

# Thermo Scientific Fluoroskan Ascent

**The Thermo Scientific Fluoroskan Ascent is a microplate fluorometer for life science research applications, such as fluorometric protein and enzyme studies, molecular interactions, nucleic acid quantification, reporter gene, fluorometric kinase, immuno and cell based assays.**

**The Fluoroskan Ascent is a compact and robust instrument with excellent optical performance for a variety of research applications, offering versatile plate formats, fast reading speeds, up to three dispensers and top/bottom reading of plates.**

## **Fast reading speed**

The fast reading time enables the most rapid throughput and a wide variety of applications, such as cytotoxicity, ion channel and FRET applications

## **Onboard dispensers for exact follow-up of kinetic reactions**

Equipped with three onboard reagent dispensers, the Fluoroskan Ascent enables fast kinetic assays, such as  $\text{Ca}^{2+}$  flux. The instrument supports simultaneous dispensing and reading, enabling monitoring of fast kinetic measurements from the very start of the reaction. A very low dead volume and the backflush capability of the dispensers are important issues when using expensive reagents.

## **High sensitivity for top and bottom reading**

Fiberless direct illumination optics for both top and bottom reading ensures high sensitivity, a wide dynamic range, and accurate and precise results for 1 to 384-well plates.

## **Specially designed for automation**

To increase assay throughput, the Fluoroskan Ascent can read up to 384-well plates and easily be integrated with automated systems.

**Ordering information and technical specification, see page 13.**

## **Fluoroskan Ascent Applications:**

- $\text{Ca}^{2+}$  flux assays
- Cell proliferation
- Cytotoxicity
- Multi-drug resistance
- Cell adhesion
- DNA quantitation
- Reporter gene assays
- Hybridization assays
- Quantitation of PCR products
- FRET assays
- Molecular beacon assays
- Immunoassays
- Enzyme activity
- Neonatology
- Bacterial quantitation
- Phagocytosis
- Oligonucleotide assays
- ADMEtox



**A compact and robust microplate reader with excellent optical performance for a variety of fluorometric research applications.**

**Compatible with  
Thermo Scientific RapidStak**

# Thermo Scientific Luminoskan Ascent

**The Thermo Scientific Luminoskan Ascent is a microplate luminometer for luminometric research applications, such as reporter gene, immuno and cell based assays, enzyme studies, molecular interactions, nucleic acid quantification and microbiological assays.**

**The Luminoskan Ascent is a compact and robust instrument with excellent optical performance for a variety of luminometric research applications, offering versatile plate formats, fast reading speeds, up to three dispensers, and top/bottom reading of plates.**

## **Fast reading speed**

The fast reading time, just 15 seconds for a 96-well plate, is essential for kinetic applications, such as enzyme kinetics and phagocytosis assays.

## **Onboard dispensers for exact follow-up of kinetic reactions**

The Luminoskan Ascent equipped with up to three onboard reagent dispensers enables fast kinetic assays, such as ATP assays. The instrument supports simultaneous dispensing and reading, enabling monitoring of fast kinetic measurements from the very start of the reaction. A very low dead volume and the backflush capability are important issues when using expensive reagents.

## **High sensitivity for both top and bottom reading**

Fiberless direct illumination optics for both top and bottom reading ensures high sensitivity, a wide dynamic range, low crosstalk and accurate and precise results in all luminometric assays.

## **Specially designed for automation**

To increase assay throughput, the Luminoskan Ascent can read up to 384-well plates and easily be integrated with automated systems.

## **Ordering information and technical specification, see page 13.**

## **Luminoskan Ascent Applications:**

- Reporter gene assays
- Immunoassays with luminescent substrates
- Cytotoxicity and cell proliferation assays
- Intracellular Ca<sup>2+</sup> assays
- ATP assays
- Phagocytosis assays
- Reactive oxygen assays
- Microbiological assays
- Enzyme assays
- BRET assays
- ADMETox



**A compact and robust microplate reader with excellent optical performance for a variety of luminometric research applications.**



