

Cubis Job Management



Executive Summary

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1 Job Management

The Cubis® MCA balance allows the processing of jobs in addition to the execution of weighing applications. In contrast to tasks, a job consists of data specified by an external system, a preconfigured application and the response to the external system. The applications are called "unit operations" and usually cannot be executed without the external data.

2 Unit operation concept

A unit operation is seen as an operation in a chain of operations, e.g., the sample preparation before an HPLC analysis. It represents a distinct step within a larger process, ensuring that each operation is executed accurately and efficiently. Unit operations are integral to maintaining the quality and consistency of the overall workflow.

Users can select and start jobs from the device menu, streamlining workflow operations.

- **Task:** A pre-configured application that starts from the device menu, with user data entered during the workflow.
- **Job:** Created in Task Management, involves user data from an external system.

2.1 Unit operations for integrated applications

The Cubis MCA balance allows various balance applications to be executed, with specially customized methods loaded for the user. The concept of Unit Operations (UO) extends this procedure. Unlike directly executable tasks, UOs are not visible as tiles on the main screen. A corresponding unit operation must be stored for each specific method with its workflow.

Advantages of unit operations:

- **Job creation:** Software is used on an external PC system to create a job, either automatically or manually. For example, a LIMS (Laboratory Information and Management System) can provide a method, record all the necessary data, provide it with a unique ID, assign it to a user and then send it as a job to the known balances.
- **Functional sovereignty:**
The balance retains its competence by running the application autonomously. This means that interactions between the commissioning system and the application during execution are not intended.
- **Traceability:**
All relevant balance data is visible to the third-party system and can be documented.

The following diagram shows the schematic process:

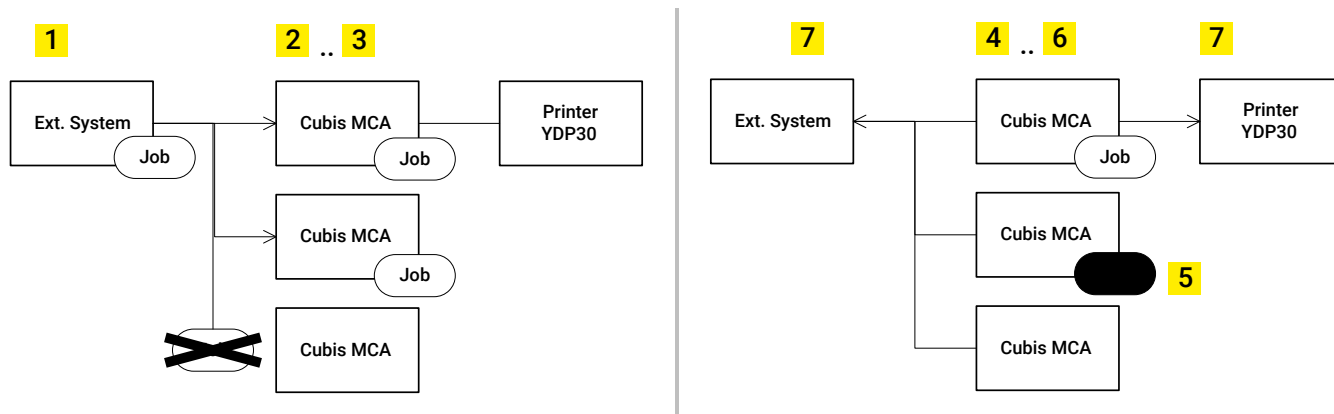


Fig. 1: Data flow with Unit operations

1. Job creation: Software is used on an external PC system to create a job, either automatically or manually. For example, a LIMS (Laboratory Information and Management System) can provide a method, record all the necessary data, provide it with a unique ID, assign it to a user and then send it as a job to the known balances.
2. Receive job: Each balance receives the job and checks whether the value range is permitted. If it is not or other criteria prevent it from being executed, the job is rejected.
3. Job display: Each balance that could execute the job displays it for the previously defined user. If the user is logged in, they can select the job in the main menu and start it directly.
4. Job start: If the user is logged in, they can select the job in the main menu and start it directly.
5. Job status: The job is grayed out on all other balances because it was started on another balance.
6. Job execution: The balance executes the job according to the stored workflow.
7. Data output: Once all workflow steps have been completed, the collected data is output via the profiles. A printer can be addressed and at the same time the data is sent in the background to the calling LIMS and stored there for the job. The order is deleted on all other balances.