DPC LabStation*—
Flexibility without Compromise

Sue Zinn
Project Development,
Corporate Marketing

"By implementing the DPC LabStation, we use our systems much more effectively: the throughput has increased significantly. Furthermore, we have achieved our goal to run the clinical chemistry and immunodiagnostics laboratory with one to two medical lab technicians during the day shift, and the whole laboratory with one lab technician during the night shift and on weekends, although we process an increasing number of samples. And apart from this, it was of vital importance for us that the samples pass the track within 1 to 5 minutes, making them available for further processing very quickly."

Dr. Michael Heins
Laboratory Director, Marien Hospital
Osnabrück, Germany

For today's laboratories around the world, the issues are the same:

- ✔ A need to increase productivity, i.e., do more work with fewer resources
- ✔ A lack of qualified staff to handle the increased workload
- ✔ An increased focus on quality and a drive for excellence in operational processes.

To address these issues, laboratories are looking more and more at increasingly automated solutions. Among the many options and configurations available are preanalytical solutions that range from simple sample sorters to complex autocentrifugation and sample-aliquoting systems; and islands of automation, which are discrete configurations of two or more systems that can process large volumes of work. An example of the latter type of solution is the DPC Immunoassay (IA) Workcell. There are also total laboratory automation solutions that can link together multiple systems for more than one clinical application and that offer optional preanalytical capability.

These solutions are often flexible in terms of the various options available but sometimes inflexible in terms of connectivity to different instrumentation. Consequently, to automate, the laboratory has to compromise on optimal instrumentation choices. This can be very frustrating and definitely does not result in the best solution for the laboratory.

All of the choices can make it very difficult for the laboratory to determine what is the best solution. Just as the particular issues and bottlenecks vary widely between different laboratories, so too do the true solutions.

DPC has recognized all of these considerations and is pleased to offer the DPC LabStation—a truly flexible and user-definable answer to the automation needs of the laboratory.

* *Not available in all countries.*

What is the DPC LabStation?

The DPC LabStation can be described very simply in three words—Flexible, Adaptable, Connectible. It consists of modules—in essence, building blocks—which can be connected in any combination to provide a customer with anything from a very simple sample sorter to a highly complex total laboratory automation (TLA) configuration that handles hundreds or even thousands of samples per hour. The modules include preanalytical modules, track connections for moving samples around the laboratory (with automated links available to many different pieces of instrumentation) and sorting/storage modules. Connectible in any configuration and layout, the components of the DPC LabStation provide each laboratory with a solution that is based entirely on the laboratory's unique needs. No two DPC LabStation configurations are the same, as no two laboratories are the same. The table lists the available modules and their key features.

Module	Function
Entry (Sample or Rack versions available)	Sample-entry point for the system. Depending on the size and capacity of the system required, modules can be chosen to accommodate either single samples or racks of samples. Samples can be sorted into other instrument sample racks at this point for manual removal and loading onto the systems.
Exit (Sample or Rack versions available)	Sample-exit point for the system. Depending on the size and capacity of the system required, modules can be chosen to accommodate either single samples or racks of samples. In the larger capacity configurations, samples can be sorted into large archive racks for storage.
Combined Rack Entry & Exit	Combination module to accommodate the small to mid-sized laboratory workload.
Centrifuge	Sample tubes are automatically transferred into the centrifuge racks using a robotic arm with an autobalance feature. The racks are placed into the centrifuge and, following centrifugation, the tubes are transferred from the racks into the multitube carriers for transportation throughout the LabStation.
Decapper	The module decaps both traditional closures and screw-capped tubes.
Aliquoter / Labeller	Aliquots can be dispensed into secondary tubes on the basis of user-definable rules. The module uses disposable tips and has both level sensing and clot detection based on pressure measurement. The secondary tubes are automatically labeled using a label applicator.
Instrument Interface	Many instrument interfaces are available for the DPC LabStation including the DPC IMMULITE 2000 and 2500 SMS systems and also the DPC T30 and T60 clinical chemistry systems. Non-DPC system interfaces are also available.
Check / Buffer	Sample tubes are moved to this module while analysis is being completed or if there is an issue with the sample tube, for example, bad barcode, etc.
Multitube Carrier	Transports individual sample tubes from one module to another. Each carrier has a built-in microchip that takes the barcode information for the sample wherever it is within the system.

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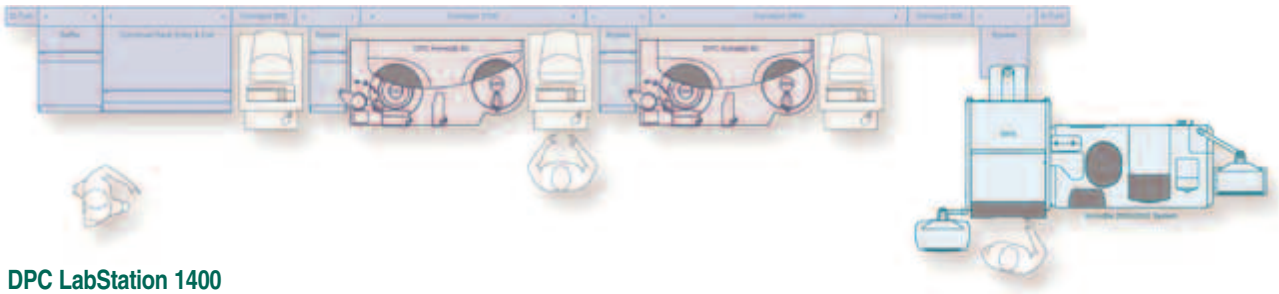
DPC LabStation configurations

The following examples illustrate just a few of the many configurations that are possible.



