

Cytomics FC 500 With CXP Software

Getting Started



PN 177652A (May 2003)

Beckman Coulter, Inc.
Fullerton, CA 92835



WARNINGS AND PRECAUTIONS

READ ALL PRODUCT MANUALS AND CONSULT WITH BECKMAN COULTER-TRAINED PERSONNEL BEFORE ATTEMPTING TO OPERATE INSTRUMENT. DO NOT ATTEMPT TO PERFORM ANY PROCEDURE BEFORE CAREFULLY READING ALL INSTRUCTIONS. ALWAYS FOLLOW PRODUCT LABELING AND MANUFACTURER'S RECOMMENDATIONS. IF IN DOUBT AS TO HOW TO PROCEED IN ANY SITUATION, CONTACT YOUR BECKMAN COULTER REPRESENTATIVE.

HAZARDS AND OPERATIONAL PRECAUTIONS AND LIMITATIONS

WARNINGS, CAUTIONS, and IMPORTANTS alert you as follows:

WARNING - Can cause injury.

CAUTION - Can cause damage to the instrument.

IMPORTANT - Can cause misleading results.

BECKMAN COULTER, INC. URGES ITS CUSTOMERS TO COMPLY WITH ALL NATIONAL HEALTH AND SAFETY STANDARDS SUCH AS THE USE OF BARRIER PROTECTION. THIS MAY INCLUDE, BUT IT IS NOT LIMITED TO, PROTECTIVE EYEWEAR, GLOVES, AND SUITABLE LABORATORY ATTIRE WHEN OPERATING OR MAINTAINING THIS OR ANY OTHER AUTOMATED LABORATORY ANALYZER.

WARNING Risk of operator injury if:

- All doors, covers and panels are not closed and secured in place prior to and during instrument operation.
- The integrity of safety interlocks and sensors is compromised.
- Instrument alarms and error messages are not acknowledged and acted upon.
- You contact moving parts.
- You mishandle broken parts.
- Doors, covers and panels are not opened, closed, removed and/or replaced with care.
- Improper tools are used for troubleshooting.

To avoid injury:

- Keep doors, covers and panels closed and secured in place while the instrument is in use.
- Take full advantage of the safety features of the instrument. Do not defeat safety interlocks and sensors.
- Acknowledge and act upon instrument alarms and error messages.
- Keep away from moving parts.
- Report any broken parts to your Beckman Coulter Representative.
- Open/remove and close/replace doors, covers and panels with care.
- Use the proper tools when troubleshooting.

CAUTION System integrity might be compromised and operational failures might occur if:

- This equipment is used in a manner other than specified. Operate the instrument as instructed in the Product Manuals.
- You introduce software that is not authorized by Beckman Coulter into your computer. Only operate your system's computer with software authorized by Beckman Coulter.
- You install software that is not an original copyrighted version. Only use software that is an original copyrighted version to prevent virus contamination.

IMPORTANT If you purchased this product from anyone other than Beckman Coulter or an authorized Beckman Coulter distributor, and, if it is not presently under a Beckman Coulter service maintenance agreement, Beckman Coulter cannot guarantee that the product is fitted with the most current mandatory engineering revisions or that you will receive the most current information bulletins concerning the product. If you purchased this product from a third party and would like further information concerning this topic, call your Beckman Coulter Representative.

