

**Motic®**

MORE THAN MICROSCOPY



**RED**  
LINE

Revolutionary  
Educational  
Design

Canada  
China  
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**M**otic was established in 1988 as a hi-tech industrial enterprise specialized in manufacturing conventional compound microscopes. Owned by Speed Fair Co., Ltd, the company has grown into a global brand with sales offices in Canada, Germany, Hong Kong, Spain and the United States.

Our manufacturing base in China consists of four wholly-owned factories with **Motic** Xiamen acting as the production and design headquarters of the company. Xiamen's Research and Development centre has over 100 professional engineers and technicians covering optical, mechanical, industrial, electronic and software design.

Today, **Motic's** dedicated team members of more than 2000 individuals are ready to assist you in finding competitive solutions.



# MOTIC

## Aim for the FUTURE

During the late 1990s, the company started to explore and develop affordable digital microscopy solutions consisting of imaging hardware and application software. This has proven to be a worthwhile investment turning **Motic** into one of the leading brand names of digital microscopy products.

The main goal of **Motic** remains the same today as it was when the company was founded. The brand **Motic** stands for

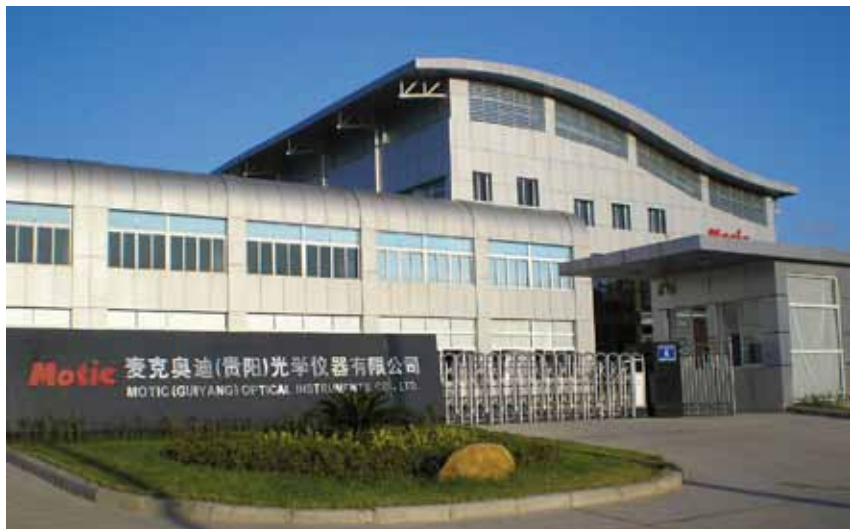
**Excellent Price-Performance**

**Innovative Technology**

**Superb Quality**

**Friendly Customer Service**

**Motic** is a certified **ISO9001**, **ISO14001** and **ISO13485** company.



*Your Motic Team*

**RED**  
LINE  
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Design





The Motic **RED**-Line is the result of years of global market investigation. Therefore what you will find in this catalogue are the market's latest requirements, innovations and technologies. As an experienced manufacturer of microscopes, Motic has managed to present to you a complete new line of biological and stereo microscopes with a slight touch of the company color: **RED**.

Red does not only stand for our passion for microscopes, but it also represents:

**REVOLUTIONARY  
EDUCATIONAL  
DESIGN**

*One thing is certain, after reading this catalogue you will never settle for less!*

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GOINGgreen



### WARRANTY

The brand **Motic** assures that you are purchasing a quality instrument that has been thoroughly inspected and adjusted by our trained technicians and backed by the company's dedication to your complete satisfaction. Our 5-Year Limited Warranty is supported by a complete parts inventory that assures availability even beyond the warranty period. We are aware that the selection of a microscope of any type requires careful consideration of several factors and not only the price. A **Motic** microscope is therefore a solid investment, that will pay off with years of hassle-free and quality work.



Motic warrants all microscopes to be free from defects in material and workmanship under normal use and service for 5 years from date of purchase. For electrical and electronic parts 2 years from date of purchase. It does not cover damage resulting from abuse or misuse, repairs or alterations performed by others than authorized repair technicians of **Motic** or damage occurring in transit. Any modification, even only parts of the instrument or Serial N°, will automatically cancel this warranty. Warranty does not cover bulbs and fuses.

### Series

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**Body** Its stable body has **comfortable and well positioned focusing controls**, helping the student to become familiar with the use of the microscope. There is no need for the students to remove their eyes from the viewing tube to check where the controls are positioned; they simply have to follow the curves of the microscope stand.

