SmartMicroOptics S.r.l.
SMO—US Corp.

DIPLE II

DIPLE II—F / DIPLE II—S

DIPLE II

See the microscopic world in a new light

DIPLE is a brand for an innovative family of compact and portable optical systems that allow to use any smartphone or tablet as a POWERFUL microscope.

With this technology you can see details smaller than one micrometer using any common phone or tablet.

Its original (patented) design makes DIPLE an extremely compact and powerful system for microscopy.

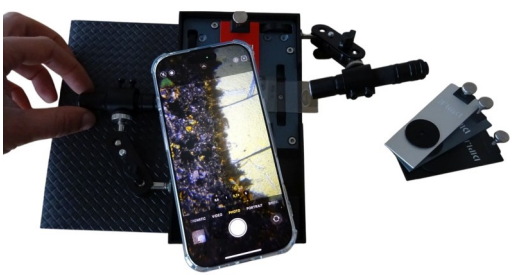
DIPLE (alone) is not a microscope. The microscope is given by DIPLE + smartphone/tablet, as the camera of the electronic device becomes fundamental part of the optical system. This design makes the whole system extremely compact.

DIPLE II is the second generation of the DIPLE family. While DIPLE is for bright-field microscopy, DIPLE II can work in bright –field, dark-field, polarized light microscopy and reflected light microscopy.

DIPLE II expands the range of available models of the DIPLE technology.

DIPLE II

See the microscopic world in a new light



Mineral section in polarized light

Pollens in dark-field

- Illumination modes:
  - ◊ *Bright-field*
  - ◊ *Polarized light*
  - ◊ *Dark-field*
  - ◊ *Reflected light*

- Compatible with any smartphone/tablet
- Weight < 1Kg (about 2 Lb)
- Optical Resolution: 0.7micrometers

DIPLE II is available in two different kits:

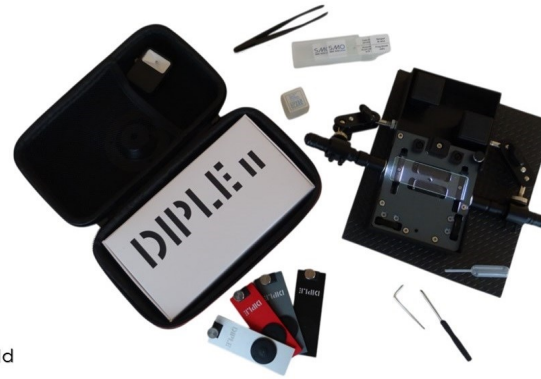
DIPLE II-F: the most complete one

DIPLE II-S: the most affordable one

DIPLE II-F

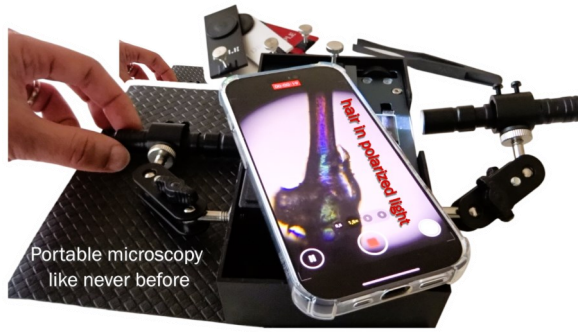
KEY ELEMENTS

- ✓ All the 4 lenses
- ✓ Fine Stage
- ✓ Micrometric ruler
- ✓ 2 flashlights + 2 polarizing filters and 2 torch holders
- ✓ Carrying case
- ✓ 100 coverslips
- ✓ 3 prepared slides
- ✓ 1 concave slide
- ✓ LED light source for bright-field
- ✓ Anti-slip pad
- ✓ Tweezers – pipette – screwdrivers



Made up of the 4 Diple II lenses (magnification of 25x, 40x, 90x and 150x) three light sources and the Fine stage, this kit is a versatile tool for exploring the microscopic world. 4 different lenses for different levels of magnification and optical resolution up to 0.7 micrometer; each lens with a polarizing filter inside.

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



DIPLE II-S

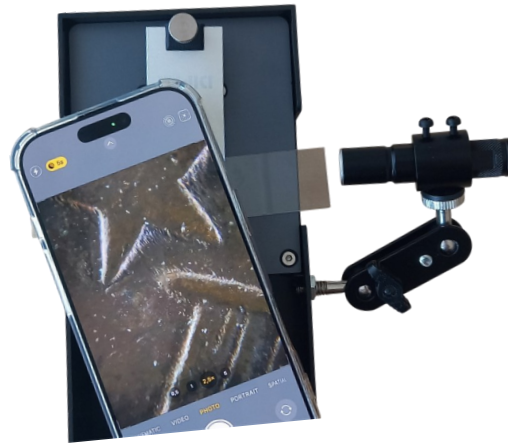
KEY ELEMENTS

- ✓ Two lenses (Silver & Grey)
- ✓ Standard Stage
- ✓ Flashlight + polarizing filter and torch holder
- ✓ Carrying case
- ✓ 100 coverslips
- ✓ 3 prepared slides
- ✓ 1 concave slide
- ✓ 1 plain slide
- ✓ LED light source for bright-field
- ✓ Anti-slip pad
- ✓ Tweezers – pipette – screwdrivers

Made up of the 2 most versatile Diple II lenses (magnification of 25x and 90x) two light sources and the Standard stage, this kit is a powerful, but easy to use tool for exploring the microscopic world.

2 different lenses for different levels of magnification and optical resolution up to 0.9 micrometer; each lens with a polarizing filter inside.

Many accessories are in the box, including a microscopic a concave glass slide, to facilitate scientific applications.



DIPLE II LENSES

The DIPLE lenses are objective lenses designed with multiple internal optical components.

On the top side of all the DIPLE II lenses there is a polarizing filter, working as "analyzer" when the system is used for polarized light microscopy.

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.

All the DIPLE II lenses has irises that allows their use for reflected light microscopy.

The Silver lens, thanks to its longer working distance, is more suitable for microscopy in reflected light also out of the stage; a piece of rubber on one end of this lens improves its stability on flat surface and allows to easily observe samples even few millimeters-thick.

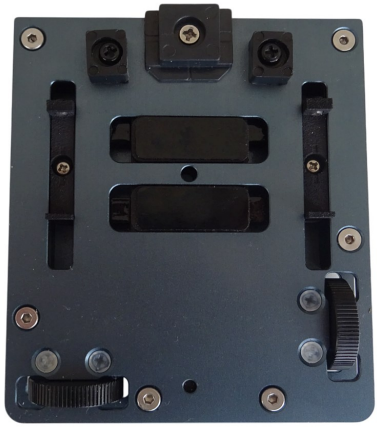
Lens	Magnification power*	Optical resolution* (µm)	Working distance* (mm)
Silver	25-250x	3	2.5
Red	40-400x	2	2
Grey	90-900x	0.9	0.6
Black	150x-1500x	0.7	0.3

**Approximated values - they depends on the phone optics, too.*

The high-end in magnification factors is assumed using a 10x phone zoom (common in many phones).

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 a 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.

Travel ranges: 16mm and 8mm

STANDARD STAGE:

a simple mechanical support for your samples, where you can shift your slide manually for scanning your sample under the DIPLE lens. This is a straightforward method to move the samples.

A powerful magnet is inside the stage to help a proper placement of the DIPLE II lens.

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