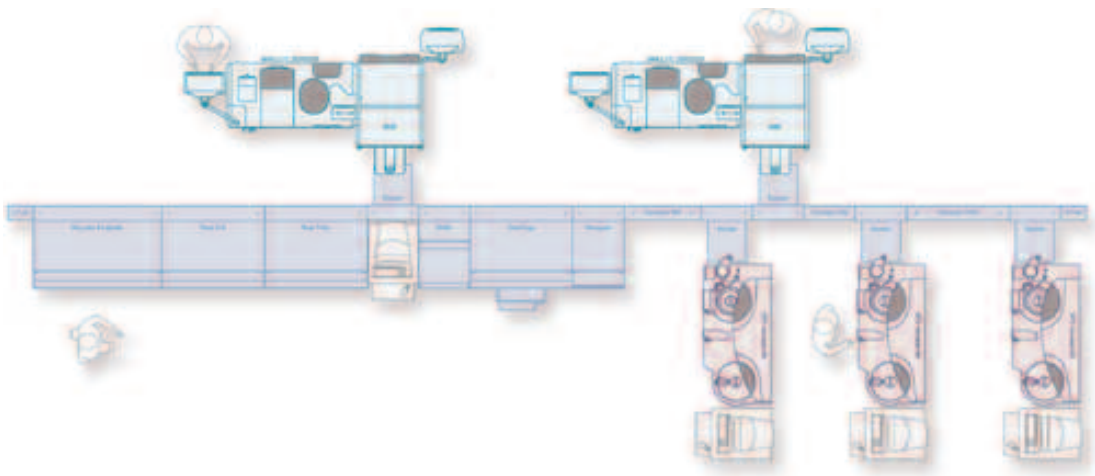
DPC LabStation 1400

- Two DPC T60 clinical chemistry systems providing a throughput of up to 1,200 tests per hour
- One DPC IMMULITE 2500/2000 SMS immunoassay system providing a throughput of up to 200 tests per hour
- Combined Rack Entry / Exit module with a throughput of 250 tubes per hour
- Sorting capability to 19 possible locations
- Uniquely identified storage racks that can be used for postanalytical archiving

DPC LabStation 2200P

- Three DPC T60 clinical chemistry systems providing a throughput of up to 1,800 tests per hour
- Two DPC IMMULITE 2000 or 2500 SMS immunoassay systems providing a throughput of up to 400 tests per hour
- Automation throughput of 400 tubes per hour
- A combination of preanalytical functions: *aliquoting/labelling, centrifugation, decapping, sorting*

The DPC LabStation provides your laboratory with a flexible answer to centralizing and automating your clinical chemistry and immunoassay testing. It allows you to respond to the changing demands of health services with a solution that meets your needs today and that will adapt to your needs tomorrow.



A key feature of the DPC LabStation is that it is scalable: as the workload of the laboratory grows, additional modules of any type can be added to accommodate the increase. This enables the laboratory to easily adapt the existing setup to the changing requirements of the workload with minimal interruption of the laboratory routine and negligible impact on productivity.

"Here at EndocLab we have a relatively high ratio of hormone and allergy tests compared to clinical chemistry tests. By integrating the DPC T60 and an IMMULITE system we have managed to adjust our capacity to the specific demands on our laboratory. It's reassuring to know that we could expand our current configuration practically overnight, especially because here in Portugal the demands on the health sector are in the process of changing. My staff values the fact that they now have the time to focus their efforts on the more challenging aspects of their jobs."

Dr. Graça Salcedo
Laboratory Director, EndocLab
Porto, Portugal

Why Choose the DPC LabStation?

- **Tried and tested instrumentation.** DPC has partnered with Thermo Electron Corporation to provide proven automation and instrumentation in any configuration.
- **Extensive menu.** More than 160 different analytes to cover nearly all automated routine and esoteric clinical chemistry and immunoassay testing. The DPC T60 also has user-definable applications for further menu adaptability. Other vendor systems can also be linked to further expand the breadth of menu and services offered.
- **DPC service and support.** Already recognized for world-class service and support, DPC has raised the bar still further with the addition of DPC RealTime Solutions.
- **Efficiency and productivity.** Minimal operator input means that more work can be handled with the same or even fewer staff. Centralized control from one point simplifies sample location, reducing staff time and effort.
- **Safety and quality.** Automated sample handling improves quality and consistency, decreases repeat sampling, reduces the risk of human error and contributes to a safer working environment by minimizing the operator's exposure to blood and other body fluids.
- **Customers really like it!** Comments from European customers who have been using the DPC LabStation in the past year appear at the beginning and end of this article.