The curves also lead to the convenient **carrying handle** of the stand. Place your hand on either side of the microscope stand, and you will notice how comfortable it is to carry it around. The stand has been designed to have enough space for student size hands as well as teacher's, without touching the objectives.

**Head** The head of the microscope (monocular, dual-view or binocular) is 360° rotatable and fixed to the body with a hexagonal screw which cannot be removed without using the corresponding key. This will prevent inadmissible removal by students.

**The RED-100 Series represents the ideal microscope line for primary, secondary and high school students.**

**Optics** Besides the intelligent design of the microscope, Motic has also given lots of thought to the optical parts.

First of all we want to ensure that the RED-100 Series is equipped with **high quality objectives**; that's why we decided to fit the complete range with our famous high quality EA objectives. This objective series stands for good colour reproduction, contrast, good field flatness and easy to read magnification shells.

Another thing worth pointing out, is that the nosepiece of the microscope is placed in a reversed position to prevent any damage to the front lenses of the objectives. This feature makes the sample slides more accessible and therefore easy to remove and place.

Last but not least, all RED-100 microscopes come with a Wide Field WF10X/18mm eyepiece which includes a pointer. The eyepiece is fixed in the eyetube, preventing un-authorised removal by students.

**Illumination** All RED-100 series microscopes incorporate cordless **LED illumination**, which has many advantages over the traditional used halogen bulbs:

**Bright white and even light**  
**No heat; safe to touch**  
**Lower power consumption**  
**Long bulb life time; >10.000 hours**  
**One single charge provides 70 hours of use**  
**No corrective blue filter required**

Of course all microscopes have intensity control adjustment!





# RED100



“One-touch”  
is all  
it takes

## RED100

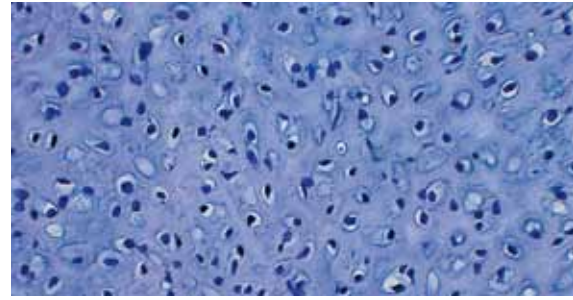
- Monocular head, 45° inclined, 360° rotating
- Widefield eyepiece WF10X/18mm, with built-in pointer
- Reverse mounted, triple revolving nosepiece
- Achromatic objectives EA 4X, 10X, 40X S
- Coarse and fine focusing system with tension adjustment
- Gliding Stage with built-in 0.65 N.A. condenser and one-touch sample clips
- Iris diaphragm
- Cordless LED illumination with intensity control





**The ideal microscope to explore the world of microscopy.** The sample is easily placed by using the “one-touch” sample clips, simply place one finger at the back of the sample clip and both clamps will lift to accept the slide. The **gliding stage** allows the students to gradually move the specimen in different directions, preventing big shifts from side to side.

The **RED-101** is exactly the same model as the **RED-100**, but with an additional vertical viewing tube. It can be used by a co-observer or to fit a **Moticam** camera for capturing images.



# RED101

- Dual view monocular head, 45° inclined, 360° rotating
- Widefield eyepieces WF10X/18mm, with built-in pointer
- Reverse mounted, triple revolving nosepiece
- Achromatic objectives EA 4X, 10X, 40X S
- Coarse and fine focusing system with tension adjustment
- Gliding Stage with built-in 0.65 N.A. condenser and one-touch sample clips
- Iris diaphragm
- Cordless LED illumination with intensity control





# Position with precision

## RED120

- Monocular head, 45° inclined, 360° rotating
- Widefield eyepiece WF10X/18mm, with built-in pointer
- Reverse mounted, quadruple revolving nosepiece
- Achromatic objectives EA 4X, 10X, 40X S, 100X S-Oil
- Coarse and fine focusing system with tension adjustment
- Built-in low position coaxial mechanical stage
- Spiral mounted 1.25 N.A. Abbe condenser with iris diaphragm
- Cordless LED illumination with intensity control



**The integrated mechanical stage** allows the sample to be moved accurately in the X and Y direction. The possibility of moving the sample around with great precision will be even more appreciated when using the included 100X-Oil objective. This means that a total magnification of 1000X can be reached.



# Coarse and Fine focus united; coaxial focus

The **coaxial focusing controls** ensure a perfectly focused image, without having to switch the position of your hands. Your left hand will remain at the focusing control, while the right hand can move the sample's position when needed.

