

2010 | VISION | CAMERAS FOR MICROSCOPY



## COMPANY PROFILE

Dear Colleagues!

West Medica company specializes in manufacturing and distribution of medical and veterinary equipment.

The company was established in 1993. Our market experience through close cooperation with our distributors allows us to produce and deliver high quality products.

The production facility is located in Upper Austria, in Frankenmarkt.

We participate in medical conferences and exhibitions, as well as organize workshops and master classes with leading specialists to provide you with up-to-date information on human and veterinary medicine.

Our wide distribution network allows us to provide our customers with constant product availability and an efficient after-sales service with qualified personnel. They will answer any questions you might have.

Vision software is designed to extend the image analysis possibilities in standard microscopy. In addition to the software a number of cameras for microscopy is offered (from non-complicated video cameras for microscope eyepiece tube to digital cameras for fluorescent microscopes). Software and video cameras are adapted for microscopes of different manufacturers (Leica, Zeiss, Meiji Techno, Olympus, Nikon, etc.).

New developments include software for different applications in medicine.

**Your friendship and trust are very significant to us and our goal is to provide you with high-quality and professional support.**



## CONTENTS

Page	Section
	<b>Premium</b>
04	CAM V2500 digital camera with extra high resolution
05	CAM V2400 digital camera for microscopy in low illumination
06	CAM V2200 digital camera with extra high sensitivity
	<b>Professional</b>
07	CAM V1400 digital camera
08	CAM V1200 digital camera
09	CAM V1100 video camera
	<b>Economy</b>
10	CAM V500 digital camera
11	CAM V400 digital camera
12	CAM V200 digital camera
13	CAM V100 video camera

## CAM V2500 — 32.0 Megapixel

### Premium Digital Camera with Extra High Resolution



- Unique digital camera specially developed for wide application in microscopy
- Revolutionary 32.0 Megapixels extra wide resolution due to special technology
- Resolution selection: 6400x4800t, 4800x3600, 3200x2400, 1600x1200 pixels
- High quality video image on your monitor screen with high frame rate
- Transferring image to PC via high-speed USB 2.0 interface without additional intermediate accessories
- Power supply and camera control via USB 2.0 interface using computer and software
- Manual and automatic exposure and white balance setting for fine color rendering at any lighting
- Easy fixing on trinocular microscope using standard C-mount lock
- Delivery set: camera, USB cable, CD manual, CD drivers

CAM V2500 premium color digital camera, standard set

**CAM V2500C/32.0M**

## Specifications

### Camera sensor

Megapixel Resolution	32.0, 16.0, 8.0, 2.0 M — digital still image: 6464x4864, 4848x3648, 3232x2432, 1616x1216 pixels — digital video resolution: 1616x1216, 1280x1024, 808x608, 640x480 pixels
Image sensor	1/1.8", CCD, sensor stepped movement
Pixel size	4.4x4.4 µm
Output color	color
Frame rate	12 fps at 1616 x1216 pixels
Dynamic range	>66 dB
Digital output	8 and 12-bit
Read noise	12 e-

### Camera controls

Shutter	electronic shutter and single frame capture mode
Exposure time	0.067 ms–2 seconds
Exposure	automatic/manual
White balance	automatic/manual
Gain	1–10x, programmable
Interface connector	standard USB 2.0 high-speed interface
Lens mount	C-Mount
Preview	real-time preview on monitor screen

### Other

Housing	aluminium
Power supply	via USB port or external 5 V DC, 500 mA
Operating temperature	0–50 °C
Operating humidity	5–95 %
Dimensions	98x70x51 mm (LxWxH)
Weight	300 g
Minimal PC system requirements	Windows 2000/XP, Pentium 4, 1.3 GHz or similar, RAM 256 MB, HDD 15 Gb, USB 2.0 port

### Application

Application	<ul style="list-style-type: none"> <li>— biology and medicine: clinical medicine, forensics, cytology, fluorescence, dark field and bright field investigations, polarization light, phase contrast, histology, entomology, botany, neurology, osteology, mycology, biology</li> <li>— industry: materials science, dark field and bright field investigations, polarization light, phase contrast, quality control in industry, electronics, paper industry, polygraphy, metallurgy, mineralogy, fractography, plastics and polymers, various surface coatings, soil investigations, food sciences</li> </ul>
-------------	--

