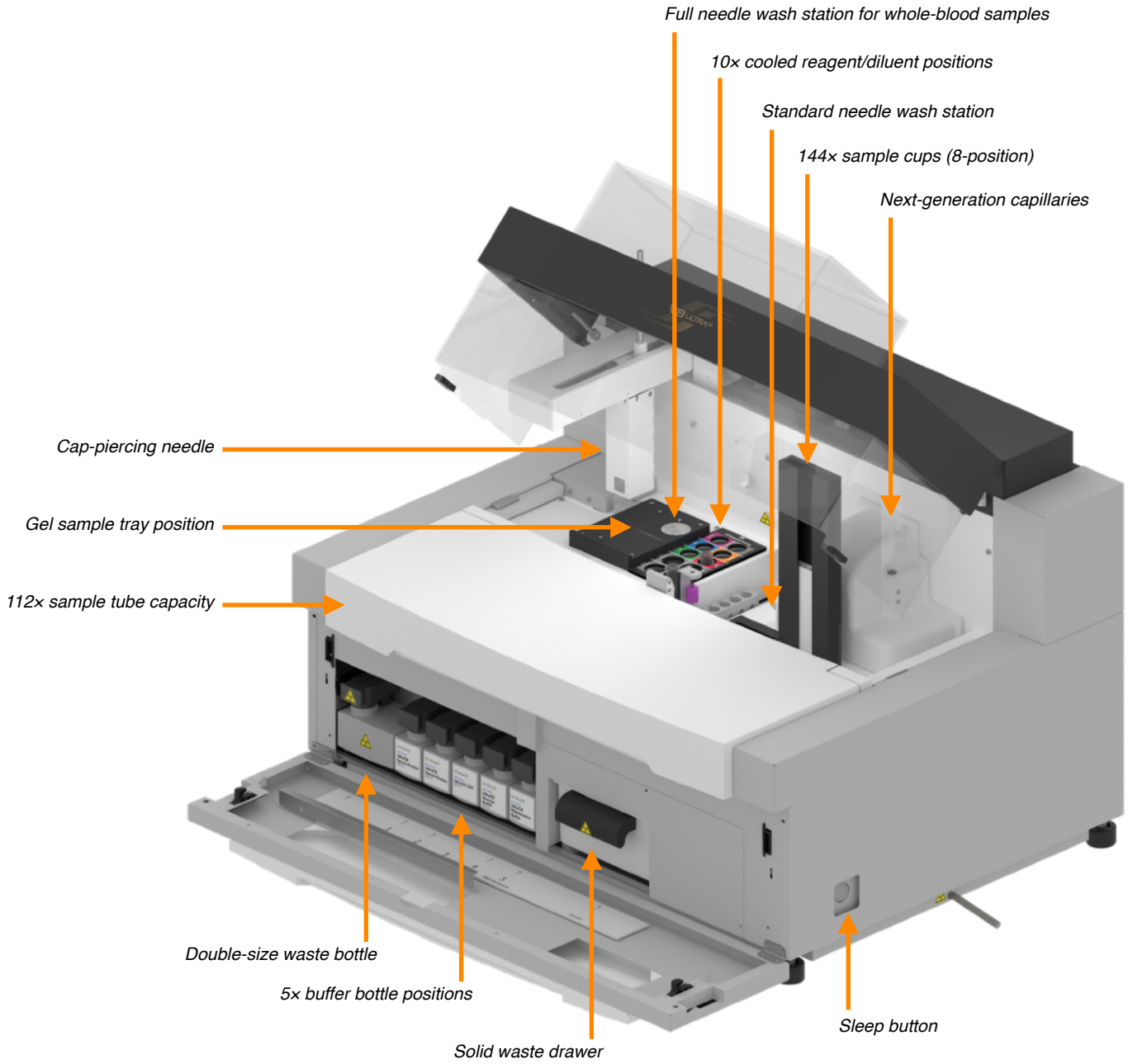
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V8 UltraCE Technical Specifications Comparison

