

# QUANTUM

GEL DOCUMENTATION &  
FLUORESCENCE IMAGING

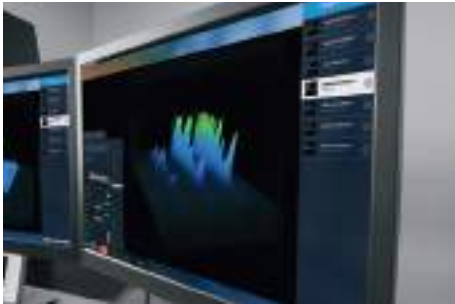


GEL DOCUMENTATION IMAGING

 **VILBER**  
Smart Imaging



**The Quantum protocol driven image acquisition is as quick as intuitive: adjust your exposure, save, print or quantify.**



The Quantum delivers more significant quantitative data compared to other imagers.



## THE LABORATORY STANDARD SO EASY

The Quantum is the laboratory standard for DNA and protein gel imaging. The system is based on an advanced set of performance ideal to achieve high fidelity and quantitative scientific measurement. Its excellent imaging properties guarantee the best performance for nucleic acid and protein samples.

The images generated allow for critical image analysis thanks to their high depth of data. Moreover, they can easily be printed out in an attractive way for the laboratory book. The Super-Bright UV illumination and filter technology enhances the image quality especially for DNA and RNA gels. Optional UV epi illumination sources (filtered 254 nm and 365 nm) allow, for instance, for TLC or GFP images. The compact darkroom with integrated filter wheel is made entirely of stainless steel and aluminium. For comfortable work, the integrated UV or SkyLight transilluminator can be completely pulled out.

## DNA, RNA & PROTEIN GELS UNRIVALED SENSITIVITY

Fluorescence is the main method used for gene expression and protein detection. The fluorophore absorbs the excitation light, reaching a higher energy state. By returning to its former state, it emits fluorescent light. The aim of the imaging system is to separate the

emitted light from the excitation light in order to obtain an optimum sample image.

Our systems can accommodate up to 6 excitation channels in the UV and visible area. This is ideal for a large array of applications such as DNA or RNA gels, 1D protein fluorescent gels, stain free gels... A large number of dyes could be used such as Ethidium Bromide, Sybr-Safe, Sybr Green, Gel-Red, Gel-Green, Sybr-gold, GFP, Pro-Q Emerald 300, Sypro-Ruby, FITC, DAPI...

## COLORIMETRIC STAINS THE APPLICATION MASTER

A colorimetric stain can be used for protein detection after the bands have been separated by electrophoresis. The colorimetric stains require visible light illumination for sample visualization and documentation. Our systems offer several reflective and transmitting illumination options for colorimetric stains.

Our white light screen provides unmatched white light illumination. In our darkroom, LED-based reflective epi-white light excitation provides even white light illumination, compared to other systems with standard bulbs. A large number of stains could be used such as Coomassie blue, Silver stain, Ponceau S Red, Copper stain, Zinc stain... Our systems are ideal for colorimetric stained protein gels, X-ray film imaging, autorads, SSCP gels, colony dish and flask imaging...

**Up to 6 excitation and emission channels in the visible and UV area.**

**For fluorescence, photobleaching and phototoxicity are reduced.**



# QUANTUM



## ONE CLICK TO IMAGE

Automatic control of the camera, lens and lighting for an unrivaled ease of use



## APPS STUDIO

A complete library of gel imaging applications to ensure reproducibility.



## SUPER RESOLUTION

Very high level of detail and more quantitative information.



## PADBOX CONCEPT

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



**The Quantum has rich features and guides you into the advanced functions in a very ergonomically designed user interface. The simple and self-explanatory menu is ideal in a multi-user environment.**

## SIMPLY PRECISE ONE CLICK TO THE IMAGE

The Quantum has been designed for maximum ease of use. From its simple installation to its intuitive user interface, this system is plug-and-play. The Quantum 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 Quantum includes our unique Apps Studio approach to imaging. The Apps Studio is a library which contains 40 different protocols for your blot and gel. The protocol oriented Apps Studio ensures reproducibility and one click acquisition for the best ease of use.

The Quantum includes our unique Dynamic 3D scan technology. The 3D Dynamic Scan images your sample in real time and reconstructs the data to create live three dimensional models. The 3D reconstruction provides direct information regarding the image dynamic, background level and protein or DNA quantity. A little change of exposure time will refresh the 3D view automatically.

# QUANTUM

## Upgradeable

- Optional epi or trans-illumination options
- Interchangeable application pad for UV, blue, green or red fluorescence
- 10 positions filter wheel
- 10 narrow band filters available from 440 to 850nm

## Complete & Practical

- Small footprint
- Large door opening
- Motorized zoom lens
- USB-3 interface
- Additional free software for image editing and image analysis: molecular weight calculation, band quantification & distance calculation



## 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 appearance without affecting data integrity

## Easy & Intuitive

- One click to get the image
- Auto-exposure and auto-focus
- Automatic light illumination according to your application
- Protocol driven image acquisition

## QUANTUM PadBox 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

CX5 camera:

- Scientific grade camera - Made in Germany
- 5 megapixels resolution extendable to 20 megapixels
- Passive cooling
- 16-bit – 65 536 grey levels
- USB-3 connection
- Motorized zoom lens with feedback
- Field of view: 26x21cm

## EASE OF USE

One-Click-to-the-Image™

Protocol driven image acquisition

Self-explanatory user interface

Auto-exposure

Auto-focus

Auto-lighting

## HARDWARE

Smart Darkroom technology:

- Software control of the lighting
- White light LED panels with automatic intensity adjustment
- UV cut-off filter and 10 positions filter wheel
- 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 Bio-Vision 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

DNA, RNA, protein gels. Fluorescence and colorimetric stain imaging:

- Ethidium bromide, Sybr-Safe, Sybr-Green, Gel-Red, Gel-Green, Sybr-Gold, GFP, Pro-Q Emerald, Sypro ruby, FITC, DAPI
- Colorimetric stained protein gels, X-Ray film, autorads, SSCP gels, colony dish and flask imaging and other EPI white light applications
- Coomassie blue, Silver stain, Ponceau S Red, Copper stain...

Sky-Pad or Blue light conversion screen for DNA/RNA detection (avoid «nicking» DNA):

- Sybr Safe, Sybr Green, eGFP

## TECHNOLOGY & INNOVATION

- Apps Studio™
- 3D Dynamics Scan™
- SuperResolution™
- ImageMaster™ assistant

## OPTIONS

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

- EPI UV 254nm and 365nm
- UV-Pad – 312nm or dual wavelength 312 and 365nm
- Super-Bright-Pad – 312nm or dual wavelength 312 and 365nm
- LED Sky-Pad: blue light transilluminator, 470nm
- White-Light-Pad: LED white light transilluminator
- Spectra-Pad Blue: blue epi-illumination

White light or blue light conversion screen

Advanced Bio-1D quantification software

CFR21 Part 11 administration software





#### **HEADQUARTER**

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