Release of LabSolutions Balance Workstation Software
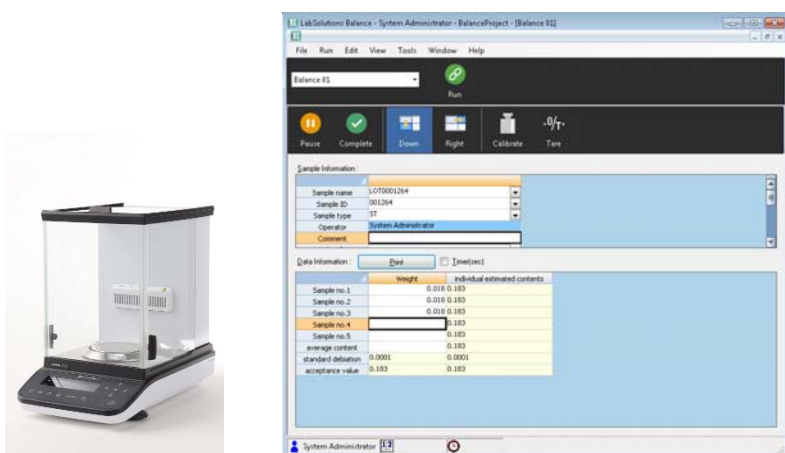
This is notification that the LabSolutions Balance data management system has been released for Shimadzu analytical balances.
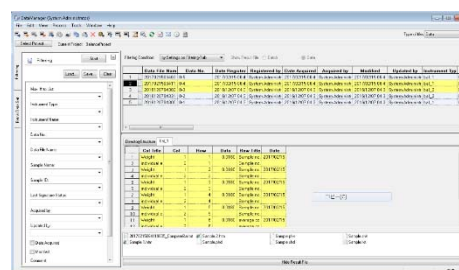
When connected to an analytical balance, LabSolutions Balance workstation can be used to perform all processes automatically, such as calculating weighing results, and then save the weighing results in a LabSolutions database. Consequently, it eliminates the need for hand-written records and eliminates transcription errors. The software not only records sample information and results, but also protects data from malicious alteration and unintended overwriting or deletion and saves all audit trail information in a LabSolutions database. Furthermore, balance measurement data can be loaded during LabSolutions LC/GC batch analysis to create user-customizable analysis reports or for integrated data management by connecting to a LabSolutions CS integrated network system that includes non-Shimadzu equipment.

In addition to improving efficiency and reliability, this product is ideal for customers that require measurement result traceability and compliance with FDA 21 CFR Part 11 or other regulatory requirements.

Three editions of the product are offered, LabSolutions Balance DB (standalone database edition), LabSolutions Balance CS (client server edition), and optional LabSolutions Balance expansion. All three versions can be used on computers already installed with LabSolutions Manager DB, LabSolutions Manager CS, or LabSolutions DB software. LabSolutions Balance DB and LabSolutions Balance CS software include compatible LabSolutions software. Note that LabSolutions Balance is not compatible with the file management edition.

Main Window of LabSolutions Balance

LabSolutions Data Manager

1. Release Date

February 16, 2017

Delivery Start Date: after late March 2017

2. Ordering Guide

2.1. Part Numbers

P/N	Description	Code	Remarks
223-19214-92	LabSolutions Balance DB (English)*1	L5	For standalone systems
223-19214-93	LabSolutions Balance DB (Chinese)*1	L5	
223-19215-92	LabSolutions Balance CS (English)*2	L5	For systems connected to a client server
223-19215-93	LabSolutions Balance CS (Chinese)*2	L5	
223-19216-92	Optional LabSolutions Balance Expansion (English)*3	L5	If used linked to LabSolutions DB or if LabSolutions DB is already installed
223-19216-93	Optional LabSolutions Balance Expansion (Chinese)*3	L5	

*1: LabSolutions Balance DB includes LabSolutions Manager DB, as indicated below. Use this to manage data from a standalone analytical balance, without an HPLC or GC unit and a computer connected. Purchase the computer for standalone systems separately.

Product Contents of LabSolutions Balance DB:

  LabSolutions Balance: Installation disc

  LabSolutions Manager DB: Installation disc, digital instruction disc, and digital instruction manual

*2: LabSolutions Balance CS includes LabSolutions Manager CS, as indicated below. By connecting LabSolutions Balance to LabSolutions CS Network System Version 6.72 or higher, it can be used to manage measurement results in a database in the same manner as analytical results from HPLC, GC, or other instruments. Purchase a client computer separately for connecting to the analytical balance.

Product Contents of LabSolutions Balance CS:

  LabSolutions Balance: Installation disc

  LabSolutions Manager CS: Installation disc, digital instruction disc, digital instruction manual, and optional multi-data registration license certificate

*3: The optional LabSolutions Balance expansion software also includes the installation disc for the main LabSolutions Balance software and optional multi-data registration license certificate. By connecting LabSolutions Balance to LabSolutions DB Version 6.71 or higher connected to an existing HPLC or GC system, LabSolutions Balance can be used to manage measurement results in a database in the same manner as analytical results from HPLC, GC, or other instruments. It is not compatible with versions lower than LabSolutions DB Version 6.71.