Table of contents

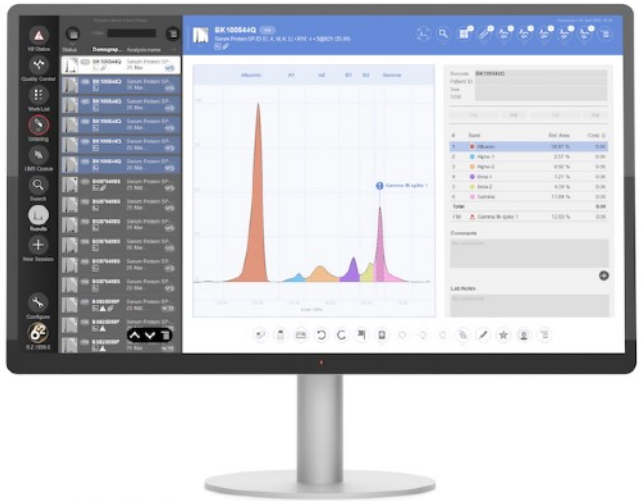
Overview of V8 UltraCE 2
Dimensions 3
Comparison of systems 4
General specifications 5
Automated processes 6
Capillaries and detection 7
Primary sample handling 8
Additional sample handling features 9
Buffer handling 10
Reagents and antisera 11
Maintenance and cleaning 12
Methods and throughput 13
Instrument management 14
Software and data 15
Ordering 16

Overview of V8 UltraCE



Dimensions





Comparison of systems

The following tables compare the features of V8 UltraCE against the previous V8 Nexus, and the main competitor (Sebia's Capillarys 3 Octa). Note that in the case of competing products, some information may be derived from available sources (typically marketing or documentation files).

The three products under comparison (and shown in each table) are:

- **V8 Nexus**
  Introduced 2016
  Specifically the standard (non-cap piercing) model

- **V8 UltraCE**
  Introduced 2025

- **Capillarys 3 Octa**
  Introduced 2018
  Specifically the standard 8-channel model, which is not capable of laboratory track connectivity nor automating dried blood spot sample trays. These features each require a separate instrument model (the Capillarys 3 TLA and Capillarys 3 DBS respectively).

The specifications of V8 UltraCE are compared against the other two systems, and highlighted in green where parity or advantage is achieved.

Where V8 UltraCE has a major feature which is missing on Capillarys 3, a red cross (✖) is shown against that product's entry.

General specifications

	V8 Nexus	V8 UltraCE	Capillarys 3 Octa
Analysis	Separation of analyte by capillary electrophoresis	Separation of analyte by capillary electrophoresis	Separation of analyte by capillary electrophoresis
Capillary channels	8	8	8
Width	894 mm	894 mm	900 mm
Depth	680 mm	680 mm	760 mm
Height	700 mm	700 mm	650 mm
Weight	70 kg	72 kg	85 kg
Power requirements	230 V ± 10% (47–63 Hz); Max. power consumption 650 VA, 489 W (1669 BTU/hr)	100 V, 115 V, 230 V, 50/60 Hz, universal input; Max. power consumption 500 VA	110–230 V ±10%, 50–60 Hz; Max. power consumption 350 VA
Connections	Ethernet	Ethernet	Ethernet; USB; Serial
Environmental conditions	Temperature: 15–30°C; Humidity: 35–80% (non-condensing); Altitude: ≤2000 m	Temperature: 15–30°C; Humidity: 35–80% (non-condensing); Altitude: ≤2000 m	Temperature: 15–30°C; Humidity: 20–85% (non-condensing); Altitude: ≤2000 m
Heat output	1669 BTU/hr	590 BTU/hr (including PC)	750 BTU/hr
Noise emissions	53 dB	58 dB	55 dB

Automated processes

	V8 Nexus	V8 UltraCE	Capillarys 3 Octa
Automation scope	Full walkaway automation	Full walkaway automation	Full walkaway automation
System startup and maintenance	Yes	Yes	Yes
Sample rack loading and identification	Yes	Yes	Yes
External sample tube loading	Yes	Yes	✖ No
Sample tube identification	Yes by barcode	Yes by barcode	Yes by barcode
Onboard sample recall	Yes	Yes	✖ No
Cap piercing	No	Yes	Yes
Sample homogenisation	No	Yes by aspiration	Yes by rack inversion
Dilution and pre-analytical preparation	Yes	Yes	Yes
Capillary washing	Yes	Yes	Yes
Buffer, antisera and reagent loading	Yes	Yes	Yes
Sample injection into capillaries	Yes	Yes	Yes
Electrophoretic migration	Yes	Yes	Yes
Optical measurement	Yes	Yes	Yes
Data processing	Yes	Yes	Yes
Transfer of data to PC	Yes	Yes	Yes
Secondary sample preparation	Yes to gel sample tray	Yes to gel sample tray	✖ No
System shutdown	Yes	Yes	Yes

