

# **QBC<sup>®</sup> ParaLens** *Advance*

**Upgrade  
your light  
microscope  
with LED  
Fluorescence**



 **QBC<sup>®</sup> Europe**  
A Division of Woodley Equipment Company Ltd

# See a New World with LED Fluorescence Microscopy



The ParaLens Advance, an innovative new microscope attachment from QBC Diagnostics, will open your eyes to the worlds of research and clinical applications possible only through LED fluorescence microscopy. Its unique, patent-pending design distinguishes it from conventional fluorescence microscopes with features that deliver unrivaled simplicity and convenience:

## ■ Upgrade Any Light Microscope

The ParaLens Advance can be used with any compound light microscope, with no need to invest in unnecessary new equipment. It easily attaches as an objective, with a detachable filter set arm that allows users to change between objectives whenever necessary.

## ■ Durable, Bright LED Light Source

The durable ParaLens Advance LED light source has an average life of 20,000 hours and a rugged design that can withstand any environment. The LED light is as bright as a 100 Watt mercury vapor bulb, providing clarity during sample review even in direct sunlight.

## ■ Multiple Power Options

The ParaLens Advance light source can be powered by any outlet with the included AC to DC power pack, or anywhere else with the addition of portable power options such as the ParaLens Advance Portability Pack or the QBC Mobile Power Station.

## ■ Custom Designed for User Needs

The ParaLens Advance is available in multiple configurations for users with specific clinical or research interests, including tuberculosis or malaria detection. Contact the experts at [ParalensAdvance@qbcdiag.com](mailto:ParalensAdvance@qbcdiag.com) to determine the ideal configuration for your needs.

With all of these features and more, the ParaLens Advance makes it easier than ever to see the world of benefits possible with LED fluorescence microscopy.



