



Filtertechnik

Filtration, Purification &
Separation Solutions

SP27 and SP27V - 3M
Compound Biological Microscope



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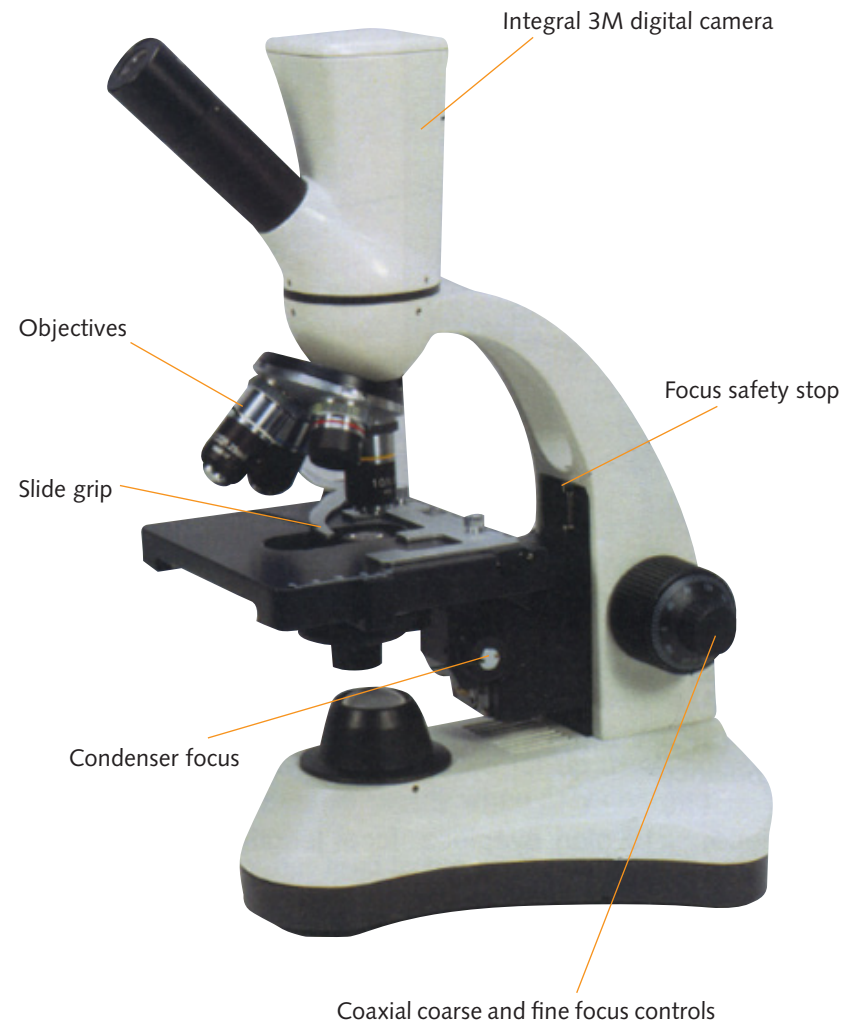
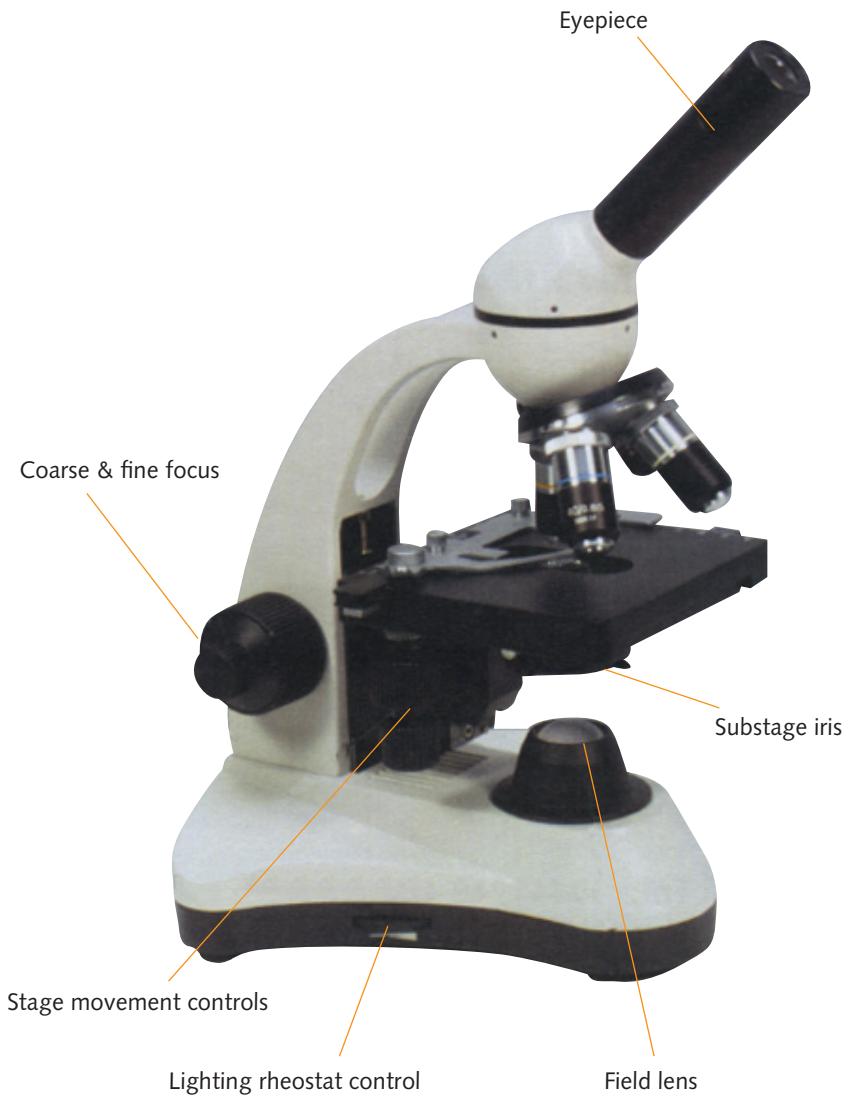
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SP27

