



Appliskan™

Ensure a great read with Appliskan, the top performing multimode reader

Analyze • Detect • Measure • Control™

Thermo
ELECTRON CORPORATION

Appliskan™ - top performance with all reading technologies

Offering the ultimate in flexibility, the Thermo Electron Appliskan filter-based multimode microplate reader is a welcome addition to any life science laboratory. With just one compact instrument, researchers can now switch smoothly between multiple detection technologies without compromising detection performance. Appliskan is controlled by Thermo's powerful SkanIt® Software which provides flexible control and ease of use in assay design, analysis and reporting. Productivity is boosted by on-board shaking, incubation and the dual dispenser option, together with simple integration into automation systems.

Appliskan offers you:

- Complete flexibility, now and in the future – whatever your current or future requirements, the multiple measuring functions mean you'll only ever need one instrument; the Appliskan
- Multiple functions in one small footprint – at just 38 cm x 50 cm x 34 cm, Appliskan fits into even the most crowded lab
- Excellent sensitivity – you can be sure of your measurement results
- Numerous plate formats – from high volume 6-well cell-culture plates to low volume 384-well HTS plates
- Easy-to-use SkanIt Software – accelerates design, development and reporting of even the most complex assays through the intuitive steplist interface
- Precise dispensing – the Appliskan can be fitted with up to two dispensers enabling flash applications. Moreover, the dispensing efficiency minimizes reagent usage



All the detection technologies for any application

With Thermo's Appliskan in your laboratory, one reader is all you'll need. Its wide wavelength range for each of the measurement technologies covers a comprehensive selection of fluorometric, luminometric and photometric assays, without compromising detection performance. Appliskan measures:

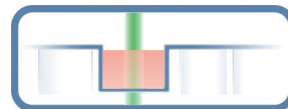
- **Fluorescence intensity**



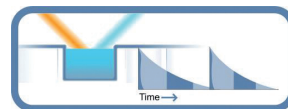
- **Luminescence (flash and glow)**



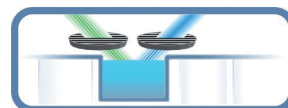
- **Absorbance (low UV to visible)**



- **Time-resolved fluorescence (TRF)**



- **Fluorescence polarization (FP)**



- **Dual-label measurements (such as BRET, FRET and TR-FRET)**



Uncompromised performance

Appliskan's excellent performance in any application is based on separate detection systems for different measurement technologies.

The highly sensitive luminometry mode uses a dedicated photomultiplier tube with photon counting and specially designed optics to ensure excellent sensitivity and a wide dynamic range with all luminometric applications.

The efficient constant light xenon flash lamp and the wide wavelength photomultiplier tube dedicated to fluorometric technologies, covering wavelengths up to 820 nm, provide high sensitivity and a wide linear dynamic range in all fluorometric applications, even with red sensitive fluorochromes and demanding TR-FRET applications.

The specially designed optical system for photometry covers wavelengths from 200 - 1000 nm, enabling excellent linearity, accuracy and repeatability for any photometric application, including DNA detection.

The system has multiple measurement modes - multi-wavelength, end point and kinetic. Moreover, an unlimited number of filters can be added to enable a wide range of applications, and with automatic filter identification, filter handling is fast and easy.

Appliskan – the researcher's dream

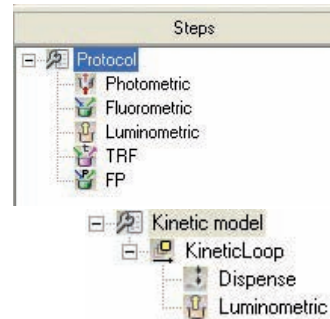
Thermo's Appliskan is packed full of flexible features to make the researcher's life easier. Incubation (up to 45 °C), shaking, on-board dispensers and easy filter access mean that the individual requirements of even the most sophisticated assay techniques are catered for in a single instrument. For increased throughput, Appliskan can be integrated with automation systems such as Thermo's RapidStak™ microplate stacker. For convenience and speed, both dispensers can be used - even with 384-well plates. Equipped with such a powerful tool, molecular biology, immunology, cell biology, biochemistry, and microbiology laboratories will be able to design the assays they need, rapidly and reliably. And with efficient dispensing and reagent back flushing, running costs are minimized too.



Up to two optional dispensers for easy reagent additions

Power and control with SkanIt Software

Thermo's SkanIt Software has been developed with an intuitive user interface and unique steplist functionality. SkanIt Software provides optimal instrument control, easy assay design and development, as well as flexible data analysis and report formatting, giving you the power to maximize any application.



