



FLUOLED® 1CFW and 3CFW

Filter Wheel illuminators for 1 and 3 Color reflected light fluorescence

- For single and multiple fluorescence.
- Transform a bright field microscope into a unit capable of fluorescence.
- Dedicated vertical illuminators for Light Emitting Diode fluorescence.

Universal illuminators for reflected light fluorescence with filter wheel technology. These all-round illuminators allow to transform a standard bright field microscope into a unit capable of fluorescence. Illumination is provided by interchangeable solid state sources (Light Emitting Diodes – LEDs). Available for 1, 2 and 3 color excitation. With adjustable light intensity.

Application examples:

- IFA (Immunofluorescence Assays, especially single color Blue excitation)
- Microbiology (especially 2 colors Blue-Green excitations and 3 colors UV-Blue-Green excitations)



FLUOLED® 3CFW on Olympus BX 43 microscope with Lumenera Infinity 2-1C camera

Olympus is a trademark of Olympus Corporation.
Lumenera is a trademark of Lumenera Corporation.

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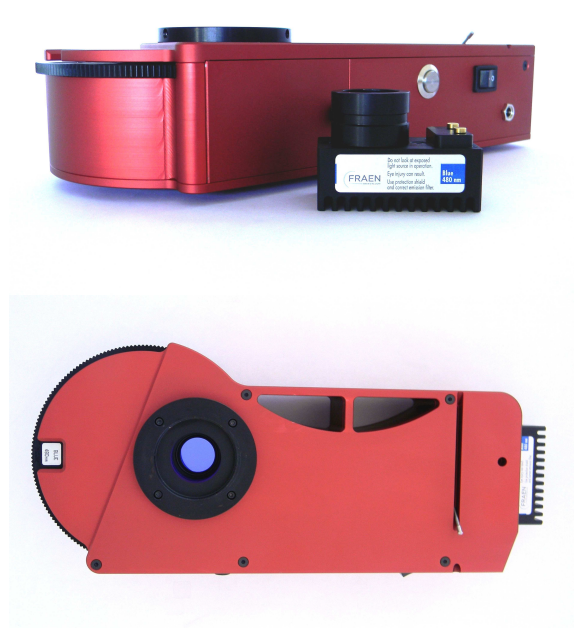
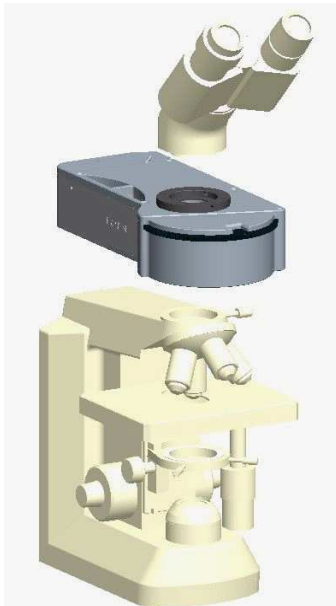
Inquiries: info@fraen.com



Philosophy and goals

FLUOLED[®] 1CFW and 3CFW represent a fast and reliable solution for fluorescence microscopy using light emitting diodes (LED) as a source for excitation.

Different from other LED devices, FLUOLED[®] 1CFW and 3CFW do not require an existing epi-fluorescence illuminator mounted on the microscope. So fluorescence becomes available even on microscopes where original accessories are not commercialized any more.



FLUOLED[®] 1CFW – 1 Color Filter Wheel illuminator

The illuminator is easily installed between microscope stand and tube within minutes, not requiring any alignment of the light source. Optical components like filter cubes and light sources are typically installed at factory.



General Characteristics

FLUOLED® 1CFW and 3CFW are designed for infinite focus optical microscopes. The illuminator mounts on the microscope between the observation tube and the stand. Fluorescence excitation is provided by long lasting light emitting diodes (LEDs) mounted into modular cassettes. The light sources are freely interchangeable and together with additional filter sets can be added to the system at any time.

