Meridian^3

For research use only. Not for use in diagnostic procedures.

Liquid dispensing system

The Meridian^3™ liquid dispensing system provides a non-contact, on-the-fly dispenser suited to a wide range of dispensing applications, including reagents for genotyping and standard PCR. Originally developed to increase throughput and add efficiency to our own high-volume genotyping service laboratories, the Meridian system is now utilised in our customer laboratories worldwide.

Efficient and accurate dispensing with increased throughput

- Process time to dispense 1 µL reagent into a 1536-well plate is less than 1 minute 15 seconds*
- High dispensing volume accuracies of 6% CV at 1 µL and 3% CV at 3-5 µL
- Dispensing volumes from 1 µL to 50 µL in a standard configuration
- Vacuum-based 8-channel aspiration system allowing multi-plate dispense
- Innovative tip design provides both strength and cost efficiency
- Non-contact dispense eliminates potential for cross contamination to remove the requirement for disposable pipette tips
- Enhanced motion control to ensure greater accuracy and control of dispense tip positioning
- Integrated tip wash station
- Automated mixing of assay and master mix or manual option available
- Two plate positions, active working plate and load/unload plate, to increase throughput

Intuitive user interface

- Full software control with simple to use interface
- Control PC with either an intuitive graphical user interface, or integrated into our proprietary Kraken™ software for ease of use and simplified pattern dispensing via dropdown menu selection
- Increased error control and data tracking with integrated 1D linear barcodes in Unicode 0128 format for plates and 2D datamatrix barcode reading for up to 16 assay tubes
- Simple pattern dispensing with easy-to-use software
- Integrates seamlessly into SNPline™ for automated solution from LGC, Biosearch Technologies™

Enhancements from Meridian:

- Vacuum-based aspirate system for multi-plate dispense with increased accuracy
- Enhanced motion control for more accurate positioning of dispense tips
- Integrated barcode reading
- Automated mixing of assay and master mix
- Two plate positions for enhanced efficiency and throughput

Ordering information

Cat no.	Description
KBS-0011-002	Meridian^3 - liquid handling system
KBS-0025-003	1-dimensional handheld barcode scanner
KBS-8002-004	Decontaminate Microsol 4 Concentrate 1 L
KBS-8002-005	Decontaminate Microsol 4 Concentrate 500 mL
KBS-0099-034	4 litre oil-free compressor
KBS-0900-027	Meridian^3 12-month Service Contract

BIOSEARCH™ TECHNOLOGIES

GENOMIC ANALYSIS BY LGC

Performance information

Plate density	Dispense volume (Typical CV %)	Dispense type	Single plate			8 sequential plates		
			Total time from plate in to plate out MM:SS	Time for each additional plate MM:SS[1]	Aspirated volume (estimated waste[2] µL - %)	Total time from plate 1 in to plate 8 out MM:SS	Average time/plate MM:SS	Aspirated volume (estimated waste[2] µL - %)
96	5 µL (+/- 3%)	1 tip-full	1:17^{AD} 1:14A^{MD}	0:43^{D} 1:14^{AD} 2:51^{AMD}	680 µL (210 µL - 41%)	7:06^{AD} 10:20^{AMD}	0:53^{AD} 1:17^{AMD}	4,327 µL (328.0 µL - 7.58%)
384	3 µL (+/- 3%)	1 tip-full	2:02^{AD} 4:13^{AMD}	0:43^{D} 1:14^{AD} 2:51^{AMD}	1,527 µL (341 µL - 22.3%)	13:32^{AD} 17:32^{AMD}	1:41^{AD} 2:12^{AMD}	10,488 µL (884 - 8.5%)
		4 tip-quad	2:08^{AD} 3:34^{AMD}	1:33D	1,599 µL (370 - 23.1%)	13:07^{AD} 14:33^{AMD}	1:38^{AD} 1:48^{AMD}	12,503 µL (3072 - 24.6%)
1536	1 µL (+/- 6%)	1 tip-full	2:07^{AD} 5:20^{AMD}	1:25^{D} 1:50^{AD} 5:05^{AMD}	2,077 µL (377 µL - 18.2%)	15:16^{AD} 28:08^{AMD}	1:50^{AD} 3:30^{AMD}	13,047 µL (2928 µL - 21.7%)
		4 tip-quad	1:42^{AD} 3:00^{AMD}	1:07^{D} 1:29^{AD} 2:57^{AMD}	2,088 µL (685 µL - 32.8%)	9:45^{AD} 11:13^{AMD}	1:13^{AD*} 1:24^{AMD}	14,460 µL (1401 µL - 9.7%)
		8 tip-offsets	1:53^{AD} 3:13^{AMD}	1:18^{D} 1:49^{AD} 3:09^{AMD}	2648 µL (1230 µL - 46%)	11:04^{AD} 12:24^{AMD}	1:13^{AD*} 1:24^{AM}	15,638 µL (2268 µL - 14.5%)

[1] Timing scenario descriptions: AD=Aspirate + Dispense, AMD=Aspirate with Mixing Enabled + Dispense, D=Dispense Only (between plates).
[2] All overages calculated with Reagent Mixing set to False. For overages with mixing included please contact your sales representative for your specific scenario of interest.

Meridian[3] specification

Instrument dimensions	Depth: 73.0 cm (28.7”), Width: 52.5 cm (20.7”), Height: 42.5 cm (16.7”) plus 15” PC
Instrument weight	Approx. 35 kg (77 lbs)
Electrical power requirements	230/115 VAC, 50/60 Hz, 400 W, 1.8/3.5 A
Kraken requirements	If used with Kraken, version 15.6.6.14265 or above is required for full functionality
Special instructions / requirements	Reverse Osmosis (R.O.) Water: 2 L for setup (approx. 2 L/day) (preferred) Standard Minimum Grade ASTM Standard (ISO 3696) Type III ISO Standard Grade 3 Clinical Laboratory Standards Institute (CLSI - CLRW) Type 3 *Note: Commercial/industrial R.O. water systems typically meet these requirements* DI Water Compressed air: 6 bar (90 psi) at 50 L/min Provided with PC/software
Dispense system	Mechanism: pressure/vacuum based, single solenoid micro-valve Channels: 8 Aspiration capacity: 4.5 mL per channel Volume range: 1-50 µL Accuracy: 6% CV @ 1 µL; 3% CV @ 3-5 µL
Certificates	CE

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