Product Contents of LabSolutions Balance CS:

  LabSolutions Balance: Installation disc and optional multi-data registration license certificate

Note 1: A computer set is not offered for the product software.

Note 2: Product prices do not include installation charges.

3. Related Parts for LabSolutions Balance

The following computer peripherals are recommended for use with LabSolutions Balance systems.

3.1. Communication Cable Between Analytical Balance and Computer

P/N	Description	Code	Remarks
321-71730-41	USB Cable Set	D9	Applicable model: AP Length: 2 m
321-62520-01	USB-Serial Converter Kit	D9	Applicable models: AU and UW/UX Includes RS-232C cable (321-60754-01).
321-71260-01	I/O-RS Converter	D4	Applicable model: AT The two items to the left are required for USB connection.
321-62520	USB-Serial Adapter	D9	

3.2. Ethernet Connection

AP series systems can be connected via Ethernet by using a LAN adapter. (LAN connection software is included standard.)

P/N	Description	Code	Remarks
SOT-AK0560	SD-300 Serial Device Server	L8	
088-50892-95	8-Port Switching Hub, White LSW5-GT-8NS/WH	L5	
228-61083-41	Cable, LD-CTT/BU2/RS (Category 5 LAN cable, Length: 2m)	L9	Enhanced Category 5e compliant
088-81104-86	Cable, LD-CTT/BU5/RS (LAN cable, Length: 5m)	L5	

3.3. Instruction Manual

The LabSolutions Balance Instruction Manual is provided in digital form on the installation disc. If a printed form of the manual is required, order it using the following part numbers.

P/N	Description	Code	Remarks
223-11596	LabSolutions Balance Instruction Manual (English version)	L9	
223-11597	LabSolutions Balance Instruction Manual (Chinese version)	L9	

4. Specifications and Installation Requirements

4.1. Verified Operating Systems and Databases

LabSolutions Balance functionality has been verified using the following operating systems and databases.*1

Item	English Version
LabSolutions Balance DB LabSolutions Manager Multi DB or LabSolutions DB	Windows 7 Professional SP1, English 32-bit version Windows 7 Professional SP1, English 64-bit version Windows 10 Pro, English
Database	Microsoft SQL Server 2005 Express Edition *1 Microsoft SQL Server 2008 R2 Express Edition *2

*1: The database size is limited to 4 GB for each project created. Therefore, as a general guideline, create projects with about 20,000 data files per project.

*2: Microsoft SQL Server 2008 R2 Express Edition is selected as the database for Windows 7, 64-bit version and Windows 10.

Item	English Version
LabSolutions Balance LabSolutions Manager CS	Windows 7 Professional SP1, English 32-bit version
	Windows 7 Professional SP1, English 64-bit version
	Windows 10 Pro, English

4.2. LabSolutions Balance Specifications

(1) Connecting to an Analytical Balance and Compatible Models

- Each computer can simultaneously connect to two analytical balances. (An unlimited number of analytical balances can be specified.)
- All operations except printing can be locked on analytical balances connected to a computer (AP model only).
- When the analytical balance is connected to a computer, the time setting on the analytical balance is matched to the time setting on the computer (AP model only).
- Sensitivity calibration data can be obtained and registered in the LabSolutions Log Browser.
- The analytical balance models that can be connected and their settings are indicated below.

	AP Series	AUW/AUX/AUY Series	ATX/ATY Series	UW/UX Series
Handshake	Hardware or none (recommended)	Hardware or none (recommended)	Hardware or none (recommended)	Hardware or none (recommended)
BPS	1200 (recommended) Max. 19200	1200 (recommended) Max. 19200	1200 (recommended) Max. 2400	1200 (recommended) Max. 19200
Parity Bit	None (recommended), odd or even	None (recommended), odd or even	None (recommended), odd or even	None (recommended), odd or even
Data Bit Length	7 bits or 8 bits (recommended)	7 bits or 8 bits (recommended)	7 bits or 8 bits (recommended)	7 bits or 8 bits (recommended)
Stop Bit	1 (recommended), 1.5, or 2	1 (recommended), 1.5, or 2	1 (recommended), 1.5, or 2	1 (recommended), 1.5, or 2
Delimiter	CR (recommended), LF or CR+LF	CR (recommended), LF or CR+LF	CR (recommended), LF or CR+LF	CR (recommended), LF or CR+LF
Lock Control	Yes (recommended) or no	-	-	-
GLP Output Settings	Switch the GLP output setting ON in analytical balance settings.	Switch the GLP output setting ON in analytical balance settings.	Switch the GLP output setting ON in analytical balance settings.	Switch the GLP output setting ON in analytical balance settings.

- The communication method is indicated below.

Model	Ethernet (LAN adapter)	USB	RS-232C
AP	Feasible	Feasible	Feasible
AUW/AUX/AUY	Feasible	Feasible	Feasible
ATX/ATY	Feasible	Feasible	Feasible
UW/UX	Not feasible	Feasible	Feasible

Note 1: Mettler and Sartorius brand balances cannot be connected.