**Compatible with  
Thermo Scientific RapidStak**

# Thermo Scientific Fluoroskan Ascent FL

**The Thermo Scientific Fluoroskan Ascent FL is a microplate fluorometer and luminometer for both luminometric and fluorometric research applications, such as protein and enzyme studies, molecular interactions, nucleic acid quantification, reporter gene, fluorometric kinase, and immuno and cell based assays.**

**The Fluoroskan Ascent FL is a compact and robust instrument with excellent optical performance for a variety of fluorometric and luminometric research applications, offering versatile plate formats, fast reading speeds, up to three dispensers and top/bottom reading of plates.**

## **Fast reading speed**

The fast reading time, just 15 seconds for a 96-well plate, is essential for kinetic applications, such as enzyme kinetics and phagocytosis assays. Even the combination of a fluorometric GFP measurement and a luminometric luciferase measurement from the same well is fast due to the versatility of assay programming in the same protocol.

## **Onboard dispensers for exact follow-up of kinetic reactions**

Equipped with up to three onboard reagent dispensers, the Fluoroskan Ascent FL enables fast kinetic assays, such as  $\text{Ca}^{2+}$  flux and ATP assays. The instrument supports simultaneous dispensing and reading, enabling monitoring of fast

kinetic measurements from the very start of the reaction. A very low dead volume and the backflush capability of the dispensers are important issues when using expensive reagents.

## **High sensitivity for both top and bottom reading**

Fiberless direct illumination optics for both top and bottom reading ensures a high sensitivity, a wide dynamic range, low crosstalk and accurate and precise results in both luminometric and fluorometric assays.

## **Specially designed for automation**

To increase assay throughput, the Fluoroskan Ascent FL can read up to 384-well plates and easily be integrated with automated systems.

## **Fluoroskan Ascent FL Applications:**

- **Ca<sup>2+</sup> flux assays**
- **Cell proliferation**
- **Cytotoxicity**
- **Cell adhesion**
- **DNA quantitation**
- **Reporter gene assays**
- **Hybridization assays**
- **Quantitation of PCR products**
- **FRET assays**
- **BRET assays**
- **Molecular beacon assays**
- **Immunoassays**
- **Enzyme activity**
- **Bacterial quantitation**
- **Phagocytosis**
- **Oligonucleotide assays**



**A compact and robust microplate reader with excellent optical performance for a variety of fluorometric and luminometric research applications.**