Contents

Welcome, 1

Cytomics FC 500 with CXP Software, 2

Cytometer, 4

FC 500 Workstation, 6

Online Help System, 8

Documents, 10

Reagent System, 12

Installing CXP Software, 12

Logging On to the FC 500 Workstation, 13

Shutting Down the FC 500 Workstation, 14

Revision Status

Initial Issue 5/03

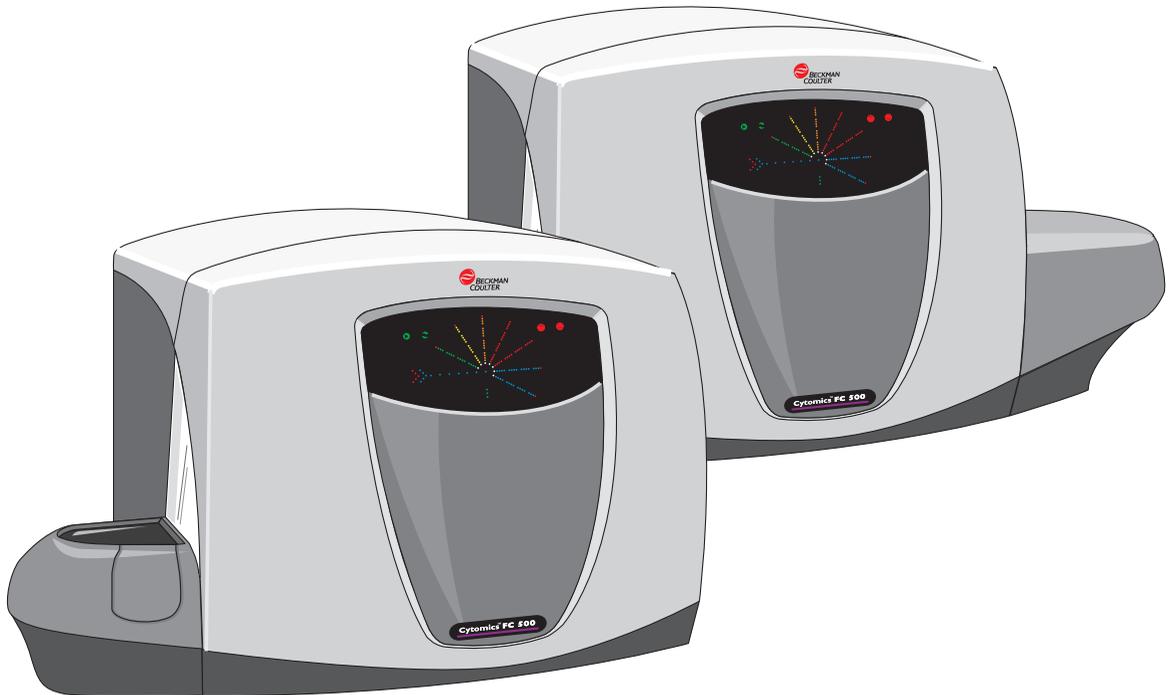
Software version: 1.0

Welcome

This booklet introduces the Cytomics FC 500 with CXP software. The FC 500 provides automated flow cytometric analysis including DNA analysis, immunophenotyping, and cellular subsetting.

The FC 500 includes a state-of-the-art Workstation that improves:

- Usability
- Workflow efficiency
- Results management
- Data analysis.

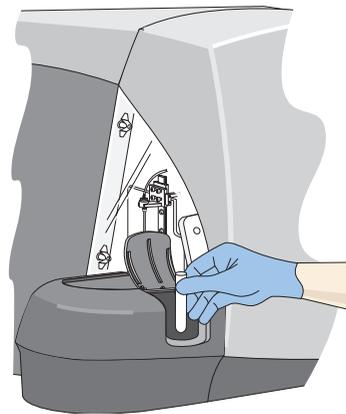
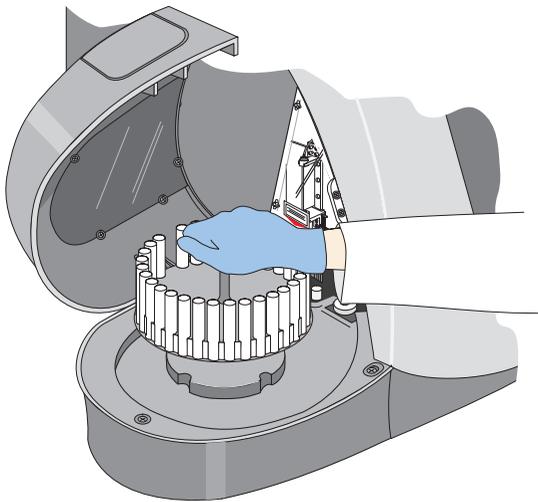


The FC 500 can easily adapt to your laboratory's work flow. This system has three acquisition modes:

- MCL Automatic
- MCL Manual
- Single Tube.

and a variety of analysis methods:

- AutoMATOR Batch Analysis
- MultiFile Analysis
- Listmode Compensation.



