Ortho Vision® Max Swift Analyzer

Technical specifications for Ortho BioVue® System

QuidelOrtho™

Ortho Vision® Max Swift

Specially designed for your lab.

Intended use

Ortho Vision Max Swift analyzer automates in vitro Immunohematology testing of human blood utilizing Ortho BioVue® System technology.

Ortho Vision Max Swift analyzer:

- Automates test processing functions including liquid pipetting, reagent handling, incubation, centrifugation, reaction grading and interpretation, and data management requirements using Ortho BioVue cassettes and digital image processing.

- Standalone instrument or interfaced to the Laboratory Information System (LIS).

- Fully compatible with Ortho Connect® to maximize the efficiency of your data, workflow, and resources for integration across your lab or network.

Installation and site specifications

Although trained service personnel install the Ortho Vision Max Swift analyzer at the laboratory site, the site must be prepared according to site specifications.

Analyzer specifications

Physical dimensions

- **Ortho Vision Max Swift analyzer**

  Width: 169 cm (66.5 in.)
  Depth: 77 cm (30.3 in.)
  Height: 93.9 cm (37 in.)
  Height with maintenance door open: 133.8 cm (52.7 in.)

- **Ortho Vision Max Swift analyzer table dimensions (highly recommended)**

  - **Table without shelf:**
    182.8 cm (72 in.) x 76.2 cm (30 in.) x 76.2 cm (30 in.)

  - **Table with shelf at the front:**
    182.8 cm (72 in.) x 106.7 cm (42 in.) x 76.2 cm (30 in.)
    Occupies 61 cm (24 in.) in depth on left front of table.

  - **Table with the shelf on the side:**
    243.8 cm (96 in.) x 76.2 cm (30 in.) x 76.2 cm (30 in.)
    Occupies 61 cm (24 in.) in width on left side of table.

1. Monitor
2. Dual Load Station for Samples and Reagents
3. Dual Purpose Drawer
4. Cassette Waste Drawer
5. Supply Drawer
6. Liquid System
7. Shelf Attachment Positions

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Electrical data

- **Data voltage:** 100–240 V AC
- **Transient overvoltage:** Category II
- **Frequency:** 50/60 Hz
- **Power consumption:** 1,000 VA
- **Power requirement:** One dedicated (3-wired single phase; line-neutral and single circuit) AC power line for connection to facility power.

Hardware

16 GB RAM, 1 TB Solid State Hard Drive

Software

- **Operating system:** Windows 10 IoT Enterprise
- **Antivirus system:** Blackberry Cylance artificial intelligence platform

Weights

Ortho Vision Max Swift analyzer: 330 Kg (727.5 lbs)
Ortho Vision Max Swift analyzer table: 113.4 kg (250lbs)

Environmental specifications

- **Operating temperature:** 18–30° C (64.4–86.0° F)
- **Site relative humidity:** 15–85% RH (non-condensing)
- **Maximum altitude:** 2438.0 m (8000 ft.)
- **Heat output:** 3412 BTU/hr
- **Noise level:** Average 52 dB(A)

System performance

- **Samples:** Up to 84 samples can be loaded, 12 Sample Racks holding 7 tubes each

- **Ortho BioVue system supply drawer:** 256 Ortho BioVue cassettes (12 sleeves of 20 + 16 in dual purpose rack)

- **Reagent red blood cell (RBC) supply:** Supports 6 independent RBC racks, each can hold 11-3 mL vials or 6-10 mL vials, including various combinations. The 10 mL rack can accommodate reverse grouping and antibody detection (screen) RRBC. The 3 mL rack can accommodate reverse group, antibody detection and antibody identification RRBC.

- **Diluent:** 14 bottles (Ortho BioVue system)
  - 2 x 50 mL position for Ortho Bliss
  - 2 x 50 mL position for red cell diluent
  - 10 x 10 mL positions for red cell diluents
  - Onboard liquid reagent capacity of 4.7 L of saline and 1 L of deionized water; Extended walkaway kit with additional 5.2 L saline capacity available.

