

# 2103 EnVision Multilabel Plate Readers

The 2103 EnVision™ Multilabel Plate Readers are fast, sensitive and versatile benchtop readers that deliver optimized performance in every application and for every label. Their unique design features modular label-specific optical mirror modules, high energy flash lamps, and high speed detectors. The EnVision is available in two models: the affordable, single-detector EnVision Xcite Multilabel Plate Reader or the faster, dual-detector EnVision Multilabel Plate Reader.

User-changeable label-specific optical mirror modules and filters provide superior detection sensitivity and contribute to measurement speed. As your laboratory's application needs change or new applications come on line, you can add more modules to extend EnVision's functionality.

A high energy excitation flash lamp reduces the number of repeated flashes needed, making the excitation cycle for detection as short as possible. The fastest mode uses an innovative "on the fly" detection synchronized with the excitation without stopping the plate between wells. This makes EnVision exceptionally fast measuring absorbance or fluorescence intensity on a 1536-well plate — less than 36 seconds including plate loading times.

The plate conveyor and stackers have been optimized to achieve maximum possible speed, with parallel functionality as well as fast physical movements. The EnVision instruments are easily integrated into robotic systems and are designed to provide the greatest configuration flexibility including accepting microplates from 1 to 3456 wells. When combining the speed of EnVision with the high precision dispenser unit and temperature control the versatile EnVision can perform fast kinetic measurements, enzyme assays and numerous other cell-based drug discovery assays.



## TECHNOLOGIES

- AlphaScreen™ technology
- Fluorescence Intensity
- Fluorescence Polarization, including PerkinElmer's [FP]<sup>2</sup>™ technology
- Time-Resolved Fluorescence (TRF), including PerkinElmer's DELFIA®, LANCE™ and TruPoint™ technologies
- Luminescence, including glow, flash and dual luminescence
- Absorbance

## Maximum Throughput (Time per Plate)

Technology	Single read	Stackers**
96-well plate	22 s	28 s
384-well plate	27 s	32 s
1536-well plate	36 s	42 s

\*\*Mean of 10 plates

## General

<b>Light Source:</b>	Xenon flash lamp
<b>Plate Formats:</b>	1 to 3456
<b>Temperature Control:</b>	
Temperature range:	from 2 °C above ambient up to 45 °C (0.5 °C increments)
Uniformity:	± 1 °C
Heating time:	< 10 minutes (from RT up to 37 °C)
<b>Shaking:</b>	linear, orbital, dual orbital
<b>Dispenser:</b>	
Dispense volume:	2-475 µL (1 µL increments)
Pump speed:	100-500 µL/s
Dead volume:	750 µL. With pump-back function < 50 µL using standard tubing length and factory settings.

## Typical Throughput (Time per Plate)

Technology	96	384	1536
Fi/Abs (On the fly)	22 s	27 s	36 s
Fi/Abs (10 flash)	32 s	1 min 03 s	2 min 56 s
Fluorescence polarization (30 flash)	37 s	1 min 22 s	4 min 15 s
TRF LANCE™ (30 flash)	37 s	1 min 22 s	4 min 15 s
TRF DELFIA® (100 flash)	55 s	2 min 32 s	8 min 52 s
AlphaScreen STD	1 min 32 s	4 min 54 s	19 min 28 s
AlphaScreen HTS	51 s	1 min 52 s	9 min 23 s

## Detection Limit Specifications with Default Settings

### Fluorometry (Fluorescein)

96-well plate (200 µL)	< 4 pM < 0.8 fmol/well
384-well plate (50 µL)	< 4 pM < 0.2 fmol/well
1536-well plate (7.5 µL)	< 20 pM < 0.15 fmol/well

### Fluorescence polarization (Fluorescein 1 nM, SD)

96-well plate	< 3 mP
384-well plate	< 3 mP
1536-well plate	< 7 mP

### TR-Fluorometry (Europium)

96-well plate (200 µL)	< 55 fM < 11 amol/well
384-well plate (50 µL)	< 55 fM < 3 amol/well
1536-well plate (6.6 µL)	< 150 fM < 1 amol/well

### Standard Luminometry (ATP)

96-well plate (200 µL)	< 75 pM
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### Enhanced Luminometry (ATP)

384-well plate (50 µL)	< 10 pM
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### Photometry (Measuring range)

96-well plate	0–4 OD
384-well plate	0–4 OD
Accuracy @ 2 OD	< 2 %
Precision @ 2 OD	< 0.1 %
1536-well plate	0–3 OD

### AlphaScreen™ (STD and HTS)

384-well plate (25 µL, phosphorylated bio-peptide, kinase assay*)	< 100 amol
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\* AlphaScreen detection limit < 100 amol of biotinylated-LCK-P peptide, 25 µL/well in 384-well plate. AlphaScreen detection limit of biotinylated-LCK-P peptide was determined with 3 x SD over background method using AlphaScreen Phosphotyrosine (PT66) Assay Kit (Cat. No. 6760602C). Serial dilutions were made into assay buffer by diluting 10 nM b-LCK-P reaction mix containing Acceptor and Donor beads. Measurement was performed after a 1-hour incubation.

## Physical Data

### Dimensions:

Height:	580 mm (22.8 in.)
Depth:	550 mm (21.7 in.)
Width:	420 mm (16.5 in.)
Weight:	50 kg (110.2 lb)

PerkinElmer Life and  
Analytical Sciences  
710 Bridgeport Avenue  
Shelton, CT 06484-4794 USA  
Phone: (800) 762-4000 or  
(+1) 203-925-4602  
[www.perkinelmer.com](http://www.perkinelmer.com)



For a complete listing of our global offices, visit [www.perkinelmer.com/lasoffices](http://www.perkinelmer.com/lasoffices)

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