SmartMicroOptics S.r.l.
SMO—US Corp.

DIPLE

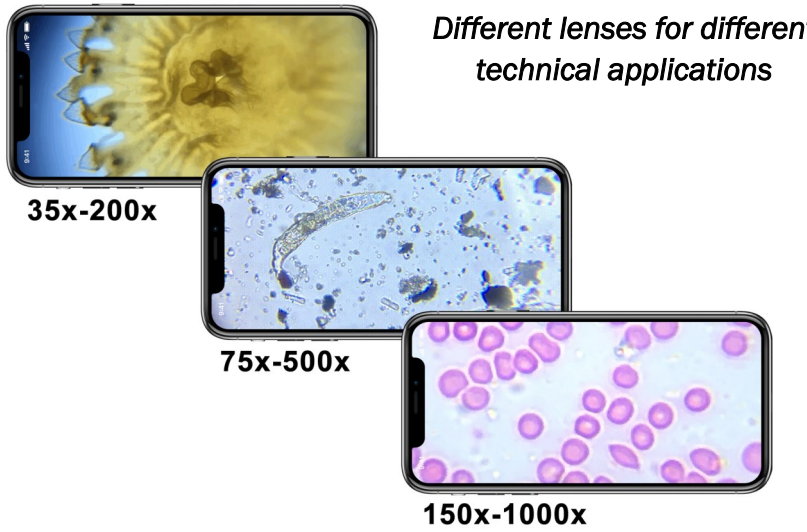
DIPLE RGF/BF

Who we are

SmartMicroOptics S.r.l. *is a spin-off of of the Italian Institute of Technology (IIT). It was founded in 2016 with the mission to provide everyone with the tools to explore the micro-world. SMO-US Corp. is its subsidiary in the US.*

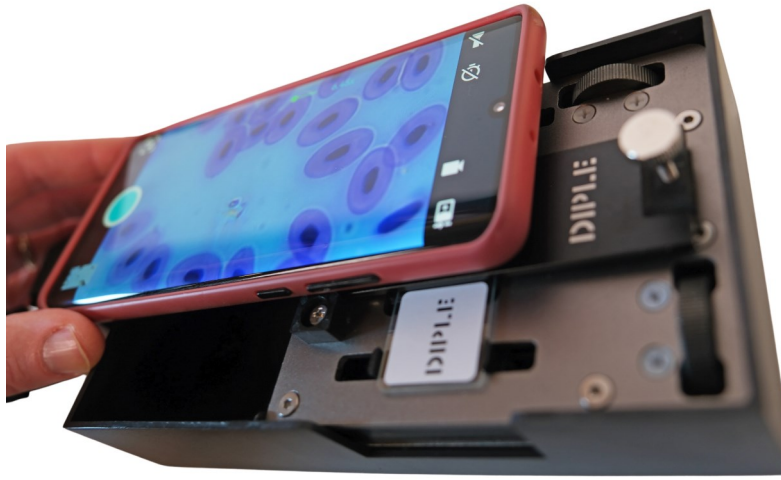
DIPLE *is its brand new kit of powerful and portable microscopes for smartphone and tablet.*

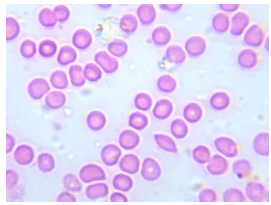
SmartMicroOptics (SMO) launched DIPLE with a successful Kickstarter campaign in the end of 2019; since then, SMO had shipped thousands kits around the World. Prestigious educational institutes already use DIPLE for their courses of Science subjects, as they recognized the unique mix of performance - portability -affordable price.



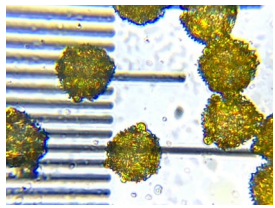
DIPLE

The revolutionary microscope for any smartphone





Human blood cells



Dandelion pollens

- Resolution: 0.75 micrometers
- 0.5-0.7Kg
- Usable with any smartphone or tablet
- For bright-field microscopy

PATENTED

DIPLE RGF/BF

DIPLE BF (Black & Fine Stage)

The most complete DIPLE Kit for bright field microscopy.

Made up of the 3 Diple lens models (magnification of 35x, 75x and 150x) and the Fine stage, this kit is a versatile tool for exploring the microscopic world on standard glass slides. 3 different lenses for different levels of magnification and optical resolution below 1 micrometer.

The Kit contains:

- 1 Red lens
- 1 Grey lens
- 1 Black Lens
- 1 Fine stage
- 1 set of microscope slides (3 prepared slides, one plain slide, one micrometric ruler)
- 1 box with 100 coverslips
- 2 mechanical feet (for use with large phone or tablets)
- pipette
- tweezers

DIPLE RGF/BF

DIPLE RGF (Red & Grey & Fine Stage)

The DIPLE Kit for bright field microcopy with the lenses most requested from educational institutes.

Made of 2 DIPLE lens models (magnification of 35x, 75x) and the Fine Stage, this kit is a versatile and user friendly tool for exploring the microscopic world on standard slides with any smrphone or tablet.

Many accessories are in the box, including a microscopic ruler, to facilitate scientific applications.

The Kit contains:

- 1 Red lens
- 1 Grey lens
- 1 Fine stage
- 1 set of microscope slides (3 prepared slides, oneplain slide, onemicrometric ruler)
- 1 box with 100 coverslips
- 2 mechanical feet (for use with large phone or tablets)
- pipette
- tweezers

DIPLE RGF/BF

DIPLE LENSES

The DIPLE lenses are objective lenses designed with one or more internal optical components, and are made of plastic and glass.

The outer side of the DIPLE lenses is made of flat glass. For this reason, they can be used in water immersion. In some cases, the water immersion can improve the performance and increase the working distance.

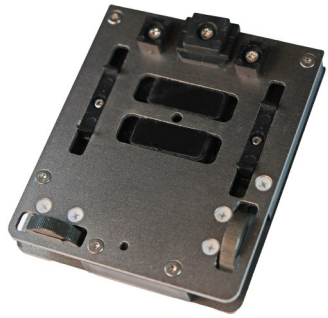
The high optical power of the DIPLE lenses gives a very short depth of field. In order to properly manage the focusing distance, an M3 –DIN464 screw is provided to control the elevation of each lens.

A black rubber ring is on the top of each lens to ensure a good grip with any phone model, while a magnetic plate is on the rear side of each tile, for a solid positioning over the DIPLE stage.

The approximated, equivalent numerical apertures (NAs) of the three objective lenses are 0.7, 0.55 and 0.4, respectively.

Model	Working distance	Magnification level (approx.)	Optical Resolution (micrometers)	Field of view (mm)
Black	0.3 mm	150x	0.75	0.2
Grey	0.5 mm	75x	0.9	0.6
Red	1.9– 2.1 mm	35-40x	2.8	0.8 - 0.9

DIPLE RGF/BF



FINE STAGE:

In many applications, a controlled movement of the sample is a mandatory requirement. For this reason, we offer a stage that perfectly suits the DIPLE box, with 2 screws driven system to shift a glass slide of standard size on the stage.

It is always possible to turn the Fine stage into a standard stage, removing the 2 slide-holding components, with a screwdriver. This change could be useful also in case of non-standard samples.

VIDEO TUTORIAL

LIGHT SOURCE:

A LED light source permits the illumination through the sample placed on the glass slide, for bright-field microscopy

Power source: two CR2032 batteries (included)

Certificates of Conformity: Rohs, UL4200A and EN 62471:2008

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