(2) Creating Template Files
- Templates can be created in advance and registered in the database for different measurement methods, such as for weight variation tests, loss-on-drying tests, or particle size tests.
- Since calculation formulas and functions can be specified in templates, maximum, minimum, mean, standard deviation, and other values can be determined at the same time as measurements, to confirm whether or not the values are within a prespecified range.
- A history of template changes, together with the reasons for the changes, are registered in the LabSolutions Log Browser.
- Measurement operations can be performed even without specifying a template. Measurement results are registered in the database as a text file print image.

(3) Registering Measurement Data
- Sample information can be registered and measurement values acquired from an analytical balance can be loaded.
- Measurement values can be loaded continuously at specified time intervals.
- Because measurement operations can be stopped and resumed, measurements can be stopped before drying in the case of loss-on-drying tests, for example, and resumed after drying. Data from stopped measurements are managed in the database.
- The analytical balance serial number can be registered as the instrument name in sample information.
- Naming rules can be specified for measurement value data files.
- Sample information can be selected from prespecified choices.
- Measurement results can be output in PDF format using the built-in PDF tool.
- The number of digits to display for measurement values can be specified.

(4) Security Functions
- Security functionality is included to satisfy security requirements, such as user authentication by ID/password, operation history logging, and screen locking.

(5) Project Management
- Template files and measurement data can be registered in projects after logging in. Even after logging in, the project can be changed for registering measurement data.

(6) Account Management
- LabSolutions Balance rights can be specified for users registered using LabSolutions and specified user rights can be managed centrally in a server.

(7) Logging Operation Log Events
- Audit trail information, such as analytical balance property setting change history events, user operation history events, and template editing operations, can be managed using the LabSolutions Log Browser.

(8) Linking to HPLC and GC Units
- Measurement data can be linked to the corresponding sample ID and directly registered in the optional information field in LabSolutions LC/GC batch tables.
- Using the multi-data report function, a comprehensive report can be created that combines information from other analytical instruments.

5. System Backup and Recovery

LabSolutions Balance includes data file backup and recovery functionality used to free up database space. However, recovering data requires the backup source project, which is considered different from even projects with the identical name and recognized internally as identical. Therefore, if the database cannot be accessed, such as due to a computer hardware or other failure, it cannot be recovered using a separate computer system, resulting in lost database information. Even if the failed computer is repaired, if the project is missing, the database cannot be recovered and the database information would be lost.

Therefore, to prevent such unexpected computer problems, use the backup tool indicated below, which is capable of backing up and recovering data based on capturing a disk image of the computer hard drive. When ordering LabSolutions Balance, ask the customer to also purchase the backup tool indicated below in case of computer hardware problems.

Backup/Recovery Tool

Description	Specifications	Vendor
True Image 2016	Disk Backup and Recovery Tool	Acronis
HD-LC1.0U3-BKD/WHD	External Hard Drive, 1.0 TB	Buffalo

Note 1: Data backed up using True Image 2016 cannot be recovered using a separate computer.

Note 2: If purchasing Acronis True Image, refer to the Acronis website (http://www.acronis.co.jp/) to ensure the most recent version is obtained.

6. Quotation Example

6.1. LabSolutions Balance DB + IQ/OQ

No.	P/N	Description	Code	Remarks
1	223-19214-91	LabSolutions Balance DB	L5	
2	321-71730-41	USB Cable Set	D9	
3	Local purchase	Acronis True Image 2015 for Computers	-	Backup and recovery tool
4	Local purchase	DriveStation HD-LC1.0U3-BKC/WHC	-	External hard drive

6.2. Optional LabSolutions Balance Expansion + IQ/OQ

No.	P/N	Description	Code	Remarks
1	223-19216-91	Optional LabSolutions Balance Expansion	L5	
2	321-71730-41	USB Cable Set	D9	

7. Comparison Chart

Manufacturer	Shimadzu	METTLER TOLEDO	Sartorius
Software Name	LabSolutions Balance	LabX	API for computer connection only
Analytical Balance Control (measurement and calibration)	Yes	Yes	Yes
Calculation Functionality	Yes	Yes	No
Account Management	Yes (can be integrated with other devices)	Yes (optional)	No
Report Creation	Yes (can be integrated with other devices)	Yes (report customization functionality only available for configurations that include a server)	No
PDF Output	Yes	Yes	No
Data Management	Yes (can be integrated with other devices)	Yes	No
Operation Log	Yes (can be integrated with other devices)	Yes	Limited (recorded in main hardware unit)
HPLC Linking	Yes	Limited (empower connection kit from API available)	No (provided by API)
LIMS Linking	Yes	No (Provided by API)	No (provided by API)
Compliance with FDA 21 CFR Part 11 and Other Regulations	Yes	Yes	No

8. Sales Materials

LabSolutions Balance Flyer (C054-E073): Scheduled to be issued separately.

(This news is translation from B110-0267)