## RED130 / 131

- Monocular head, 45° inclined, 360° rotating (RED-130)
- Dual view monocular head, 45° inclined, 360° rotating (RED-131)
- Widefield eyepiece WF10X/18mm, with built-in pointer
- Reverse mounted, quadruple revolving nosepiece
- Achromatic objectives EA 4X, 10X, 40X S, 100X S-Oil
- Coaxial coarse and fine focusing system
- Built-in low position coaxial mechanical stage
- Spiral mounted 1.25 N.A. Abbe condenser with iris diaphragm
- Cordless LED illumination with intensity control







## RED132

- Binocular head, 30° inclined, 360° rotating
- Widefield eyepieces WF10X/18mm, one with built-in pointer
- Reverse mounted, quadruple revolving nosepiece
- Achromatic objectives EA 4X, 10X, 40X S, 100X S-Oil
- Coaxial coarse and fine focusing system
- Built-in low position coaxial mechanical stage
- Spiral mounted 1.25 N.A. Abbe condenser with iris diaphragm
- Cordless LED illumination with intensity control



**Body** The large and heavy body ensures stability and prevents any distortion of unwanted movements while observing the sample.

The **large coaxial focusing controls** are easily accessible and of high precision. The fine focus is calibrated and has an accuracy of 2µm.

When it is needed to carry the microscope to a different area or perhaps a storage place, the cable can be wound up at the back of the microscope onto the cord-hanger. The microscope can be easily carried around, via the stand from the backside.

**The RED-200 Series is designed for advanced biology students, teachers, professors, doctors and lab technicians.**



**Optics** For the RED-200 Series, Motic is also using its finest optics. The **Achromatic Super Contrast (ASC) objectives** are known for their high quality and supreme contrast. Crisp clear images will be produced over a 20mm field of view.

All microscopes come with the ASC 4X, 10X, 40X and 100X/Oil objectives. The 40X and 100X-Oil objectives come with an integrated spring mechanism, preventing damage to the front lens and specimen in case of direct contact.

**Viewing tubes** The RED-200 Series features the comfortable Siedentopf head with an interpupillary distance adjustment that ranges from 55-75mm. On the left eyetube the diopter can be adjusted.

To turn your conventional microscope into a **digital microscope** (either now or in the future), it is advisable to purchase the trinocular version. With the RED-200 Trinocular microscopes Motic includes a c-mount adapter at no additional costs. Simply choose a Moticam; plug & play!

The RED-200 Series also has a wide variety of optics to choose from. For example a complete series of Plan Achromatic objectives and Phase contrast objectives.

**Flexibility and quality, all in one Series!**



**RED200**



# The new standard

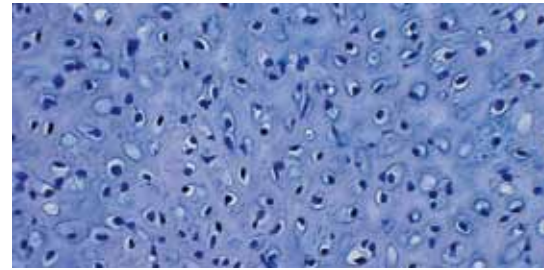
## RED220

- Binocular head Siedentopf type, 30° inclined, 360° rotating
- Widefield eyepieces WF10X/20mm
- Reverse mounted, quadruple revolving nosepiece
- Achromatic Super Contrast objectives ASC 4X, 10X, 40X S, 100X S-Oil
- Coaxial coarse and fine focusing system with tension adjustment
- Built-in low position coaxial mechanical stage
- Focusable Abbe condenser N.A. 1.25 with iris diaphragm
- LED illumination 3W with intensity control





Every aspect of these microscopes contributes to make your daily work easier. The ergonomical shape of the stand and the Siedentopf head, enables fatigue-free viewing for many hours. The trinocular version allows the connection of a MotiCam by using the corresponding c-mount adapter, which is supplied with the microscope.