- **Probes:** 4 pipetting probes to maximize efficiency

- **Heated Incubator**: 12 Ortho BioVue cassettes

- **Room temperature incubator:** 24 Ortho BioVue cassettes

- **Centrifuge: 2 centrifuges;** 10 Ortho BioVue cassettes per centrifuge; 5 minute centrifugation time

- **Waste:** 5.2 liters; 150 Ortho BioVue cassettes; External 10 L liquid waste drain kit available; Optional off-board plumbing draining available

Sample specifications

Supported sample types

- Centrifuged whole blood
- Plasma and Serum
- Packed red blood cells
- 3-5% Red cell suspension (Pre-diluted Patient/Donor)
- 0.8% Red cell suspension (Pre-diluted Patient/Donor)

Supported sample tube sizes

- 16 x 100 mm, 16 x 75 mm
- 2-13 x 100 mm, 12-13 x 75 mm
- 10.25 x 75 mm, 10.25 x 64 mm
- 15 x 92 mm Sarstedt
- 13 x 90 mm Sarstedt
- 2.0 mL and 1.5 mL micro-collection containers
- Wide variety of Pediatric Tubes

For additional sample tubes supported please refer to the sample rack selection guide.

Sample and test processing

Continuous, random, STAT access, and batch

Sample handling

- Automatic cap detection without workflow interruption
- Automatic clot detection
- Automatic liquid level detection

Sample and test performance characteristics

- **Testing**

ABO/Rh	Crossmatch
Rh	Direct Antiglobulin
Rh/K	Antigen Testing
Antibody Screen	QC Testing
Antibody Identification	Selected Cell Panels
Serial Dilutions for	
Titration Studies	

- **Reagent types**

Diluents and	Ortho Reagent Red
Complementary Solutions	Blood Cells
Quality Control	User Defined Reagents
Ortho BioVue cassettes	User Defined Quality

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Connectivity

E-Connectivity® Technology

Provides the ability to connect your system to QuidelOrtho in a way that enables remote diagnostics, as well as monitor and review system configuration, data, and performance.

E-Connectivity technology ready network connection requirements:

- Category 5e cable with male RJ45 connector for SSL connection included.

- Continuous broadband connection or direct connection to the site LAN with access to the Internet at a speed greater than or equal to 128 kbps.

- Support local area network port speeds of automatic, 10/100 Mbps with half and full duplex.

- Dynamic or Static IP Address, Subnet Mask, and Default Gateway IP Address assigned by the IT department and provided to QuidelOrtho.

- Female RJ45 connector on network port within 20 feet of system center.

Broadband internet

A broadband internet connection is required.

System computer and interface specifications

- **Interface specification**: Bidirectional protocols for a Laboratory Information System (LIS).

- **Remote review capable:** An external computer on the laboratory's network where Authorized personnel on an external computer can review results.

LIS specifications

- **LIS interface:** Interface via one of three user configurable physical interfaces.
    - ASTM over RS-232
    - ASTM over TCP/IP
    - Network shared folders (similar to Ortho AutoVue® Innova System)

- **ASTM protocol:** Configurable to one of three options.
    - Basic ASTM (no 'M' record)
    - Enhanced ASTM (similar/backward compatible to Ortho AutoVue Innova System)
    - Vision ASTM, which adds in addition to Enhanced ASTM: Error upload message if the order could not be processed; The LIS can download multi-tube orders; The LIS can send QC orders that specify the cassette reagent lots to use as well as the expected results.

- **Barcode symbologies :**

  NW7 (Codabar)   Code 3 of 9 (Code 39)
  ISBT 128   Code 2 of 5 (Interleaved)
  Code 128 (A, B, & C
  subtypes)

Communication ports

- I/O ports include:
    - 1 DB-9 serial port (RS-232 port for LIS support)
    - 1 RJ45 LAN port supports port speeds of automatic, 10/100 Mbps with half and full duplex.

- 5 V 2.0/V 1.1 USB ports are available for printer, handheld barcode reader, other devices.

Printer specifications

Ortho Vision Max Swift analyzer can be connected either to a network printer or to a local printer.

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We are transforming the power of diagnostics into a healthier future for all.