Cytomics FC 500 With CXP Software

MAIN COMPONENTS

Cytometer

Sends data to the Workstation. The Cytometer includes:

- Analyzer that counts, measures and computes parameters.
- Power Supply that provides voltages, vacuum and pressure.
- MCL that positions the sample tubes in the carousel for sampling.
- Laser(s) for fluorescence excitation.

Workstation

Receives data from the Cytometer. Analyzes and displays numeric results and dataplots. The Workstation includes:

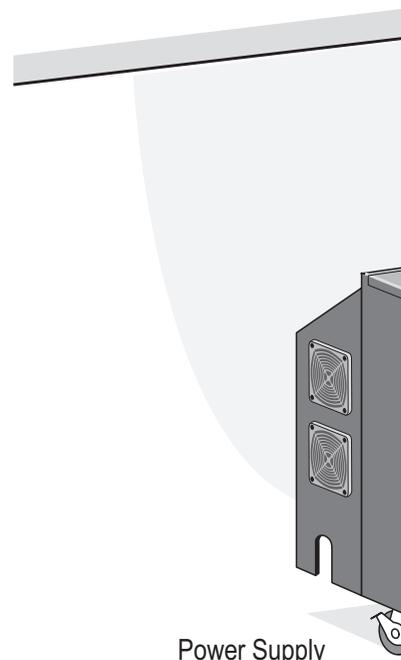
- Monitor that displays the software screens.
- Computer that runs the instrument software.
- Mouse that allows you to navigate through the software.
- Keyboard that allows you to input into the software.
- Handheld Scanner that reads bar-code labels (optional).

SYSTEM UPGRADES

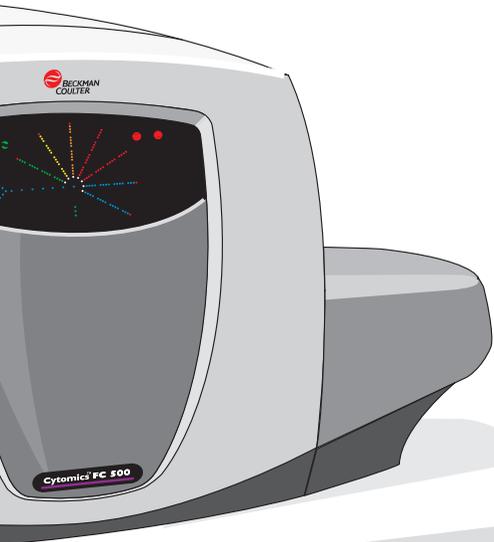
Printer

You can use most printers that are supported by Windows® software and Beckman Coulter.

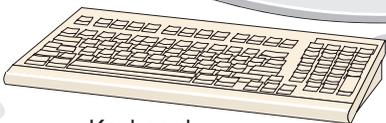
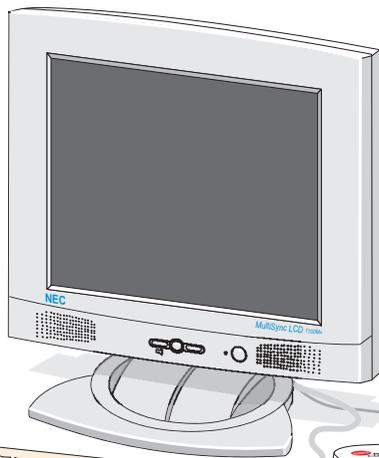
Cytometer



