

Medical Product Manufacturer Boosts Productivity with Engineered-to-Order Portable Lift Units

Company institutes lean manufacturing with customized PHL Series units from Unidex to improve workflow and enhance ergonomic work safety.



Customized PHL Series portable hydraulic lifts from Unidex allow workers to move a medical product from station-to-station during the assembly process and tilt or rotate units for ergonomic access. Each finished product is tested on the same PHL unit it was assembled on, eliminating the practice of having workers lift 60-lb. units and place them on immobile automotive transmission stands for testing.



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Situation:

A manufacturer of medical products was evaluating its production practices for its low-temperature sterile processor that sterilizes immersible surgical and diagnostic instruments and devices in 30 minutes. The sterilizers are part of a line of products used around the world to prevent infection and contamination in critical environments such as hospitals, outpatient clinics, pharmaceutical manufacturing operations, research labs and industrial environments.

When the company chose to implement lean manufacturing principles in its Midwest plant, one area of concern was the assembly of this sterilizer. The process consisted of a number of workers, each at an individual desk or workbench, performing a single task. The sterilizer unit was carried by hand from station to station. By the time it reached the end of the line, the unit weighed more than 60 pounds. It was finally placed on an automotive transmission stand for three to four hours of testing.

The company asked Unidex, Inc. to develop a material handling system that would make this process easier, safer and more productive for its workers.

Solution:

An "engineered-to-order" portable hydraulic lift was developed by modifying Unidex's standard Model PHL unit. Offering almost unlimited applications, the PHL is a versatile manual lift and transporter, featuring a hydraulic lift system controlled by a foot pedal capable of handling loads up to 250 lbs. from 0" lowered to 48" raised height. Other standard features include an adjustable downspeed control, four 5" locking swivel casters, and a cantilevered design that allows unobstructed access to racks, machinery and other immovable fixtures. PHL units are available with a variety of heights, lift strokes and load capacities and with custom fixtures and workholders. They can be manufactured in stainless steel for use in sanitary or cleanroom environments.

"One worker can now follow a unit throughout the assembly process, streamlining work flow in a safer and more productive environment."

For this application, Unidex custom engineered its PHL with a fixture that grips the sterilizer and can incrementally rotate the unit 360°. This allows the worker to perform tasks on either side or to tilt the sterilizer for better access. The hydraulic lift capability gives workers the option to work standing or sitting and easily position the unit for the most comfortable position. The foot pedals were moved to the side of the machine, so the PHL could be placed flush against a wall for the testing phase.

In the new assembly process, a single worker follows a sterilizer unit through the entire assembly procedure, performing a different task at each station. At the start of assembly, the PHL is used to lift the sterilizer unit frame from a pallet. The unit then remains on the PHL as it travels to the various assembly stations. There is no longer a need for a separate test stand as every completed sterilizer is tested on the same PHL unit that it was assembled on.

Results:

- Using customized PHL units, average assembly time for the sterilizers decreased significantly, thus boosting productivity.
- One worker can now follow the sterilizer unit through the entire procedure, which streamlines work flow.
- All manual lifting and moving has been eliminated.
- The height and tilt can be adjusted at each station, affording workers easy access from a sitting or standing position.
- There is no longer the need for a separate test stand.
- Workers now have a safer and more productive work environment.



Designed for use as multiple production units in countless applications, the standard PHL (shown with custom forks) is easily modified for the specific process or work function.



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