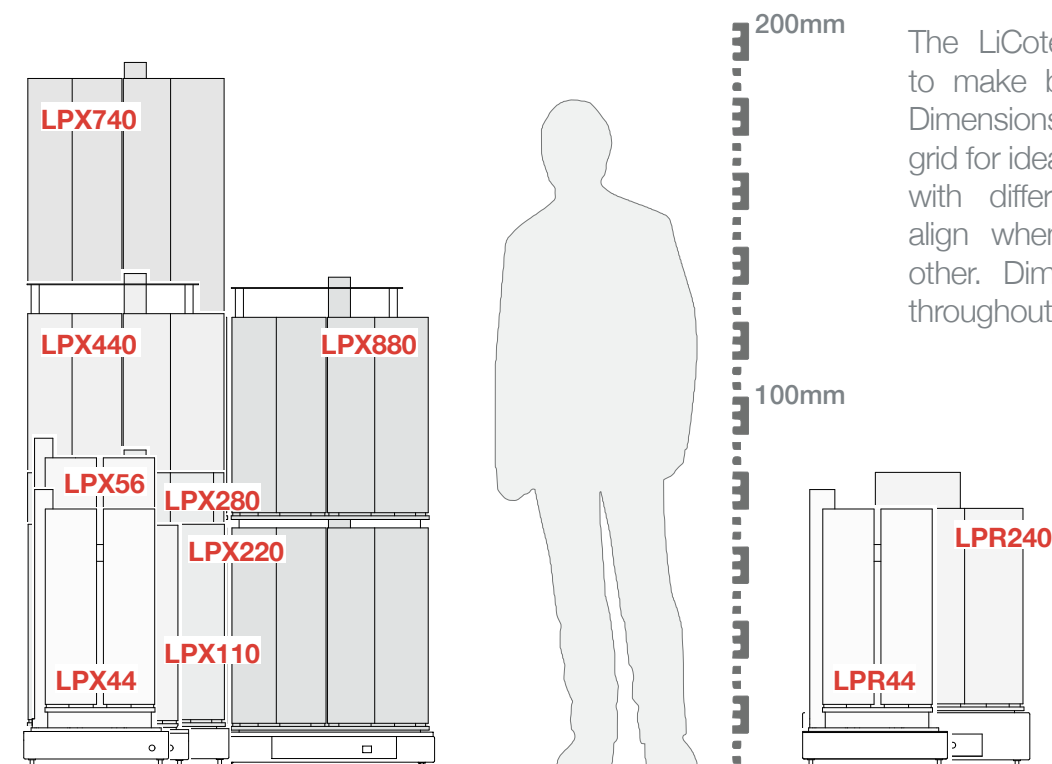
## Options

	Series	
	LPX	LPR
Barcode Reader	✓	✓
Shaking	✓	✓
Side Gate	✓	✓
Docking Shuttle	✓	
Plate Presence Sensor	✓	✓
Petri Dish Capability	✓	✓
Bioreactor Tube Handling	✓	✓
iMotion Intelligent Speed Management	✓	✓
Configurable User Panel Location	✓	✓
Configurable User Port Location	✓	✓
Configurable Transfer Height	✓	✓
Configurable Number of Transfer Ports	✓	✓
Dual Transfer Station	✓	✓
OEM System Design		✓

## Accessories

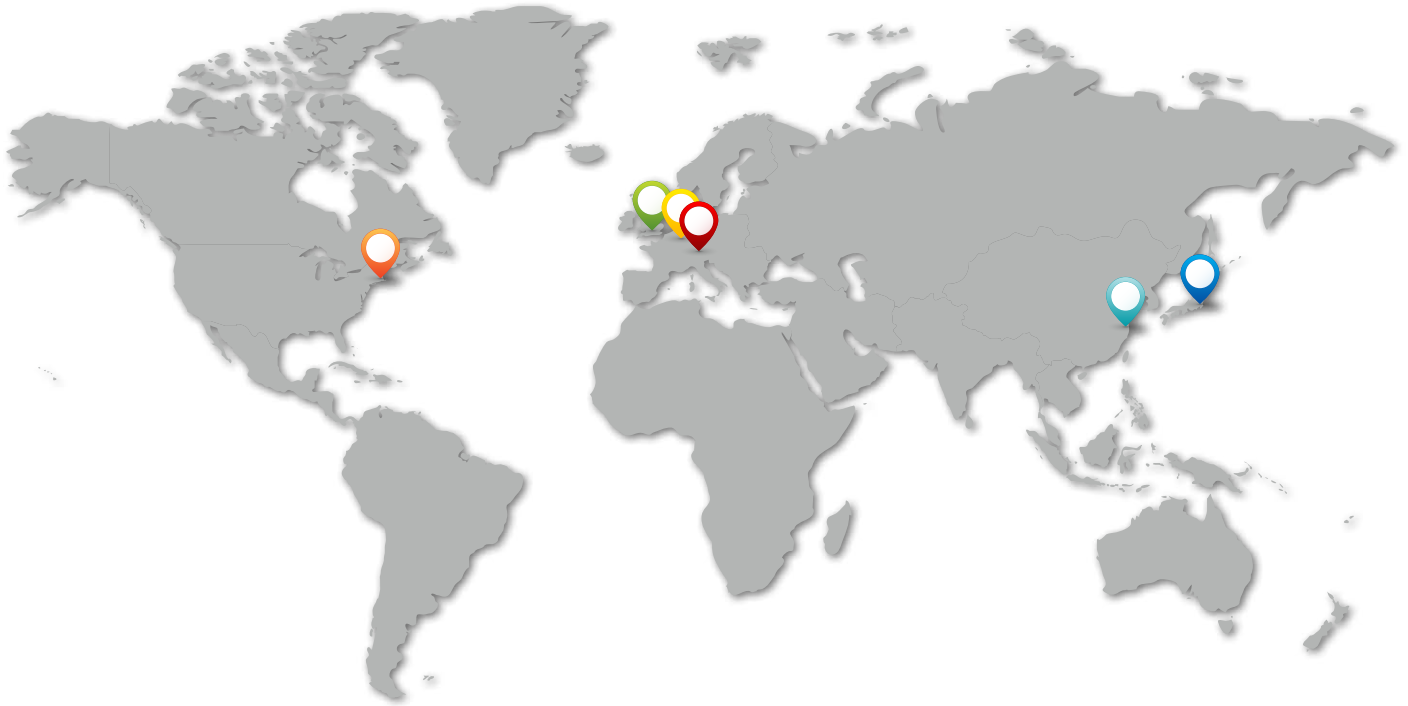
	Series	
	LPX	LPR
Cassettes	✓	✓
Standard Transfer Station	✓	
Swap Station	✓	✓
Active Alignment Transfer Station	✓	✓
Slide Station	✓	✓
Parallel Transfer Station	✓	✓
Lift Station	✓	
Turn Transfer Station	✓	
Shuttle Transfer Station	✓	✓
Petri Dish Transfer Station	✓	✓
Side Access Slide	✓	✓
Gripper Station	✓	✓
GUI Sample Management Software	✓	✓
Table Interface	✓	
Bioreactor Tube Rack	✓	✓
Modular Cascading System	✓	

## Dimensions



The LiCotel Plate Hotels are built to make best use of given room. Dimensions are kept in a consistent grid for ideal mix&match. Instruments with different capacity perfectly align when set up next to each other. Dimensions remain identical throughout different configurations.

# Worldwide Presence



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