Dimensions (mm) 1CFW: 290 (L) x 110 - 135 (W) x 60 (H)

Dimensions (mm) 3CFW 385 (L) x 110 - 135 (W) x 60 (H)

Weight (Kg) 1CFW: 3,8 Kg

Weight (Kg) 3CFW: 4,3 Kg

Power 100-240VAC 50/60Hz universal voltage

Operating temperature 5°C to +40 °C (41°F to 104°F)

Typical LED life time 30.000 hrs

FLUOLED® 1CFW and 3CFW light sources:
(more colours available on request)

| FLUOLED® 1CFW & 3CFW | |
|----------------------|--------|
| UV | 365 nm |
| ROYAL BLUE | 450 nm |
| BLUE | 480 nm |
| GREEN | 535 nm |
| YELLOW | 590 nm |
| RED | 630 nm |

FLUOLED® 1CFW and 3CFW comply to the followings standards:

EMC std.:

EN 55015:2006

EN 61547:1995 +A1:2000

EN 61000-3-2:2006

SAFETY std.:

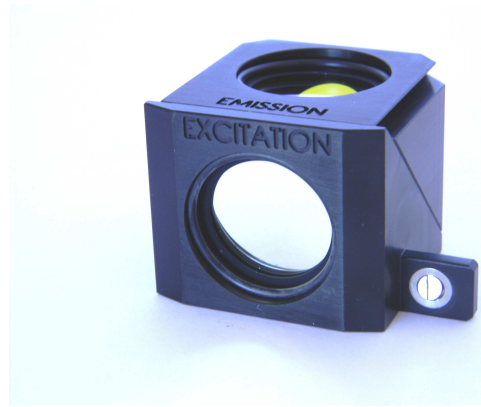
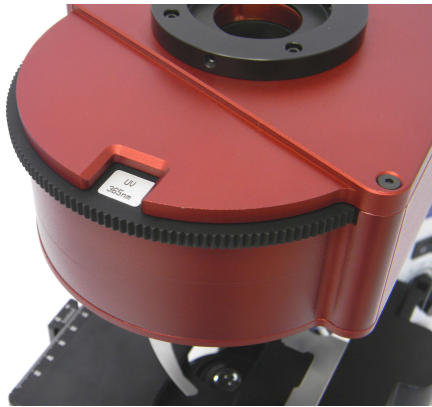
EN 62471:2008

EN 60950:2006

Technical documentation kept by : Fraen Corporation S.r.l.

Mechanical characteristics and layout information

- The illuminator mounts on the microscope between the observation tube and the stand within minutes
- Four position filter wheel, completely dust protected, for the insertion of fluorescent filter sets mounted in filter cubes
- LED illumination intensity can be set to 0% (off), 50% and 100%



Four position filter wheel and filter cube

The machined aluminium illuminator body offers increased stability and protection of the optical and electronic system components. The four position filter wheel is completely dust protected and allows for the insertion of fluorescent filter sets mounted in filter cubes. Cubes are clearly marked for correct insertion of excitors and emitters.



FLUOLED® 3CFW – detail of 3 Color Filter Wheel illuminator and Blue LED cassette

The illuminator accepts any of the available LED fluorescent excitation cassettes. LED cassettes are self aligning and maintenance free. The driver unit is completely integrated into the main illuminator body. LED illumination intensity can be set to 0% (off), 50% and 100%. Intensity can be easily adjusted by an ergonomically positioned switch on the right side of the illuminator body.

Additional LED cassettes and filter sets can be added to the system at any time.

Microscope compatibility

Most diffused microscope models FLUOLED® 1CFW and 3CFW is available for:

Olympus: CX31, CX41, BX40, BX41, BX43, BX51

Nikon Instruments: E 200, E 400, E 600, E 50i, E 55i, E80

Carl Zeiss:Axioskop, Axioskop 40, Axiokop2

Please inquire for other models and brands



Optical Characteristics

- Highly efficient optical system
- Optical components completely protected from external contaminating agents
- Field diaphragm for proper illumination of sample area



FLUOLED® 3CFW – detail of field diaphragm

Designed for infinite focus optical microscopes, the illuminator provides a 22mm field of view. The optical light path features a field diaphragm which can be centred and sized to properly illuminate your field of observation.

The illuminator accepts any of the available LED fluorescent excitation cassettes. LED cassettes are self aligning and maintenance free.