## CAM V2400 — Peltier Cooled CCD

### Premium Digital Camera for Microscopy in Low Illumination



- Premium digital camera specially developed for low-light microscopy and where high dynamic range is required
- Cooled feature reduces thermal noise during low light imaging
- Low noise characteristic CCD image sensor 2/3"
- Available in color or monochrome
- 1.4 Megapixel, resolution: 1392x1040 pixels
- High quality video image on your monitor screen with high frame rate
- Transferring image to PC via high-speed USB 2.0 interface without additional intermediate accessories
- Power supply and camera control via USB 2.0 interface using computer and software
- Manual and automatic exposure and white balance setting for fine color rendering at any lighting
- Easy fixing on trinocular microscope using standard C-mount lock
- Delivery set: camera, USB cable, CD manual, CD drivers

CAM V2400 professional color digital camera, standard set

**CAM V2400CP/1.4M**

CAM V2400 professional monochrome digital camera, standard set

**CAM V2400MP/1.4M**

## Specifications

### Camera sensor

Megapixel	1.4 M
Resolution	1392x1040 pixels
Image sensor	2/3", CCD
Pixel size	6.45x6.45 $\mu\text{m}$
Output color	CAM V2400CP/1.4M: color, CAM V2400MP/1.4M: monochrome
Frame rate	15 fps at 1392x1040
Digital output	8 and 12-bit
Dark Current (e-/s)	0.15 electrons/pixel/s when cooled
Full well capacity	>18,000 electrons
Read noise	8 e-
Cooling type	hermetically sealed and dry gas filled Peltier cooling to 25 °C below ambient

### Camera controls

Shutter	electronic shutter
Exposure time	3.5 $\mu\text{s}$ –20 minutes
Exposure	automatic/manual
White balance	automatic/manual
Gain	1–10x, programmable
Interface connector	standard USB 2.0 high-speed interface
Lens mount	C-Mount
Binning options	2x2, 3x3, 4x4
Preview	real-time preview on monitor screen

### Other

Housing	aluminium
Power supply	via USB port or external 5 V DC, 500 mA
Operating temperature	0–50 °C
Operating humidity	5–95 %
Dimensions	98x89x62 mm (LxWxH)
Weight	400 g
Minimal PC system requirements	Windows 2000/XP, Pentium 4, 1.3 GHz or similar, RAM 256 MB, HDD 15 Gb, USB 2.0 port

### Application

Application	<ul style="list-style-type: none"> <li>— biology and medicine: fluorescence, green fluorescent protein, fluorescent in situ hybridization, DNA analysis, live cell imaging, dark field and bright field investigations, near IR applications, polarization light, phase contrast, histology, entomology, botany, neurology, osteology, mycology, biology, clinical medicine, forensics, cytology</li> <li>— industry: materials science, dark field and bright field investigations, polarization light, phase contrast, quality control in industry, electronics, paper industry, polygraphy, metallurgy, mineralogy, fractography, plastics and polymers, various surface coatings, soil investigations, food sciences</li> </ul>
-------------	---

## CAM V2200

### Premium Digital Camera with Extra High Sensitivity



- Premium digital camera specially developed for use in a wide variety of scientific and industrial applications requiring extreme sensitivity and optimal color reproduction
- CCD image sensor 2/3" with extra high sensitivity
- Available in color or monochrome
- 1.4 Megapixel, resolution: 1392x1040 pixels
- High quality video image on your monitor screen with high frame rate
- Transferring image to PC via high-speed USB 2.0 interface without additional intermediate accessories
- Power supply and camera control via USB 2.0 interface using computer and software
- Manual and automatic exposure and white balance setting for fine color rendering at any lighting
- Easy fixing on trinocular microscope using standard C-mount lock
- Delivery set: camera, USB cable, CD manual, CD drivers

