Biolmaging

Highly Sensitive Chemiluminescence Systems

ChemStudio Series

analytikjena

An Endress+Hauser Company

ChemStudio Series

High performance imaging systems for fluorescent gel or blot images and for chemiluminescent blots

System highlights

- Choice of cooled CCD cameras for high sensitivity gel and blot image captures
- Light tight darkrooms with slide out trays for a transilluminator and with filter wheel for different emission filters
- Wide selection of transilluminator models
- Upgrade to multiplex and fluorescent Western Blot imaging available

ChemStudio SA²
Versatile stand-alone system with 15.6" multi-touch screen and streamlined software interface

ChemStudio
Economical system with high modularity for individual selection of components

ChemStudio PLUS
Powerful, automated system with motorized sample platform

ChemStudio Series

Highly Sensitive Chemiluminescence Systems

The New Standard for Imaging

Depending on the system configuration, ChemStudio is suitable for a variety of applications - from simple gel documentation to advanced, multispectral and multifunctional imaging.

Excellent results are obtained with the system's high-resolution cameras for detection of chemiluminescence, fluorescence and colorimetric samples.
ChemStudio can be used to meet countless Bio-Imaging needs, both in the fields of proteomics and genomics.
The innovative software, VisionWorksLS, automates image acquisition and analysis, thus providing a substantial boost to workflow efficiency.
In addition to comprehensive image acquisition features, the software provides extensive and detailed image analysis tools, including 1D, area density and colony counting capabilities.

Multifunctional darkrooms

All ChemStudio darkrooms are absolutely light tight and comfortable to use. The large front door simplifies access to the inside, while the unique gel viewer window allows optimal visualization of blots or gels within.

The overhead white light further supports sample positioning and focusing. The integrated chemi tray with its non-reflective, black background is designed specifically for reliable chemiluminescence imaging. Additionally, the filter wheel can be equipped with up to five different emission filters to support a variety of applications (e.g. for EtBr).

- Chemiluminescence, fluorescence and colorimetry
- Expandable to IR/NIR and multiplex applications
- Designed with ease-of-use in mind
- Extensive standard equipment

- Imager for chemiluminescence, fluorescence and colorimetry, upgradeable for NIR/multiplex imaging applications
- Selection of highly sensitive, cooled CCD cameras with fixed focal length or zoom lenses (motorized or manual)
- Light-tight darkrooms with large front door and unique UV safe gel viewer window
- Available either as a PC-operated unit or as a stand-alone instrument with integrated color touchscreen
- Easy-to-access filter wheel with up to five positions
- Integrated overhead (epi) white light for optimum illumination and focusing
- Chemi tray for sample placement on the black, non-reflective surface
- Telescoping transilluminator tray provides easy access to the UV transilluminator
- Upgrade options with versatile accessories such as multispectral light sources, overhead UV light sources, LED white light plates and much more
- VisionWorksLS Software with comprehensive features

A Sophisticated Selection

A wide choice of components provides for reliable results and individual solutions.

A winning combination: CCD cameras and lenses

In order to meet the requirements for recording different types of signals, a set of scientific-grade, cooled CCD cameras with resolutions of up to 8.1 MP is available. The cameras are combined with a variety of high-quality lenses, either with fixed focal length or zoom capabilities. Moreover, the integrated Peltier cooling is essential for detection of low light chemiluminescence signals, e.g. for Northern, Western and Southern Blots. When compared directly to other detection methods, cooled CCD cameras are superior in terms of sensitivity, accuracy, dynamic range, speed and ease of handling. In addition, when using the ChemStudio for Western Blot imaging, no film is required, which saves money and resources. Thus, the ChemStudio line supports eco-friendly imaging practices.

Image acquisition and analysis: Simple and intuitive VisionWorksLS software

Chemiluminescence imaging and subsequent analysis are greatly simplified using a combination of ChemStudio systems and VisionWorksLS software. VisionWorksLS is a modern software package with an extensive array of features to simplify the imaging of chemiluminescence, fluorescence and colorimetric gels, blots, colonies and membranes, all while providing highly accurate results. Once positioned on the imaging platform, the sample is focused and the picture is captured. The full dynamic range can be acquired with the use of dynamic and sequential integration capabilities. High sensitivity and superior resolution cameras guarantee excellent, publication quality images and quantifiable results.

- Extensive imaging capabilities
- Image enhancement functions
- User-defined master templates for simple, 1-click image capture
- Support for 21 CFR Part 11 compliance
- Reporting and data export to Excel

Most combinations of camera and lens allow imaging settings to be automatically controlled. The VisionWorksLS software menu provides a variety of features to ensure high quality, consistent image acquisition.

- Integration: On-chip, sequential or dynamic
- Binning
- Saturation preview
- Automatic exposure

Furthermore, the software offers a substantial range of tools for detailed image analysis. These features, which are easy to use and intuitive to apply, provide the capability to automate all experiments with precise quantification. Creation of profile graphs with intensity histograms, concentration curves and much more are available with VisionWorksLS.

Flexibility and modularity: Accessories for convenient system expansion

All chemiluminescence systems can be combined with a selection of transilluminators for ethidium bromide or other stained gels. Models are available with a single excitation wavelength of 302 nm or with multiple excitation wavelengths in the UV range. Additionally, white light converter plates and LED white light plates allow for visualization of colorimetric gels, colony plates, autoradiograms or other samples being excited by white light. Furthermore, VisiBlue™ converter plates enable blue light excitation of samples containing GelGreen™, SYBR® Green and other "safe" stains. Analytik Jena also offers overhead (epi) UV modules for an optimum image presentation of thin-layer chromatography plates. Multiplex and fluorescence Western Blot imaging are accomplished with the external eLITE multi spectral light source. The fiber optic cables are directly connected within the dark-room to provide a brilliant, highly intense excitation of the samples. All light sources use specialized filters to meet the wavelength requirements of different dyes such as GFP, RFP, CY and IR-dyes.

