

First-ever microplate nephelometer to measure light scattering

# Nepheloskan Ascent<sup>®</sup> offers ultra-sensitive particle measurement in microplate format

The new Nepheloskan Ascent, the first-ever microplate nephelometer, advances the standards for applications that measure the scattering of particles. The nephelometer's ultra-high sensitivity and unlimited flexibility make it ideal for challenging research applications and easy-to-use routine lab tests.

Nepheloskan Ascent can be used together with LabSystems' powerful Ascent Software to allow easy assay optimization, or it can be combined with Assist Plate Handling Device to increase microplate handling the capacity.

- **First-ever microplate nephelometer for rapid particle measurement**
- **Advanced ultra-sensitive, light scattering optical system**
- **Adjustable orbital shaker and incubator**
- **Optional dispenser system**
- **Powerful Ascent Software for assay optimization**
- **Effective robotic integration**

## Rapid particle measurement in microplate format

LabSystems introduces the first-ever nephelometer for measuring particles in microplate format. Depending on the measurement type, a 96-well plate can be read in just 25 seconds.

Nepheloskan Ascent allows convenient testing of particles in microplate format for applications such as drug solubility tests, quantitation of specific proteins and antibiotic sensitivity studies.

## Advanced light scattering optical system

Nepheloskan Ascent's ultra-sensitive optical system produces a highly focused light beam that measures the scattering function of particles suspended in a medium at one angle. The data obtained is used to determine the particles as well as the precipitation that produces the cloudiness of the medium.

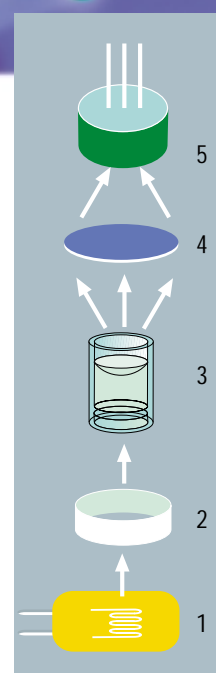
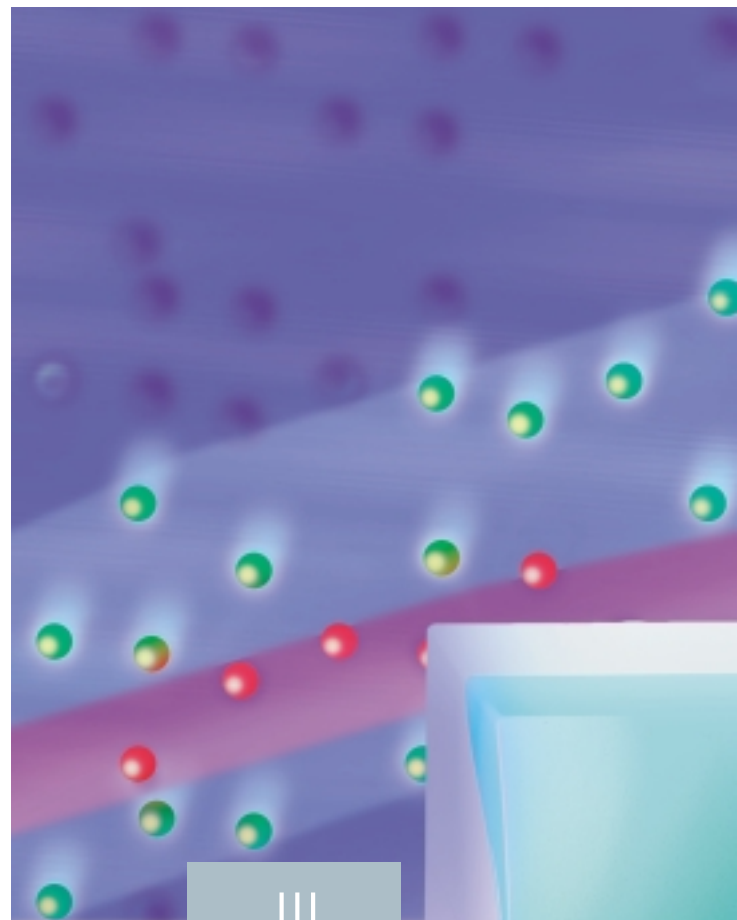
A highly focused light beam of 2 mm in diameter is produced by a light source below the microplate (1) and an optical unit (2) that filters and directs the light through the sample (3). Another optical unit (4) only allows the scattered light (at about a 30° angle) to pass towards the detector, which is a photomultiplier tube (5) above the microplate.