## RED223

- Trinocular head Siedentopf type, 30° inclined, 360° rotating
- Widefield eyepieces WF10X/20mm
- Reverse mounted, quadruple revolving nosepiece
- Achromatic Super Contrast objectives ASC 4X, 10X, 40X S, 100X S-Oil
- Coaxial coarse and fine focusing system with tension adjustment
- Built-in low position coaxial mechanical stage
- Focusable Abbe condenser N.A. 1.25 with iris diaphragm
- LED illumination 3W with intensity control
- 0,5X c-mount adapter included





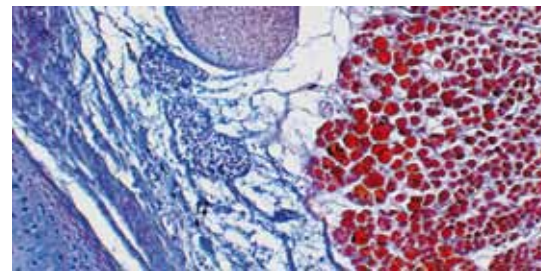
# Köhler: reveal the tiniest details

## RED230

- Binocular head Siedentopf type, 30° inclined, 360° rotating
- Widefield eyepieces WF10X/20mm
- Reverse mounted, quadruple revolving nosepiece
- Achromatic Super Contrast objectives ASC 4X, 10X, 40X S, 100X S-Oil
- Coaxial coarse and fine focusing system with tension adjustment
- Built-in low position coaxial mechanical stage
- Focusable and centrabale Abbe condenser N.A. 1.25 with iris diaphragm
- Köhler LED illumination 3W with intensity control



Setting up the light path of the **RED-230/233** following the **Köhler** principle, reveals the true power of these microscopes. You can obtain an even illuminated field of view, while the specimen is perceived with **superb contrast**.



## RED233

- Trinocular head Siedentopf type, 30° inclined, 360° rotating
- Widefield eyepieces WF10X/20mm
- Reverse mounted, quadruple revolving nosepiece
- Achromatic Super Contrast objectives ASC 4X, 10X, 40X S, 100X S-Oil
- Coaxial coarse and fine focusing system with tension adjustment
- Built-in low position coaxial mechanical stage
- Focusable and centrable Abbe condenser N.A. 1.25 with iris diaphragm
- Köhler LED illumination 3W with intensity control
- 0,5X c-mount adapter included





## RED100 Accessories

### **Eyepieces (per piece)**

Huygens eyepiece H5X/14.5mm  
Widefield eyepiece WF10X/18mm  
Widefield eyepiece WF15X/12mm  
Huygens eyepiece H15X/8mm  
Widefield eyepiece WF20X/11mm

### **Micrometer eyepieces (per piece)**

Micrometer eyepiece WF10X/18mm,  
100 divisions in 10mm  
Reticle 19mm (for 18mm eyepiece),  
100 divisions in 10mm  
Reticle holder

### **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



**Eyepieces (per piece)**

Huygens eyepiece H5X/14.5mm

Widefield eyepiece WF10X/20mm

Widefield eyepiece WF15X/12mm

Widefield eyepiece WF20X/11mm

**Micrometer eyepieces (per piece)**

Micrometer eyepiece WF10X/20mm,

100 divisions in 10mm

Reticle 100 divisions in 10mm, for 20mm eyepiece

Reticle holder



# RED200 Accessories

**Achromatic Super Contrast objectives - ASC**

Achromatic super contrast objective ASC  
4X/0.10 (WD=17mm)

Achromatic super contrast objective ASC  
10X/0.25 (WD=6.4mm)

Achromatic super contrast objective ASC  
20X/0.40 (WD=0.73mm)

Achromatic super contrast objective ASC  
40X/0.65/S (WD=0.45mm)

Achromatic super contrast objective ASC  
60X/0.85/S (WD=0.10mm)

Achromatic super contrast objective ASC  
100X/1.25/S-Oil (WD=0.14mm)

**Plan objectives PL**

Plan objective PL 4X/0.10 (WD=17mm)

Plan objective PL 10X/0.25 (WD=1.5mm)

Plan objective PL 20X/0.40 (WD=0.55mm)

Plan objective PL 40X/0.65/S (WD=0.4mm)

Plan objective PL 60X/0.85/S (WD=0.10mm)

Plan objective PL 100X/1.25/S - Oil  
(WD=0.15mm)

**Polarising Set**

Polarising set B.209

**Spare parts**

Dust cover (size C)

