

Specifications

Construction

Acid and reagent resistant finish

Binocular Head

Inclined 45° binocular, rotates 360°

10x eyepieces

Interpupillary distance range 55-75mm

Illumination**

Focused, daylight color LED dual illumination - top and bottom

Four-way switch allows for both incident and/or transmitted light

**DM Dual LED only, illumination for DM on a Pole Stand available for purchase separately

Objectives

1x and 2x, 1x and 3x, or 2x and 4x paired objectives

Adjustment Controls

Rack and pinion focusing

Pole mount allows for samples of up to 4" in height

Stage

Stage plate diameter 94.5mm

Power – DM on Dual LED

110-220 volt AC, 50/60 Hz

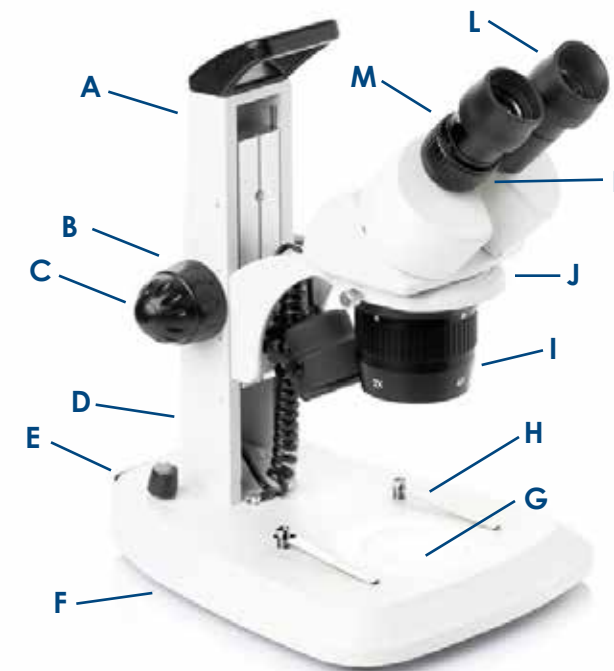
Dimensions and Weight

	DM Dual LED	DM Pole Stand
Height:	14"-17.5" (355-444mm)	14"-17.5" (355-444mm)
Length:	8.5" (216mm)	8.5" (216mm)
Width:	6" (152mm)	6" (152mm)
Weight:	8lbs (3.63kg)	8lbs (3.63kg)



DM Dual Mag

Instruction Manual



- A** Post
- B** Tightening Knob
- C** Focusing Knob
- D** Light Switch (Not Shown)
- E** Light Switch
- F** Base
- G** Stage Plate / Transmitted Light
- H** Stage Clips
- I** Objective Housing or Nosepiece
- J** Head
- K** Diopter Adjustment
- L** Eyeguards
- M** Eyepieces

Assembly and Operation

Your stereomicroscope has been packed with utmost care to avoid damage in shipping. Retain all of the packing material. If there is damage, please contact the shipping company, as our warranty does not cover shipping damage. If you are uncertain who the shipping company was, please contact the distributor where you purchased the microscope.

Note: If your microscope has been exposed to cold weather, please allow time for all the parts to come to room temperature before use. Excess cold can fog the lenses and cause the lamp to fail

- 1 Carefully remove the head and the body of the microscope and place on a secure surface. All parts are packaged in the Styrofoam.
- 2 Remove the protective tissue and plastic wrap from the head and body of the microscope. Save the plastic wrap in the Styrofoam container.

Note: Please remove the thin paper under the glass plate.

