



## **NATIONAL MODEL DC5-420TH STEREO ZOOM MICROSCOPE WITH BUILT-IN 2.0 MEGAPIXEL DIGITAL CAMERA**

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*See illustration on page 5.*

### **THE MICROSCOPE**

The convenience and versatility of viewing large picture at 10x magnification, then zooming continuously all the way to close-up detail at 40x magnification. Upright, unreversed 3-dimensional image remains in focus throughout zoom range. Superb optical clarity and reliable mechanical engineering assure years of top performance. Built in high-resolution digital camera offers 2.0 megapixel live image resolution at 1600x1200. Supplied with Motic Images 2.0ML software, which allows the user to view, capture, label, manipulate, and measure images. This microscope is fully functional, independent of camera application.

### **OPTICAL SYSTEM**

- Paired widefield 10x eyepieces are 45° inclined, with dual diopter adjustments, interpupillary adjustment from 55mm to 75mm.
- Achromatic, color corrected lenses.
- Continuous magnification from 10x thru 40x. See specification chart for full range available with use of optional auxiliary lenses.

### **ILLUMINATION**

- Top light is 12v 15 watt halogen, bi-pin with directional beam and rheostat control.
- Bottom light is 12v 10 watt halogen, bi-pin.
- Base mounted light controls permit choice of top only, bottom only, or dual illumination.
- 12v DC power converted operates on 100v-240v 50Hz/60Hz current, without need of additional transformer.
- 2.5 amp time delay fuse.

### **FOCUSING**

- Large dual focusing knobs with slip clutch to prevent damage to mechanism.
- Tension adjustment eliminates focus "drift".

### **STAGE**

- Large 165mm wide x 220mm deep stage surface.
- Two 80mm stage plates (frosted glass and reversible black/white plastic contrast plates).
- Blue filter for transmitted light.
- Locked on stage clips.

### **FRAME**

- Professional, all-metal frame, gray enamel finish.
- Heavy-duty post mount with locking support collar, permits up or down adjustment of viewing head to accommodate different sized objects on stage.
- Height: 330mm (13 in.) extends to 433mm (17 in.) for larger objects.
- Net wt. 5.1 kgs (11.2 lbs)

### **ACCESSORIES**

- Calibration slides.
- "L" hex-key wrench.
- USB 2.0 PCI card with CD.

### **PACKING**

- Molded styrofoam container with rubber eyeshields, vinyl dustcover and instruction manual.

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 Stereo Zoom Microscope with Built-In Digital Camera  
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PACKAGING (cont.)

- Individual: Ship wt. 8.2 (18 lbs), Dimensions 450x425x275mm (18x17x11 in.)
- Master carton pack 1 each: Ship wt. 8.2 kgs (18 lbs), Dimensions 450x425x275mm (18x17x11 in.)

WARRANTY

- Lifetime limited warranty on microscope portion, excluding bulb and cords.