Power Supply

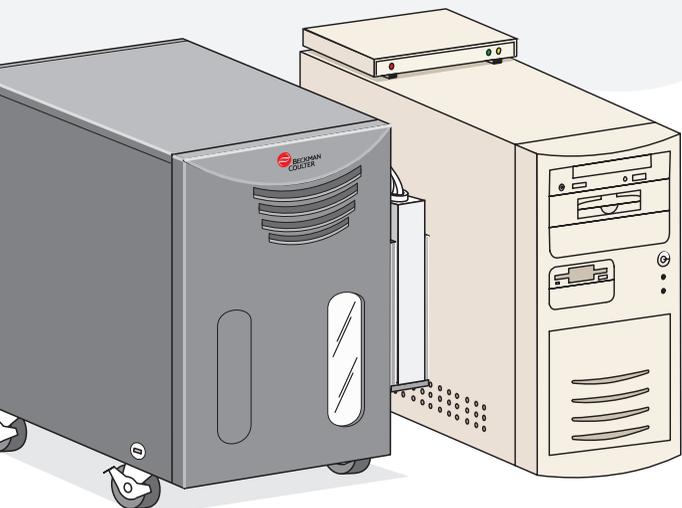


Monitor



Keyboard

Mouse

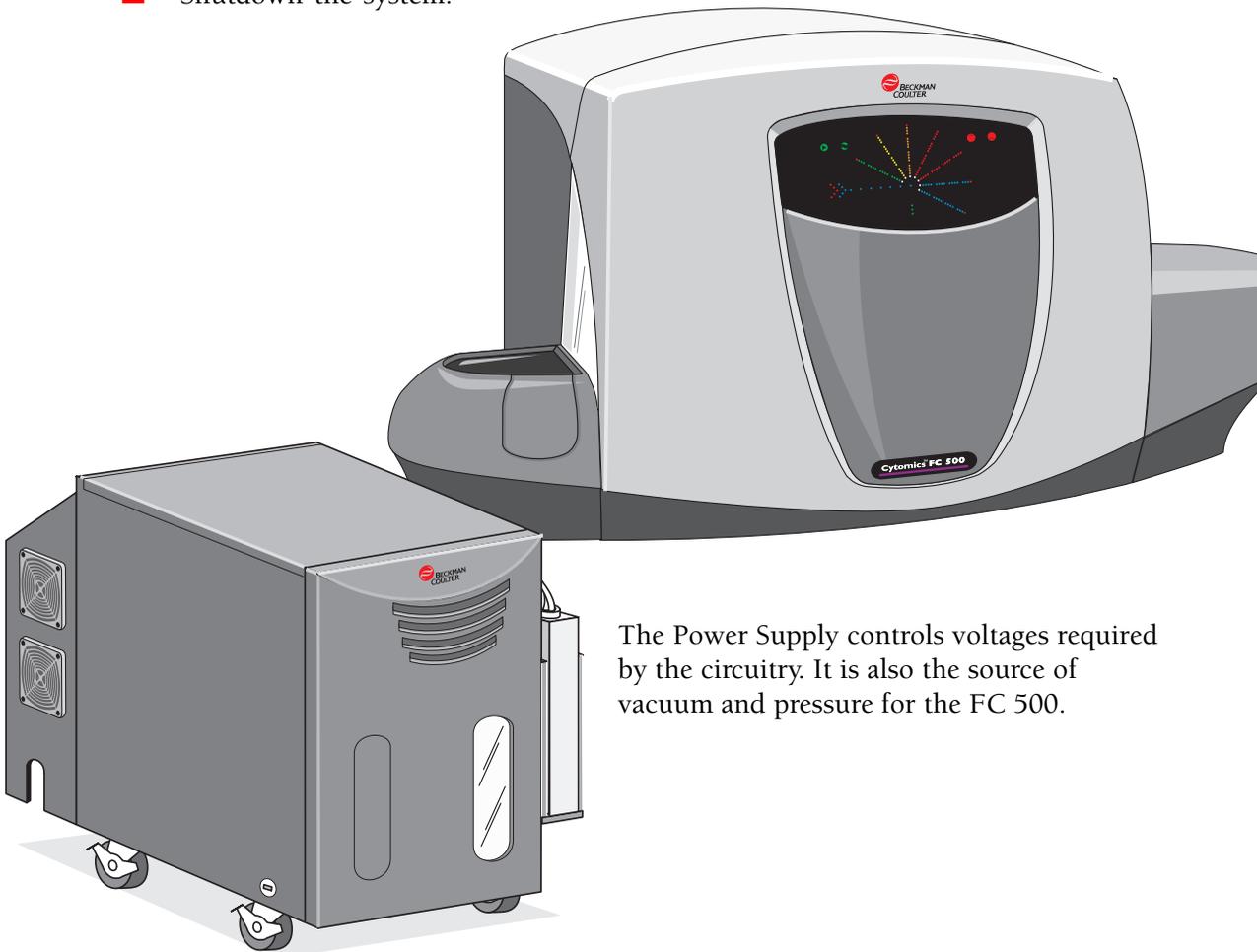


Computer

Cytometer

The Cytometer counts, measures and computes parameters. These functions are performed by the Cytometer:

- Initialize the system.
- Run samples.
- Provide visual display on the Cytometer Indicator Panel.
- Transmit data to the Workstation.
- Shutdown the system.



