

**Motic**<sup>®</sup>

MORE THAN MICROSCOPY



**RED**

LINE

REVOLUTIONARY EDUCATIONAL DESIGN



**RED**  
LINE

The RED-Line is a self-confident statement in microscope hardware. Motic, as an experienced manufacturer of microscopes, has listened carefully to the special demands of the educational market. Unexperienced users will need reliable and easy-to-use instruments with repeatable image results to take their first steps into the “world of small things”. Taking these special requirements into consideration, this catalogue presents a complete new line of biological and stereo microscopes. New illumination technologies and further clever ideas with focus on young users have been implemented to make microscopic teaching more simple and effective.



# REVOLUTIONARY EDUCATIONAL DESIGN



Once again Motic with its RED-Line strides ahead of the competition by offering quality instruments for a limited budget. Our 10-Year Limited Warranty is supported by a complete parts inventory that assures availability even beyond the warranty period. A Motic microscope is therefore a solid investment that will pay off with years of hassle-free and effective work.

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# RED100 SERIES

THE RED100 SERIES REPRESENTS THE IDEAL MICROSCOPE LINE FOR PRIMARY, SECONDARY AND HIGH SCHOOL STUDENTS





Student dedication of the RED100 Series starts with the microscope head. Depending on budget and teaching situation, monocular, dual-view or binocular options are available. For easy storage in a cabinet, the eyepiece tubes may be rotated 180°. The fixation by a countersunk screw prevents inadmissible removal by students.

The well positioned focus controls can easily be found by following the curves of the microscope stand. A relaxed seating position allows an intuitive evaluation of the sample by the coaxial coarse/fine focus mechanism. The convenient carrying handle on the back of the stand simplifies storage or just transport.

The optics of a microscope of course is the most important component for an instructive teaching. Motic supplies his RED100 Series with high quality EA objectives; Achromats with good colour reproduction, contrast and a time saving field flatness: flat samples like sections or smears can be evaluated fast and efficiently. The reversed positioning of the nosepiece gives good space for placing or exchanging the glass slides, avoiding the risk of damaging the sample or the objectives.

The standard WF10X/18mm eyepieces work perfectly fine with the EA Achromats. In binocular packages, diopter adjustment is possible on the left eyepiece tube. An eyepiece pointer is integral part of any RED100 package, allowing the teacher to point out regions of interest to the student. In order to prevent un-authorized removal, again countersunk screws fix the eyepieces and help to keep the equipment complete.

All RED100 microscopes incorporate a cordless LED illumination. Especially in educational environments, LEDs display several advantages over the traditional halogen bulbs: extended life time (>10.000 hours), no heat development (improved user safety), low power consumption (one single charge provides 70 hours of use) and a modern sensation of colour without corrective blue filter.

# RED100 SERIES

- > Gliding stage with “One touch” sample clips or Mechanical stage with sample holder
- > High quality EA objectives
- > LED illumination



