

2016 Catalogue

 **major
science**

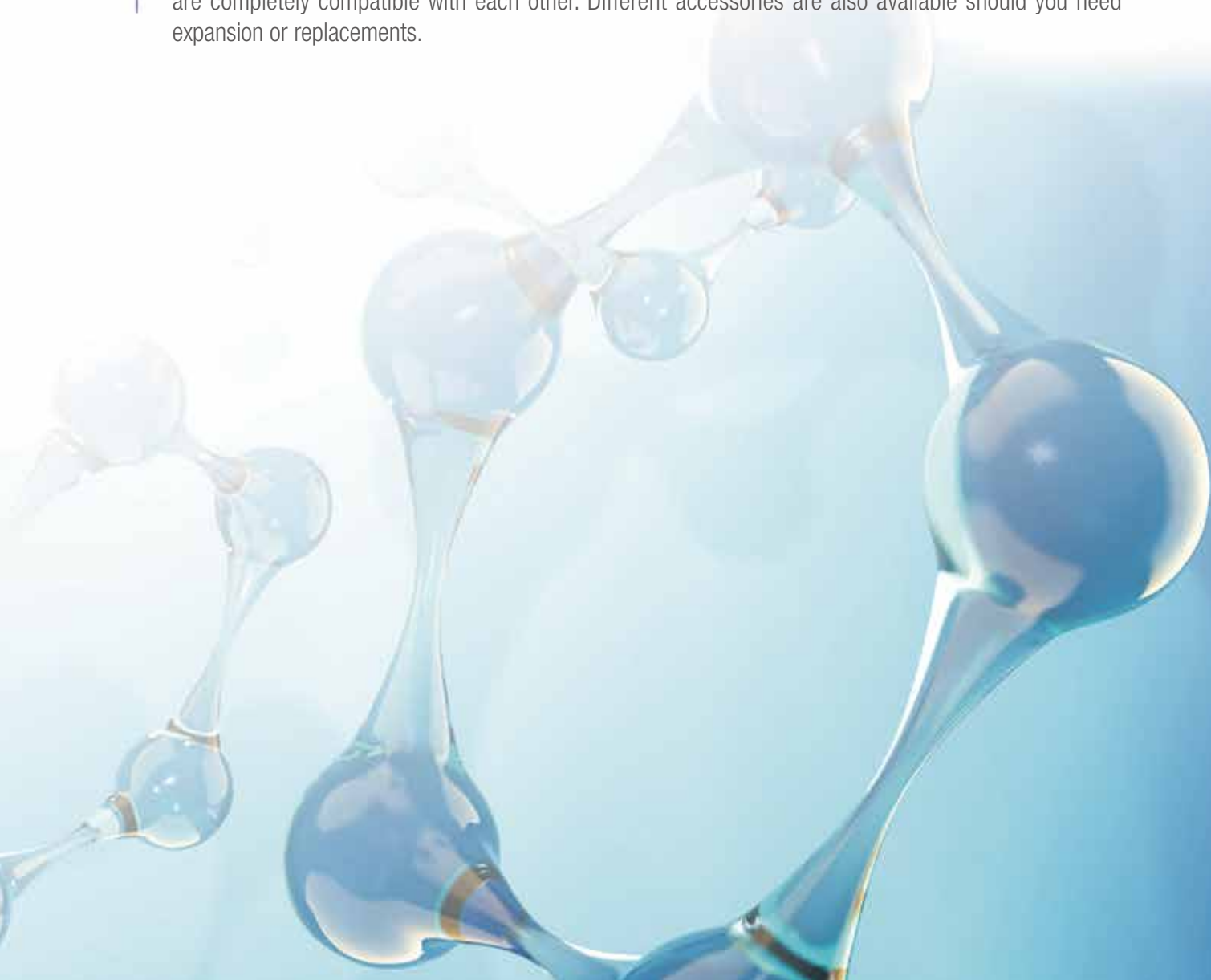
Innovative Life Sciences Tools

Blue light Technology



Blue Light Technology

The amazing and newly innovated SafeBlue product series utilize the power of blue light, which allows you to run your standard electrophoresis experiment with immediate and outstanding results and not compromising your safety and protection. Blue light technology allows you to view your DNA/RNA bands without causing photonicking damage to your samples. SafeBlue system comprises the SafeBlue Illuminator, SafeBlue Electrophoresis System and SafeBlue Imager Systems. All three products are completely compatible with each other. Different accessories are also available should you need expansion or replacements.



Blue Light Technology

SafeBlue System

84-89

- ❖ SafeBlue Illuminator / Electrophoresis System
- ❖ SafeBlue Imager System / Darkroom Viewer

Blue Light Illuminator

90-91

- ❖ Mini SafeBlue Electrophoresis System
- ❖ BluView Transilluminator



*All images are for reference only, actual products might differ from the images.

*Please visit our website at www.majorsci.com for more product selection and detailed information.

*Technical specification subject to change without notice.

SafeBlue Illuminator / Electrophoresis System

MBE-150 MBE-150-PLUS

For MBE-150

The innovative SafeBlue Illuminator is an unit with combination of a small power supply with Blue Light Illuminator. The system emits blue LED light which allows you to view your DNA/RNA bands without worrying about the harmful UV damage to your samples and eyes. SafeBlue Illuminator could also be used as a simple Blue Light Illuminator to cut your samples from gels.