The Power Supply controls voltages required by the circuitry. It is also the source of vacuum and pressure for the FC 500.

FC 500 Workstation

The FC 500 Workstation receives information from the Cytometer, sets protocols and panels, analyzes results, then displays, stores and prints the results. The CXP software gives you immediate access to these features:



Displays the Cytometer Control dialog box to adjust the cytometer settings and select parameters.



Starts acquisition or continues an acquisition if previously paused.



Pauses the acquisition of the current sample.



Stops the acquisition of the current sample and outputs results.



Runs a carousel of samples one tube at a time.



Runs a single tube in fixed position #10.



Clears the Acquisition Manager to create a new worklist.



Inserts a panel from file into the current worklist.



Places the Cytometer in the Idle mode in order to perform various cleaning and replacing procedures.



Flushes the sample line and flow cell with sheath fluid to deglog or remove bubbles.



Flushes the sample line and flow cell with cleaning agent.



Performs the Vacuum Line Cleaning procedure.



Accesses the CXP online Help System.

Note: For a complete list of software icons, see the CXP online Help System.

Online Help System



The FC 500 Workstation has a comprehensive Help System that includes all the information you need to operate the system.

INFORMATION INCLUDED

- Procedures for using the FC 500.
- Concepts to better understand the FC 500.
- Reference information, such as FC 500 performance specifications and characteristics.
- Videos to help illustrate special procedures.

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Contents | Index | Search | Favorites

File Page
? WARNINGS AND PRECAUTION
? REVISION STATUS

INTRODUCTION
1 USE AND FUNCTION
2 INSTALLATION
3 OPERATION PRINCIPLES
4 SPECIFICATIONS
5 SYSTEM OVERVIEW
6 DAILY ROUTINE
7 QUALITY CONTROL
8 RUNNING SAMPLES
9 HOW TO...
10 USING CXP SOFTWARE
11 CLEANING PROCEDURES
12 REPLACE/ADJUST PROCED
13 TROUBLESHOOTING
? A LOG SHEETS
? B BAR-CODE SPECIFICATIONS
? REFERENCES
? GLOSSARY
BECKMAN COULTER, INC. CUS
? TRADEMARKS
? HelraCXP System Guide
? stemCXP System Guide

**Cytomics FC 500
With CXP Software**

Online Help

PN TC 0204A (May 2003)
Beckman Coulter, Inc.
Fullerton, CA 92835

REVISION STATUS

shut down
cleaning before daily shutdown,
daily shutdown,
how to set up auto shutdown,
minimum time,
when to shut down the Cytometer,
side scale (SS)
soft illumination,
collection,
detection,
sensor,
sensor definition,
when to use, example,
signal amplitude indicators,
signal cables,
connections,
signals,
amplification,
generated,
integral, description,
integral, illustration,
integral, tips,
peak, description,
peak, illustration,
processing of, operation principles,
processing of, specifications,
voltage pulse,
signing on to CXP software,
signon administration,
user name,
signon administration
add user/modify user,
remove user database,
signing on to CXP software,
user administration,
single file mode
lirmode playback,
single tube mode

6.3 DAILY SHUTDOWN

When to Shut Down the Cytometer

- Shut down the instrument at least once a day, even if it is intended for use 24 hours per day.
- Leave the instrument shut down for at least 30 minutes before restarting.

Before Performing Shut Down

- 1 Perform the [Routine Cleaning Procedure](#).
- 2 Perform the [Vacuum Line Cleaning Procedure](#).

Power the Computer and Cytometer OFF

- 1 to put the Cytometer in the Idle mode.
- 2 in all open windows.

6 DAILY ROUTINE
6.3 DAILY SHUTDOWN

SPECIAL FEATURES INCLUDED

- Contents list to locate information in a book-like fashion.
- Index list for finding key information quickly.
- Search utility to locate specific information.
- Glossary list for definitions of terms and fields.