RED100

RED101

RED120



**NOSEPIECE**

Triple	•	•	
Quadruple			•

**STAGE**

Gliding	•	•	
Mechanical			•

**FOCUSING SYSTEM**

Coarse & fine	•	•	•
Coaxial			•



RED130

RED131

RED132



**NOSEPIECE**

Triple

•

•

•

Quadruple

•

•

•

•

**STAGE**

Gliding

•

•

•

Mechanical

•

•

•

**FOCUSING SYSTEM**

Coarse & fine

•

•

•

Coaxial

## SPECIFICATIONS

RED100 | RED101 | RED120 | RED130 | RED131 | RED132

	RED100	RED101	RED120	RED130	RED131	RED132
<b>Optical System</b>						
Finite optical system, 160mm	●	●	●	●	●	●
<b>Observation Tube</b>						
Monocular	●		●	●		
Dual view monocular		●			●	
Binocular Siedentopf type						●
<b>Inclination</b>						
45° inclined, 360° rotating	●		●	●		
30° inclined and vertical, 360° rotating		●			●	
30° inclined, 360° rotating						●
<b>Interpupillary distance</b>						
55-75mm						●
<b>Diopter adjustment</b>						
On the left tube , +/- 5 diopter						●
<b>Eyepieces</b>						
WF10X/18mm with pointer, lockable	●	●	●	●	●	●
<b>Nosepiece</b>						
Reversed triple revolving nosepiece with click stops	●	●				
Reversed quadruple revolving nosepiece with click stops			●	●	●	●
<b>EA Achromatic Objectives (DIN)</b>						
4X/0.10, 10X/0.25, 40X/0.65/S	●	●				
4X/0.10, 10X/0.25, 40X/0.65/S, 100X/1.25/S-Oil			●	●	●	●
<b>Stage</b>						
Gliding stage with “one-touch” sample clips	●	●				
Built-in low position coaxial mechanical stage with sample holder and 77 x 25mm X/Y travel range			●	●	●	●
<b>Stage size</b>						
110mm x 110mm	●	●				
120mm x 120mm			●	●	●	●
<b>Condenser</b>						
Built-in 0.65 N.A. condenser with iris diaphragm	●	●				
Spiral mounted 1.25 N.A. Abbe condenser with iris diaphragm			●	●	●	●
<b>Focus mechanism</b>						
Separated coarse and fine focusing system with tension adjustment	●	●	●			
Coaxial coarse and fine focusing system with tension adjustment				●	●	●
<b>Fine focus precision</b>						
2µm minimum increment	●	●	●	●	●	●
<b>Z-axis movement</b>						
7mm			●	●	●	●
13mm	●	●				
<b>Illumination</b>						
Battery/Cordless LED 20mA, 3.5V, 70mW with intensity control	●	●	●	●	●	●



**EYEPIECES (PER PIECE)**

Huygens eyepiece H5X/14.5mm  
Widefield eyepiece WF10X/18mm  
Widefield eyepiece WF15X/12mm  
Widefield eyepiece WF20X/11mm

**MICROMETER EYEPIECES**

Micrometer eyepiece WF10X/18mm, 100 divisions in 10mm and crosshair

**RETICLES**

Reticle with 100 divisions in 10mm and crosshair (Ø19mm)  
Reticle holder for 18mm eyepiece

**ACHROMATIC OBJECTIVES - EA**

Achromatic objective EA 4X/0.10  
Achromatic objective EA 10X/0.25  
Achromatic objective EA 20X/0.40  
Achromatic objective EA 40X/0.65/S  
Achromatic objective EA 60X/0.85/S  
Achromatic objective EA 100X/1.25/S - Oil

**ACHROMATIC OBJECTIVES, LOCKABLE**

Achromatic objective 4X/0.10  
Achromatic objective 10X/0.25  
Achromatic objective 40X/0.65/S  
Achromatic objective 100X/1.25/S - Oil

**SPARE PARTS**

Dust cover (size B)  
Aluminium box  
Immersion oil 5ml

**SPARE BULBS**

LED 20mA, 3.5V, 70mW

# RED200 SERIES

THE RED200 SERIES IS DESIGNED FOR ADVANCED BIOLOGY STUDENTS,  
TEACHERS AND LAB TECHNICIANS





The RED200 Series features the comfortable Siedentopf head concept with an interpupillary distance from 55-75mm. To compensate sight defects, the left eyetube allows a diopter adjustment of +/- 5 dpt.

The advanced level of the RED200 Series is also underlined by the large and heavy microscope body which ensures better stability, especially when adapting a camera. The large coaxial focusing controls are easily accessible; the fine focus drive has a minimum increment of 2µm for smooth and precise focusing “through” the sample. The cord-hanger at the back of the microscope helps in case of transport or storage, just wind up the cable.

The RED200 Series also displays an improved level of optical performance. Motic's Semi-Plan (SP) objectives deliver a supreme contrast with crisp and clear images over a large field of view (20mm). All microscopes come with a set of 4X, 10X, 40X and 100X/Oil objectives to cover the regular magnification range. No need to say that 40X and 100X-Oil objectives come with an integrated spring mechanism, preventing damage to the front lens and specimen in case of unexperienced users.

To transform your microscope into a presentation station for teaching purposes, a trinocular microscope version is recommended. The RED223 and RED233 packages already include an 0.5X c-mount for the simple adaption of a digital camera.

# RED200 SERIES

- > High precision Coaxial focusing controls
- > New Semi-Plan objectives
- > Koehler illumination
- > Intensity control adjustment