CAM V2200 premium color digital camera, standard set

**CAM V2200C/1.4M**

CAM V2200 premium monochrome digital camera, standard set

**CAM V2200M/1.4M**

## Specifications

### Camera sensor

Megapixel	1.4 M
Resolution	1392x1040 pixels
Image sensor	2/3", CCD
Pixel size	6.45x6.45 $\mu\text{m}$
Output color	— CAM V2200C/1.4M: color — CAM V2200M/1.4M: monochrome
Frame rate	15 fps at 1392x1040
Digital output	8 and 12-bit
Dark Current (e-/s)	2 electrons/pixel/s
Full well capacity	>18,000 electrons
Read noise	8 e-

### Camera controls

Shutter	electronic shutter
Exposure time	3.5 $\mu\text{s}$ –60 seconds
Exposure	automatic/manual
White balance	automatic/manual
Gain	1–10x, programmable
Interface connector	standard USB 2.0 high-speed interface
Lens mount	C-Mount
Binning options	2x2, 3x3, 4x4
Preview	real-time preview on monitor screen

### Other

Housing	aluminium
Power supply	via USB port or external 5 V DC, 500 mA
Operating temperature	0–50 °C
Operating humidity	5–95 %
Dimensions	98x89x62 mm (LxWxH)
Weight	400 g
Minimal PC system requirements	Windows 2000/XP, Pentium 4, 1.3 GHz or similar, RAM 256 MB, HDD 15 Gb, USB 2.0 port

### Application

Application	<ul style="list-style-type: none"> <li>— biology and medicine: fluorescence, green fluorescent protein, fluorescent in situ hybridization, DNA analysis, live cell imaging, dark field and bright field investigations, near IR applications, polarization light, phase contrast, histology, entomology, botany, neurology, osteology, mycology, biology, clinical medicine, forensics, cytology</li> <li>— industry: materials science, dark field and bright field investigations, polarization light, phase contrast, quality control in industry, electronics, paper industry, polygraphy, metallurgy, mineralogy, fractography, plastics and polymers, various surface coatings, soil investigations, food sciences</li> </ul>
-------------	---

## CAM V1400

### Professional Digital Camera



- Professional digital camera specially developed for wide application in microscopy
- The excellent sensitivity and low noise characteristics CCD image sensor 1/1.8"
- Available in color or monochrome
- 2.0 Megapixel, resolution: 1616x1216 pixels
- High quality video image on your monitor screen with high frame rate
- Transferring image to PC via high-speed USB 2.0 interface without additional intermediate accessories
- Power supply and camera control via USB 2.0 interface using computer and software
- Manual and automatic exposure and white balance setting for fine color rendering at any lighting
- Easy fixing on trinocular microscope using standard C-mount lock
- Delivery set: camera, USB cable, CD manual, CD drivers

CAM V1400 professional color digital camera, standard set

**CAM V1400C/2.0M**

CAM V1400 professional monochrome digital camera, standard set

**CAM V1400M/2.0M**

## Specifications

### Camera sensor

Megapixel	2.0 M
Resolution	1616x1216 pixels
Image sensor	1/1.8", CCD
Pixel size	4.4x4.4 μm
Output color	— CAM V1400C/2.0M: color — CAM V1400M/2.0M: monochrome
Frame rate	12 fps at 1616 x1216
Dynamic range	>66 dB
Digital output	8 and 12-bit
Read noise	12 e-

### Camera controls

Shutter	electronic shutter
Exposure time	1/1000–16 seconds
Exposure	automatic/manual
White balance	automatic/manual
Gain	1–10x, programmable
Interface connector	standard USB 2.0 high-speed interface
Lens mount	C-Mount
Binning options	2x2, 4x4
Preview	real-time preview on monitor screen

### Other

Housing	aluminium
Power supply	via USB port or external 5 V DC, 500 mA
Operating temperature	0–50 °C
Operating humidity	5–95 %
Dimensions	98x70x51 mm (LxWxH)
Weight	300 g
Minimal PC system requirements	Windows 2000/XP, Pentium 4, 1.3 GHz or similar, RAM 256 MB, HDD 15 Gb, USB 2.0 port

