Miltenyi Biotec



MACSQuant® Instrument short instructions

File management

Before using the instrument for the first time, read the MACSQuant Instrument user manual and MACSQuantify™ Software user manual.

These short instructions are valid for the MACSQuantify Software 3.1 and later. They provide a brief description of the file types. They also explain how to transfer files from the instrument to a backup location or to a personal computer for data analysis.

In addition to automatically saving data files, the MACSQuantify Software can be used to create and save various file types such as analysis templates and instrument settings for efficient use of the MACSQuant Instrument.

File types

File type	Saving options	Access via
Workspace	Private	**File > Open** **File > Copy**
Instrument setting	Public and private	
Experiment	Public and private	
Analysis template	Public and private	
Data file	Public or private	
Reports	Public or private	**File > Copy**
Other files	N/A	
Log files	N/A	
System audit trail	N/A	
Crash reports	N/A	

Table 1: File types and saving options on the MACSQuant Instrument

The MQ Administrator role is required to copy log files, system audit trails, and crash reports.

Data file

MACSQuant data files (.mqd) are automatically saved when a measurement is started. The MQD file not only contains acquired data, but instrument settings, analysis template, and experiment settings used to acquire it. The instrument setting file and analysis template can be retrieved from each MQD file to save the information separately to use them for another acquisition or data analysis.

Instrument setting file

Instrument setting files contain photomultiplier tube (PMT) gains, channel scales, compensation matrix, height, width, area, threshold selection, and annotations. The instrument settings can be saved and reloaded to use it with other samples.

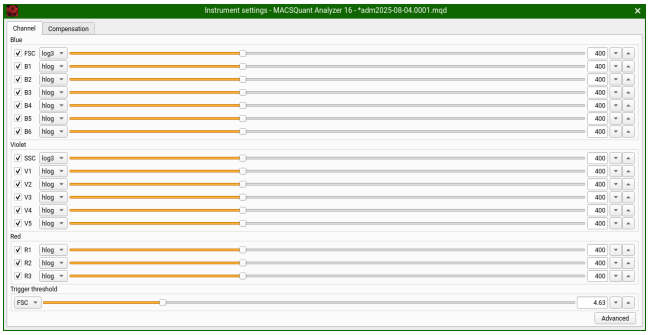
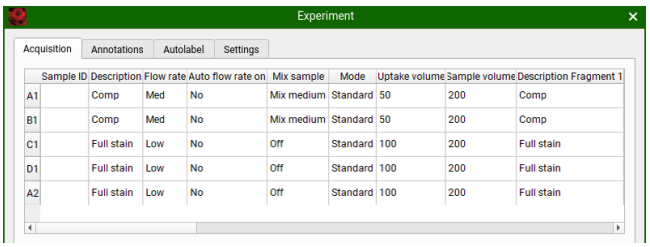


Figure 1: The **Instrument settings** window

Experiment file

Experiment files can be used if similar assays and samples are acquired repeatedly. An experiment file contains all information defined in the **Experiment** tab, for example, flow rate, mixing, uptake volume, and sample ID. The experiment file also contains information about the used instrument settings and analysis templates if applied.



	Sample ID	Description	Flow rate	Auto flow rate on	Mix sample	Mode	Uptake volume	Sample volume	Description Fragment 1
A1		Comp	Med	No	Mix medium	Standard	50	200	Comp
B1		Comp	Med	No	Mix medium	Standard	50	200	Comp
C1		Full stain	Low	No	Off	Standard	100	200	Full stain
D1		Full stain	Low	No	Off	Standard	100	200	Full stain
A2		Full stain	Low	No	Off	Standard	100	200	Full stain

Figure 2: The experiment table

Experiment files can also be generated in the PC version of the MACSQuantify Software and can be copied to the MACSQuant Instrument.

Analysis template file

An analysis template is a predefined layout for acquired data and can consist of plots, statistics, tables, and a gating strategy.