# How It Works



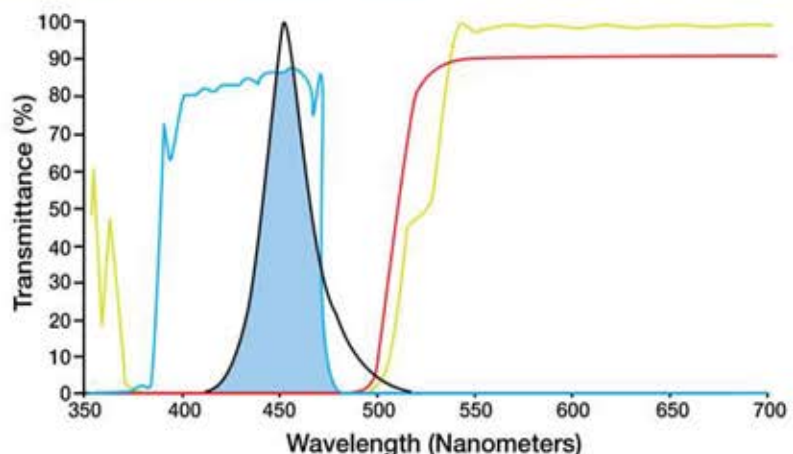
## Unrivaled Design

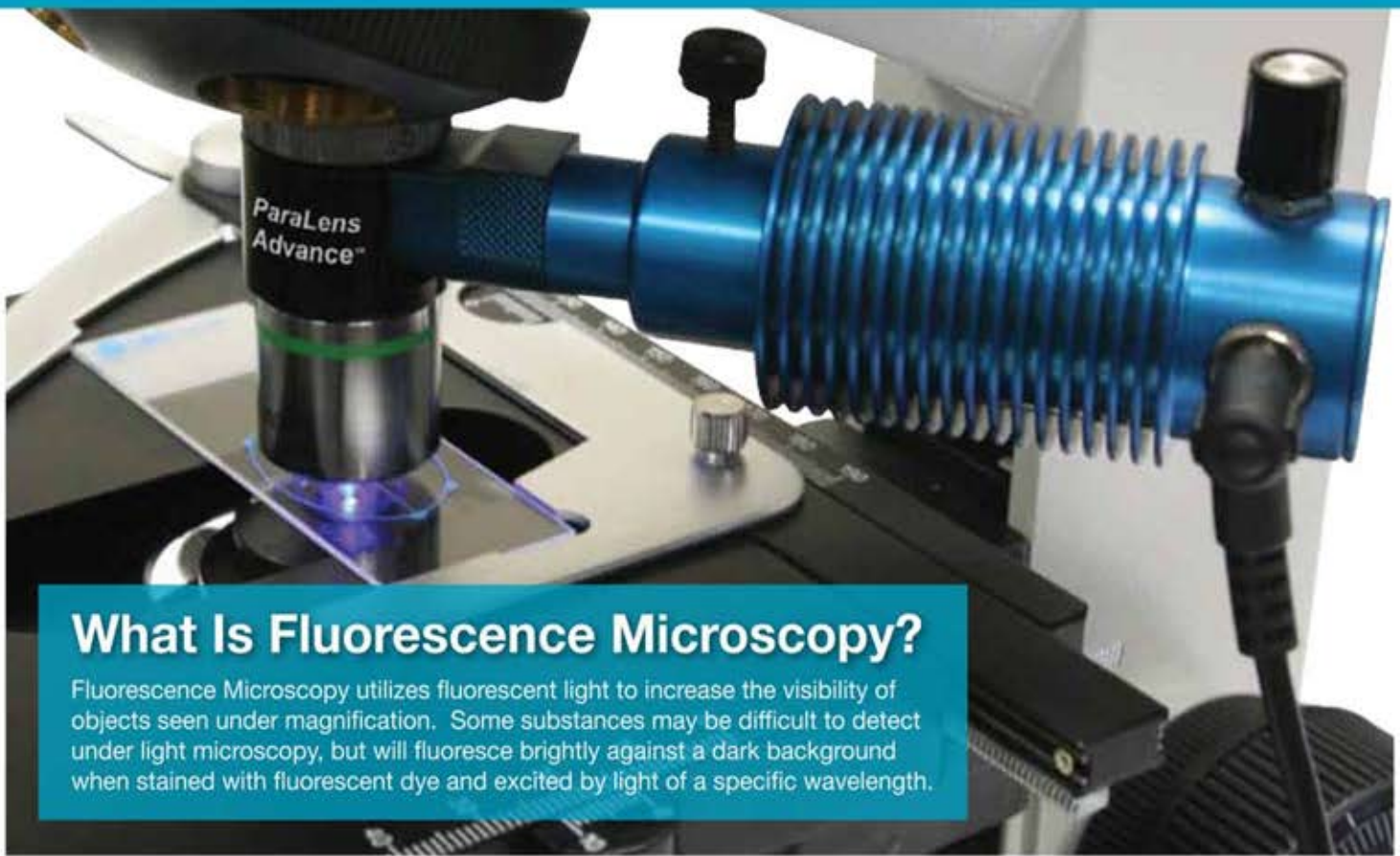
The ParaLens Advance delivers its benefits through its patent-pending design, illustrated to the left.

- 1. RMS Threading:** Standard RMS threading ensures that the ParaLens Advance can attach to any compound light microscopes. (Note: Adapter rings available for non-standard sizes.)
- 2. Detachable Filter Arm:** The ParaLens Advance filter set arm contains all filters necessary for fluorescence microscopy. The arm slides into the main body of the ParaLens Advance and is held into place through a pair of powerful magnets.
- 3. LED Light Source (not shown):** The ParaLens Advance's blue LED light source attaches to the filter set arm, emitting blue light with a 410-511 nm wavelength.
- 4. Focusing Lens:** This lens focuses the LED light and passes it through to the excitation filter.
- 5. Excitation Filter:** The excitation filter allows only light in the 385-480 nm range to pass.
- 6. Dichroic Beam Splitter:** The beam splitter reflects blue light through the objective to the sample. It then allows emitted light from the sample to pass through directly to the viewer.
- 7. Objective:** The ParaLens Advance is currently available with four high-quality objective strengths: 20x (Dry), 40x (Dry), 60x (Oil), and 100x (Oil).
- 8. Emission Filter:** This filter reduces background noise and optimizes the fluorescence signal.