For MBE-150-PLUS

The SafeBlue Electrophoresis System also uses Blue LED Light to allow for immediate visualization of DNA/RNA bands while running agarose electrophoresis gel. The complete system comes with three different sizes of gel trays for your convenience of use, 15x7cm, 15x10cm and 15x15cm. The system is RoHS and CE compliant for environmental and safety concerns. Different accessories are also available for user to select.

Features

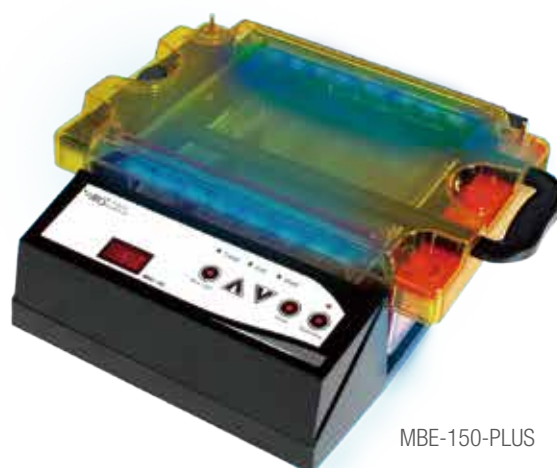
- **Innovative** — a complete 4-in-1 system (run, view, capture and cut gel) with simple and easy set up on the image capture/analysis software.
- **Convenient** — run as you see, real time visualization on your DNA/RNA band migration
- **Compact** — footprint smaller than most UV transilluminator, easy to move and ideal for limited bench top space
- **Economical** — an inexpensive imager system with scientific or digital camera. Multiple accessories are also available to increase experimental efficiency
- **Safe** — 470nm blue light less invasive than UV light
- **Flexible** — UV tray adaptors available, compatible with MJ-105 or Mupid 2.
- **Versatile** — support gel trays 15x15cm or smaller
- **Compatible** — MBE-IMG combo with as Image System
- **Optimized performance** — SYBR series DNA/RNA stains, Novel Juice and Midori Green series
- **Simple** — DNA/RNA recovery method



MBE-150

MBE-150 includes:

- 1 x SafeBlue Electrophoresis System Base Unit
- 1 x Power adaptor
- 1 x Power cord