### Application

Application	<ul style="list-style-type: none"> <li>— biology and medicine: clinical medicine, forensics, cytology, fluorescence, dark field and bright field investigations, polarization light, phase contrast, histology, entomology, botany, neurology, osteology, mycology, biology</li> <li>— industry: materials science, dark field and bright field investigations, polarization light, phase contrast, quality control in industry, electronics, paper industry, polygraphy, metallurgy, mineralogy, fractography, plastics and polymers, various surface coatings, soil investigations, food sciences</li> </ul>
-------------	--

## CAM V1200

### Professional Digital Camera



- Professional digital camera specially developed for wide application in microscopy
- The excellent sensitivity and low noise characteristics CCD image sensor 1/2"
- Available in color or monochrome
- 1.4 Megapixel, resolution: 1392x1040 pixels
- High quality video image on your monitor screen with high frame rate
- Transferring image to PC via high-speed USB 2.0 interface without additional intermediate accessories
- Power supply and camera control via USB 2.0 interface using computer and software
- Manual and automatic exposure and white balance setting for fine color rendering at any lighting
- Easy fixing on trinocular microscope using standard C-mount lock
- Delivery set: camera, USB cable, CD manual, CD drivers incl. software for image capturing

CAM V1200 professional color digital camera, standard set

**CAM V1200C/1.4M**

CAM V1200 professional monochrome digital camera, standard set

**CAM V1200M/1.4M**

## Specifications

### Camera sensor

Megapixel	2.0 M
Resolution	1392x1040 pixels
Image sensor	1/2", CCD
Pixel size	4.65x4.65 µm
Output color	— CAM V1200C/1.4M: color — CAM V1200M/1.4M: monochrome
Frame rate	12 fps at 1616 x1216
Dynamic range	>66 dB
Digital output	8 and 12-bit
Read noise	12 e-

### Camera controls

Shutter	electronic shutter
Exposure time	1/1000–16 seconds
Exposure	automatic/manual
White balance	automatic/manual
Gain	1–10x, programmable
Interface connector	standard USB 2.0 high-speed interface
Lens mount	C-Mount
Binning options	2x2, 3x3, 4x4
Preview	real-time preview on monitor screen

### Other

Housing	aluminium
Power supply	via USB port or external 5 V DC, 500 mA
Operating temperature	0–50 °C
Operating humidity	5–95 %
Dimensions	98x70x51 mm (LxWxH)
Weight	300 g
Minimal PC system requirements	Windows 2000/XP, Pentium 4, 1.3 GHz or similar, RAM 256 MB, HDD 15 Gb, USB 2.0 port

### Application

Application	<ul style="list-style-type: none"> <li>— biology and medicine: clinical medicine, forensics, cytology, fluorescence, dark field and bright field investigations, polarization light, phase contrast, histology, entomology, botany, neurology, osteology, mycology, biology</li> <li>— industry: materials science, dark field and bright field investigations, polarization light, phase contrast, quality control in industry, electronics, paper industry, polygraphy, metallurgy, mineralogy, fractography, plastics and polymers, various surface coatings, soil investigations, food sciences</li> </ul>
-------------	--

## CAM V1100

### Professional Video Camera



- For all trinocular microscopes
- The excellent sensitivity CCD image sensor 1/2"
- Can be connected to TV-set, video monitor or projector via S-Video/RCA input
- Can be connected to PC having image capturing board
- Resolution 480 TVL
- New digital signal processing improves image quality
- Back-Light compensation
- Manual and automatic modes of exposure and white balance
- Sensitivity 0.1 lux at F=1.2

CAM V1100 professional color video camera, standard set

**CAM V1100C/PAL**

## Specifications

### Camera sensor

Resolution	— 480 TVL (S-Video) — 450 TVL (RCA)
Image sensor	1/2", CCD
Output color	color
S/N ratio	50 dB
Sensitivity	0.1 lux at f=1.2
Scanning system	2:1 interlace
Total pixels	811x508 (HxV)
Effective pixels	768x494 (HxV)
Video outputs	— S-Video component — BNC composite