## Spectral Profile

-  **Excitation Filter**  
385-480
-  **Dichroic Filter**  
510
-  **Emission Filter**  
480
-  **Light Output**  
410-511
-  **Excitation Output**  
410-480





## What Is Fluorescence Microscopy?

Fluorescence Microscopy utilizes fluorescent light to increase the visibility of objects seen under magnification. Some substances may be difficult to detect under light microscopy, but will fluoresce brightly against a dark background when stained with fluorescent dye and excited by light of a specific wavelength.

## Where Can It Be Used?

Fluorescence Microscopy can be used for numerous research, analytical, and clinical applications.

Of particular interest is its potential impact in the detection of diseases that plague many parts of the world, as discussed to the right:



### Tuberculosis

The World Health Organization recommends the use of LED fluorescence microscopy for the detection of tuberculosis Acid Fast Bacilli (AFB) in sputum samples treated with Auramine O stain.<sup>1</sup>

The ParaLens Advance with 20x and 40x Objectives works with QBC F.A.S.T. (Fluorescence And Staining Technologies) AFB Kits to meet this requirement, providing unmatched clarity and speed in AFB detection.



F.A.S.T. AFB Kits

### Parasitology

The ParaLens Advance with 60x Objective is designed to work with the QBC Malaria Test, a capillary blood tube coated with fluorescent acridine orange stain, for the detection of paras.

The QBC Test provides sensitivity 5.5 to 7 percent greater than Giemsa thick films in parasite detection, with just a fraction of the preparation and review time.<sup>2,3</sup>



QBC Malaria Test

### Other Diseases

In addition to tuberculosis and malaria, the ParaLens Advance can be used to screen for numerous other diseases, including: filariasis, babesiosis, trypanosomiasis, blastocystis, relapsing fever, Lyme disease, leptospirosis, Trichomonas vaginalis, giardiasis, cryptosporidiosis, visceral leishmaniasis, and pneumococemia.<sup>4</sup>

# Portable Power



# ParaLens Advance Specifications

*(ParaLens Advance with 20x/40x, 60x or 100x Objectives, in case)*

**Dimensions** W 12" x D 3.9" x H 8.3"  
(30.5 cm x 9.9 cm x 21.1 cm)

**Weight** 3.1 lb (1.41 kg)

*(ParaLens Advance Complete Fluorescence System with Portability Pack, in case)*

**Dimensions** W 18.5" x D 4.8" x H 15"  
(47.0 cm x 12.2 cm x 38.1 cm)

**Weight** 7.7 lb (3.48 kg)

## Ordering Information

QBC ParaLens Advance with 20x and 40x Objectives	424330
QBC ParaLens Advance with 60x Objective	424331
QBC ParaLens Advance with 100x Objective	424332
QBC ParaLens Advance Complete Fluorescence System with Portability Pack	424333
QBC ParaLens Advance Microscope Accessory	424294

## References

1. World Health Organization Website, 2010. Web. 1 Dec. 2010. ([http://www.who.int/tb/laboratory/who\\_policy\\_led\\_microscopy\\_july10.pdf](http://www.who.int/tb/laboratory/who_policy_led_microscopy_july10.pdf))
2. Bentio, A.; Roche, J.; Molina, R.; Amela, C; Alavar, J. (1994): Application and Evaluation of QBC Malaria Diagnosis in a Holoendemic Area. *Applied Parasitology*. Vol. 35: 266-272.
3. Oloo, A.; Ondijo, S.; Genga, I.; Boriga, D.; Owaga, M.; Ngare, D.; Gathecha, E. (1994): Evaluation of the QBC Method to Detect Malaria Infections in Field Surveys. *East African Medical Journal*. Vol. 71, No. 5.
4. References available upon request from QBC Diagnostics.

The ParaLens Advance has been designed for easy portability, with power options that allow it to be used anywhere:

### Portability Pack Accessories

ParaLens Advance Portability Pack accessories provide multiple alternative power options for the LED light source, including a solar battery, a USB cable, 12-volt battery clips, and a cigarette lighter adapter. These accessories are available separately, or packaged together in a durable plastic case.

### QBC Mobile Power Station

The QBC Mobile Power Station can power the ParaLens Advance, the QBC Capillary Centrifuge, or any other products requiring a steady remote power source. The Mobile Power Station has a rechargeable 22 Amp-Hour battery and multiple AC and DC inputs, along with other convenient features.



# QBC® ParaLens Advance

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