Technical Data

Application	CCD Camera 515	CCD Camera 815	CCD Camera 615
Chemiluminescence	++	+++	+++
Fluorescence	++	+++	++
Colorimetry	++	+++	++
NIR	+	++	+++
Multiplex	+	++	+++

Specifications	CCD Camera 515	CCD Camera 815	CCD Camera 615
Greyscale	65,536	65,536	65,536
Bit depth	16 Bit	16 Bit	16 Bit
Pixel resolution	2336 x 1752	3296 x 2472	2184 x 1472
Megapixels	2.1 (may be expanded to 6.4)	8.1 (may be expanded to 16.2)	3.2 (may be expanded to 9.6)
Cooling	Room temp - 57 °C Peltier cooling	Room temp - 57 °C Peltier cooling	Room temp - 60 °C Peltier cooling
Binning	1 x 1 to 8 x 8	1 x 1 to 8 x 8	1 x 1 to 10 x 10
Lenses	12.5 – 75 mm f/1.2	42.5 mm f/0.95 25 mm f/0.95	50 mm f/1.2 25 mm f/0.95

Analytik Jena's BioImaging products eliminate the need for film and accordant processing chemicals.
Thus, the ChemStudio line supports eco-friendly, "Green" imaging practices.

Specifications

ChemStudio

- Simple, efficient darkroom configuration
- Cost-effective alternative to other chemiluminescence systems
- 4-position emission filter wheel
- Manually controlled illumination and emission filter wheel
- Camera and lens controlled manually or via software
- VisionWorksLS software: image acquisition and analysis

ChemStudio SA²

- Stand-alone system with integrated tablet and 15.6" color touchscreen
- Simple, intuitive software user interface
- USB ports as well as wireless networking capabilities for saving images
- 5-position emission filter wheel
- Fully automatic control: illumination, camera, lens and emission filter wheel
- Stand-alone software: acquisition, multilingual
- VisionWorksLS software: image analysis (requires external computer)

ChemStudio PLUS

- High-end darkroom for a variety of imaging applications
- Motorized platform lift
- 5-position emission filter wheel
- Fully automatic control: illumination, camera, lens and emission filter wheel
- VisionWorksLS software: image acquisition and analysis

Order Information

Darkrooms

Order number	Description
849-00100-2 | 230 V 849-00100-4 | 100-115 V	**ChemStudio** – Darkroom for chemiluminescence imaging. Without PC, without Camera/Lens Kit and without transilluminator; includes epi white light, ethidium bromide emission filter, gel ruler and tray, focus target, Chemi tray; VisionWorksLS Acquisition & Analysis software
ChemStudio SA² + 515 CCD camera + 12.5 - 75 mm f/1.2 motorized zoom lens: 849-01004-2 | 230 V 849-01004-4 | 100-115 V	**ChemStudio SA²** – Darkroom and camera & lens kit for chemiluminescence imaging. Stand-alone system with integrated 15.6" color touchscreen. Without transilluminator; includes epi white light, ethidium bromide emission filter, gel ruler and tray, focus target, fold-down small Chemi tray, separate Chemi tray, VisionWorksLS Analysis software (separate PC required)
ChemStudio SA² + 815 CCD camera + 42.5 mm f/0.95 motorized lens: 849-01005-2 | 230 V 849-01005-4 | 100-115 V	
849-00102-2 | 230 V 849-00102-4 | 100-115 V	**ChemStudio PLUS motorized** – Darkroom for chemiluminescence imaging with automated platform lift. Without PC, without Camera/Lens Kit and without transilluminator; includes ethidium bromide, SYBR® Green and SYBR® Gold emissions filters, epi white light, gel ruler and tray, focus target, Chemi tray (black), LED white light plate, VisionWorksLS Acquisition & Analysis software

Transilluminators (Choice)

Order number	Description
849-20021-0 | 230 V 849-20021-4 | 100-115 V	**benchUV 26i** | Benchtop transilluminator, 8 W, 302 nm, variable intensity, 21 x 26 cm filter size
849-20014-0 | 230 V 849-20014-4 | 100-115 V	**benchUV 26SML** | Benchtop transilluminator, 8 W, 254/302/365 nm, 21 x 26 cm filter size

Camera & Lens Kits for ChemStudio

Order No.	Description
849-00115-0	**ChemStudio** | CCD-Cam. 515, 12.5-75 f/1.2, manual
849-00116-0	**ChemStudio** | CCD-Cam. 515, 12.5-75 f/1.2, motorized
849-00135-0	**ChemStudio** | CCD-Camera 815, 42.5 f/0.95 manual
849-00138-0	**ChemStudio** | CCD-Camera 815, 42.5 f/0.95 motorized

Camera & Lens Kits for ChemStudio PLUS motorized

Order No.	Description
849-00136-0	**PLUS Motorized** | CCD-Camera 815, 42.5 f/0.95
849-00139-0	**PLUS Motorized** | CCD-Camera 815, 25 f/0.95
849-00123-0	**PLUS Motorized** | CCD-Camera 615, 50 f/1.2
849-00124-0	**PLUS Motorized** | CCD-Camera 615, 25 f/0.95


ChemStudio PLUS


ChemStudio


ChemStudio SA²

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Subjects to changes in design and scope of delivery as well as further technical development!

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