SP27V





3 million pixel camera

USB 2.0 lead plug



Achromatic parfocal objectives, the x40 and x100 (oil) are spring loaded for slide safety.

Technical Specification

Monocular head

Inclined at 45°

Sensor (SPV27V only)

CMOS, 1/3" USB2.0 Auto/manual white balance

Eyepiece

x10 plan eyepiece , focal length 25mm, field diameter 18mm

Objectives

Achromatic, parfocal x4, x10, x40 and x100 (oil)

Stage

Mechanical stage, focusing condenser with iris

Illumination

LED mains power and battery

These instructions cover the operation of the microscope for both SP27 and SP27V. The use of the integral CCTV camera for the SP27V is covered in the second part of these instructions.

The microscope will be packaged in a polystyrene proforma. Remove the microscope together with the transformer power lead.

Remove any packaging materials from the microscope and familiarise yourself with the main components. Rotate the monocular head so that the eye tube faces forward – normal position for use.

The microscope has LED illumination, and when connected to a mains supply the internal rechargeable batteries are charged. This allows the instrument to be used for up to 48 hours without being connected to a mains supply when fully charged.

Connect the transformer lead to the power inlet on the back of the black electrical base on the right hand side. The on/off switch is on the left side. We recommend using the microscope attached to a mains power supply until the batteries are fully charged (at least overnight). Then use the microscope batteries for illumination until they are fully exhausted. This will prevent "memory" problems with the battery. The brightness level of the illumination is controlled on the left hand side of the base. Set for personal preference.



The microscope has a safety stop that can be used to protect the slide from objective damage. This is pre-set by Filtertechnik to allow the x100 objective to be focussed. To reset adjust the length of the screw.

With the illumination turned on place a prepared slide into the slide clip of the mechanical stage. Adjust the position of the slide so that the specimen is beneath the x10 objective with the slide moving controls. Using the coarse focus control adjust the height of the stage until an image can be seen and finish focus with the fine control. Adjust the brightness control to suit the specimen, and close/open the sub stage iris diaphragm until the required contrast is obtained.

There is a frosted filter in the filter holder of the condenser; this should be left in place to ensure that the LED gives an even field illumination.

The LED will last for a considerable time, should it fail at some point replacements are available from Filtertechnik Ltd.

The mechanical stage has a double vernier scale that permits the exact position of specific elements within a slide so that they can be returned to at a later date. The stage is operated by the two drop down controls on the left hand side of the platform.

The fine focus control has a scale; this is to allow simple attempts at depth measurement. Each division is equivalent to approximately 2 microns. Focusing down through the specimen and noting the scale movement gives an estimate of depth.

The x100 objective is an oil immersion lens, and the front lens of the objective must be immersed in a drop of the immersion oil provided. Place a large drop of oil on the coverslip.

SP27V Driver instructions

A mini disc is supplied with the necessary drivers for the camera together with Lissview visualisation and image manipulation software. Please note that the Lissview operating instructions are provided separately from this instruction booklet.

1. Do not attach the camera to your computer/laptop at this stage
2. Insert the mini disc into the CDROM player of your computer. On most computers it will auto run. If it doesn't, browse using windows explorer and double click on the 'autorun.exe' in the CD's root directory.
3. The MC-790 auto play window will open. Click on the install MC-790 Driver'. This will install. An installation wizard window that offers the installation of USB PC Camera 301P will now appear. Click next.
4. The required software will then upload. Followed by the usual Window warning saying that the software has not passed 'Windows logo testing', click continue anyway'.
5. The installation wizard will then complete. Click the 'No, I will restart my computer later' option and then click finish.
6. Connect the USB cable supplied to the back of the microscope camera unit and the other end into a free USB port on your computer. Windows will then display a 'Found new hardware' balloon from the bottom toolbar, and will then display the found new hardware wizard. From the wizard select the 'No, not this time', option and click next.
7. On the next wizard page select the 'install the software automatically (recommended)' option and click 'next'.
8. The windows warning about logo testing will display again. Click continue anyway.
9. The software will then install. Click 'finish' on the completing the found new hardware wizard.
10. Windows should then display a warning balloon from the bottom tool bar suggesting that the computer should be restarted to ensure that the camera works correctly. Click the option to restart.
11. When the computer has rebooted, if you open the 'device manager', you should see the USB PC Camera 301P' under the 'Images Devices.
12. The microscope camera can now be used with the Lissview software once this has been installed. See the Lissview separate instructions for application.