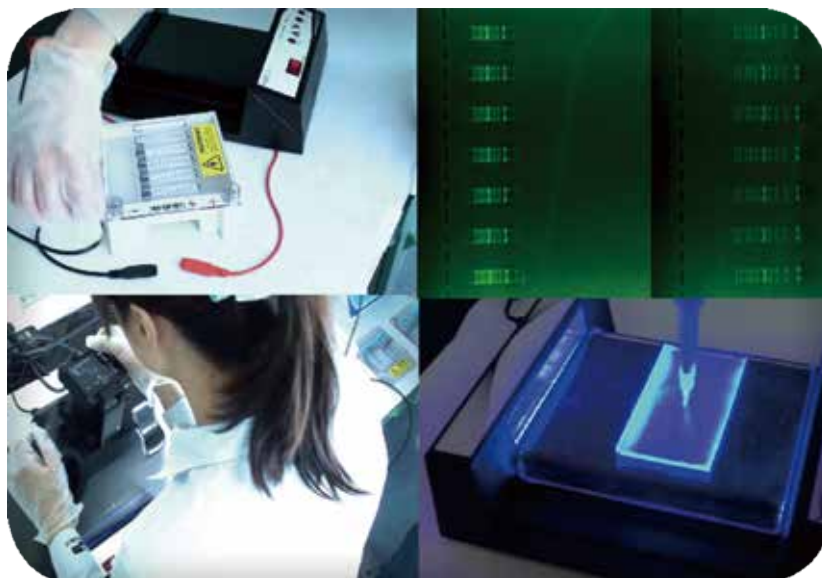


MBE-150-PLUS

MBE-150-PLUS includes:

- 1 x SafeBlue Electrophoresis System Base Unit
- 1 x SafeBlue Electrophoresis Tank
- 1 x Filter lid
- 1 x Power cord
- 1 x 15x7cm UV tray
- 1 x 15x10cm UV tray
- 1 x 15x15cm UV tray
- 2 x 20 sample combs (1mm thick)
- 2 x UV tray casting dams





4 in 1 feature allows you to run as you see in real-time motion

Specification

Cat. No.	MBE-150
Output voltage / Inc.	10-150V / 1V
Output current / Inc.	10-300mA / 1mA
Max. power	30W
Operating mode	Constant Voltage or Current
Timer	999 (min) with alarm / Continuous
Safety device	No load detection
Crossover	Yes
Blue light wavelength	470nm
Operating temperature	Ambient to 40°C
Dimension	(WxLxH) 11.54"x7.87"x3.15" (293x200x80mm)
Weight	Approx. 2.4lb (1.1kg)
Material	Polycarbonate housing and aluminum base plate
Power adaptor	Input: 100-240VAC, 50/60Hz, 1.4A Output: 15VDC, 4.0A, 60W max.
Cat. No.	MBE-TANK
Dimension (WxLxH)	10.43"x6.89"x3.54" (265x175x90mm)
Gel dimension (WxL)	5.91"x2.76" (150x70mm), 5.91"x3.94" (150x100mm), 5.91"x5.91" (150x150mm)
Maximum sample	70 for 2.76"x5.91"x2.76"(150x70mm) Tray (2x35 sample combs)
	140 for 5.91"x5.91"x3.94"(150x100mm) Tray (4x35 sample combs)
	210 for 8.27"x5.91"x5.91"(150x150mm) Tray (6x35 sample combs)
Buffer volume	500ml
Material	Acrylic (Injection molded construction) Durable, leak proof environment for complete safety and long life
Cassette type electrode	Inexpensive, easy to replace
Electrical safety	Lid can only be fastened in one way Upon lid removal, power is disconnected from buffer chamber
Rapid casting gel	Use casting dams
Cat. No.	MBE-LID-Y1
Dimension (WxLxH)	6.93"x10.55"x1.38" (176x268x35mm)
Filter type	Amber filter (for dyes selection please refer to comparison table for various nucleic acid stain performance, page 87)
Lid filter wiper	Used to remove condensation
Material	Polycarbonate