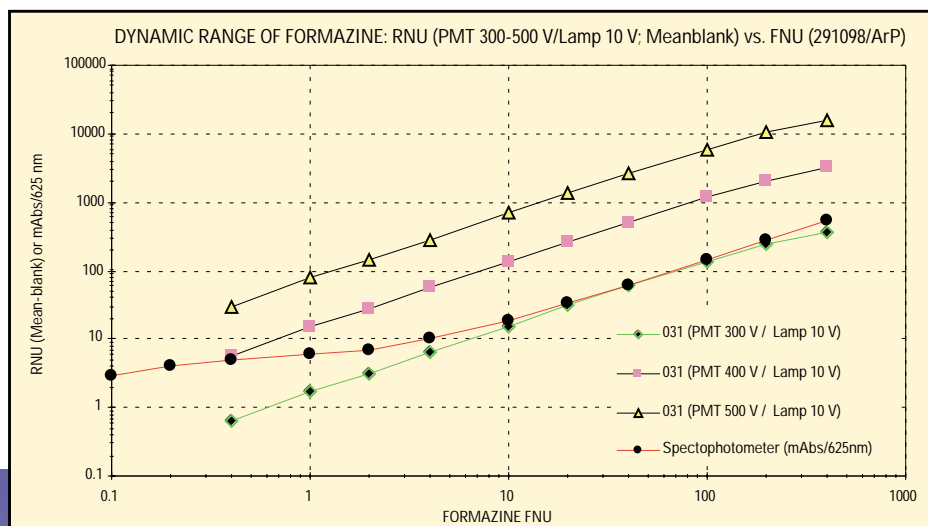
The light scattering level of nephelometers in general and the sensitivity are studied by formazine suspension or latex beads, which are commercially available. Compared with photometers, Nepheloskan Ascent is extremely sensitive. Colors in a measurement medium do not interfere with the quantitation of particles in liquid form.

## Adjustable orbital shaker and incubator – optional dispenser system

The adjustable orbital shaker and incubator provide an added advantage for studies of factors affecting the solubility of pharmaceutical components as well as bacterial growth.

The optional dispensing system also provides a convenient way to kinetically study the formation of immunocomplexes in a liquid form, for example. With the highly visual Ascent Software, the real-time kinetic curves of the assay can be followed.





## Powerful Ascent Software for assay optimization

Labsystems' powerful Ascent Software controls all instrument functions and allows easy assay optimization. It also provides a flexible environment for calculation and report formatting.

The Windows™-based software, designed and developed by Labsystems, offers an open approach for assay set-up with unlimited possibilities for research applications. Specific procedures can also be created for consistency in routine laboratory tasks.

### Effective robotic integration

Simple robotic integration makes Nepheloskan Ascent an effective tool for high-throughput applications. Several samples can be run simultaneously, saving time compared with conventional methods. Ascent Software enables easy integration with robotic and HIS/LIMS systems.

### Increased microplate handling capacity

Nepheloskan Ascent can be used with Labsystems' Assist Plate Handling Device, a benchtop automated microplate handling device for increased microplate handling capacity.

### Nepheloskan Ascent application areas

- Testing and development of pharmaceuticals
- Measurement of antimicrobial effects
- Bacterial growth (growth curves)
- Development of growth medium
- Quantitation of proteins
- Quality control of processes
- Solubility testing

# Technical specifications

## Nephełoskan Ascent

<i>Plate type:</i>	<i>96-well plate</i>
<i>Light source:</i>	<i>Quartz halogen lamp</i>
<i>Detector:</i>	<i>Photomultiplier tube</i>
<i>Spectral response:</i>	<i>580 - 630 nm</i>
<i>Measurement angle:</i>	<i>Approx. 30°</i>
<i>Measurement speed:</i>	<i>Depends on the measurement type; minimum 25 sec./ plate</i>
<i>Shaker:</i>	<i>Orbital method, speed 60-1200 rpm</i>
<i>Incubator:</i>	<i>Temperature range from ambient temperature +3° C to +45° C</i>
<i>Dispenser:</i>	<i>One dispenser as an option</i>
<i>Dispensing volume:</i>	<i>5-1000 µl in 5 µl increments</i>
<i>Recommended assay volume:</i>	<i>300 µl per well in Cliniplates</i>

## Ordering information:

<i>5210 490</i>	<i>Nephełoskan Ascent 100 - 240 V with an incubator</i>
<i>5210 500</i>	<i>Nephełoskan Ascent 100 - 240 V with an incubator and dispenser</i>
<i>5210 262</i>	<i>Plate carrier option for Assist</i>

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