BD FACS™ Workflow Manager

BD FACS™ Workflow Manager is a fully integrated Middleware solution for BD FACSLyric™ and BD FACSVia™ Flow Cytometers and BD FACSDuet™ Sample Preparation System.

BD

This solution provides a **seamless bi-directional interface**, integrating flow cytometry sample patient data from different laboratories **within the same hospital as well as from different hospitals hubs**, supporting hospital consolidation and differentiation.

By providing automated reporting workflows and data transfer between the Laboratory Information System (LIS) or Hospital Information System (HIS) and the BD instrumentation, the BD FACS™ Workflow Manager reduces manual tasks and workload, **minimising the manual intervention in patient sample data handling**, optimising efficiency and productivity in clinical flow cytometry laboratories and patient sample data management.

In line with GDPR requirements for protection of personal data and privacy of all European citizens, the solution provides **security, encryption and data privacy controls** in instruments and/or software where patient data is processed and stored.

Features also include **data storage, query and reporting on a full testing history**, including original data files and a history of re-analysis and re-runs.

BD FACS™ Workflow Manager **Technical Specifications**

Hardware

HP Z2 Mini G4 (and above)
Operating System: Microsoft Windows 10 IoT ENT LTSC Multilang ESD OEI High EN
Processor: Intel® Core i7 8700 6C 65W CPU
Hard drive: Z Turbo Drive 1TB 2280 TLC Solid State Drive
16GB (2x8GB) DDR4 2666 SODIMM NECC Memory
Intel UHD Graphics 630 Core
HP LAN Port Flex IO
HP Wireless Keyboard and Mouse
Business Slim Keyboard EURO
HP Z2 Mini Serial Port Adapter
HP Care Pack NBD HW Support with DMR 5y 9x5

Minimum Hardware specifications for running BD FACS™ Workflow Manager software on a Virtual Machine

Operating System: Microsoft Windows 10 Pro/Enterprise (US-English) (64-bit) / Windows Server 2019 (US-English) (64-bit)
Processor: Quad Core
Hard drive: 100GB (excluding storage of reports and documents)
RAM Memory: 16GB
Ports: NIC 100 Mbps or higher Ethernet
PowerShell Module Sql Server (Required Version 21.0.17224)

Minimum Hardware specifications for running BD FACS™ Workflow Manager Client software on a separate workstation

Operating System: Microsoft Windows 10 IoT Desktop (US-English) (64-bit)
Processor: Quad Core
Hard drive: 1GB
RAM Memory: 8GB
FHD capable Graphics card
Display: FHD Monitor
Ports: NIC Gigabit Ethernet

Monitor

NEC 24-inch, 1920x1200 resolution

Uninterruptible Power Supply (UPS)

Back UPS Pro BR 650VA, 6 Outlets, AVR, LCD Interface
+ APC 3y
Warranty extension (3y to 5y option)

Dimensions

Workstation	Height 5.8 cm (2.28”)
	Width 20.16 cm (8.5”)
	Depth 20.16 cm (8.5”)
Monitor	Height 51.54 cm (20.3”)
	Width 53.15 cm (20.93”)
	Depth 25.0 cm (9.8”)
UPS	Height 19 cm (7.5”)
	Width 9.1 cm (3.6”)
	Depth 31 cm (12.2”)

Weights

Workstation	2.23 kg
Monitor	6.7 kg
UPS	6.4 kg

Power Requirements

Input voltage range	230 VAC nominal
Input frequency	50/60 Hz +/- 3Hz (auto sensing)
Power Consumption	Max. 650VA

UPS runtime

Approximately 20 minutes UPS runtime is the time that main power can be interrupted while BD FACS™ Workflow Manager stays operational and before UPS initiates automatic power down cycle of BD FACS™ Workflow Manager server.

Environmental

Ambient operating temperature	5 °C....35 °C
Operating Relative Humidity	20%....80% (non-condensing)
Operating elevation	0....3048 meters
Noise Levels	Workstation - Operating: 20 db(A)
	UPS - Operating: 45 db(A)
Heat Dissipation	Typical: 960 Btu/hr
	Max: 2000 Btu/hr

Software

Windows 10 Enterprise (US-English) (64-bit)

Microsoft® SQL Server® 2017 Express

BD FWM software USB Wafer

LIS Data Transfer

TCP/IP Connection for use with HL7 and CLSI

Standardised transfer protocol using the industry standard HL7, ASTM E-1381 (CLSI LIS1-A) and ASTM E-1394-97 (CLS LIS2-A)

Bi-directional communication with LIS systems over RS-232 serial communications for use with the CLSI protocol

Flow Cytometer Data Transfer

Transfer of Panel Requests from BD FACS™ Workflow Manager to connected instruments

Import of Flow Cytometry results, reports and ERP files to BD FACS™ Workflow Manager

Peer to peer Gigabit Ethernet, connections using industry standard HTTP(S) protocol for BD FACSLyric™ and BD FACSVia™ Workstations and BD FACSDuet™

Performance

Supporting BD FACSLyric™and BD FACSVia™ Flow Cytometry Workstations, BD™ FACSDuet™ Sample Preparation System Workstation and Analysis Workstations.

Importing orders for Sample Preparation System worklists creation, for flow cytometric patient analysis (including hematology analyzer results)

Sending validated results back to the LIS

Using of Microsoft SQL Server databases for storage of patient test results.

Data security

Uninterruptible power supply (UPS)

Automated daily data backup

Independent and separate user account profiles and passwords for BD FACS™ Workflow Manager application

Data Backup

Automated daily data backup

BD Flow Cytometers supported

BD FACSLyric™ equipped with BD FACS™ Universal Loader

BD FACSVia™ equipped with BD FACSVia™ Loader

BD Sample Preparation Systems supported

BD FACSDuet™

BD software supported

BD FACSuite™ and BD FACSuite™ Clinical applications

BD FACSVia™ Clinical software

BD FACSDuet™ software

Documentation

BD FACS™ Workflow Manager User Guide

BD FACS™ Workflow Manager Software LIS Interface-Specification Guide

BD Product Security White Paper-BD FACS™ Workflow Manager Software v1.0 (on request)

BD- Europe, Terre-Bonne Park - A4, Route de Crassier 17, 1261 Eysins, Switzerland

bd.com

The BD FACSLyric™ flow cytometer with the BD FACSuite™ Clinical and BD FACSuite™ applications, the BD FACSVia™ Flow Cytometer and BD FACSDuet™ Sample Preparation System are CE-marked in compliance with the European In Vitro Diagnostic Medical Devices Directive 98/79/EC

The BD FACSLyric™, BD FACSVia™ flow cytometers and the BD FACSDuet™ Sample Preparation System are Class 1 Laser Products.