

FUSION SOLO S

CHEMILUMINESCENCE &
OPTIONAL FLUORESCENCE IMAGING



WESTERN BLOT IMAGING

 VILBER
Smart Imaging

ULTRA SENSITIVE IMAGING

The Fusion Solo is a high-end ultra-sensitive scientific optical system, designed to extract the lowest level of detection from your protein. The Fusion systems' cameras use the latest generation of sensors and semi-conductors. Combined with our unique build-in High Sensitivity Reading

(HSR) technology and our V.084 lens, the Fusion is the most sensitive system and the best for publication, quantification and documentation grade imaging.

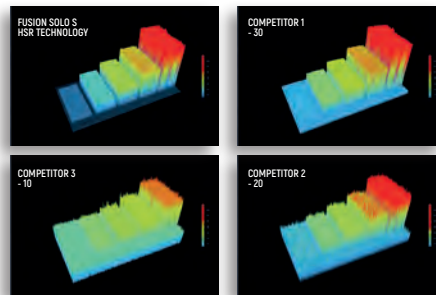
Fusion's High Sensitivity Reading technology delivers ultra-low noise and high sensitivity without altering the raw image data. Thanks to a camera modular design, a dual amplifier architecture and a complete control of the electronic components, the camera noise is reduced to a fraction. The HSR technology is a camera "on-head" built-in technology. During the light exposure, the non-necessary camera components are shut down. Once the exposure time is over, the camera components are automatically turned back.

The process during the image exposition reduced the camera noise, resulting in a better chip capacity to collect the signal.

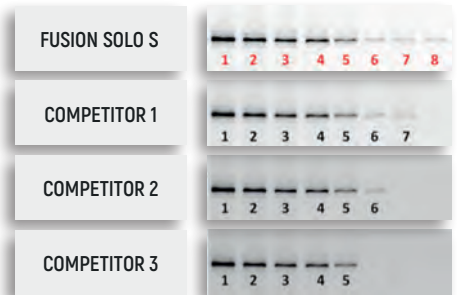
Thanks to our HSR technology, the Fusion reduces the various sources of noise to the lowest floor level and the signal can stand out from the surrounding background. The figures 2 and 3 are a comparison of weak light signal images showing the sensitivity benefit of the Fusion HSR technology face to competitive systems. The HSR maximizes the signal and minimizes the noise to achieve the best signal to noise ratio for the lowest limit of detection. For Western blot imaging, the time to get the image is dramatically reduced and precious antibody can be saved.



The V.084 lens combines ultra-low dispersion aspheric elements to deliver unrivalled sensitivity and consistently sharp images. The 25mm minimum focusing distance is optimum for very faint light conditions.



Comparative low light images taken with Fusion versus competitive systems with comparable imaging settings. The images are displayed with same relative intensity scaling.



The HSR technology provides a better sensitivity by reducing the noise ground level. By keeping the background to its lowest floor level, the very faint signal can easily be detected and quantified.

ONE CLICK TO THE IMAGE

The FUSION Solo S has been designed for maximum ease of use. From its simple installation to its intuitive user interface, this system is plug-and-play. The Solo S software is the easiest software to take an image. Place your blot on the tray, select your application, click on Start

and automatically the system auto-exposes your blot image, your marker image and combines the two together.

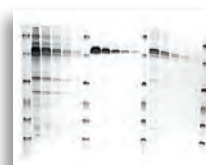
The FUSION Solo S includes our unique Apps Studio approach to imaging. The Apps Studio is a library which contains 40 different protocols for your blot, gel and other bioluminescence samples. The Studio gathers the excitation and the emission spectra of the main fluorophores and suggests the best possible system configuration.

The Apps Studio ensures reproducibility and one click acquisition for the best ease of use.

The modularity design of the FUSION Solo S makes the system fully upgradeable. You can simply start with a dedicated chemiluminescence system and upgrade your system as your number of applications grows. You could easily add UV or blue fluorescence for gels or EPI blue, green, NIR et IR excitation sources for fluorescence on blots. The build-in darkroom PadBox could accommodate several optional Application Pad light source. The Application Pad are then automatically recognized by the system and the imaging and software options are adjusted accordingly.



The Apps Studio contains more than 40 different imaging protocols for your Western, Northern or Southern blot.



Several blots detection at once.



Housekeeping/Protein of interest normalization.



Merged signal & marker images.

FUSION SOLO S



Super Sensitivity

Ultimate linearity for precise quantification.



Auto Exposure

Ultra-low noise imaging thanks to a dual camera amplifier.



Custom Made V.084 Lens

Fusion custom made lens for enhanced sensitivity & sharpness.



Optional Fluorescence Detection

Up to 6 excitations channels in the IR, NIR & visible RGB.



Apps Studio

A complete library of imaging applications to ensure reproducibility.



