

# Biomark HD

- **Scalability.** Adjust throughput from 12 to 192 samples per run without changing technologies.
- **Cost savings.** Decrease the number of runs and reagent volumes by more than 95% compared to using plates.
- **Flexibility.** Run multiple applications and easily change markers over time.
- **Trusted performance.** Use validated assays on a system that has yielded over 1,000 publications in more than 10 years of use.

Biomark™ HD sets a new standard for high-throughput real-time PCR, endpoint PCR and digital PCR, with benefits that are impossible to reproduce using other conventional PCR systems. Integrated fluidic circuit (IFC) technology saves time and money by performing thousands of reactions in nanoliter volumes on a device the size of a conventional 96-well plate. Biomark HD, together with IFCs and the IFC Controller for loading samples and assays, streamlines workflows for applications demanding sensitivity and dynamic range at extremely high throughput, including genotyping, gene expression, copy number variation detection and digital PCR.

## HIGH-THROUGHPUT DETECTION

The system integrates thermal cycling and detection of PCR-based assays on Fluidigm IFCs. Supporting detection of up to three fluorescent dyes per assay, the system acquires data for each reaction chamber on the IFC simultaneously and can operate in either real-time or endpoint detection mode depending on the needs of the application.

## IFCs

IFCs are the backbone of the Biomark HD system, supporting different configurations of samples and assays for multiple applications. For more information see the [Biomark HD Flyer](#).

## ASSAYS

Biomark HD supports multiple commercially available chemistries including industry-proven TaqMan®, SNP Type™ and Delta Gene™ assays for genotyping and gene expression.

## ANALYSIS SOFTWARE

Biomark HD is bundled with data collection and data analysis software for genotyping, gene expression and digital PCR. These robust and highly customizable tools support multiple data analysis methods and a variety of report types including amplification curves, heat maps and numeric tables. Results may be easily managed, annotated and archived.



## SPECIFICATIONS

### Instrument (Part Number BMKHD-BMKHD)

Dimensions	
Depth	75 cm (29.5 in)
Width	75 cm (29.5 in)
Height	100 cm (39.4 in)
Weight	140 kg (308 lb)
Thermal control	Peltier-based, 4–99 °C
Heating ramp rate	Up to 5.5 °C/sec
Cooling ramp rate	Up to 5.5 °C/sec
Detection	CCD camera; 9M pixel, 12 µm x 12 µm pixel size
Fluorescence excitation	475 nm, 530 nm, 575 nm
Fluorescence emission	525 nm, 570 nm, 630 nm
Power requirements	100–230 VAC, 50/60 Hz, 300 W Fluidigm provides a region-specific power cord for the Biomark HD system.
<b>Instrument Control Computer</b>	
Computation	Intel® Core™ i3-2120, 3.30 GHz
Memory	2 GB
Storage	500 GB HDD
Ports	4 USB 1 GB/sec Ethernet
Operating system	Microsoft® Windows® Professional Embedded 7
Monitor	LCD flat panel
Accessories	Keyboard and mouse

### Work Environment (indoor use only)

Temperature	15–30 °C (59–86 °F)
Humidity	20%–80% relative humidity, non-condensing
Altitude	Not to exceed 2,000 m (6,560 ft) above sea level

### Supported IFCs

Gene expression	48.48 Dynamic Array™ IFC 96.96 Dynamic Array IFC 192.24 Gene Expression IFC Flex Six™ Gene Expression IFC
Genotyping	48.48 Dynamic Array IFC 96.96 Dynamic Array IFC 192.24 Genotyping IFC Flex Six Genotyping IFC
Digital PCR	qdPCR 37K™ IFC 48.770 Digital Array™ IFC 12.765 Digital Array IFC

### Software

Data collection	Biomark HD Data Collection software
Analysis	Real-Time PCR Analysis software SNP Genotyping Analysis software Digital PCR Analysis software Melt Curve Analysis software

Learn more at

[fluidigm.com/biomark](http://fluidigm.com/biomark)

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