



2017 | DIGITAL MICROSCOPY MICROOPTIX | CATALOGUE



### **COMPANY PROFILE**







Dear Colleagues!

West Medica company specializes in manufacturing and distribution of equipment for microscopy.

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

Company's headquarters are located in Perchtoldsdorf near Vienna, Austria. 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 microscopy.

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.

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





### CONTENTS

#	Section
5–14	Basic systems & software
15–44	Digital microscopy systems
45–55	Microscopes & cameras

















### **BASIC SYSTEMS & SOFTWARE**

MX VISION BASIC® SYSTEM

VISION SOFTWARE

### ΜιςκοΟρτίχ

Vision Capture
 Camera



VISIÖN

ΜιςκοΟρτίχ

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### **MX Vision Basic®**

Digital systems for image analysis in microscopy

# MX Vision Basic® Master line



#### MX Vision Basic® / Standard set

System includes: MicroOptix MX 300 (T) microscope, Vision CAM® V009 (C) digital camera, Vision Capture® basic software, personal computer

### MX Vision Basic® / Primary Set

System includes: MicroOptix MX 300 (T) microscope, Vision CAM® V009 (C) digital camera, Vision Capture® basic software. Use your PC\*

#### MX Vision Basic® / Initial Set

System includes: Vision CAM® V009 (C) digital camera, Vision Capture® basic software. Use your PC\* and microscope\*\*

\* Minimal PC requirements: Intel Core i5, 4 GB RAM, 1 TB HDD, Windows 7, Monitor 23", 1920x1080 screen resolution

\*\* Minimal requirements to microscope: trinolcular microscope with C-Mount adapter

# MX Vision Basic® Eco line



#### MX Vision Basic® / Standard set

System includes: MicroOptix MX 100 (T) microscope, Vision CAM® V005 (C) digital camera, Vision Capture® basic software, personal computer

### MX Vision Basic® / Primary Set

System includes: MicroOptix MX 100 (T) microscope, Vision CAM® V005 (C) digital camera, Vision Capture® basic software. Use your PC\*

#### MX Vision Basic® / Initial Set

System includes: Vision CAM<sup>®</sup> V005 (C) digital camera, Vision Capture<sup>®</sup> basic software. Use your PC\* and microscope\*\*

\* Minimal PC requirements: Intel Core i5, 4 GB RAM, 1 TB HDD, Windows 7, Monitor 23", 1920x1080 screen resolution

\*\* Minimal requireme

### Software

### ΜιςκοΟρτίχ

### Add to MX Vision Basic® system the software that you need in your practical work.

















# Visin KO

#### Vision Bio® Album software

- management of digital albums in microscopy

- a professional set of tools to work with digital samples: create, edit, organize, classify and comment

#### Vision Bio<sup>®</sup> Report software

report generation and management of digital albums in microscopy
 a professional set of tools to work with digital samples: create, edit, organize, classify and comment

- embedded examples and report blanks for microscopic analyses

#### Vision Bio® Analyze software

analysis, report generation and management of digital albums in microscopy
 a professional set of tools to work with digital samples: create, edit, organize, classify and comment

embedded examples and report blanks for microscopic analyses
 manual and automatic selection and analysis of the required objects,

determination of sizes, shapes, position, optical parameters of the selected objects

#### Vision Cyto® Basic software

cytological examinations

- a pre-set algorithm for cytology analysis
- a pre-set cytological atlas

#### Vision Sperm Sediment® software

- microscopy and sperm sediment analysis
- algorithm for diagnostics based on cell's morphological markers
- automatic calculation of diagnostic CSS index

#### Vision Sperm<sup>®</sup> software

- microscopy and sperm analysis
- pre-set algorithm of sperm analysis by WHO
- a pre-set semen objects atlas

#### Vision Karyo® software

- chromosome analysis

- automatic separation of crossing over and touching of chromosomes
- an automatic karyotyping with the possibility of manual correction

#### Vision FISH® software

- Fluorescence In Situ Hybridization method
- generation of final image with fluorescent stains
- automatic and manual separation of crossing over and touching chromosomes