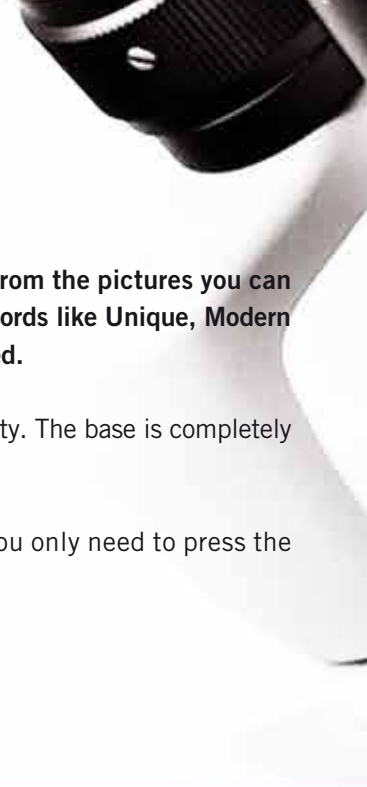
Aluminium box

Immersion oil 5ml

Cord hanger (pair)

**Spare bulbs**

LED Assembly 3W



In total there are 3 different stereo microscopes available in the new RED Line. From the pictures you can already tell that these stereo microscopes are nothing like the traditional models. Words like **Unique**, **Modern** and **User-friendly** define perfectly Motic's aim when this new line was being designed.

**Unique** No other stereo microscope stand can be compared either in design or quality. The base is completely sealed to protect the illuminator from liquids that might be spilled.

All stereo microscopes come with the unique Motic "**one-touch**" sample clips. You only need to press the sample clip with one finger, and both clamps will lift.

Words like **Unique**, **Modern** and **User-friendly** define perfectly Motic's aim when this new line was being designed.

**Modern** This doesn't just apply to the design of the microscope; all the **latest innovations and features** are also implemented.

All stereo microscopes are fully equipped with incident and transmitted **LED illumination** for bright, white and even illumination. Of course let's not forget the other benefits of LED illumination like cold light, low power consumption and the long life span of the LED. The RED-20-S and RED-30-S can also be used **cordless** by utilizing the rechargeable batteries.

**User-friendly** The base has a large working area, allowing large samples to be placed. The height of the base has been kept to a minimum in order to place and manipulate the sample easily.

Moreover the design allows you to easily store the microscope. All stereomicroscopes include a **carrying handle for easy transportation**.

The stereo microscopes are very light and therefore ideal for field work.

As with all optics and mechanics designed by Motic, you can expect **superb quality** that will withstand the daily work in educational environments and laboratories.

A general rule in stereo microscopy is that good illumination is crucial and weighs heavily on the determination of the total quality of the microscope. For the RED Line stereo microscopes, Motic has given special attention to the illumination system. As previously mentioned, we have integrated **LED illumination** on all microscopes. A big advantage of these microscopes is that both the incident and the transmitted illumination have independent intensity control. This allows you to optimize the illumination for each specific sample.

In any case, receiving the maximum information from your sample will also depend on the optical performance, mechanical reliability and illumination adjustments of the microscope. **The RED Line stereo microscopes have it all!**



# RED Stereo

# Macro-scopic good!

The **RED-20-S** incorporates a **removable objective** with built-in LED's for direct incident illumination from the objective.

In total there are 4 different objectives available:

1X, 2X (standard), 3X and 4X.



## RED20-S

- Binocular head, 45° inclined, with interpupillary adjustment
- Widefield eyepieces WF10X/20mm, with diopter adjustment on left side
- Objective 2X with integrated LED illumination
- Coarse focusing system with tension adjustment
- Base with fixed arm, one-touch sample clips and carrying handle
- Incident and transmitted rechargeable LED illumination with independent intensity control
- Black, white and frosted stage plates







# Resourceful stereo microscopes for both inexperienced and advanced users

## RED30-S

- Binocular head, 45° inclined, with interpupillary adjustment
- Widefield eyepieces WF10X/20mm, with diopter adjustment on left side
- Objective turret magnification changer (2X, 4X) with built-in LED illumination
- Coarse focusing system with tension adjustment
- Base with fixed arm, one-touch sample clips and carrying handle
- Incident and transmitted rechargeable LED illumination with independent intensity control
- Black, white and frosted stage plates



The turret objective of the **RED-30-S** has a **magnification of 2X and 4X**, therefore covering most requirements in the educational market. The ease of use allows younger students to explore the magical world of microscopy, while the optics and features of the microscopes are perfectly suitable for more advanced users.

For more demanding applications the **RED-39-Z** is the solution. With a **zoom objective of 1X to 3X** and the standard 10X eyepiece, you can magnify your specimen from 10X to 30X and any point in between.