RED211

RED220



## CONDENSER

Focusable



Focusable and centrable

## ILLUMINATION

3W LED



Koehler 3W LED





RED223



RED230



RED233



**CONDENSER**

Focusable

Focusable and centrable

**ILLUMINATION**

3W LED

Koehler 3W LED

•

•

•

•

•

•

## SPECIFICATIONS

RED211 | RED220 | RED223 | RED230 | RED233

	RED211	RED220	RED223	RED230	RED233
<b>Optical System</b>					
Finite optical system, 160mm	●	●	●	●	●
<b>Observation Tube</b>					
Monocular	●				
Binocular Siedentopf type		●		●	
Trinocular Siedentopf type (0,5X c-mount adapter included)			●		●
<b>Inclination</b>					
30° inclined, 360° rotating	●	●	●	●	●
<b>Interpupillary distance</b>					
55-75mm		●	●	●	●
<b>Diopter adjustment</b>					
On the left tube , +/- 5 diopter		●	●	●	●
<b>Eyepieces</b>					
WF10X/20mm	●	●	●	●	●
<b>Nosepiece</b>					
Reversed quadruple revolving nosepiece with click stops	●	●	●	●	●
<b>Achromatic Semi-Plan objectives - SP</b>					
4X/0.10, 10X/0.25, 40X/0.65/S, 100X/1.25/S-Oil	●	●	●	●	●
<b>Stage</b>					
Built-in low position coaxial mechanical stage with sample holder and 77 x 50mm X/Y travel range	●	●	●	●	●
<b>Stage size</b>					
140mm x 135mm	●	●	●	●	●
<b>Condenser</b>					
Spiral mounted 1.25 N.A. Abbe condenser with iris diaphragm	●	●	●		
Focusable and centerable 1.25 N.A. Abbe condenser with iris diaphragm				●	●
<b>Focus mechanism</b>					
Coaxial coarse and fine focusing system with tension adjustment	●	●	●	●	●
<b>Fine focus precision</b>					
2µm minimum increment	●	●	●	●	●
<b>Z-axis movement</b>					
13mm	●	●	●		
19mm				●	●
<b>Illumination</b>					
LED 3W with intensity control	●	●	●		
LED 3W Koehler illumination with intensity control				●	●

**EYEPIECES (PER PIECE)**

Huygens eyepiece H5X/14.5mm  
 Widefield eyepiece WF10X/20mm  
 Widefield eyepiece WF15X/12mm  
 Widefield eyepiece WF20X/11mm

**MICROMETER EYEPIECES**

Micrometer eyepiece WF10X/20mm, 100 divisions in 10mm and crosshair

**RETICLES**

Reticle with 100 divisions in 10mm and crosshair (Ø21mm)  
 Reticle holder for 20mm eyepiece

**ACHROMATIC SEMI-PLAN OBJECTIVES - SP**

Achromatic Semi-Plan objective SP 4X/0.10 (WD=17mm)  
 Achromatic Semi-Plan objective SP 10X/0.25 (WD=6.4mm)  
 Achromatic Semi-Plan objective SP 20X/0.40 (WD=0.73mm)  
 Achromatic Semi-Plan objective SP 40X/0.65/S (WD=0.45mm)  
 Achromatic Semi-Plan objective SP 60X/0.85/S (WD=0.1mm)  
 Achromatic Semi-Plan objective SP 100X/1.25/S-Oil (WD=0.14mm)

**PLAN ACHROMATIC OBJECTIVES - PL**

Plan achromatic objective PL 4X/0.10 (WD=17mm)  
 Plan achromatic objective PL 10X/0.25 (WD=1.5mm)  
 Plan achromatic objective PL 20X/0.40 (WD=0.55mm)  
 Plan achromatic objective PL 40X/0.65/S (WD=0.4mm)  
 Plan achromatic objective PL 60X/0.85/S (WD=0.1mm)  
 Plan achromatic objective PL 100X/1.25/S - Oil (WD=0.15mm)

**POLARIZING SET**

Polarizing set B.209NT  
 Rotating table

**PHOTO AND C-MOUNT CAMERA ADAPTERS**

0.5X C-mount camera adapter for 1/3" and 1/2" chip sensors  
 0.65X C-mount camera adapter for 2/3" chip sensors  
 1X C-mount camera adapter (no lens)  
 Photo adapter (requires one of the photo eyepieces below)  
 2.5X photo eyepiece (to be used with Photo adapter)  
 4X photo eyepiece (to be used with Photo adapter)

**SPARE PARTS**

Eyecups (pair)  
 Dust cover (size C)  
 Immersion oil 5ml  
 Aluminium box  
 Cord hanger (pair)

**SPARE BULBS**

LED light assembly 3W

# RED30 SERIES

A STEREO MICROSCOPE SERIES OF SUPERB PERFORMANCE; IDEAL FOR FIRST STEPS INTO THE WORLD OF MICROSCOPY







Stereo microscopes have got the best preconditions for an easy access to microscopy. No need for sample preparation, just take a flower from the school garden or an insect from the window bench. Low magnifications allow the student to understand the next smaller dimension step, an upright image helps in orientation.

Motic's RED30S implements a 2-step magnification changer for both sample overview and detail information. A more convenient approach is presented by the 1:3 zoom optics of the RED39Z. Both stereos come with incident and transmitted LED illumination for bright, white and even illumination. All advantages of LED illumination can be found here: bright light, long lifetime, no heat development for the safety of user and living samples.