Ordering Information

Cat. No.	Product Description
MBE-150	SafeBlue Illuminator
MBE-150-PLUS	SafeBlue Electrophoresis System, including SafeBlue Illuminator, electrophoresis gel tanks, Amber Filter lid, image enhancer film and red/black cable

Accessories

Cat. No.	Product Description
MBE-G-Y1	Amber filter viewing glasses (optional)
MBE-UV15-TH01	ME15-UV15 Tray Holder, 2 cuts , cut size 109.5x60.5mm (for MJ-105 trays)
MBE-UV15-TH02	ME15-UV15 Tray Holder, 1 cut , cut size 130.5x122.5mm
MBE-TANK-01	SafeBlue electrophoresis gel tank image enhancer film
MBE-150-02	SafeBlue gel cutting tray
MBE-150-3	SafeBlue Illuminator platform protective film
MBE-LID-Y1	MBE-150 lid with Amber Filter
MBE-150-CABLE	MBE-150 red/black cables
MBE-150-01	SafeBlue Imager System, dark room viewer
MBE-TLC	Package of MBE-TANK, MBE-LID-Y1 and MBE-150-CABLE
MBE-TANK	Electrophoresis Tank for SafeBlue (without lid and Red/black cables)
NAS01	Midori Green Direct DNA stain, 1ml
NAS02	Novel Juice DNA stain, 1ml

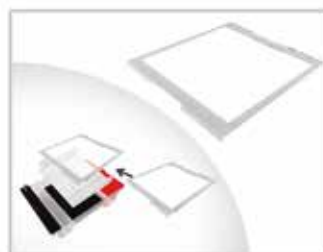
* For more information of MBE-IMG-CA/CM, please refer to SafeBlue Imager System.



MBE-G-Y1



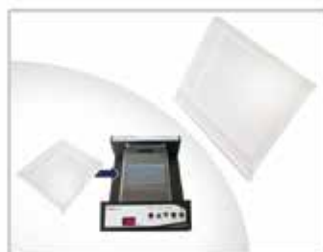
ME15-UV15-TH01



ME15-UV15-TH02



MBE-TANK-01



MBE-150-02



MBE-150-3



MBE-LID-Y1



MBE-150-CABLE



MBE-150-01



MBE-TLC



MBE-TANK



MBE-150-01

Bundle Packages

Cat. No.	Product Description
MBE-CP-01	SafeBlue Electrophoresis System complete set with 210 Imager System
MBE-CP-02	SafeBlue Electrophoresis System complete set with 220 Imager System

*For more information please refer to [Page 88-89](#)