**MODEL DC5-420TH OPTICAL SPECIFICATIONS**

Eyepieces	Zoom Objective Position	Standard Objective 1X (supplied)		Auxiliary Objective 0.5X (Optional)		Auxiliary Objective 0.75X (Optional)		Auxiliary Objective 1.5X (Optional)	
		Working Distance – 79mm		Working Distance - 137mm		Working Distance - 90mm		Working Distance - 34mm	
		Total Magnification	Field Size	Total Magnification	Field Size	Total Magnification	Field Size	Total Magnification	Field Size
WF5X Field No.22 (Optional) (No Reticle Holder) Interpupillary Distance 59~83	1X	5X	22mm	2.5X	44mm	3.75X	29.3mm	7.5X	14.7mm
	2X	10X	11mm	5X	22mm	7.5X	14.6mm	15X	7.3mm
	3X	15X	7.3mm	7.5X	14.7mm	11.25X	9.8mm	22.5X	4.9mm
	4x	20X	5.5mm	10X	11mm	15X	7.3mm	30X	3.7mm
WF10X Field No. 20 (Supplied) Accepts Reticle 23mm O.D. Interpupillary Distance 54~78	1X	10X	20mm	5X	40mm	7.5X	26.7mm	15X	13.3mm
	2X	20X	10mm	10X	20mm	15X	13.3mm	30X	6.7mm
	3X	30X	6.7mm	15X	13.3mm	22.5X	8.9mm	45X	4.4mm
	4x	40X	5mm	20X	10mm	30X	6.7mm	60X	3.3mm
WF15X Field No. 13 (optional) (No Reticle Holder) Interpupillary Distance 50.5~74.5	1X	15X	13mm	7.5X	26mm	11.25X	17.3mm	22.5X	8.7mm
	2X	30X	6.5mm	15X	13mm	22.5X	8.7mm	45X	4.3mm
	3X	45X	4.3mm	22.5X	8.7mm	33.75X	5.8mm	67.5X	2.9mm
	4x	60X	3.25mm	30X	6.5mm	45X	4.3mm	90X	2.2mm
WF20X Field No. 10 (optional) (No Reticle Holder) Interpupillary Distance 52~76	1X	20X	10mm	10X	20mm	15X	13.3mm	30X	6.7mm
	2X	40X	5mm	20X	10mm	30X	6.7mm	60X	3.3mm
	3X	60X	3.3mm	30X	6.7mm	45X	4.4mm	90X	2.2mm
	4x	80X	2.5mm	40X	5mm	60X	3.3mm	120X	1.7mm
Model		Specimen Height		Specimen Height		Specimen Height		Specimen Height	
		Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
DC5-420TH		0.0mm	93mm	0.0mm	19mm	0.0mm	66mm	0.0mm	120mm

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**MICROSCOPE PARTS & ACCESSORIES**

- 605-400      WF5X Eyepieces
- 615-400      WF15X Eyepieces
- 620-400      WF20X Eyepieces
- 705-420      Auxiliary 0.5x objective lens
- 775-420      Auxiliary 0.75x objective lens
- 715-420      Auxiliary 1.5x objective lens
- 800-170      Replacement bulb, bottom light, 12v 10 watt halogen bi-pin
- 800-422      Replacement bulb, top light, 12v 15 watt halogen bi-pin
- 931-420      Ring light adapter, O.D. 54.5mm (permits mounting auxiliary ring light on objective pod)
- 965-400-05    Eyepiece reticle, 5mm/100 divisions, O.D. 22.8mm (for use only with WF10x eyepieces)
- 965-400-10    Eyepiece reticle, 10mm/100 divisions, O.D. 22.8mm (for use only with WF10x eyepieces)

**THE CAMERA**

**SPECIFICATIONS – NATIONAL DIGITAL MICROSCOPE #DC5-420TH**  
 USB 2.0 Digital Camera

	<b>USB 2.0 (digital signal)</b>
Image device	½ inch CMOS
Effective pixels	1600x1200
Framed resolution	1600x1200 pixels
Electronic shutter	10fps @ 1600x1200, 30fps @ 640x480
Sync System	N/A
Audio output	Transmission across Image 2000 direct into memory of PC
White balance	Auto white balance
B.L.C.	Back light compensation (auto)
Minimum illumination	5 Lux (F:1.4)
Data transfer	480 MB/second
Color Image	Take-up time below one second
Color depth	24 bit (16.7 million colors)
Electronic shutter	--
Power supply	5v self powered from computer USB
Consumption	250mA
Data format	BMP, JPG, MIG (for recording)

### System Requirements

<b>Operating System</b>	Windows 98 or above. No Macintosh support
Computer Requirements	CPU 1 GHz or above, RAM 256 MB or above, Hard disk 1 GB or above, CD-ROM drive, USB 2.0 plug, sound card, speaker and microphone for video and audio recording, a modem or network card for e-mail, video conference and video mail.
Immediate Printout	On printer
Position and size of image on monitor	Freely definable
Menu on monitor	Pull-down menus for opening, storing, printing, print preview, regulator for brightness, color, gamma correction. Icons for recording, image interpolation, switching between large and small image, image quality, automatic and manual white balance.
Image data	Automatic reference number, date, time
Interactive adjustment	Color, brightness, contrast
Import of stored data	Possible