The transmitted light is implemented in a large microscope base with a minimum height: an easy and convenient manipulation of the sample is possible as the hands may rest on the table top. The microscope base is completely sealed to protect the illuminator from liquids that might be spilled. Fresh water samples can easily be evaluated without any risk. In case of checking a glass slide, Motic's "one-touch" sample clips help to fix the specimen.

The incident light is dedicated to non-transparent samples like minerals, fossils or plants. As incident and transmitted light can be regulated independently, illumination can be optimized for each specific sample. The cordless concept of the LED illumination with rechargeable batteries is ideal for field work activities; the large carrying handle as well as the light construction of the instrument suits even younger students.

Motics RED-Line stereo microscopes have combined reliable mechanics, superb optics and a user-friendly LED illumination. A fine combination that will deliver impressive image results for an enjoyable start into science.

# RED30 SERIES

- > User-friendly design
- > Integrated LED illumination
- > Carrying handle for easy transportation



RED30S



RED39Z

## OBSERVATION TUBE

Binocular 45° inclined

•

Binocular 45° inclined, 180° rotating

•

## OBJECTIVE SYSTEM

Turret magnification changer (2X, 4X)

•

3:1 zoom ratio (1X-3X)

•



**SPECIFICATIONS**
**RED30S | RED39Z**

	RED30S	RED39Z
<b>Optical System</b>		
Greenough	●	●
<b>Observation Tube</b>		
Binocular head	●	●
<b>Inclination</b>		
45° inclined	●	
45° inclined, 180° rotating		●
<b>Interpupillary distance</b>		
52-69mm	●	
51-77mm		●
<b>Diopter adjustment</b>		
On left tube , +/- 5 diopter	●	
On both tubes , +/- 5 diopter		●
<b>Objectives system</b>		
Turret changer with LED incident illumination	●	
Zoom, ratio 3:1		●
<b>Objectives magnification</b>		
2X - 4X	●	
1X ~ 3X		●
<b>Working distance</b>		
50mm	●	
60mm		●
<b>Stand</b>		
Fixed arm type stand	●	●
<b>Base</b>		
225 x 179mm	●	●
<b>Column/Arm</b>		
200mm high	●	
202mm high		●
<b>Head holder</b>		
Fixed	●	
For Ø66mm stereo head with LED incident illumination		●
<b>Focus mechanism</b>		
Coarse focusing system with tension adjustment	●	●
<b>Focusing stroke</b>		
46mm		●
47mm	●	
<b>Incident illumination</b>		
Battery/Cordless LED 3.5V / 100mW with intensity control	●	●
<b>Transmitted illumination</b>		
Battery/Cordless LED 3.5V / 100mW with intensity control	●	●



**EYEPIECES (PER PIECE)**

Widefield eyepiece WF5X/22mm  
Widefield eyepiece WF10X/20mm  
Widefield eyepiece WF15X/13mm  
Widefield eyepiece WF20X/10mm  
Widefield eyepiece WF30X/8mm

**MICROMETER EYEPIECES**

Micrometer eyepiece WF10X/20mm, 140 divisions in 14mm and crosshair  
Micrometer eyepiece WF10X/20mm, 70 divisions in 14mm  
Micrometer eyepiece WF10X/20mm, 360° protractor with 1° divisions and crosshair  
Micrometer eyepiece WF10X/20mm, 100 divisions in 10mm

**RETICLES**

Reticle with 140 divisions in 14mm and crosshair (Ø23mm)  
Reticle with 70 divisions in 14mm (Ø23mm)  
Reticle with 360° protractor with 1° divisions and crosshair (Ø23mm)  
Reticle with 100 divisions in 10mm (Ø23mm)

**SPARE PARTS**

White stage plate, Ø 50mm  
Black stage plate, Ø 50mm  
Frosted stage plate, Ø 50mm  
Dust cover (size B)  
Eyecups (pair)  
Cord hanger (pair)  
Aluminium box

**SPARE BULBS**

LED Assembly top light for RED30S  
LED Assembly top light for RED39Z  
LED Assembly bottom light

# MOTICAM SERIES

EXCELLENT LIVE IMAGES FOR TEACHING AND CLASSROOM WORK





The individual situation in a classroom may be unique. To share positive image results nevertheless is a common teaching task. The combination of a RED-Line microscope with a member of the Moticam Series enables to display and to share excellent live images for presentations and discussions. The camera package also includes the easy-to-use Motic Images Plus 2.0 software which allows to save still images and to record videos, as well as many other edition options. Living samples thus can be evaluated in an appropriate way.