Bundle Packages



MBE-CP-01

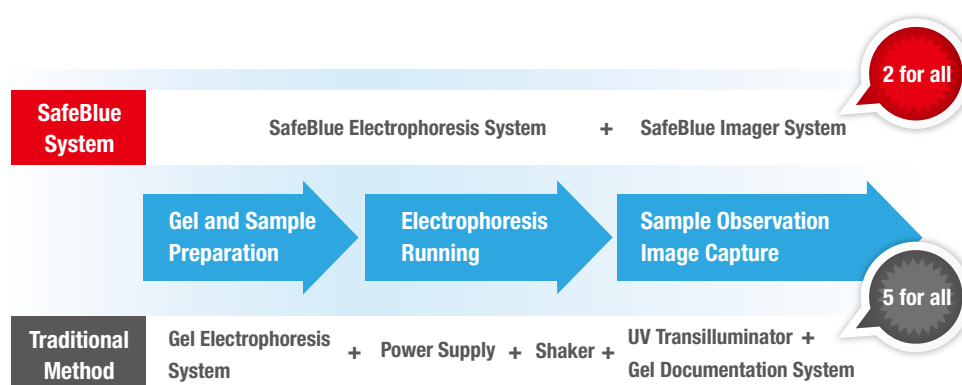


MBE-CP-02

Comparison table for various nucleic acid stain performance

Nucleic Acid Stain	Performance	Experimental Protocol		
		Pre-staining	Post Staining	Sample Staining
SYBR® Green I (DNA)	Excellent	✓	✓	✓
SYBR® Green II (RNA)	Excellent		✓	✓
SYBR® Gold	Excellent	✓	✓	
Midori Green Direct	Excellent			✓
Hydra Green™ Safe DNA Dye	Excellent	✓	✓	
HD Green™ DNA Stain	Excellent	✓	✓	
Novel Juice	Excellent			✓
SafeView DNA Stain	Well	✓		
SYBR® Safe	Well	✓	✓	
Midori Green	Well	✓	✓	
Midori Green Advanced	Well	✓	✓	
GelGreen™	Well	✓	✓	
GelRed™	NR	✓	✓	
Ethidium Bromide	NR	✓	✓	
Serva DNA Stain Clear G	Well	✓	✓	
HealthView™	Well	✓		

NR= Not recommended



Innovative Electrophoresis System

1. Early detection of running error (run as you see)
2. No more gel-transfer, gloves free!
3. Saves you time for gel staining & destaining
4. Compact in size (no large lab area required)

SafeBlue

Imager System/ Darkroom Viewer

MBE-IMG series

The SafeBlue Imager System offers three selections for your convenience and preference. The compact digital camera allows you to take pictures from the camera and stores in the memory card without any hassle. The portable and light design allows you to carry it with ease. The 5MP scientific grade camera provides an excellent image to your laptop through the USB connection whereas the digital camera type offers computer free operation. The darkroom viewer provides a darkroom environment for you to view the migrating DNA with ease. The SafeBlue Imager System completes the SafeBlue electrophoresis series for all your needs - from gel casting, gel electrophoresis to gel documentation; all in one system. The complete SafeBlue Imager System not only saves your lab bench space, but also provides excellent portability to move from lab to lab.

PC Requirement:

- Processor: 1.8GHz Pentium® IV or equivalent AMD Athlon® processor
- Memory: 512MB required
- Storage: 1GB
- Media: CD-ROM drive
- Connectivity: 1 port USB 2.0
- Video: 1280x800 resolutions
- Operating System: Windows® 7 SP1/ Windows® Vista SP1 / Windows® XP SP3 / Windows® 8
- Printer: USB printer or thermal printer (optional)



Easy handling and set up for gel imaging

Features

- Light weight and space saving design
- Ready to use out of the box; just connect and capture
- Two camera types available: choose digital camera or scientific grade camera
- Designed for SafeBlue Electrophoresis System to complete cast, run, and capture
- Gel analysis software also included for FREE. (Only applies to scientific grade camera model)
- PC-free for digital camera model. PC required for scientific camera model.

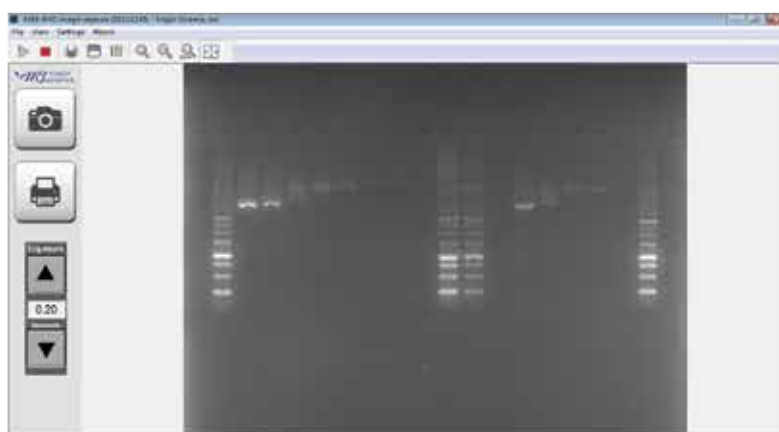


MBE-IMG-CA

MBE-IMG-CM



*Note: PC not included.



