

Varioskan LUX microplate readers

Technical specification for Varioskan LUX microplate readers

| Absorbance | |
|--------------------------|---|
| Plate types | 6- to 384-well plates |
| Wavelength selection | Double monochromators |
| Wavelength range | 200–1000 nm |
| Light source | Xenon flash lamp |
| Read-out range | 0–6 Abs |
| Linear measurement range | 0–4 Abs (96-well plate) at 450 nm, $\pm 2\%$ 0–3 Abs (384-well plate) at 450 nm, $\pm 2\%$ |
| Accuracy | 0.003 Abs or $\pm 2\%$, at 200–399 nm (0–2 Abs) 0.003 Abs or $\pm 1\%$, at 400–1000 nm (0–3 Abs) |
| Precision | SD < 0.001 Abs or CV < 0.5%, at 450 nm (0–3 Abs) |

| Fluorescence intensity | |
|-----------------------------|--|
| Plate types | 6- to 1536-well plates |
| Wavelength selection | Double excitation and emission monochromators |
| Excitation wavelength range | 200–1000 nm |
| Emission wavelength range | 270–840 nm |
| Light source | Xenon flash lamp |
| Sensitivity | Top reading: <0.4 fmol fluorescein/well (black 384-well plate) Bottom reading: <4 fmol fluorescein/well (clear-bottom, black 384-square well plate) |
| Dynamic range | Top reading: >6 decades Bottom reading: >5.5 decades |

| Time-resolved fluorescence | |
|-----------------------------|--|
| Plate types | 6- to 1536-well plates |
| Wavelength selection | Filters (spectral scanning with double excitation and emission monochromators) |
| Excitation wavelength range | Fixed to 334 nm (spectral scanning 200–840 nm) |
| Emission wavelength range | 400–700 nm (spectral scanning 270–840 nm) |
| Light source | Xenon flash lamp |
| Sensitivity | <1 amol Eu/well (white, low-volume 384-well plate) |
| Dynamic range | >6 decades |

| Luminescence | |
|----------------------|---|
| Plate types | 6- to 1536-well plates (spectral scanning from 6- to 384-well plates) |
| Wavelength selection | Direct or filters (spectral scanning with double monochromators) |
| Wavelength range | 360–670 nm |
| Sensitivity | <7 amol ATP/well (white 384-well plate) |
| Dynamic range | >7 decades |

| AlphaScreen | |
|-----------------------------|---|
| Plate types | 6- to 1536-well plates |
| Wavelength selection | Filters |
| Excitation wavelength range | Fixed to 680 nm |
| Emission wavelength range | 400–660 nm |
| Light source | LED |
| Sensitivity | <100 amol phosphotyrosine/well (white 384-well plate) |

| Dispensing | |
|-------------------|---|
| Plate types | 6- to 384-well plates |
| No. of dispensers | None, one, or two |
| Syringe size | 1 mL (standard), 5 mL (optional) |
| Dispensing volume | 2–5000 μL , in 1 μL increments (1 mL syringe) 5–25000 μL , in 5 μL increments (5 mL syringe) |
| Accuracy | <1 μL with 50 μL (0.4 mm tip), <0.2 μL with 5 μL (0.25 mm tip) |
| Precision | <1 μL with 50 μL (0.4 mm tip), <0.25 μL with 5 μL (0.25 mm tip) |
| Dead volume | Reagent loss <100 μL , total tubing volume <800 μL |

| Incubator and shaker | |
|----------------------|---------------------------|
| Temperature range | From ambient +4°C to 45°C |
| Shaking type | Orbital |

| Integrated gas module | |
|---|-----------------------------------|
| CO ₂ concentration range | 0.1–15% |
| CO ₂ concentration stability | $\pm 0.3\%$ at 5% CO ₂ |
| O ₂ concentration range | 1–21% |
| O ₂ concentration stability | $\pm 0.3\%$ at 1% O ₂ |

| General Features | |
|------------------------|---|
| Measurement modes | Endpoint, kinetic, spectra, multipoint and kinetic spectra |
| Measurement | Reads a 96-well plate in 15 sec, a 384-well plate in 45 sec, and a 1536-well plate in 135 sec (minimum times) |
| Interface | PC software (SkanIt Software) |
| Dimensions (D x W x H) | 58 x 53 x 51 cm (23 x 21 x 20 in.) |

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