Capillaries and detection

	V8 Nexus	V8 UltraCE	Capillarys 3 Octa
Capillary technology	8 fused-silica capillaries	8 fused-silica capillaries	8 fused-silica capillaries
Capillary features	None	Bubble cell	Bubble cell
Capillary total length	300 mm	175 mm	175 mm
Capillary effective length	230 mm	155 mm	155 mm
Capillary internal diameter	50 µm fixed	25 µm, 125 µm at bubble cell	25 µm, 125 µm at bubble cell
Capillary packaging	Free-mounted capillary group	Individual mounted sealed capillary units	Individual mounted sealed capillary units
Light source(s)	Deuterium lamp	Deuterium lamp; 415 nm LED	Deuterium lamp; 415 nm LED
Wavelength control	200–600 nm; Monochromator	200–600 nm; Monochromator	200–600 nm; Monochromator
Optical mounting	Open design (within capillary array cover)	Individual sealed optical compartment per capillary	Individual sealed optical compartment per capillary
Light level calibration	Reference fibre channel comparison	Reference fibre channel comparison	Reference fibre channel comparison
Capillary performance (repeatability) calibration	None	Capillary calibration programme using calibrator solution (annual maintenance process)	✖ Not available except for HbA1c
High voltage power supply	15 kV max	15 kV max	15 kV max
Detection	1 photodiode per channel	1 photodiode per channel	2 CMOS linear diode arrays per channel, optimised for wavelengths of 200 nm and 415 nm
Temperature control	Shared air-cooled chamber; Cooling by Peltier; Temperature 20°C–50°C with accuracy of ±2°C	Direct individual conduction; Cooling by Peltier unit; Active control: 25–50°C with accuracy of ±1°C	Direct individual conduction; Cooling by Peltier unit

Primary sample handling

	V8 Nexus	V8 UltraCE	Capillarys 3 Octa
Sample capacity	112 samples (14 racks of 8 samples)	112 samples (14 racks of 8 samples)	120 samples (15 racks of 8 samples)
Sample rack identification	Barcode	Barcode	RFID
Sample rack loading	Continuous loading; Random access	Continuous loading; Random access	Continuous loading; ✖ Fixed rack order
Positive patient ID	Sample tube barcode or manually entered	Sample tube barcode or manually entered	Sample tube barcode or manually entered
Sample tubes	Uncapped primary tubes	Capped or uncapped primary tubes	Capped or uncapped primary tubes
Compatibility	BD Vacutainer, Greiner Vacuette: 13 mm × 75 mm 13 mm × 100 mm 16 mm × 100 mm	BD Vacutainer, Greiner Vacuette: 13 mm × 75 mm 13 mm × 100 mm 16 mm × 100 mm Capped and uncapped Hitachi cups/ACL cups (“hanging cups”)	BD Vacutainer, Terumo Venosafe, Greiner Vacuette, Sarstedt S-Monovette: 13 mm × 75 mm 13 mm × 100 mm 16 mm × 100 mm Kabe Labortechnik, Sarstedt S-Monovette: 11 mm × 66 mm
Sample probe	Uncoated stainless steel needle	PTFE-coated cap piercing needle	PTFE-coated cap piercing needle
Cap piercing	No	Yes	Yes
Sample agitation	No	Yes, by aspiration	Yes, by inversion
Probe cleaning	Standard height wash station (needle tip only)	Standard height wash station for serum samples; Full-height wash station for whole-blood samples	Full-height wash station
Liquid level sensing	Yes	Yes	Yes
Sample cup supply	Max. 144× 8-position cups = 576 tests	Max. 144× 8-position cups = 576 tests	✖ Max. 28× 12-position cups (8 usable) = 224 tests
Sample cup waste	Solid waste drawer with disposable liner	Solid waste drawer with disposable liner	Solid waste drawer with disposable liner

Additional sample handling features

	V8 Nexus	V8 UltraCE	Capillarys 3 Octa
STAT sample handling	Direct reordering of sample racks	Direct reordering of sample racks	✖ Requires operational mode change and use of STAT sample rack accessory
Primary sample recall	Automatic recall of sample racks for reflex tests	Automatic recall of sample racks for reflex tests	✖ No
Reflex testing	Yes: to any user-selected method	Yes: to any user-selected method	✖ No
Gel sample preparation	SAS and SPIFE sample trays from primary tubes;	SAS and SPIFE sample trays from primary tubes;	✖ No — requires external sample tube processor
Samples per tray	24, 60, 80, 100	24, 60, 80, 100	N/A
Preparation capabilities	Sample dilution; Sample pre-lysis	Sample dilution	N/A
Gel tray dilution modes	Pre-set dilution ratios; Customised dilutions	Pre-set dilution ratios; Customised dilutions	N/A
Gel sample tray positive patient ID	Barcode	Barcode	N/A
Reflex to gel confirmation test	Yes: to any gel preparation programme	Yes: to any gel preparation programme	✖ No
Laboratory track connectivity	Yes	Yes	✖ No (requires specific “Tera TLA” model REF 1248)
External tube handling	Yes (MAX UltraCE tube handler)	Yes (MAX UltraCE tube handler)	Yes (tube handler as part of work-cell configuration)