#### Vision Capture® software

- saving of digital images

- camera settings management
- saving of photo and video results of microscopic analyses













MX VISION BIO® ANALYZE SYSTEM MX VISION CYTO® SYSTEM VISION SPERM SEDIMENT® SYSTEM MX VISION SPERM® SYSTEM MX VISION KARYOFISH® SYSTEM

DIGITAL MICROSCOPY SYSTEMS

11

### ΜιςκοΟρτίχ



### **MX Vision Bio<sup>®</sup> Analyze**

Analysis in biology and medicine



# MX Vision Bio<sup>®</sup> Analyze Digital microscopy

# Analysis, documentation, organization and reports



### **Digital camera**

High resolution and perfect color rendering deliver superior microscopy sample image quality.



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### Optical system

The combination of innovative technology and classical microscopy extends working possibilities. If necessary, microscopy sample can be viewed through the eyepieces.

### Sample microscopy

Find required object on the microscopy sample in video mode, and capture its digital image.





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### Main toolbar

Basic working tools for managing patient records and analysis results. The toolbar has minimal size to retain space for working with images

### **Digital sample**

Leave your comments directly on the digital sample image. Organization and editing of a virtual sample.



### Image analysis

Classification of analysed objects according to a required criteria and report generation. Analysis results are displayed in the form of histograms, charts and tables.



# Specification

### ΜιςκοΟρτίχ

### MX Vision Bio® Analyze system for analysis in biology and medicine

	General characteristics
Working modes	sample visualization and analysis
Instruments	analysis and classification of elements, calculation of optical and geometric parameters of the selected object, statistics, report generation
Image capture	manual
Method	bright field
Optical system	4x, 10x, 40x, 100x oil
Microscopic slides	standard 75x25 mm, 1.1 mm thick
Database	multiple systems can share one database; archiving of results via transfer to external storage media
Software	<ul> <li>Vision Bio<sup>®</sup> Analyze</li> <li>storage, statistic handling and quick search</li> <li>a professional set of tools to work with digital samples: create, edit, organize, classify and comment</li> <li>analysis report templates. Customizable report reference guide to fit your personal requirements</li> <li>report contains: images, analysis parameter fields, measurement units and reference range</li> <li>calculation of geometric parameters in standard measurement units</li> <li>automated and manual calculation of optical and geometric parameters of a selected object. Tools to create marks and comments on the digital sample</li> <li>automated classification of analyzed objects according to a required criterion and report generation. Analysis results are displayed in the form of histograms, charts and tables</li> </ul>
Options*	dark field, phase contrast, polarization, fluorescence, additional magnifications

\* please mention all options required at a time of ordering

### ΜιςκοΟρτίχ



## MX Vision Cyto®

Cytologist's workplace



# MX Vision Cyto® Digital cytology

# Organization and interpretation of cytological examinations



### Sample microscopy

Find a required object on the cytology sample in video mode, and capture its digital image.

### Simple interface

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The toolbar is designed according to analysis' algorithm and ensures compliance with all procedure stages, thus providing reliable results. The toolbar has minimal size to retain space for working with images.



### A pre-set algorithm for cytology analysis

An irreplaceable assistant offers a standardized algorithm for the cytological examination. Raise the quality of cytological examinations to a new level.

Method of obtaining		12
sector of optimility	Exfoliative	•
Material	Cervical scrapings	•
Localisation Ende	ocervix	•
Quantity	Multicellularity	•
Staining	Azure-eosin (Romanovsky, Pappenheim	•
<ul> <li>Signs of cellular at</li> </ul>	vola	·/
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# Specification

### ΜιςκοΟρτίχ

### MX Vision Cyto® system for cytological analysis

#### **General characteristics**

Working modes	scanning of cytology samples
Simultaneous loading	1 slide
Slide handling	manual, successive
Optical system	4x, 10x, 40x, 100x oil
Validation	according to the pre-set cytology algorithm
Cytological atlas	built-in with the ability to edit
Microscopic slides	standard 75x25 mm, 1.1 mm thick
Communication	bi-directional LIS, LIS2-A2 (ASTM), Ethernet
Multiple user access	4 pre-set types of users: Administrator, Doctor, Technician, Receptionist; new types of users can be added; adjustable access rights for users
Database	multiple systems can share one database; archiving of results via transfer to external storage media
Software	<ul> <li>Vision Cyto* Basic</li> <li>database of patients, digital samples and analysis results</li> <li>patient and analysis registration</li> <li>manual field of view selection</li> <li>a pre-set cytological atlas</li> <li>a pre-set cytological album of diagnosis</li> <li>quick preview, color marks and comments for captured cells in the sample</li> </ul>