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Contents | Index | Search | Favorites

Type in the word(s) to search for:

covers

List Topics Display

Select topic: Found 26

| Title | Location | Rank |
|--------------------|-----------|------|
| 15 TROUBLESHOOTING | Beckma... | 1 |
| 12.12 REPLACE ... | Beckma... | 3 |
| Options FC 500 | Beckma... | 4 |
| 12.9 REPLACE ... | Beckma... | 5 |
| 12.10 REPLACE ... | Beckma... | 5 |
| 5.3 CLEANING ... | Beckma... | 7 |
| 11.3 CLEAN THE ... | Beckma... | 8 |
| 12.5 ERROR ME... | Beckma... | 9 |
| ILLUSTRATIONS | Beckma... | 10 |
| 12.5 VENT THE ... | Beckma... | 11 |
| 12.5 FILL THE S... | Beckma... | 12 |
| 12.8 REPLACE ... | Beckma... | 13 |
| 11.12 CLEAN TH... | Beckma... | 14 |
| 7.3 DAILY QC | Beckma... | 15 |
| 12.14 POSITION ... | Beckma... | 16 |
| 12.16 ADJUST ... | Beckma... | 17 |
| 8.3 RUNNING SA... | Beckma... | 18 |
| 8.4 RUNNING SA... | Beckma... | 19 |
| 12.7 EMPTY THE... | Beckma... | 20 |
| 1.2 OPTIONS | Beckma... | 21 |
| 12.4 FILL THE S... | Beckma... | 22 |
| 11 CLEANING P... | Beckma... | 23 |
| 12 HARDWARE ... | Beckma... | 24 |
| 11.6 REMOVE T... | Beckma... | 25 |
| 11.9 REPLACE T... | Beckma... | 26 |

Search previous results
 Match similar words
 Search files only

11.4 OPEN/REMOVE THE INSTRUMENT COVERS

Open the Front Cover

To see a video presentation of the main steps of this procedure, click [Show Me](#).

- Pull the front cover forward and then lift straight up.



- Push the front cover back until you hear both sides click and lock in place. You only need to open the front cover this much if you are going to perform a procedure such as REMOVE THE REAGENT CONTAINERS.



11 CLEANING PROCEDURES
 11.4 OPEN/REMOVE THE INSTRUMENT COVERS

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Contents | Index | Search | Favorites

Type in the word(s) to search for:

covers

List Topics Display

Select topic: Found 26

| Title | Location | Rank |
|------------------------------|-----------|-------|
| INTRODUCTION | Beckma... | 1 |
| 1 USE AND FUNCTION | Beckma... | 2 |
| 2 INSTALLATION | Beckma... | 3 |
| 3 OPERATION PRINCIPLES | Beckma... | 4 |
| 4 SPECIFICATIONS | Beckma... | 5 |
| 5 SYSTEM OVERVIEW | Beckma... | 6 |
| 6 DAILY ROUTINE | Beckma... | 7 |
| 8 RUNNING SAMPLES | Beckma... | 8 |
| HOW TO... | Beckma... | 9 |
| 10 USING CDP SOFTWARE | Beckma... | 10 |
| 11 CLEANING PROCEDURES | Beckma... | 11 |
| 11.1 WHAT THIS CHAPT... | Beckma... | 11.1 |
| 11.2 CLEANING SCHEDU... | Beckma... | 11.2 |
| 11.3 CLEAN THE AIR FIL... | Beckma... | 11.3 |
| 11.4 OPEN/REMOVE TH... | Beckma... | 11.4 |
| 11.5 PUT THE CYTOMET... | Beckma... | 11.5 |
| 11.6 REMOVE THE REAC... | Beckma... | 11.6 |
| 11.7 CLEAN THE SHEATH... | Beckma... | 11.7 |
| 11.8 CLEAN THE CLEANW... | Beckma... | 11.8 |
| 11.9 REPLACE THE REA... | Beckma... | 11.9 |
| 11.10 CLEAN THE VACU... | Beckma... | 11.10 |
| 11.11 CLEAN THE SAMPL... | Beckma... | 11.11 |
| 11.12 CLEAN THE MCL SAMPL... | Beckma... | 11.12 |
| 11.13 POWER THE Cytom... | Beckma... | 11.13 |
| 12 REPLACE/ADJUST PROC... | Beckma... | 12 |
| 13 TROUBLESHOOTING | Beckma... | 13 |
| ALOG SHEETS | Beckma... | 14 |
| BAR CODE SPECIFICATION | Beckma... | 15 |
| REFERENCES | Beckma... | 16 |
| GLOSSARY | Beckma... | 17 |
| BECKMAN COULTER, INC. C... | Beckma... | 18 |
| TRADEMARKS | Beckma... | 19 |
| tetraCDP System Guide | Beckma... | 20 |
| stemCDP System Guide | Beckma... | 21 |