So, why not test the Appliskan's performance for yourself. Call Thermo now for a demonstration.

Appliskan applications include

Cytotoxicity

- Luminometry using ATP
- Photometry using tetrazolium, e.g. MTT, MTS
- Fluorometry using resorufin

DNA analysis

- Fluorometric quantitation
- Photometric quantitation (260 nm / 280 nm)
- Luminometric human specific quantitation

Immunoassays

- Photometric ELISA
- Fluorometric FIA
- Time-Resolved Fluorometric TR-FIA
- Luminometric LIA



Multiplexing

- Fluorometric FRET
- Luminometric dual reporter gene
- Dual-label Time-Resolved Fluorescence

Protein activity

- Fluorometric kinase assay
- Receptor binding with Fluorescence Polarization
- Second messengers with Time-Resolved Fluorescence
- Luminometric ion channel activity

Technical specifications

Overall dimensions	38 cm (W) x 50 cm (D) x 34 cm (H) [14.8" (W) x 19.5" (D) x 13.4" (H)]
Weight	Instrument: 27 kg [60 lbs.]; each dispenser adds 1.5 kg [3 lbs.] to the weight Mains power supply box: 3.6 kg [8 lbs.]
Mains power supply	100 – 240 Vac, 50/60 Hz, nominal
User interface	The instrument is under PC control and run on SkanIt Software for Appliskan, which controls all the instrument functions and provides data reduction as well as reporting functions
Computer interface	RS-232C
Light source	Xenon flash lamp
Detector	Photomultiplier tube's for fluorometry and luminometry, and a photodiode for photometry
Measurement types	Fluorescence intensity, time-resolved fluorescence, fluorescence polarization, absorbance and luminescence
Wavelength selection	By filters: excitation filters (diam. 12.5 mm), emission filters (diam. max. 25,4 mm) and absorbance filters (diam. 12.5 mm)
Plate types	6 to 384-well plates
Fluorometry	
Excitation wavelength range	200 – 1000 nm
Emission wavelength range	360 – 820 nm
Sensitivity	Fluorescence intensity: < 2 fmol fluorescein/well, 384-well plate Time-resolved fluorescence: < 20 amol Europium/well, 384-well plate
Precision	Fluorescence polarization: < 10 mP 1 nM fluorescein, 96-well plate
Dynamic range	> 5 decades
Measurement time	Fluorescence intensity: 5 – 1000 ms Time-resolved fluorescence and fluorescence polarization: 5 – 10000 ms
Photometry	
Wavelength range	200 – 1000 nm
Linearity	0 – 2.5 Abs (96-well plate) at 450 nm, ± 2% 0 – 2 Abs (384-well plate) at 450 nm, ± 2%
Measurement range	0 – 4 Abs
Absorbance resolution	0.001 Abs
Measurement time	20 – 1000 ms
Luminometry	
Emission wavelength range	Standard mode: 360 – 820 nm High-sensitive mode: 300-630 nm
Sensitivity	High-sensitive mode: < 10 amol ATP/well, 384-well plate Standard mode: < 200 amol ATP/well, 384-well plate
Dynamic range	> 5 decades
Measurement time	10 – 10000 ms
Incubator	
Temperature range	From ambient + 4°C to 45°C
Shaker	
Shaking method	Linear shaking
Shaking amplitude	1 – 10 mm
Dispenser(s)	
Dispenser(s)	Up to two optional dispensers
Syringe size	500 µl (1000 µl on request)
Dispensing volume	5 – 500 µl with 1 µl increments
Dispensing accuracy	< 0.2 µl or 2%, whichever is greater, 5 - 500 µl
Dispensing precision	5 - 20 µl < 5%
Dead volume	800 µl, possibility to empty reagent back into the original reagent vessel
Minimum system requirements	IBM PC compatible computer with Pentium III processor (800 Hz recommended), 512 MB Ram, 2 GB free hard disk, serial port, CD-ROM drive, mouse, SVGA monitor with 1024 x 768 resolution
Operating system	Microsoft Windows 2000 with Service Pack 4 or greater or Microsoft Windows XP Professional with Service Pack 2 or greater
Ordering information	
Product code	Description
5230000	Appliskan, 100-240 V, 50/60 Hz
5230010	Appliskan with one dispenser, 100-240 V, 50/60 Hz
5230020	Appliskan with two dispensers, 100-240 V, 50/60 Hz

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