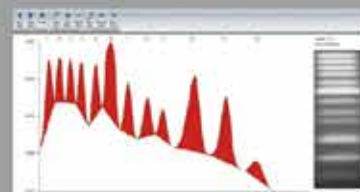
MS 1D Analysis Software(Cat. No. MBE-IMG-SW)

PC Version

Load image



Quantify



Define region



Analysis



PC is not included

SafeBlue System



MBE-IMG-CA-01



MBE-IMG-CA-02



MBE-IMG-CM-01



MBE-IMG-CM-02



MBE-IMG-CM-03



MBE-IMG-F3



MBE-IMG-F4



MBE-G-Y1



LENS-01

Specification

SafeBlue Imager System 210 Digital Camera	
Type	5 x optical / 4 x digital zoom digital camera with built-in Wi-Fi
Effective pixels	Approx. 12.1 megapixels
Maximum aperture	f/1.8 (W) - f/2.8 (T) or Aperture f/number / f1.8-f18.0(w), f/2.8-f/8.0(T)
Shutter speed	1 - 1/4000 sec.
Storage media	SD memory card
Computer interface	USB 2.0 Hi-speed (mini-B jack) or Wi-Fi connection
Video out	NTSC / PAL mode switchable

SafeBlue Imager System 220 Scientific Grade Camera	
Resolution	2592x1944pixels
Video output format	Raw 8/10/12bit
FPS (Frame Per Second)	5 frames Max. Frame Rate: 14fps
Sensitivity	1.4V / lux-sec
PC Software file format	BMP, JPEG, TIFF, PNG
PC Software exposure range	30 - 0.01sec.
Focal length	6mm
Maximum relative aperture	F1.2
Grayscale	12bit, 0-4095 gray levels
Dynamic range	70.1DB

SafeBlue Imager System Dark Room

Camera holder material	POM (Polyoxymethylene) Aluminum alloy
Darkroom material	ABS (Acrylonitrile Butadiene Styrene)
Darkroom dimension	(WxLxH) 13.4"x7.68"x15.75" (340x195x400mm)
Amber filter ordered separately	Yellow Amber Filter / Orange Amber Filter
Weight	Approx. 1.8lb (0.8kg), including a camera

Ordering Information

Cat. No.	Product Description
MBE-IMG-CA	SafeBlue 210 Imager System with 12.1 megapixel digital camera and hood kit
MBE-IMG-CM	SafeBlue 220 Imager System with 5.0 megapixel scientific grade camera and hood kit
MBE-150-01	SafeBlue Imager System, dark room viewer
MBE-IMG-CA-01	SafeBlue 210 Hood Kit, includes camera adapter, and hood
MBE-IMG-CA-02	SafeBlue 210 Holder Kit, includes camera adapter
MBE-IMG-CM-01	SafeBlue 220 Hood Kit, includes camera adapter, and hood
MBE-IMG-CM-02	SafeBlue 220 Holder Kit, includes camera adapter
MBE-IMG-CM-03	5.0 megapixel scientific grade camera, lens and USB cable
MBE-IMG-F3	SafeBlue Amber Filter, 560nm or Yellow Amber Filter
MBE-IMG-F4	SafeBlue Amber Filter, 580nm or Orange Amber Filter
MBE-G-Y1	Amber filter viewing glasses
LENS-01	Lens adapter for digital camera

Bundle Packages

Cat. No.	Product Description
MBE-CP-01	SafeBlue Electrophoresis System complete set with 210 Imager System
MBE-CP-02	SafeBlue Electrophoresis System complete set with 220 Imager System

*For more information please refer to [Page 84-85](#)



MBE-150-01



MBE-CP-01



MBE-CP-02

NEW

Mini SafeBlue Electrophoresis System

MBE-100 series

The Mini SafeBlue System is the new member to the family. It consists of all the great features from the MBE-150 series but smaller in size, more economical and better performance. The Mini SafeBlue System offers flexibility in the electrophoresis tank selection and accommodates up to 13cm in tank width, so it can easily fit in our ME10 or ME7 series tank to perform run and view. The built-in fans on the tank lid helps reduce the vapor condensation, so the result can be seen more easily and clearly. The Mini SafeBlue System is perfect to run small numbers of PCR samples and performs quick result for immediate visualization.