For a group work approach in classrooms, we have two options with Wi-Fi data transfer that may suit perfectly. The Moticam X, which allows the access of multiple tablets or computers, so one microscope as imaging source is sufficient to feed up to 6 student devices with images for homework; or the Moticam X2 which is the advanced version. The difference is that the Moticam X2 has its own battery, and it allows you to integrate it to your own network either via Wi-Fi or via Ethernet cable, allowing more users to be connected. Capture, edit and share your images with our free App MotiConnect.

Adapting a Moticam to your microscope is quite easy: the eyepiece adapters allow to use even a monocular model as an image source. Trinocular RED-Line microscopes already come with the necessary c-mount adapter for the photo port.

Discover the possibilities and benefits of connecting a Moticam camera onto your RED-Line microscope. Multiply your teaching options, improve teaching efficiency!

**Our Moticam selection suitable for you**



**Looking for more?**

Ask for our complete Moticam range of cameras

# MOTICAM S2 & T2



MONITOR YOUR PROGRESS WITH THESE TOUCH SCREEN TABLET CAMERAS AND CONVERT YOUR MICROSCOPE INTO A STANDALONE DIGITAL MICROSCOPE SYSTEM; WITHOUT THE NEED OF A COMPUTER



## S2 & T2 TABLET CAMERAS

Share the microscope experience with others around you - teachers or students - by easily mounting these tablet cameras on your microscope, and make your microscopy experience unique.

7" (Moticam S2) or 10.1" (Moticam T2) multi-touch screen tablet that run on Android operating system, and pre-loaded with Moticonnect T APP that allows to wirelessly share images with others via Bluetooth, Wi-Fi and HDMI connection.

In just one click you will be able to capture high-quality images, measure and edit them as well as record HD videos. All it takes is a touch of your finger!





# RED50X WI-FI DIGITAL MICROSCOPE

BASIC MICROSCOPE WITH INTEGRATED WI-FI CAMERA OF 1.3MP, WILL MAKE YOUR LESSONS INTERACTIVE AND ENJOYABLE



<b>Optical System</b>	Finite optical system, 160mm
<b>Observation Tube</b>	Monocular with built in digital X type Wi-Fi camera
<b>Inclination</b>	30° inclined, 360° rotating
<b>Camera sensor</b>	CMOS 1/3" - 1.3MP - 1280 x 1024 pixels
<b>Output</b>	Wi-Fi transmission up to 1.3MP
<b>Eyepieces</b>	WF10X/18mm
<b>Nosepiece</b>	Reversed triple revolving nosepiece with click stops
<b>Objective classification</b>	Achromatic objectives, DIN
<b>Objectives</b>	4X/0.10, 10X/0.25, 40X/0.65/S - Lockable
<b>Objective mounting thread</b>	W 4/5"x1/36" (RMS standard)
<b>Stage</b>	Gliding stage with "one-touch" sample holder
<b>Stage size</b>	Ø105mm
<b>Condenser</b>	Built in 0.65 N.A. with disc diaphragm
<b>Focus mechanism</b>	Coarse focusing system
<b>Z-axis movement</b>	8mm
<b>Illumination</b>	LED 20mA, 3.5V, 70mW with intensity control
<b>Power supply</b>	Charger 100V/240V (CE) and rechargeable batteries



# Motic®

Canada | China | Germany | Spain | USA



[www.moticeurope.com](http://www.moticeurope.com)

EN | ES | FR | DE | IT | PT

**Motic Instruments Inc. (Canada)**

130 - 4611 Viking Way, Richmond, BC V6V 2K9 Canada  
Tel: 1-877-977 4717 | Fax: 1-604-303 9043

**Motic Deutschland GmbH (Germany)**

Christian-Kremp-Strasse 11, D-35578 Wetzlar, Germany  
Tel: 49-6441-210 010 Fax: 49-6441-210 0122

**Motic Hong Kong Limited (Hong Kong)**

Rm 2907-8, Windsor House, 311 Gloucester Road, Causeway Bay, Hong Kong  
Tel: 852-2837 0888 | Fax: 852-2882 2792

**Motic Spain, S.L. (Spain)**

Polígono Industrial Les Corts, Camí del Mig, 112 08349 Cabrera de Mar, Barcelona, Spain  
Tel: 34-93-756 6286 | Fax: 34-93-756 6287

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Design Change: The manufacturer reserves the right to make changes in instrument design in accordance with scientific and mechanical progress, without notice and without obligation.

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