### Camera controls

Shutter	electronic shutter
Exposure time	— fixed: 1/50, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 seconds — el: 1/50–1/100000, 1/120–1/100000 seconds
Exposure	automatic/manual
White balance	ATW (automatic), PWB, MWB (manual), Preset (3200, 4300, 5100, 6300 K)
Lens mount	C-mount
Auto iris control	DC/Video auto iris (switchable)
Back-light compensation	ON/OFF switching
Amplification regulation	— on: HI: 8–36 dB/LO: 8–24 dB — off: 8dB
Gamma correction	0.45/1.0

### Other

Power supply	external 12 V DC
Operating temperature	10–40 °C
Operating humidity	0–95 %
Dimensions	42x42x50.8 mm (LxWxH)
Weight	160 g

### Application

Application	— biology and medicine: clinical medicine, forensics, cytology, fluorescence, dark field and bright field investigations, polarization light, phase contrast, histology, entomology, botany, neurology, osteology, mycology, biology — industry: materials science, dark field and bright field investigations, polarization light, phase contrast, quality control in industry, electronics, paper industry, polygraphy, metallurgy, mineralogy, fractography, plastics and polymers, various surface coatings, soil investigations, food sciences
-------------	--

## CAM V500

### Economy Digital Camera



- For all trinocular microscopes
- High-speed image transferring to PC via USB 2.0 interface without additional intermediate accessories
- USB 2.0 power supply
- 1.5 Megapixel, resolution: 1440x1080 pixels
- Camera control via USB 2.0 interface using PC and software
- Wide viewfield of captured image
- Delivery set: camera, USB cable, CD with manual, CD with drivers incl. software for image capturing

CAM V500 color digital camera, standard set

**CAM V500C/1.5M**

## Specifications

### Camera sensor

Megapixel	1.5 M
Resolution	1440x1080 pixels
Image sensor	1/2.5", CMOS
Pixel size	4.2x4.2 $\mu\text{m}$
Output color	color
Frame rate	15 fps at 1440x1080
Dynamic range	>60 dB
Digital output	8-bit
Read noise	20 e-

### Camera controls

Shutter	electronic shutter
Exposure time	1/1000–3 seconds
Exposure	manual
White balance	manual
Gain	1–3x, programmable
Interface connector	standard USB 2.0 high-speed interface
Lens mount	C-Mount
Preview	real-time preview on monitor screen

### Other

Power supply	via USB port or external 5 V DC, 500 mA
Operating temperature	0–50 °C
Operating humidity	5–95 %
Dimensions	66 mm (diameter), 44 mm (length)
Weight	245 g
Minimal PC system requirements	Windows 2000/XP, Pentium 4, 1.3 GHz or similar, RAM 256 MB, HDD 15 Gb, USB 2.0 port

### Application

Application	clinical laboratory, histology, cytology, pathology, entomology, botany, osteology, metallurgy, geology, quality control in industry, food sciences, education purposes
-------------	---

## CAM V400

### Economy Digital Camera



- For all trinocular microscopes
- High-speed image transferring to PC via USB 2.0 interface without additional intermediate accessories
- USB 2.0 power supply
- 1.3 Megapixel, resolution: 1280x1024 pixels
- Camera control via USB 2.0 interface using PC and software
- Manual and automatic settings for exposure and white balance
- Wide viewfield of captured image
- Delivery set: camera, incl. adapter C-mount/23.2 mm, USB cable, adapter 23.2–30.5 mm for stereo microscopes, CD with manual, CD with drivers

CAM V400 color digital camera, standard set

**CAM V400C/1.3M**

## Specifications

### Camera sensor

Megapixel	1.3 M
Resolution	1280x1024 pixels
Image sensor	1/2", CMOS
Pixel size	5.2x5.2 µm
Output color	color
Frame rate	8 fps
S/N ratio	45 dB
Sensitivity	2.5 lux

### Camera controls

Exposure	automatic/manual
White balance	automatic/manual
Interface connector	standard USB 2.0 high-speed interface
Lens mount	C-mount
Preview	real-time preview on monitor screen

