Miltenyi Biotec

MACSQuant® Instrument short instructions

Getting started

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

Introduction

This short instruction helps you to get started with the MACSQuant Instrument. It contains information about the software interface, start-up, shutdown, instrument monitoring, and required buffers and solutions.

Instrument start-up

Switching on the instrument

1. Use the main switch on the right-hand side of the instrument to switch the instrument to standby mode.
   A red LED in the lower left corner of the monitor indicates that the instrument is in standby mode.
2. Tap the integrated screen to start the MACSQuantify Software.
   A login window appears after a short initialization phase.

Login

1. Enter user name and password if required.
2. Click **Login**.

Priming the instrument

1. Click the **Power** button in the upper right corner of the software and select **Acquisition mode** to prime the instrument.
   Lasers are switched on and the fluidic system is rinsed.

The MACSQuant instrument can also be primed from the login screen.

2. Let the optical bench warm up for at least 30 minutes before starting a measurement.
3. Go to **View > Hardware > Lasers and detectors** to check the current laser and optical bench temperature.

While the optical bench is warming up, it is recommended to perform a flush cycle followed by a clean program. Refer to the MACSQuant short instructions **Maintenance**.

Instrument shutdown

Switching off the instrument

Before switching off the instrument, start the shutdown procedure. During the shutdown procedure, the fluidic system is cleaned and filled with MACSQuant/MACSima Storage Solution. Automatic shutdown is enabled by default after a defined idle time. Refer to the chapter **Editing global software options/Timers** in the **MACSQuantify Software user manual**.

1. Click the **Power** button in the upper right corner of the software to shut down manually.
2. Select **Instrument off** to switch the instrument to standby mode, or select **Data analysis mode** to proceed with data analysis after the shutdown procedure. After a seven-minute washing procedure (default setting), the instrument switches to standby or data analysis mode.
3. From data analysis mode, select **Instrument off** to switch to standby mode.
4. Optional: From standby, use the main switch on the right-hand side of the instrument to switch off completely.

Workspace organization

The MACSQuantify Software user interface allows Custom users and MQ Administrators to program parameters for data acquisition and data analysis. It consists of the title bar (1), the toolbar (2), the instrument status bar (3), the side pane (4), and the menu bar (5). Refer to **Figure 1**.

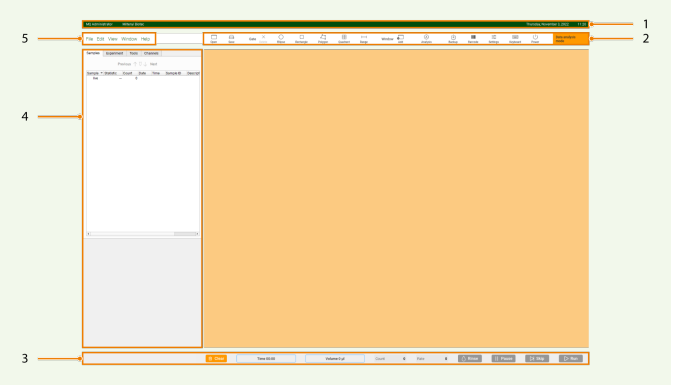

Figure 1: The MACSQuantify Software user interface for Custom users and MQ Administrators

Consumables

MACSQuant Buffers and Solutions	Usage	Order no.
6×1.5 L MACSQuant Running Buffer	measurement, needle rinse, washing between samples	130-092-747
6×1.25 L MACSQuant Running Buffer Concentrate (16×)	measurement, needle rinse, washing between samples	130-111-747
6×1.5 L MACSQuant Washing Solution	shutdown	130-092-749
6×1.5 L MACSQuant/MACSima Storage Solution	storage after shutdown	130-092-748
MACSQuant Starting Buffer Kit 4×1.5 L Running Buffer 1×1.5 L Washing Solution 1×1.5 L MACSQuant/MACSima Storage Solution		130-094-190
MACSQuant Washing and Storage Solution Kit 3×1.5 L Washing Solution 3×1.5 L MACSQuant/MACSima Storage Solution		130-092-801

Table 1: MACSQuant Buffers and Solutions

Instrument monitoring

Hardware monitor

The hardware monitor enables users to view the status of different hardware components including fluidics, lasers, and detectors. Go to **View > Hardware** to access the hardware monitor. The **Lasers and detectors** tab displays the status of the optical bench, including the temperature, fan speed, PMT voltage, and annotated path of each laser.

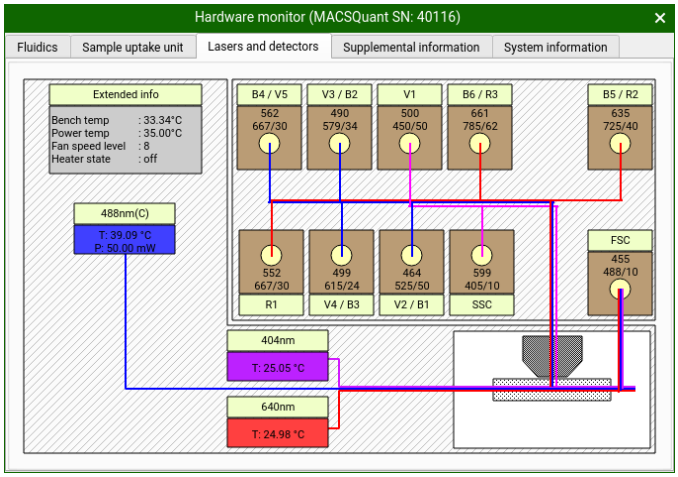

Figure 2: Real-time Hardware monitor of the MACSQuant 16 optical bench. T and P indicate the current temperature and power, respectively, of the main laser.

Instrument status indicator

The current status of the instrument is shown on the right-hand side of the toolbar.

Initializing MACSQuant	The instrument is initializing and not available for any measurement.
Data analysis mode	The instrument is in data analysis mode. Prime the instrument to switch to acquisition mode for measurement.
Priming MACSQuant	Priming in progress. The instrument is not available for measurement.
Bottle level critical change a bottle	Displayed if a bottle has reached a critical level. The affected bottle's LED will be blinking.
Acquisition mode Calibration ok	The instrument is in acquisition mode and ready for measurement. Calibration status is indicated. Refer to the short instructions **PMT calibration**.
Processing rack Sample 1 of 3	The instrument is processing a sample. The processed sample is indicated.
Processing rack change a bottle	The instrument is processing a sample and a bottle level is critical.
Fatal error occured hardware disabled	Error alert.

Table 2: States of the MACSQuant Instrument

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