Search previous results
 Match similar words
 Search files only

11.12 CLEAN THE MCL SAMPLE HEAD AND THE SAMPLE PROBE

Clean the MCL sample head and sample probe weekly to remove any crystal or debris buildup. To see a video of this condition, click [Show Me](#).

To see a video presentation of the main steps of this procedure, click [Show Me](#).

- Power the Cytometer OFF.
- Lift up the MCL lid.

Note: If a carousel is present, remove it.



11 CLEANING PROCEDURES
 11.12 CLEAN THE MCL SAMPLE HEAD AND THE SAMPLE PROBE

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Contents | Index | Search | Favorites

Type in the word(s) to search for:

filter

List Topics Display

Select topic: Found 22

| Title | Location | Rank |
|--------------------------------|----------|------|
| 12.13 REPLACE A FILTER IN... | Beck... | 1 |
| REPLACE THE SHEATH... | Beck... | 2 |
| 11.3 CLEAN THE AIR FILTERS | Beck... | 3 |
| 12.8 REPLACE THE SHEATH... | Beck... | 4 |
| 1.2 OPTIONS | Beck... | 5 |
| 12.12 REPLACE THE OPTICAL ... | Beck... | 6 |
| 4.5 INSTRUMENT SPECIFICAT... | Beck... | 7 |
| GLOSSARY | Beck... | 8 |
| 11.5 ERROR MESSAGE TABLE | Beck... | 9 |
| 11.4 OPEN/REMOVE THE INS... | Beck... | 10 |
| 12.5 VENT THE AIR BUBBLES | Beck... | 11 |
| 12.8 REPLACE/ADJUST PROC... | Beck... | 12 |
| 12.5 VENT THE AIR BUBBLES | Beck... | 13 |
| 8.2 DAILY STARTUP | Beck... | 14 |
| 1.2 HARDWARE PROCEDURES | Beck... | 15 |
| 15 TROUBLESHOOTING | Beck... | 16 |
| 11.6 REMOVE THE REAGENT ... | Beck... | 17 |
| ILLUSTRATIONS | Beck... | 18 |
| 1.3 REAGENTS AND QUALITY ... | Beck... | 19 |
| 5.3 SYSTEM OVERVIEW | Beck... | 20 |
| 8.3 DAILY SHUTDOWN | Beck... | 21 |
| 7.5 APPLICATION DEFINITION ... | Beck... | 22 |

Search previous results
 Match similar words
 Search files only

12.13 REPLACE A FILTER IN THE OPTICAL FILTER PLATE

Replace a filter in the optical filter plate when:

- When there is a loss of signal power - replace the old filter with a new filter.
- When you are running a different application and need a different filter in the filter plate.

IMPORTANT Risk of incorrect readings from a contaminated filter if you wear powder-free gloves when you perform this procedure. Powder from the gloves can contaminate the filter and wear powder-free gloves whenever you are working with any optical filter component.

- Wear powder-free gloves to perform this procedure.
- Remove the Optical Filter Plate.

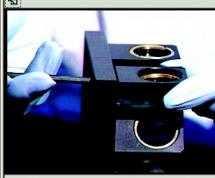
To see a video presentation of the main steps of how to remove the optical filter plate, click [Show Me](#).

- Turn the optical filter plate on its side.

To see a video presentation of the main steps of how to remove a filter, click [Show Me](#).

12 REPLACE/ADJUST PROCEDURES
 12.13 REPLACE A FILTER IN THE OPTICAL FILTER PLATE

C:\CYTOMETR\VOL3\LIBRARY\TECHDOCS\FC... | File View Edit Index Help



Show: PlayM2
 Clip: Cytomics(TM) FC 500, Remove a ...
 Author: Beckman Coulter, Inc.
 Copyright: © Beckman Coulter, Inc. 2002
 Paused 00:04/00:48

Documents

Your system comes with this Getting Started booklet. The other documents are available in hard copy only by order. To order hard-copy documents, contact your Beckman Coulter Representative.