- analysis form. Customizable reference guide to generate reports, following your personal requirements
- remote access and network capabilities

### ΜιςκοΟρτίχ



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### **MX Vision Sperm Sediment®**

Sperm sediment analysis



# MX Vision Sperm Sediment<sup>®</sup> Sperm sediment analysis

## Cytological analysis of sperm sediment



Examination

- latent trichomoniasis
- fungal infections
- HPV infections
- disbiosis



A pre-set algorithm for analysis A pre-set algorithm for cytology of sperm sediment analysis of sperm sediment Analysis algorithm for examination based on cell's morphological markers Automatic calculation of CSS (Cytology of Sperm Sediment) index Sample Attributes =2 (≠) Risk indicators for T.vaginalis Telemedicine and remote Macroscopic evaluation of the sample consultations with colleagues Sample background 🛞 Close-grained (x) Granular vitreous O Vitreous Microscopy of the sample Database management p/HPF Inflammatory response evaluation Ceukocytes >3 Leukocytes <3</p> Absent (≠) Related microbiota evaluation Present Polymorphic rod-shaped (≠) Other Abundant small coccal Abundant mixed Leptothrix type bacteria Elements of Candida L-forms of N.gonorhoeae Other protozoa Elements of pathogenic fungus Presence of cells atypical for semen sediment () Present (**≠**) Absent Cells with morphology similar to T.vaginalis

Other atypical cells
 Other atypical cells

Result Interpretation

Notes

Debride type cells

Squamous epithelium cells morphologically similar to coilocytes

Multinucleated cells morphologically similar to Herpes simplex II

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Cells with alterations typical for a virus infection



Combination of modern technology and classical microscopy extends working possibilities

# Specification

### ΜιςκοΟρτίχ

### MX Vision Sperm Sediment® system for analysis of sperm sediment

### **General characteristics**

Working modes	scanning of cytology sperm sediment samples
Simultaneous loading	1 slide
Slide handling	manual, successive
Optical system	4x, 10x, 40x, 100x oil
Validation	according to the pre-set cytology algorithm
Microscopic slides	standard 75x25 mm, 1.1 mm thick
Communication	bi-directional LIS, LIS2-A2 (ASTM), Ethernet
Multiple user access	4 pre-set types of users: Administrator, Doctor, Technician, Receptionist; new types of users can be added; adjustable access rights for users
Database	multiple systems can share one database; archiving of results via transfer to external storage media
Software	<ul> <li>Vision Sperm<sup>®</sup> Sediment <ul> <li>allows to specialists to easily diagnostic latent trichomoniasis, fungal, HPV infections, disbiosis and etc.</li> <li>reported results based on cell's morphological markers</li> <li>automatic calculation of diagnostic CSS index</li> <li>capture of required fields of view</li> <li>creation of cytology sample gallery</li> <li>database for achive managment</li> </ul> </li> </ul>