### Environmental conditions

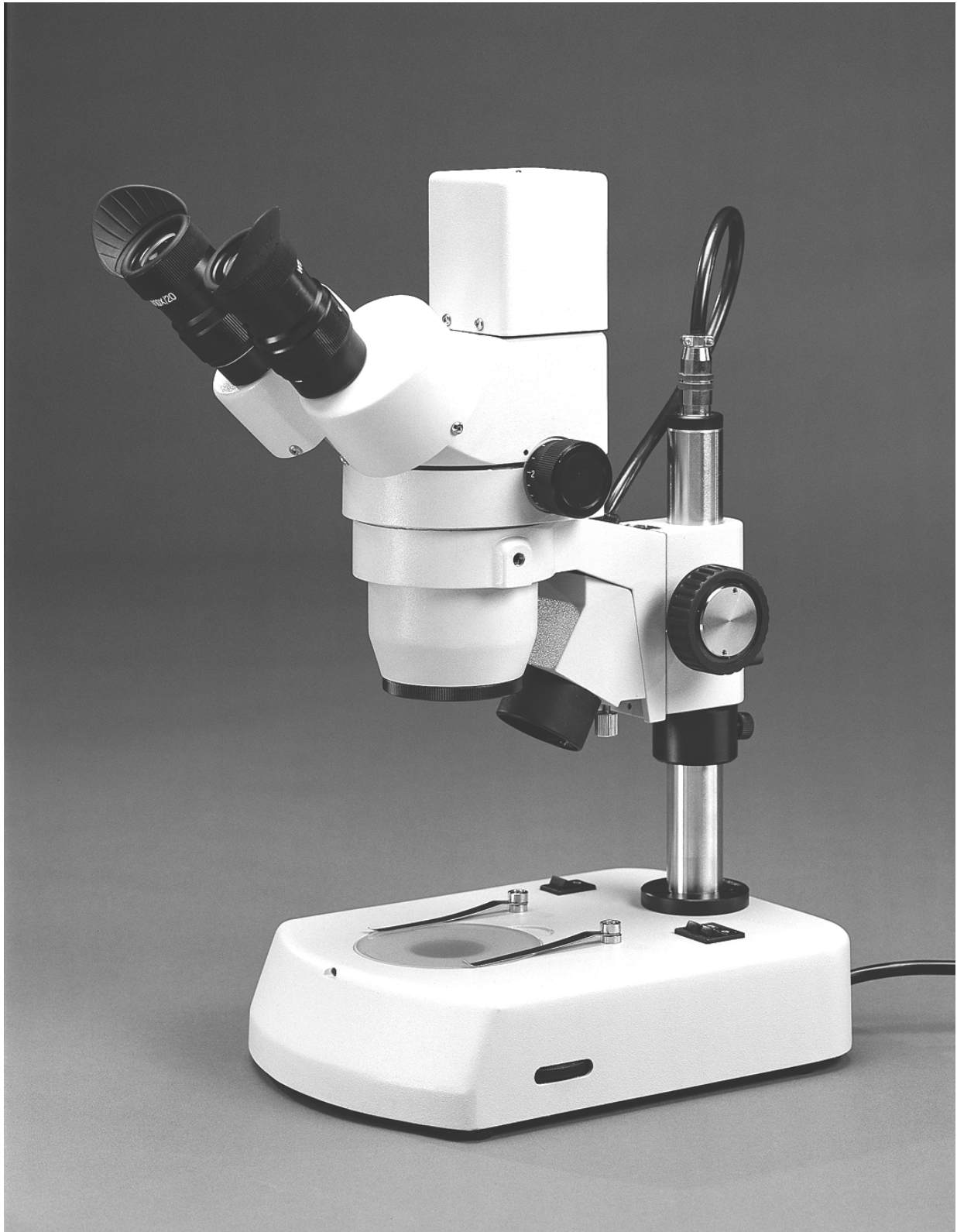
Operating temperature	-50°F to +120°F
Storage temperature	-70°F to +140°F
Relative humidity	40% to 95%

#### CAMERA WARRANTY:

- 1-year limited warranty

#### SOFTWARE WARRANTY:

- 90-day limited warranty.



Distributed by:

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