SHIPPED WITH SYSTEM

- Getting Started
PN 177652

Brief overview of the FC 500 hardware and CXP software. This is the document you are reading now.

- Operator Manuals CD-ROM
PN 177628

Use this CD-ROM at any compatible PC to access the same Instructions For Use information that is accessible through the CXP software online Help System on the FC 500 Workstation.

This CD-ROM contains PDF formatted documents for on-site printing and viewing.

Note: All information included in the hard-copy documents is available in the CXP software online Help system.

AVAILABLE BY ORDER

■ Instructions For Use PN 175571

Day-to-day operating procedures:

- Startup
- Performance characteristics
- QC
- Run samples
- Review data
- Shutdown
- The methods the instrument uses
- Setup
- Error messages
- Troubleshooting

■ Special Procedures PN 175572

- Cleaning procedures
- Replacement and adjustment procedures

■ Reference PN 175570

In-depth information about:

- What the instrument does
- Performance specifications
- Information on installation
- Safety information
- Predefined panels and protocols
- Software description

■ Master Index PN 175653

This is a combined index of the hard-copy documents.

Reagent System

These reagents are available for use with the Cytomics FC 500 with CXP Software:

- IsoFlow™ Sheath Fluid
- COULTER CLENZ® cleaning agent

Quality control materials are also available for use with the FC 500. They include:

- Flow-Check™ Fluorospheres
- Flow-Set™ Fluorospheres
- Flow-Count™ Fluorospheres
- CYTO-TROL™ Control Cells
- Immuno-Trol™ Cells
- Immuno-Trol™ Low Cells
- CYTO-COMP™ Cell Kit
- QuickCOMP 2 Kit
- QuickCOMP 4 Kit

These quality control materials are
For Research Use Only.
Not for use in diagnostic procedures.

- PC7 (770/488) Setup Kit
- APC (675/633) Setup Kit



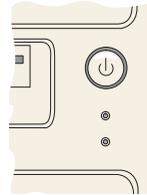
Installing CXP Software

Installing the CXP Software instructions are in the Installation Chapter of the Operator Manuals CD-ROM. The Installation Chapter appears in the:

- System Help
- Reference manual

Logging On to the FC 500 Workstation

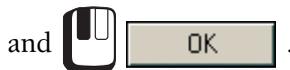
1. Turn on the FC 500 Workstation power.



2. When the **Log On to Windows** screen appears, check that:
 - The **User name** field displays Administrator or your Windows log-in user name. If not, type in your user name. **Note:** When first installing the software, the **User name** field must display Administrator.
 - The check box is unchecked.



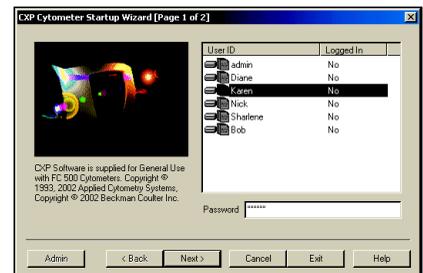
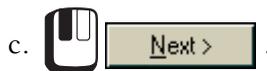
3. Enter a password, if needed for your laboratory



4.    (CXP Cytometer) to start the software and power up the Cytometer.

5. At the **CXP Cytometer Startup Wizard [Page 1 of 2]** screen:

- a. Highlight your operator ID.
- b. Enter your password.



6. Select a protocol, if needed.



Note: In the event that you cannot access the FC 500 online Help System from your instrument, contact your Beckman Coulter Representative.

Shutting Down the FC 500 Workstation

After you have performed the Daily Shutdown procedure:

1.   to put the Cytometer in the Idle mode.

2.   in the main windows to exit.



3.  or to save or not save the current protocol.

4.    (FC OFF) to turn off the Cytometer.

5.    to shutdown the Workstation.

6. When the Shut Down Windows screen appears:

Ensure Shut down appears below
What do you want the computer to do?

7.  .

8. Turn off the monitor and Printer separately.



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