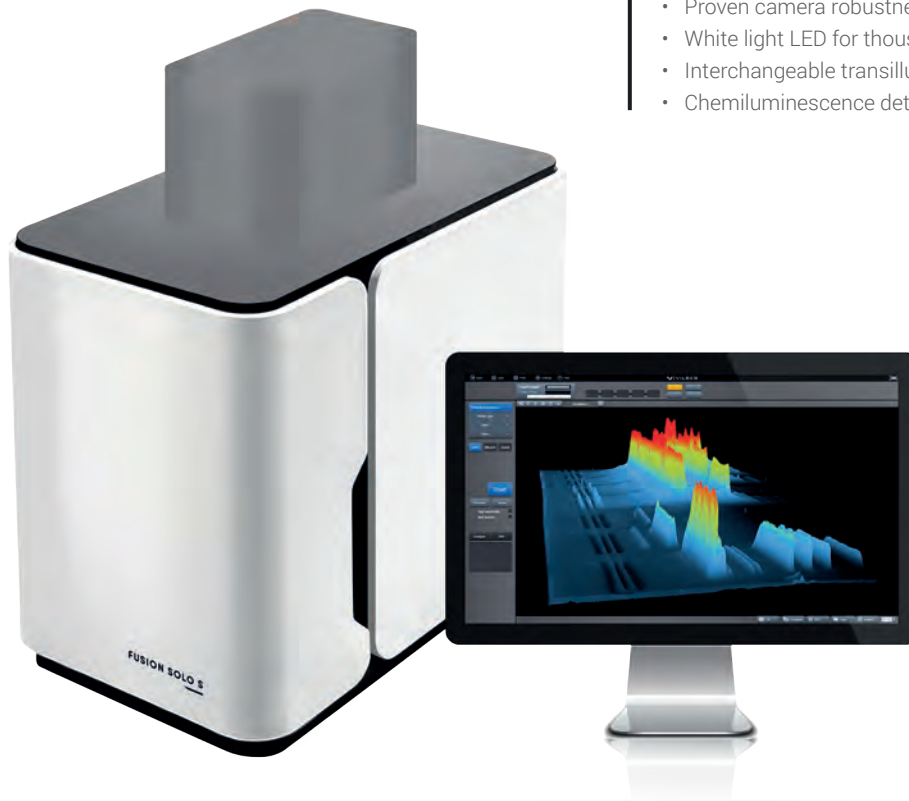
PadBox Concept

Interchangeable light pad for UV, blue, green & red fluorescence.

FUSION SOLO S

Upgradeable

- Dedicated chemiluminescence system with extendable fluorescence capabilities
- Optional epi or transillumination options for blot or gel
- Interchangeable Application Pad for UV, blue, green or red fluorescence



Long Lasting High Quality

- Stainless steel, aluminium and steel darkroom for the best robustness
- Proven camera robustness
- White light LED for thousands of hours of use
- Interchangeable transilluminator
- Chemiluminescence detection : femtogram level

Ideal For Quantification

- Reproducible and comparable quantification data
- ImageMaster™ technology to obtain the optimum image for quantification
- Scientific TIFF file or proprietary file format
- Clarity™ technology for razor sharp band revelation without affecting data integrity

Unrivalled Performance

- Better sensitivity than a film
- Unique custom made V.084 lens performance for super-fast image acquisition
- Reproducible and comparable quantification data
- Best signal to noise ratio of the industry for the lowest limit of detection

FUSION Solo S Pad-Box Concept

The PadBox concept meets the need for accommodating several interchangeable light sources into one device. The PadBox can easily integrate one of the several available Application Pads such as our UV, blue, white light or Spectra Pad or your own hardware such as heater, cooler, electrophoresis tank, special light source etc. The Application Pad is automatically recognized by the system and the imaging and software options are adjusted accordingly.



Camera & Optics

Custom made V-084 fixed lens with unrivaled aperture of f0.84

FUSION Solo 7S with the DarQ-7 camera – sensitivity oriented camera ideal for extremely low light sample

DarQ-7 camera:

- Scientific grade CCD camera
- Grade 0, zero defect
- Image resolution: 10 megapixels
- Native resolution: 2048×2048
- -67° C maximum cooling differential from ambient -42°C absolute and regulated cooling via four stages Peltier thermoelectric cooler.
- High Sensitivity reading (HSR) technology
- USB connection

FUSION Solo 6S with the eVo-6 camera – resolution oriented camera ideal for publication

eVo-6 camera:

- Scientific grade CCD camera
- Grade 0, zero defect
- Image resolution: 20 megapixels
- Native resolution: 2838×2224
- -55° C maximum cooling differential from ambient -30°C absolute and regulated cooling via three stages Peltier thermoelectric cooler
- High Sensitivity reading (HSR) technology
- USB connection

Ease Of Use

One-Click-to-the-Image™
Auto-exposure
Auto-lighting

Hardware

Smart Darkroom technology:

- Software control of the lighting
- White light led panels with automatic intensity adjustment
- Slide-out PadBox with automatic recognition of the Application Pad inserted

Steel and stainless steel darkroom for long lasting robustness. Wide access door with UV safety shut-off

Software

Free software for image acquisition with full GLP compliance. Molecular weight calculation, band quantification, colony counting, distance calculation, text annotation and image enhancement included.

CFR21 Part 11 ready

Applications

Chemiluminescence & fluorescence Western, Northern or Southern blot

Optional applications:

DNA and RNA gels and fluorescence stain imaging with UV or Blue-Pad
Colorimetric stained protein gels, X-Ray film, autorads, SSCP gels, colony dish and flask imaging with White-Light-Pad or UV-Pad + conversion screen
Fluorescence Western blot with Spectra-Pad module

Technologies & Innovation

Apps Studio
3D Dynamics Scan
SuperResolution
High Sensitivity Reading (HSR) technology
PadBox™
ImageMaster™ assistant
Clarity™

Options

Several Application-Pad can be easily inserted and removed inside the PadBox:

- UV-Pad – 312nm or dual wavelength 312 and 365nm
- Super-Bright-Pad – 312nm or dual wavelength 312 and 365nm
- Sky-Pad: LED blue light transilluminator, 470nm
- White-Light-Pad: white light LED transilluminator
- Spectra-Pad Blue: blue EPI illumination
- Spectra-Pad Green: green EPI illumination
- Spectra-Pad Red: red EPI illumination
- Spectra-Pad RGB: red, green and blue EPI illumination

White light or blue light conversion screen
Advanced Bio-1D quantification software

CFR21 Part 11 module



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