

## Luminoskan Ascent®

**The state-of-the-art Luminoskan Ascent is one of the most sophisticated and flexible microplate luminometers on the market.**

### Excellent sensitivity for 1- to 384-well plates

The high-performance fiberless optics enable measurement sensitivity of less than 1 fmol of ATP per well, and the dynamic range of Luminoskan Ascent covers more than nine decades. For maximum versatility and flexibility, Luminoskan Ascent reads a range of different plate formats, from 1- to 384-well plates.

### Simultaneous dispensing and measurement

For easy and accurate addition of reagents, up to three dispensers can be fitted on-board. These dispensers allow precise delivery of reagents over an adjustable volume range of 5 – 1000 µl. For assays requiring sensitive temperature control, the Luminoskan Ascent has an on-board incubator. Orbital shaking with adjustable speed and diameter ensures effective mixing and speeds up reaction times.

### Easy-to-use Ascent Software

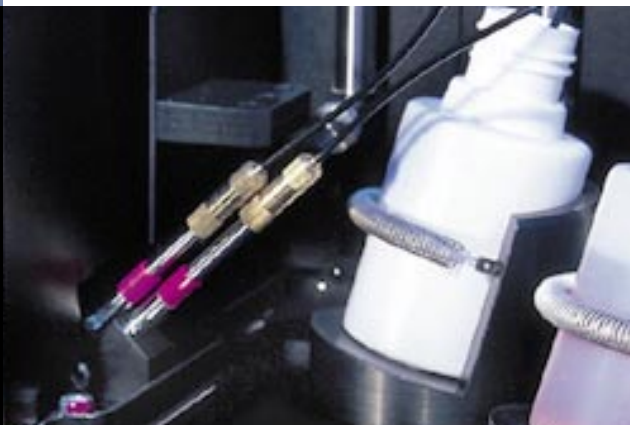
Powerful Ascent Software allows easy assay optimization, flexible data handling and convenient report formatting. For flash luminescence reactions performed with acridinium esters or aequorin, for example, Ascent Software supports simultaneous reagent injection and signal monitoring. The ability to add reagents and take readings in any order allows for multiphase ATP and reporter gene assays. For further information about Ascent Software, see pages 24–26.

### Effective robotic integration

Luminoskan Ascent is an ideal instrument for high-volume testing, such as high-throughput screening. Luminoskan Ascent has been designed for complete robot compatibility, with plate carriers allowing access for different types of robotic arms with easy integration of Ascent Software with any robotic and HIS/LIMS system.

### IQ/OQ/PQ

The instrument qualification IQ/OQ/PQ Protocol Book is available for the Luminoskan Ascent. For further information about the features of the IQ/OQ/PQ, see page 52.



*Luminoskan Ascent dispensers allow simultaneous dispensing and measurement.*

## Application areas of the Luminoskan Ascent

When combined with Ascent Software, Luminoskan Ascent works well for all luminescent applications.

- **Reporter gene assays**

Eukaryotic luciferase gene activity  
Prokaryotic bacterial luciferase gene activity  
Promega Dual-Luciferase Assay  
Gene activities with luminescent substrates

- **Immunoassays with luminescent substrates**

Alkaline phosphatase, horseradish peroxidase, and others

- **Cytotoxicity and cell proliferation assays**

MIC, EC, ATP assays  
Growth inhibition assays

- **Intracellular Ca<sup>2+</sup> assays**

Aequorin loading assays

- **ATP assays**

Biomass assays

- **DNA quantitation**

Biotin/streptavidin-linked chemiluminescent assays

- **Phagocytosis assays**

- **Reactive oxygen assays**

- **Microbiological assays**

Antibiotic sensitivity testing  
Hygiene monitoring assays

- **Enzyme assays**

Connected assays via ATP  
Assays with chemiluminescent substrates

- **BRET and BRET<sup>2</sup> assays**

## Technical Specifications

Weight	Basic unit 21 kg. Optional 3 dispensers add 3.5 kg
Overall dimensions	420 mm (W) x 420 mm (D) x 340 mm (H), options included
Operating conditions	+10°C to +40°C, relative humidity 90% max.
Warm-up time	< 15 min to rated accuracy
Detector	Photomultiplier tube (PMT)
Spectral response	270 – 670 nm
Measurement range	0.0001 – 5000 Relative Light Units (RLU)
Gain	User-changeable (300 – 1000 V)
Plate types	1-, 6-, 12-, 24-, 48-, 96-, 384-well plates. Can also be programmed for non-standard configurations. Maximum dimensions 90 mm x 134 mm x 25 mm
Measuring speed	Minimum measurement time for 96- well plate, 15 s
Typical sensitivity	< 1.0 fmol ATP/well with white 96-well plate
Dynamic range	> 9 decades over whole gain setting area
Shaker	Orbital method, speed 60 – 1200 rpm, Ø 1 – 50 mm
Incubator	From RT (25°C) +3°C to +45°C when ambient temperature is 25°C
Dispensers	Optional 1–3 dispensers. Dispensing volume 5 – 1000 µl in 1 µl increments; accuracy: ±3 µl avg., and precision: 5 – 15 µl, < 5%, 20 – 1000 µl, < 2%. Dispensing speed: 25 s, 96-well plate, 5 µl/well

→ Ordering information on pages 54–55.

