

A photograph of a white laboratory workstation, the Parallab 350, with a computer monitor on a desk in front of it. The workstation has a large glass window showing internal components. The text is overlaid on the image.

ParallabTM 350

Sample The Efficiency

**Biological NANOLITER Workstation
Integrated, Automated, Cost Efficient**



Life Sciences Group

The Life Sciences Group at Brooks Automation, Inc. presents the Parallab™, a fully integrated and automated biological processing workstation. The Parallab 350[‡] is comprised of a unique combination of technologies, all working together to deliver high levels of throughput, precision, flexibility and cost efficiency. The Parallab is ideally suited for a range of life science applications that includes: cycle sequencing, PCR* SNP analysis, genotyping and screening for drug discovery.

Parallab™ 350

Sample the efficiency

By reducing costs, increasing flexibility and simplifying the processing of biological samples, the Parallab 350 can have a very positive impact on your bottom line. This fully automated biological processing workstation delivers previously unrealized low cost per sample, while saving both space and time. Depending on the protocol and application, the Parallab 350 has a throughput of approximately 2000 samples per 24-hour day. Because the Parallab is designed for unattended operation, users simply set-up the system, press go and walk away. This bench top system has flexible hardware and software platforms to allow each 96-sample payload to run with a different protocol, making it ideal for core labs as well as high-throughput laboratories.



Parallab™ 350

An example genomic workstation may include the following system components:

- Highly reliable robotic system
- Automated 96-channel (nanoliter) Nano-Pipetter
- High-speed air thermal cycler with lid
- Automated wash station for the Nano-Pipetter
- Docking station for the magnetic separator tool
- Water station for in-line laboratory grade water
- System control PC with a 17" monitor
- System internal lighting
- Completely enclosed work deck
- Vacuum pump, transfer pump, waste holding tank and associated tubing

Additional features and options include:

- Eighteen chilled reagent nests with insulated lids for 96 or 384-well microwell plates and reagent troughs
- Magnetic clean-up kit including magnetic separator tool and agitating trough for bead solution
- PCR decontamination components

[‡]The Parallab is covered by U.S. Patent No. 6,443,022 and other patents pending

*PCR is covered by patents owned by Hoffmann-La Roche, Inc. & F. Hoffmann-La Roche Ltd.



Parallab Technologies

It is the integration of the Nano-Pipetter and the high-speed air based thermal cycler, in combination with several other proprietary technologies that enables the Parallab 350 to achieve precise nanoliter sample handling and parallel processing previously unrealized on any other single platform.

The Nano-Pipetter:

- Processes 96 reactions in parallel
- Enables nanoliter volume reactions by performing every processing step in thin-walled glass vessels
- Suits numerous biological applications using most standard chemistries
- Aspirates, mixes, thermal cycles, purifies and dispenses samples
- Automatically decontaminates for immediate reuse without the need for disposable tips
- Uses only 2% of the volume of a standard fluorescent sequencing reaction mix
- Produces liquid handling accuracies of $< 5\% C_v$ at 200 nl
- Designed for easy customer maintenance

The High-Speed Air-Based Thermal Cycler:

- Uses high-speed turbulent air circulation
- Has programmable, fast and accurate ramping speeds
($0.1^\circ\text{C}/\text{second}$ to $10^\circ\text{C}/\text{second}$)
- Completes an average 30 cycle protocol in under 35 minutes



Nano-Pipetter and high-speed thermal cycler

Overall Parallab System Benefits:

- Low operating costs
 - high-speed parallel processing of samples
 - nanoliter volume reactions
 - no plastic tips or additional consumables
 - one integrated system performs all liquid handling and processing tasks, saving valuable lab space
- Unattended operation
 - thermal cycler integrated into the system
 - in-place reaction vessel cleaning and decontamination
 - liquid handling and complete processing all in one system
 - chilled sample and reagent storage for overnight operation



.....excellence and innovation in molecular biology

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The ultra high throughput, configurable Parallab 5500 is also available.

Parallab™