- remote access and network capabilities

### ΜιςκοΟρτίχ



### **MX Vision Sperm®**

Solution for semen analysis



# MX Vision Sperm<sup>®</sup> Semen microscopy system

# Organization and interpretation of sperm morphology analysis



	Excellent image of sperm samples due to camera with high resolution		<ul> <li>Preset algorithm of sperm analysis by WHO</li> </ul>				
Sample image analysis and classification		Indispensable assis the standardized al	tant offers a res gorithm of speri	searcher m analysis	3.		
•	Semen obje for identific in difficult o	ects atlas ation, espe cases	ecially	Analysis Attributes Duration of Abstinence Interval: Ejaculation – Analysis	2	d	ays 1in.
•	Database a	nd archive	management	Appearance Liquefaction Consistency Viscosity	Normal Normal Normal Normal	• • •	
				Volume		μ	m/sec
				рН	7,2		
				Motility (%)			
				(PR) progressive			%
				(NP) non-progressive			%
		มเตอิต		(IM) immotile			%
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Volume		um/sec		Concentration		^ N	1/ml
pH A ModBity (90)	7,2	_		Total Sperm Number			i/ 1111
- manny.cm				Maarkalaas			
(NP) non-progressive 0		s		▲ <u>iviorphology</u>	15.4		~
(M) immoble		S		ivormai	40.0		70
<ul> <li>Motility (M/mil)</li> </ul>				Head Defects	42,3		76
(PR) progressive		M/mi		Neck or Midpiece Defects	29,3		70
(MP) man-progressive (M) immobile		M/ml M/ml		Tail Defects	24,7		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
E	<u></u>			Cytoplasmic Defects	43,5		76
Velocity Seem Metility Index (SMI)		µm/sec		Functional Sperm Concentrati (FSC)	on		
Applutination		5		Teratozoospermia Index (TZI)			
Aggregation		N		White Blood Cells (WBC)		N	1/ml
	0.0			Red Blood Cells (RBC)		N	1/ml
	0.0	and a star and		Immature Germ Cells			1/ml
				Immunobead / MAR test		%	
				MAR test		%	_
				Pischamister		7	
				▲ <u>biocnemistry</u>			
				Zinc		n	imol/l
				Fructose		m	1mol/l

Zinc	
Fructose	
$\alpha$ -glucosidase neutral	
Citric acid	

U/I mmol/l

# Specification

### ΜιςκοΟρτίχ

### MX Vision Sperm® system for semen analysis

	General characteristics
Working modes	sample visualization and analysis
Instruments	preset algorithm of sperm analysis by WHO; analysis, measurement and classification of semen samples microscopy images; creating reports
Image capture	manual
Method	bright field
Optical system	4x, 10x, 40x, 100x oil
Microscopic slides	standard 75x25 mm, 1.1 mm thick
Database	multiple systems can share one database; archiving of results via transfer to external storage media
Software	<ul> <li>Vision Sperm<sup>®</sup></li> <li>preset algorithm of sperm analysis by WHO</li> <li>analysis, measurement and classification of semen samples microscopy images</li> <li>a professional set of tools to work with digital samples: create, edit, organize, classify and comment</li> <li>storage, statistic handling and quick search</li> </ul>

- remote accesse and network capabilities

### ΜιςκοΟρτίχ



VISIÖN

MicaoOptic

### **MX Vision KaryoFISH®**

Karyotyping and analysis using the FISH method





# **MX Vision KaryoFISH®** Karyotyping of chromosomes

# A modern approach to chromosome analysis, using FISH method

- automatic separation of crossing over and touching chromosomes
- straightening of curved chromosomes
- automatic and manual object selection for measurement
- wide range of karyogram operations
- standard ideograms of different human chromosomal ISCN nomenclatures: 400, 550 or 850
- ideogram generation for future identification of chromosomes
- simultaneous comparison of chromosomes and ideograms
- karyotyping of animal and plant chromosomes



### **Digital camera**

High resolution delivers superior image quality of a metaphase plate microscopy sample. An ultrasensitive camera detects even the weakest of signals.

### **Optical system**

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The combination of innovative technology and classical microscopy extends the working possibilities. If necessary, microscopy sample of a metaphase plate can be viewed through the eyepieces.

### Fluorescence

A fluorescent unit provides a wide range of possibilities of the FISH method application.

### Toolbar

The toolbar is designed according to the analysis' algorithm and ensures compliance with all the stages of the procedure, providing reliable results.

#### Karyotyping 5

An automated karyotyping with the possibility of manual correction.

6

### Final image and pseudocoloring

The final image is generated by combining and pseudocoloring a serie of original monochrome images with different fluorescent stains.