## RED39-Z

- Binocular head, 45° inclined, 360° rotating, with interpupillary adjustment
- Widefield eyepieces WF10X/20mm, with diopter adjustment on left side
- 3:1 zoom ratio; magnification range: 1X-3X
- Coarse focusing system with tension adjustment
- Base with fixed arm, one touch sample clips and carrying handle
- Incident and transmitted corded LED illumination with independent intensity control
- Black, white and frosted stage plates





## RED20-S Accessories

### **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 (per piece)**

Graduated linear line and plain cross hair,  
 point=0.1mm/14mm  
 (Widefield eyepiece WF10X/20mm)  
 Graduated linear line, point=0.2mm/14mm  
 (Widefield 10X/20mm)  
 360° Protactor, 30° increments (Widefield  
 10X/20mm)  
 Graduated linear line and double cross hair,  
 point=0.1mm/10mm  
 (Widefield eyepiece WF10X/20mm)

### **Objectives**

Objective 1X  
 Objective 2X  
 Objective 3X  
 Objective 4X

### **Spare parts**

White stage plate 50mm  
 Black stage plate 50mm  
 Frosted stage plate 50mm  
 Dustcover (size B)  
 Eyecups (pair)  
 Aluminium box

### **Spare bulbs**

LED Assembly top light  
 LED Assembly bottom light

**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 (per piece)**

Graduated linear line and plain cross hair,  
point=0.1mm/14mm  
(Widefield eyepiece WF10X/20mm)  
Graduated linear line, point=0.2mm/14mm  
(Widefield 10X/20mm)



## RED30-S Accessories

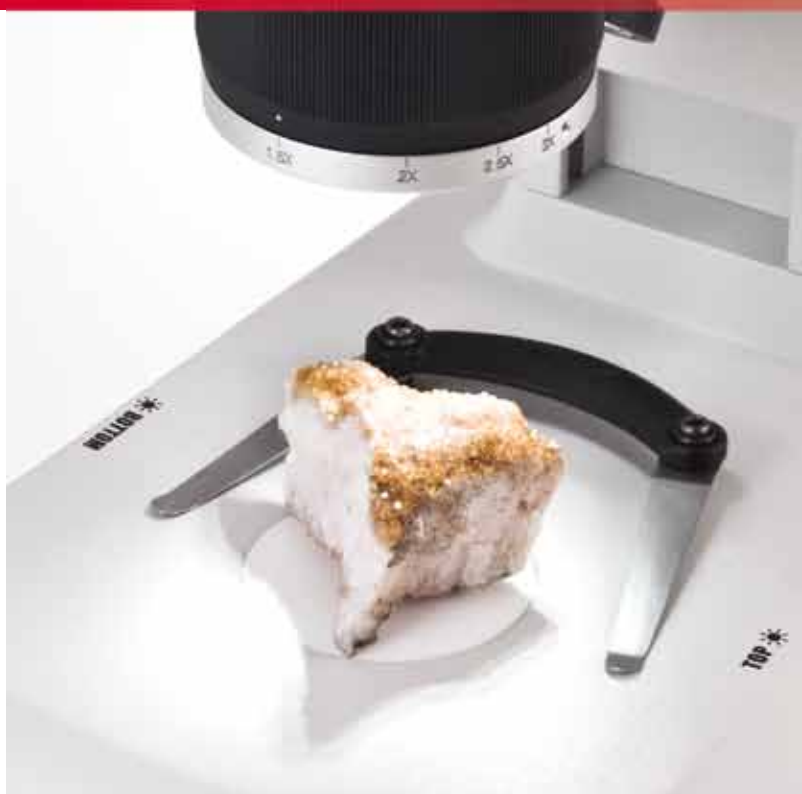
360° Protactor, 30° increments (Widefield  
10X/20mm)  
Graduated linear line and double cross hair,  
point=0.1mm/10mm  
(Widefield eyepiece WF10X/20mm)

**Spare parts**

White stage plate 50mm  
Black stage plate 50mm  
Frosted stage plate 50mm  
Dustcover (size B)  
Eyecups (pair)  
Aluminium box

**Spare bulbs**

LED Assembly top light  
LED Assembly bottom light







# **RED** LINE Revolutionary Educational Design

MOTIC,  
MORE THAN MICROSCOPY

GOINGgreen



As mentioned in the introduction, Motic has done its very best to present to you the **latest developments in microscopy** following the demands of the market.

Motic does not have the desire to merely manufacture fine-looking microscopes. Our philosophy is to provide **quality products** that incorporate the **latest technology** and **excellent price-performance**.

The **RED-Line** is sold exclusively through authorized Motic distributors, ensuring the best possible service.

*Your Motic Team*

# Motic®

Canada | China | Germany | Spain | USA

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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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