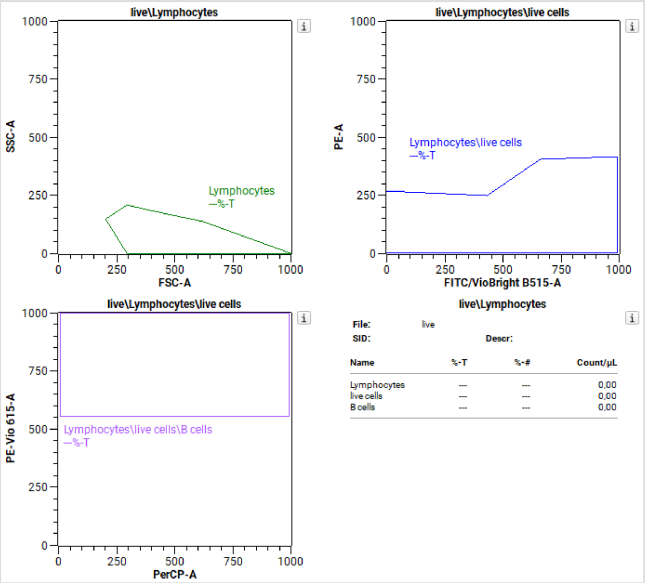


Figure 3: Example of an analysis template

Workspace file

A workspace file combines file types including a link to the data files. It contains the following information:

- Sample list: samples currently shown in the sample list
- **Experiment** tab: currently shown experiment parameters
- Instrument setting: current instrument setting
- Analysis template: current analysis view and template if selected

If data files that have been saved in a workspace are moved or deleted, then the workspace cannot be used anymore. The workspace only contains the link to the data file.

File management

Data can be transferred from the MACSQuant Instrument to an external storage location. Use the **Backup** or **Copy** function. The folder structure on the MACSQuant Instrument is automatically copied to the remote storage location.

Copying files

Custom users can copy their own private and public files. An MQ Administrator can copy all files in private and public folders of every user, including log files, crash reports, and system audit trails.

1 Insert a USB flash drive into a USB port of the instrument.
2 Wait for the drive to be recognized.
3 Click **File** > **Copy...**.
4 To copy files to the selected destination, select **To** from the left-hand side dropdown list.
5 To import files from an external source, select **From** from the left-hand side dropdown list.
6 Select the destination from the right-hand side dropdown list in the dialog box.
7 Select the file type.
8 Select the box next to the desired files or folders. To locate the specific files, navigate to the folders or subfolders.

The files are selected only when the checkbox in front of them is selected. Make sure that the checkbox in front of the files is selected.

9 Click **Copy**.
A dialog window is shown when all files are copied.
10 Select **Eject and close** or **Close**. If selecting **Close**, remember to eject the external drive using **File** > **Copy** to make sure it is removed safely.

The files must be organized in the same folder structure as in the destination folder to be properly imported.

Exporting FCS or CSV files

MQD files can be exported as FCS or CSV files. The export settings can be defined under **Edit** > **Options** > **Software** > **Export**.

1 Right-click a data file in the sample list and select **Export sample...**.
2 Select the desired file type from the dropdown list.
3 Optional: Clear the box **Skip subpopulations** if you prefer a separate FCS file for each subgated population of events. The FCS file is saved in the same folder where the original MQD file is located. It can be accessed via **File** > **Copy** in **Data files**. The CSV file can be accessed via **File** > **Copy** in **Other files**.

Data backup

A manual backup of files can be performed in different ways:

- on an external drive
- on a defined public location
- on a private network location

1 Click the **Backup** button on the toolbar.
2 Select the desired backup location.
3 To start the manual backup, click **Start**.

Deleting files

Files can be permanently deleted from the hard drive of the instrument by an MQ Administrator. For more information about deletion of files, see **Deleting files** in the MQ Administrator chapter of the **MACSQuantify Software user manual**.

Miltenyi Biotec

Miltenyi Biotec provides products and services worldwide. Visit **www.miltenyibiotec.com/local** to find your nearest Miltenyi Biotec contact.

Unless otherwise specifically indicated, Miltenyi Biotec products and services are for research use only and not for therapeutic or diagnostic use. MACS, MACSima, MACSQuant, MACSQuantify, and the Miltenyi Biotec Logo are registered trademarks or trademarks of Miltenyi Biotec and/or its affiliates in various countries worldwide. Copyright © 2026 Miltenyi Biotec and/or its affiliates. All rights reserved.

140-007-506-001.01