# Specification

	MX Vision KaryoFISH® system for karyotyping and analysis using FISH method		
	General characteristics		
Working modes Instruments	sample visualization and image capture automatic separation of crossing over and of touching chromosomes, straightening of curved chromosomes, automatic and manual object selection for measurement, generation of ideograms for future identification of chromosomes		
Optical system	fluorescence: 10x, 20x, 40x, 100x oil; bright field: 100x		
Microscopic slides	standard 75x25 mm, 1.1 mm thick		
Database	archiving of results via transfer to external storage media		
Software	<ul> <li>Vision Karyo<sup>®</sup> + Vision FISH<sup>®</sup></li> <li>database of digital samples</li> <li>reference guide for ideograms</li> <li>a professional set of tools to work with digital samples of metaphase plates: create, edit, organize, classify and comment</li> <li>karyotyping of human chromosomes, karyotyping of plant and animal chromosomes</li> <li>Fluorescence In Situ Hybridization method (FISH). Identification of specific DNA sequences directly in cytological and histological samples</li> <li>statistics and quick search</li> <li>remote access and network capabilities</li> </ul>		

ΜιςκοΟρτίχ













## MX 100 BIOLOGICAL MICROSCOPE MX 300 BIOLOGICAL MICROSCOPE MX 300 (F) FLUORESCENT MICROSCOPE

**MICROSCOPES & CAMERAS** 

DIGITAL CAMERAS

### MX 100 | Biological microscope

- Compensation binocular/trinocular head
- Quadruple ball-bearing nosepiece
- 4 objectives s-plan achromat: 4x/0,10, 10x/0,25, 40x/0,65, 100x/1,25 (oil)
- Coaxial coarse and calibrated fine focus control
- Built-in LED illumination adjustable 12 V, 3 W
- Double layer specimen stage
- Optical system provided with Anti-Fungus treatment
- Optimal microscope for your laboratory



### Specification

	General characteristics
Magnification	up to 1000x
Head	<ul> <li>— compensation binocular (MX 100) or trinocular (MX 100 T) head</li> <li>— 360° rotatable, 30° inclined, interpupillary distance 55–75 mm</li> </ul>
Eyepiece	WF 10x/18 mm widefield
Microscope body	sturdy metallic base 300x300 mm with supportive rubber feet
Nosepiece	quadruple reverse-angle
Objectives	s-plan achromat: 4x/0.10, 10x/0.25, 40x/0.65 (spring loaded), 100x/1.25 (spring loaded, oil)
Stage	double layer mechanical specimen stage, right handed, 130x140 mm
Abbe condenser	height adjustable, nA 1.25, with integrated iris diaphragm and filter tray
Focusing	<ul> <li>— coaxial coarse and fine focus controls</li> <li>— stage focus control (protection of sample)</li> <li>— tension adjustment</li> </ul>
Light source	LED 12 V, 3 W, adjustable
Power supply	built-in, 220 V, 50 Hz
Fuses	250 V, 2 A
Temperature, humidity	18–35 °C, less than 85 %
Weight	7 kg

### MX 300 | Biological microscope

- Microscope with ICO Infinitive optics
- High resolution optical system
- Quintuple reverse-angle ball-bearing nosepiece
- 5 objectives plan achromat: 4x/0,10, 10x/0,25, 20x/0,40, 40x/0,65, 100x/1,25 (oil)
- Koehler illumination system
- Built-in LED illumination adjustable 12 V, 3 W
- Double layer specimen stage
- Optical system provided with Anti-Fungus treatment
- · Professional microscope for medicine and biology



### Specification

	General characteristics
Magnification	up to 1000x
Head	— infinitive compensation binocular (MX 300) or trinocular (MX 300 T) head, — 360° rotatable, 30° inclined, $\pm 5$ D, interpupillary distance 55–75 mm
Eyepiece	WF 10x/18 mm widefield
Microscope body	sturdy metallic base 300x300 mm with supportive rubber feet
Nosepiece	quintuple reverse-angle
Objectives	objectives plan achromat ICO Infinitive: 4x/0.10, 10x/0.25, 20x/0.40, 40x/0.65 (spring loaded), 100x/1.25 (spring loaded, oil)
Stage	double layer mechanical specimen stage, right handed, 130x140 mm
Abbe condenser	height adjustable, nA 1.25, with integrated iris diaphragm and filter tray
Focusing	<ul> <li>— coaxial coarse and fine focus controls</li> <li>— stage focus control (protection of sample)</li> <li>— tension adjustment</li> </ul>
Collector	Koehler illumination with auxiliary lens, field iris diaphragm and centering mechanism.
Light source	LED 12 V, 3 W, adjustable
Power supply	built-in, 220 V, 50 Hz
Fuses	250 V, 2 A
Temperature, humidity	18–35 °C, less than 85 %
Weight	7 kg