### Other

Power supply	via USB port
Operating temperature	10–40 °C
Operating humidity	0–85 %
Dimensions	65x73x36 mm (LxWxH)
Weight	200 g
Minimal PC system requirements	Windows 2000/XP, Pentium 4, 1.3 GHz or similar, RAM 256 MB, HDD 15 Gb, USB 2.0 port

### Application

Application	clinical laboratory, histology, cytology, pathology, entomology, botany, osteology, metallurgy, geology, quality control in industry, food sciences, education purposes
-------------	---

## CAM V200

### Economy Digital Camera



- Compact digital camera for computer microscopes
- Can be connected to any microscopes with 23.2 mm eyepiece diameter (mono, bino, and trinocular)
- Can be connected to any stereo microscopes with 30.5 mm eyepiece diameter.
- Do not require any special adaptors, to be inserted instead of an eyepiece
- Connection to PC via USB 2.0
- Delivery set: camera with USB cable, adaptor 23.2/30.5 mm for stereo microscopes, CD manual, CD drivers incl. software for image capturing

CAM V200 color digital camera, standard set

**CAM V200C/1.3M**

## Specifications

### Camera sensor

Megapixel	1.3 M
Resolution	1280x1024 pixels
Image sensor	1/3", CMOS
Output color	color
Frame rate	8 fps
Sensitivity	5.0 lux

### Camera controls

Exposure	automatic/manual
White balance	automatic/manual
Interface connector	standard USB 2.0 high-speed interface
Camera mount	eyepiece tube: 23.2 or 30.5 mm diameter (with adaptor)

### Other

Power source	via USB port
Operation temperature	10–40 °C
Operating humidity	0–85 %
Dimensions	32 mm (diameter), 70 mm (length)
Weight	93 g

## CAM V100

### Economy Video Camera



- Compact economy video camera
- Can be connected to any microscopes with 23.2 mm eyepiece diameter (mono, bino, and trinocular)
- Can be connected to any stereo microscopes with 30.5 mm eyepiece diameter.
- Do not require any special adaptors, to be inserted instead of an eyepiece
- Can be connected to TV-set, video monitor or projector via RCA-input
- Delivery set: camera, video cable, adaptor 23.2/30.5 mm for stereo microscopes, mains adaptor, CD manual, CD drivers

CAM V100 color video camera, standard set

**CAM V100C/PAL**

## Specifications

### Camera sensor

Resolution	360 TVL (horizontal)
Image sensor	1/3", CMOS
Output color	color
Sensitivity	5.0 lux

### Camera controls

Exposure	automatic
White balance	automatic
Camera mount	eyepiece tube: 23.2 or 30.5 mm diameter (with adaptor)

### Other

Power source	external 9 V DC
Operation temperature	10–40 °C
Operating humidity	0–85 %
Dimensions	32 mm (diameter), 60 mm (length)
Weight	83 g

# HemaVision Automated Blood Smear Analysis



- **Efficiency**  
You change your working style completely — from manual to automated
- **Simplicity and convenience**  
You work with one system only and do not waste time on manual operations with a microscope
- **Automation**  
Place the specimen on the stage and click «Analysis» button — leucocytes, platelets, reticulocytes and erythrocytes count will be performed automatically

# MorphoVision Automated Morphology Analysis System



- **Efficiency**  
You change your working style completely — from manual to automated
- **Simplicity and convenience**  
You work with one system only and do not waste time on manual operations with a microscope
- **Automation**  
Analysis of morphology, form, labels, optical density, concentration for wide scope of objects, etc.

## WEST MEDICA

WEST MEDICA  
Hegelgasse 19, A-1010,  
Vienna, Austria  
Tel.: +43 (1) 804 81 84  
Fax: +43 (1) 804 81 85  
vienna@westmedica.com

WEST MEDICA  
100 King St. W, Suite 5700,  
Toronto, Ontario, M5X 1C7  
Tel.: +1 (416) 915-4245  
Fax: +1 (416) 915-3177  
toronto@westmedica.com

[www.westmedica.com](http://www.westmedica.com)  
[www.vision-at.com](http://www.vision-at.com)

We reserve the right to change specification without notice.

Rev 1.0/04.2010

Distributor