**Compatible with Thermo Scientific RapidStak**

# Technical Specifications and Ordering Information

| Thermo Scientific Fluoroskan Ascent, Luminoskan Ascent and Fluoroskan Ascent FL |   |   |   |
|---|---|---|---|
|   | Fluoroskan Ascent   | Luminoskan Ascent   | Fluoroskan Ascent FL  |
| <b>Fluorometry</b>  |   |   |   |
| Excitation wavelength range   | 320 - 700 nm  |   | 320 - 700 nm  |
| Emission wavelength range   | 360 - 800 nm  |   | 360 - 670 nm  |
| Excitation filters  | Up to eight filters in the excitation filter wheel. 355 nm and 485 nm filters included as standard. Other filters available upon request. |   | Up to eight filters in the excitation filter wheel. 355 nm and 485 nm filters included as standard. Other filters available upon request. |
| Emission filters  | Up to eight filters in the emission filter wheel. 460 nm and 538 nm filters included as standard. Other filters available upon request.   | Up to six filters in the filter wheel. Filters available upon request.        | Up to six filters in the emission filter wheel. 460 nm and 538 nm filters included as standard. Other filters available upon request.     |
| Sensitivity   | 2 fmol fluorescein/well in a black 96-well plate  |   | 2 fmol fluorescein/well in a black 96-well plate  |
| Dynamic range   | > 6 decades   |   | > 6 decades   |
| <b>Luminometry</b>  |   |   |   |
| Spectral range  |   | 270 - 670 nm  | 270 - 670 nm  |
| Sensitivity   |   | 10 amol ATP/well using flash reaction, white 384-well plate                   | 40 amol ATP/well using flash reaction, white 384-well plate   |
| Dynamic range   |   | > 9 decades over whole gain setting area                                      | > 9 decades over whole gain setting area  |
| <b>Dispensing</b>   |   |   |   |
| No of dispensers  | Up to 3   | Up to 3   | Up to 3   |
| Dispensing volume   | 1 - 1000 µl in 1 µl increments  | 1 - 1000 µl in 1 µl increments  | 1 - 1000 µl in 1 µl increments  |
| Dispensing speed  | 25 s, 96-well plate, 5 µl/well  | 25 s, 96-well plate, 5 µl/well  | 25 s, 96-well plate, 5 µl/well  |
| <b>General Features</b>   |   |   |   |
| Plate types   | 1 - 384-well plates   | 1 - 384-well plates   | 1 - 384-well plates   |
| Measurement speed   | 15 s, 96-well plate   | 15 s, 96-well plate   | 15 s, 96-well plate   |
| Wavelength selection  | Filters   | Filters   | Filters   |
| Light source  | Quartz-halogen lamp   |   | Quartz-halogen lamp   |
| Detector  | Photomultiplier tube  | Photomultiplier tube  | Photomultiplier tube  |
| Incubator   | From ambient + 3°C to 45°C, at ambient 25°C   | From ambient + 3°C to 45°C, at ambient 25°C                                   | From ambient + 3°C to 45°C, at ambient 25°C   |
| Shaking   | Orbital shaker  | Orbital shaker  | Orbital shaker  |
| User interface  | Requires , but does not include a personal computer   | Requires , but does not include a personal computer                           | Requires , but does not include a personal computer   |
| Computer interface  | Serial RS-232C port   | Serial RS-232C port   | Serial RS-232C port   |
| Dimensions (H x W x D)  | 340 x 420 x 420 mm<br>13.4 x 16.5 x 16.5 in.<br>options included  | 340 x 420 x 420 mm<br>13.4 x 16.5 x 16.5 in.<br>options included              | 340 x 420 x 420 mm<br>13.4 x 16.5 x 16.5 in.<br>options included  |
| Weight  | Basic unit 21 kg (46 lbs.).<br>3 optional dispensers add 3.5 kg to the weight   | Basic unit 21 kg (46 lbs.).<br>3 optional dispensers add 3.5 kg to the weight | Basic unit 21 kg (46 lbs.).<br>3 optional dispensers add 3.5 kg to the weight   |

## Ordering Information

| Cat. No   | Description  |
|---|--|
| <b>Thermo Scientific Fluoroskan Ascent</b>  |  |
| 5210470   | Fluoroskan Ascent 100 - 240 V, 50/60 Hz *)                             |
| 5210480   | Fluoroskan Ascent 100 - 240 V, 50/60 Hz, with one dispenser *)         |
| 5210482   | Fluoroskan Ascent 100 - 240 V, 50/60 Hz, with two dispensers *)        |
| 5210483   | Fluoroskan Ascent 100 - 240 V, 50/60 Hz, with three dispensers *)      |
| *) Includes PC Software and filter pairs: Ex 355 nm / Em 460 nm, Ex 485 nm / Em 538 nm. Other filters available upon request.   |  |
| <b>Thermo Scientific Luminoskan Ascent</b>  |  |
| 5300160   | Luminoskan Ascent 100 - 240 V, 50/60 Hz**)                             |
| 5300170   | Luminoskan Ascent 100 - 240 V, 50/60 Hz, with one dispenser***)        |
| 5300172   | Luminoskan Ascent 100 - 240 V, 50/60 Hz, with two dispensers***)       |
| 5300173   | Luminoskan Ascent 100 - 240 V, 50/60 Hz, with three dispensers***)     |
| **) Includes PC Software  |  |
| <b>Thermo Scientific Fluoroskan Ascent FL</b>   |  |
| 5210450   | Fluoroskan Ascent FL 100 - 240 V, 50/60 Hz ***)                        |
| 5210460   | Fluoroskan Ascent FL 100 - 240 V, 50/60 Hz with one dispenser***)      |
| 5210462   | Fluoroskan Ascent FL 100 - 240 V, 50/60 Hz with two dispensers***)     |
| 5210463   | Fluoroskan Ascent FL 100 - 240 V, 50/60 Hz, with three dispensers ***) |
| ***) Includes PC Software and filter pairs: Ex 355 nm / Em 460 nm, Ex 485 nm / Em 538 nm. Other filters available upon request. |  |