Buffer handling

	V8 Nexus	V8 UltraCE	Capillarys 3 Octa
Analytical buffers	4× primary run buffer positions (500 mL each)	3× primary run buffer positions (500 mL each)	4× primary run buffer positions (750 mL each);
Utility buffers	Storage buffer; Maintenance buffer; 500 mL each;	Storage buffer; Maintenance buffer; 500 mL each;	Water; Wash solution; 750 mL each
Waste buffer	500 mL bottle; monitored by liquid-level sensing	1000 mL bottle; monitored by liquid-level sensing	✖ 1000 mL bottle with 850 mL usable volume; ✖ Monitored by test counting
Bottle connection	Standard (unsealed) connection	Sealed bottle connection	Sealed bottle connection
Multiple methods	Yes — mixed or duplicate buffer support	Yes — mixed or duplicate buffer support	Yes — mixed or duplicate buffer support
Buffer switching	Automatic (buffer purge and switch)	Automatic (buffer purge and switch)	Automatic (buffer purge and switch)
Identification and tracking	Barcode	Barcode (2D)	RFID
Liquid level monitoring	Liquid usage (test) counting	Liquid usage (test) counting	Liquid usage (test) counting
Status reporting	Alerts via Platinum software; Live bottle readout in Platinum software; Status LED per bottle connection	Alerts via Platinum software; Live bottle readout in Platinum software; Status LED per bottle connection	Alerts via LCD touchscreen; ✖ Editable bottle display via LCD touchscreen; Colour-coded LED backlighting on each buffer position
Lot expiry alerts	Yes	Yes	Yes
External waste liquid connection	No	No	Yes

Reagents and antisera

	V8 Nexus	V8 UltraCE	Capillarys 3 Octa
Reagent storage	Peltier-cooled reagent bay (open)	Peltier-cooled reagent bay (open)	Peltier-cooled reagent bay (covered)
Overall capacity	10× open positions for diluents and antisera	10× open positions for diluents and antisera	13× dedicated positions for diluents, antisera and utility:
Antisera	6× antisera positions: Anti-IgG, A, M, Kappa and Lambda, spare position; 20 mL vials, 1.3 mL fill	6× antisera positions: Anti-IgG, A, M, Kappa and Lambda, spare position; 20 mL vials, 1.3 mL fill	5× antisera: Anti-IgG, A, M, Kappa, Lambda; 1× ELP solution; Dedicated antisera cassette, 1.3 mL fill per vial
Diluents	4× general-purpose diluent positions; 20 mL vials	4× general-purpose diluent positions; 20 mL vials	3× diluent positions (cooled); 1× diluent (ambient); 60 mL bottles
Other	N/A	N/A	3× maintenance tube positions (ambient), for decontamination
Identification and tracking	Barcode	Barcode	RFID
Liquid level monitoring	By test counting	By test counting	By test counting
Lot expiry alerts	Yes	Yes	Yes

Maintenance and cleaning

	V8 Nexus	V8 UltraCE	Capillarys 3 Octa
Capillary maintenance cycles	Pre-conditioning and post-conditioning routines	Pre-conditioning and post-conditioning routines	Pre-conditioning and post-conditioning routines
Required daily maintenance	No requirements	No requirements	✖ Daily wash cycle (capillaries and needle) required following CDT testing;
Required weekly maintenance	Pre- and post-conditioning twice weekly; Occasional wiping of needle recommended as necessary	Pre- and post-conditioning three times per week; Capillary protection alarm	✖ Needle cleaning sequence required weekly or every 500 tests; Needle decontamination sequence required weekly
Long-term routine maintenance	Annual routine maintenance by authorised personnel: Capillary replacement; Full service and calibration	Annual routine maintenance by authorised personnel: Capillary replacement; Full service and calibration; Six-monthly routine maintenance when using cap piercing	Six-monthly routine maintenance by authorised personnel: Capillary replacement; Full service and calibration; Possible deuterium lamp replacement
Shutdown and storage	Post-conditioning programme and Shipping Mode to prepare for storage; Uses standard maintenance buffer (ready-made)	Post-conditioning programme and Shipping Mode to prepare for storage; Uses standard maintenance buffer (ready-made)	Fluid system rinse programme to prepare for storage; ✖ Requires manually made-up sodium hypochlorite solution
Capillary replacement	Manual capillary mounting and alignment	Individual pre-aligned replaceable capillary units	Individual pre-aligned replaceable capillary units
Capillary blockage recovery	No — standard conditioning procedures only	High-pressure capillary recovery procedure	High-pressure capillary recovery procedure

