

Application Configuration Guide

10-AU-005-CE Fluorometer

Application	Instrument		Optical Configuration						Solid Secondary Standard
	Instrument P/N	PMT (installed)	*Optical Kit P/N	Excitation Filter P/N & Description	Emission Filter P/N & Description	Reference Filter P/N & Description	Lamp P/N & Description	Attenuator Plate	
Ammonium or Colored Dissolved Organic Matter (CDOM)	10AU-073	Standard 300-650nm	10-303	034-0040 *350FS40-25 310-390nm	10-110R-C 410-600nm	10-300 >300nm	10-049 Near UV	10-327R ² (if needed)	
Chlorophyll <i>a</i> , Extractive and <i>In-vivo</i> (Acidification method)	10AU-072	Red 185-870nm	10-037R	10-050R 340-500nm	10-051R >665nm	10-032 1 ND Square	10-045 Daylight White	Not Required	10-AU-904
Chlorophyll <i>a</i> , Extractive (Ex.436/Em.680nm) (Non-acidification method)	10AU-072	Red 185-870nm	10-040R	034-0392 *436FS10-25 436nm	034-0395 *680FS10-25 680nm	10-032 1 ND Square	10-089 Blue Mercury Vapor	Not Required	10-AU-904
Chlorophyll <i>a</i> , <i>In-Vivo</i> (Water with high dissolved organic matter(DOM) and/or chlorophyll <i>b</i>)	10AU-072	Red 185-870nm	10-096R	10-050R 340-500nm	034-0395 *680FS10-25 680nm	10-032 1 ND Square	10-089 Blue Mercury Vapor	Not Required	10-AU-904
Fluorescein (Ex.490/Em.580nm)	10AU-073	Standard 300-650nm	10-086R	034-0486 *486FS10-25 486nm	10-109R-C 510-700nm	10-063 >485nm	10-089 Blue Mercury Vapor	10-318R ² (if needed)	
Phycocerythrin (Ex.544nm/Em.577nm)	10AU-073	Standard 300-650nm	10-304	034-0544 *544FS10-25 544nm	034-0577 *577FS10-25 577nm	10-053 >535nm	10-046 Clear Quartz ¹	Not Required	
Phycocyanin (Ex.630nm/EM.660nm)	10AU-072	Red 185-870nm	10-305	034-0630 *630FS10-25 630nm	034-0660 *660FS10-25 660nm	10-051 >665nm	10-047 Cool White	Not Required	
Rhodamine WT ³ (Ex.550nm/Em.580nm) NOTE! For Standard PMT Instruments, the 10-058R Emission Filter should not be used!	10AU-073	Standard 300-650nm	10-041R	034-0550 *550FS10-25 550nm	10-052R ⁶ >570nm (near PMT) & 10-058R ⁴ 325-700nm (near sample) for Red PMT instruments only	10-053 >535	10-046 Clear Quartz ¹	Not Required	10-AU-904
Oil, Short Wavelength (Ex.254nm/Em.300-400nm) USE A QUARTZ CUVETTE!	10AU-073	Standard 300-650nm	10-301R	034-0860 *254FS25-25 254nm	10-069R 300-400nm	10-300 Soft Glass >300nm	10-046 Clear Quartz ¹	10-327R ² or 10-318R ² (if needed)	
Oil, Long Wavelength (Ex.360nm/Em.410-600nm)	10AU-073	Standard 300-650nm	10-302R	10-069R 300-400nm	10-110R-C 410-600nm	10-300 Soft Glass >300nm	10-049 Near UV	10-327R ² or 10-318R ² (if needed)	

¹Indicates Filter Mfg. Part # Reference

Application Configuration Guide

10-AU-005-CE Fluorometer

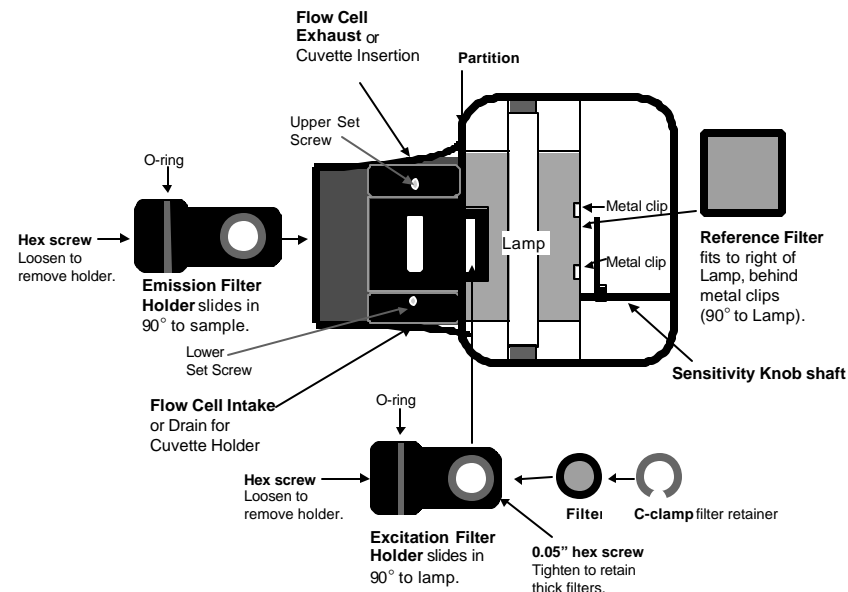
NOTES:

For detailed information about installing filters, refer to your [Model 10-AU Fluorometer User's Manual](#).

1. **WARNING!** Do not let light from the clear quartz lamp fall on your eyes. Serious eye irritation will result, with a delay of about four hours between exposure and symptoms.
2. **10-327 Attenuator Plate.** For highly fluorescent materials, sometimes the fluorometer is too sensitive even with the sensitivity set to minimum. Try calibrating without an attenuator plate first. Then, try calibrating with the 10-318 Attenuator Plate installed (see next paragraph). Lastly, if the instrument is still too sensitive, you can reduce the sensitivity 75-fold by installing the 10-327 plate. For instructions, see the Filter and Light Source Replacement appendix in your user's manual.
3. **10-318 Attenuator Plate.** For highly fluorescent materials with both the **Short Wavelength and the Long Wavelength Oil Optical Kits, the Ammonium/CDOM Kit** and for some *in vivo* measurements with the **Chlorophyll Optical Kit**, sometimes the fluorometer is too sensitive even with the sensitivity set to minimum. Also, using the **Rhodamine and Fluorescein Optical Kits**, we have found that background fluorescence can be very high in natural systems; even with the sensitivity at minimum, readings may be over-scale or blank unduly high. In these cases, try calibrating without an attenuator plate first. Then, if necessary, you can reduce the sensitivity 5-fold by installing this plate. For instructions, see the Filter and Light Source Replacement appendix in your user's manual.

3. This filter combination applies equally well for Rhodamine B, Rhodamine WT, Sulpho Rhodamine B extra, and Pontacyl Brilliant Pink B.
4. Expect a significant temperature coefficient when using this emission filter combination; for best results, warm-up the instrument!
5. These excitation (Ex) and emission (Em) wavelengths are for the substances themselves, not the filters. Oils, for example, have a range of peak wavelengths, depending on the type of oil.

6. The 10-058R emission should only be used with red-sensitive PMT instruments or in environments with high algal levels. For instruments with standard PMTs, the 10-052R is the only emission filter required for the Rhodamine optical kit.



TURNER DESIGNS

845 W. Maude Avenue • Sunnyvale, CA 94085
(408) 749-0994 • FAX (408) 749-0998
www.turnerdesigns.com • Toll free 1-877-316-8049