- 3 Put the microscope base-stand upright and locate the circular head holder. (If you have the Pneumatic Flex Arm system please see the included sheet for setup of the arm.) Notice the silver colored thumbscrews on the head holder (located on the left side). Loosen the screw to allow free passage of the objective nosepiece (the black housing that holds the objective lenses) into the circular head holder.
 - 4 Secure the head and body together by inserting the black objective nosepiece into the circular area of the upright arm. Once the head is completely seated, tighten the thumbscrews to secure the head is in place.
- Note: Do not over-tighten.
- 5 Interpupillary Distance Adjustment: Once you are comfortably seated, adjust the oculars (eyepieces) by moving the eyepiece tubes together or apart until you see only one circle of light.
 - 6 Diopter Adjustment: Since you are using a binocular stereoscope, you have to adjust for the normal difference in vision between your two eyes. This is a simple but important adjustment. Close your right eye; look into the left ocular with your left eye and adjust the focus until you see the image clearly. Now, look at the ocular tube on the right. You will see that the right ocular tube has an adjustment ring built in. Close your left eye, and look into the right ocular with your right eye. Using the diopter adjustment ring on the right ocular tube, adjust until you see a clear in-focus field.
 - 7 Objective Settings: On the side of the objective housing, you will notice 1x and 2x, 1x and 3x, or 2x and 4x marked in white. A simple 90° twist of the black objective housing will change the objective setting. The objective setting you wish to use should be on the front of the housing. Magnification is calculated in the following manner:
 $2x \text{ (objective setting)} \times 10x \text{ (power of the oculars)} = 20x \text{ magnification}$
 - 8 Adjust pole up and down to focus on thicker specimens.

Dual LED Illumination Base

- 1 Plug the Dual LED base into the appropriate wall outlet. Turn on the power switch located on the base. The switch operates the "transmitted light" which is beneath the stage and the "incident light" which is on the neck. The two LED bulbs will automatically come on and illuminate your object. If one of the lights does not turn on, check to ensure that the bulb has not become loosened during shipping. If this is not the case, contact LW Scientific for technical assistance.
- 2 To view non-transparent specimens, use the incident light on the neck of the microscope. Position a solid object, such as a coin, on the glass stage. For viewing semi-transparent specimens, turn on the transmitted light beneath the stage. Try a leaf or a dollar bill.

Note: If you are using the DM Dual Mag on a POLE stand, a variety of ring light options are available for purchase.

Selecting the Stage

- 1 The frosted glass stage is placed on the base with a screw. It is usually used when a transparent specimen is being observed.

- 2 The black and white stage plate are included in the packaging as an accessory. When needed, take off the frosted glass stage and replace it with white or black. Normally the white side is should be placed in the upward direction. However, if the specimen is white or another bright color, use the black side to improve the contrast with only the incident light.

DM Dual LED Lamp Replacement

To replace the transmitted LED in the base of the unit:

- 1 Ensure the unit is unplugged for safety.
- 2 Remove the four Phillips head screws holding the base plate in position (these four screws also hold the rubber feet in position).
- 3 Remove the base plate to expose the internal electronics; including the lower LED bulb. The bulb is held in place by three Phillips head screws. Remove the three screws and unplug the LED bulb assembly from the drive board.
- 4 Insert replacement bulb.
- 5 Follow the above steps in reverse order.

Note: Contact LW Scientific to order your replacement bulb.

To replace the incident lamp in the neck:

Please contact our service and repair department at 1-800-726-7345

Maintenance

- 1 Never clean lenses with anything other than an optical lens cloth or lens paper with lens cleaning solution. You can purchase these from our website www.lwscientific.com or at any store that sells eyeglasses or cameras. Using any other cloth or tissue can damage and scratch the glass. Make every effort not to touch the glass optics with your fingers. This will leave oils on the lens that will attract dust. Dust in the nosepiece or in the ocular tube should be blown out using only filtered air (canned air dusters work well).
- 2 Do not attempt to clean any internal optics on your own. Only a qualified service technician should perform internal maintenance.
- 3 Always cover your stereomicroscope with the dust cover when not in use.
- 4 Any spilled liquid or powder should be cleaned at once.
- 5 To keep your stereoscope in top condition for years, LW Scientific recommends that you have the scope professionally serviced once a year.