Methods and throughput

	V8 Nexus	V8 UltraCE	Capillarys 3 Octa
Automated method selection	LIMS query against sample barcode; Default method selection (can be changed mid-session)	LIMS query against sample barcode; Default method selection (can be changed mid-session)	LIMS query against sample barcode; Default method selection (only selectable at startup)
Manual method selection	Graphical free assignment of one or more methods to any rack(s) or individual sample tube(s) in Platinum;	Graphical free assignment of one or more methods to any rack(s) or individual sample tube(s) in Platinum;	✖ Method switch racks (requires physical intervention at analyser)
Scheduled startup/shutdown	Yes, with user-defined method selection; Automatic pre-conditioning/post-conditioning	Yes, with user-defined method selection; Automatic pre-conditioning/post-conditioning	Yes, with user-defined method selection; Automatic pre-conditioning/post-conditioning
Serum proteins	48 tests/hour peak	80+ tests/hour peak	79 tests/hour peak
Immunotyping/ Immunodisplacement	10 tests/hour	16 tests/hour	✖ 10 tests/hour
Urine proteins	48 tests/hour	80+ tests/hour peak	71 tests/hour

Instrument management

	V8 Nexus	V8 UltraCE	Capillarys 3 Octa
Instrument control	Via Platinum software; Version 6.1	Via Platinum software; Version 6.2	Via analyser LCD touchscreen
Instrument mode indication	Via Platinum software; Lighting system flashing (precondition/operation/ postcondition)	Via Platinum software; Lighting system flashing (precondition/operation/ postcondition)	Via analyser LCD touchscreen
Instrument status display	Status dashboard in Platinum software	Status dashboard in Platinum software	Status menu on LCD touchscreen; Status summary window in Phoresis software
System alerts	Audio notifications (alert-specific spoken text); Prominent errors on Platinum software	Audio notifications (alert-specific chimes); Prominent errors on Platinum software	Generic beep; Error display on LCD touchscreen
Event logging	Diagnostic and usage logs in Platinum software	Diagnostic and usage logs in Platinum software	✖ Service logs only (locked) via LCD touchscreen; Basic recent events list in Phoresis software

Software and data

	V8 Nexus	V8 UltraCE	Capillarys 3 Octa
Software	Platinum software	Platinum software	Phoresis software
Version compared	6.1	6.2	9.32
Operating system	Windows 10	Windows 11	✖ Windows 10
Features	QC, patient data management, instrument management; gel scanning workflow; result editing; reporting	QC, patient data management, instrument management; gel scanning workflow; result editing; reporting	✖ QC, patient data management, result editing; reporting
Data storage	MS Access, MS SQL	MS SQL	PostgreSQL
Result data points	Unlimited	Unlimited	Unlimited
QC data points	Unlimited	Unlimited	✖ Max. 200
Networked operation	Networked result viewing, commenting and reporting; Data overwrite protection	Networked result viewing, commenting and reporting; Data overwrite protection	✖ Networked result viewing only; ✖ No overwrite protection
Report formatting	Automated report generation; Customisable report layout	Automated report generation; Customisable report layout	Automated report generation; Customisable report layout
LIMS connectivity	Two-way (host-query and reporting of results)	Two-way (host-query and reporting of results)	Two-way (host-query and reporting of results)
Operator management	Secure login with configurable multi-level operator permissions	Secure login with configurable multi-level operator permissions	✖ Basic multi-level operator login

Ordering

REF	Instrumentation
V801	V8 UltraCE
REF	**Consumables**
V030	Capillary Calibrator Coming soon
V8010	UltraCE Maintenance Buffer
V8020	UltraCE Storage Buffer
V8150	UltraCE IFE Diluent
REF	**Assays and controls**
V8100	UltraCE Serum Protein
V110	Serum Protein Normal Control
V120	Serum Protein Abnormal Control
V130	UltraCE Urine Prep
V8140	UltraCE Immunodisplacement
V150	Immunotyping Control
REF	**Software**
400600	Platinum Software
400602	Platinum Expert System
400603	Platinum Middleware
400604	Platinum Track Connectivity
400605	Platinum Gateway

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