### MX 300 (F) | Fluorescence microscope

- Fluorescence microscope with ICO Infinitive optics
- Ergonomical modern design
- Quintuple reverse-angle ball-bearing nosepiece
- 5 objectives s-plan achromat: 4x/0,10, 10x/0,25, 20x/0,40, 40x/0,65, 100x/1,25 (oil)
- Fluorescence attachment
- Fluorescence illumination system 100 W
- Double layer specimen stage
- Optical system provided with Anti-Fungus treatment
- Perfect microscope for fluorescence



### Specification

### General characteristics

Magnification	up to 1000x		
Head	— infinitive compensation binocular (MX 300 F) or trinocular (MX 300 TF) head — 360° rotatable, 30° inclined, $\pm 5$ D, interpupillary distance 55–75 mm		
Eyepiece	WF 10x/18 mm widefield		
Microscope body	sturdy metallic base 300x300 mm with supportive rubber feet		
Nosepiece	quintuple reverse-angle		
Objectives	plan achromat ICO Infinitive: 4x/0.10, 10x/0.25, 20x/0.40, 40x/0.65 (spring loaded), 100x/1.25 (sprin loaded, oil)		
Stage	double layer mechanical specimen stage, right handed, 135x140 mm		
Abb <sup> </sup>	height adjustable, nA 1.25, with integrated iris diaphragm and filter tray		
Focusing	<ul> <li>— coaxial coarse and fine focus controls</li> <li>— stage focus control (protection of sample)</li> <li>— tension adjustment</li> </ul>		
Collector	Koehler illumination with auxiliary lens, field iris diaphragm and centering mechanism.		
Light source	LED 12 V, 3 W, adjustable		
Power supply	built-in, 220 V, 50 Hz		
Fuses	250 V, 2 A		
Temperature, humidity	18–35 °C, less than 85 %		
Weight	7 kg		
Fluorescence attachment	<ul> <li>for different methods of fluorescence analysis in microscopy</li> <li>exciting light: 350–550 nm</li> <li>fluorescence: 420–650 nm</li> <li>the light-filter system of main body: 2 exciting filters, double direction dichroic mirror, 2 cut-off filters</li> <li>filter blocks: V (blue), G (green), O (transmitted light)</li> <li>exciting filters (EX): (V) EX490, (G) EX545</li> <li>bidirectional dichroic mirror: DM510, DM580</li> <li>cut-off filters (VA): VA530, VA590</li> <li>protective screen</li> <li>HBO 100 W mercury lamp</li> <li>power supply 220 V, 50 Hz</li> </ul>		

### **Digital cameras**

			visión
	CAM® V005 (C)	CAM <sup>®</sup> V009 (C)	CAM* V1200S (M)
Application	bright field microscopy	bright field microscopy	fluorescence microscopy and karyotyping
Megapixel	5.0 M	9.0 M	1.4 M
Resolution	2592x1944	3488x2616	1392x1040
Sensor	1/2,5", CCD	1/2,3", CCD	1/2", CCD
Output color	color	color	monochrome
Frame rate	6 fps	2 fps	15 fps
Exposure time	10 µs – 32 ms	10 µs – 32 ms	1/1000 – 16 s
Connection interface	USB 2.0	USB 2.0	USB 2.0
Objective mount	C-mount	C-mount	C-mount
Housing	aluminium	aluminium	aluminium
Power supply	via USB port	via USB port	via USB port or external 5 V DC
Screen size	_	_	_

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### ΜιςκοΟρτίχ



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