Features

- Convenient — run as you see DNA migration
- Compact — footprint smaller than most UV transilluminator, easy to move and ideal for limited bench space
- Economical — an inexpensive imager system with scientific or digital camera; multiple accessories are also available to increase experimental efficiency
- Safe — 470nm wavelength blue light less invasive than UV light
- Flexible — UV tray adaptors available, compatible with MJ-105 or mupid 2
- No harmful effects of UV:
 1. Non-carcinogenic, safe for operator
 2. Significantly minimize sample degradation than UV

BluView Transilluminator

MBE-200

The BluView Transilluminator is packed with powerful 470nm blue LED light to enhance while maintaining environmentally safe to you and the mother Earth. With the gel illumination or gels stained by safe dyes imaging size of 15.4x15.4cm, you could fit any midi to small size gel on top of the transilluminator. Attached a 580nm filter lid allows you to view the sample within any angle available, adjustable hinge prevents any glare or reflection might affect your visibility.

The BluView Transilluminator is also compatible with our imaging systems such as Digimage System and SmartView Simple Imager Systems.

Features

- Light weight, easy to carry in between labs
- Aluminum alloy casing design
- Low heat dispersion
- Energy saving product
- 470nm blue light for safe human contact

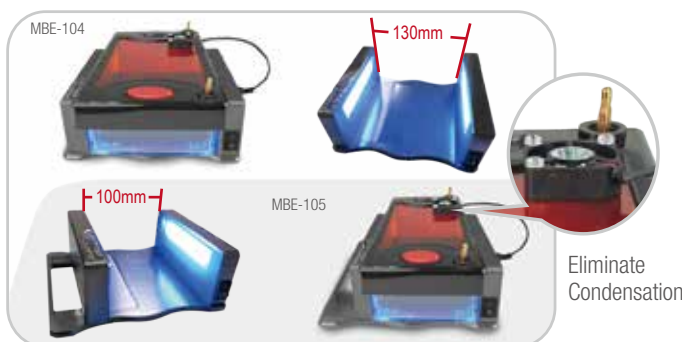


FC CE

MBE-100



Immediate Visualization

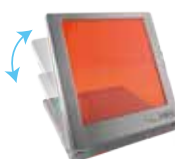


Flexible width for different sizes of electrophoresis tank (Midi plus and Midi plus-1 series)



MBE-200

CE



Flexible in angle viewing



Portable and light weight

Reticulated filter design



Aluminum alloy provides sturdy safe structure

SafeBlue System

Specification

Cat. No.	MBE-100	MBE-200
Illuminator base design	Adjustable base	Flat bed
Material	Aluminum alloy	Aluminum alloy
Power	AC Input: 100-240V~, 50/60Hz, 2A	AC Input: 100-240V~, 50/60Hz, 2A
	DC Input: +12V/5A, 60W Max.	DC Input: +12V/5A, 60W Max.
Blue light wavelength	470nm	470nm
Dimension	(WxLxH) 6.75"x6.18"x2.28" (171.4x157x58mm)	(WxLxH) 7.87"x7.87"x1.12" (200x200x28.7mm)
Weight	Approx. 3.3lb (1.52kg)	Approx. 3.3lb (1.52kg)
Fliter viewing surface dimension	N /A	6.0"x6.0" (15.3x15.3cm)

Ordering Information

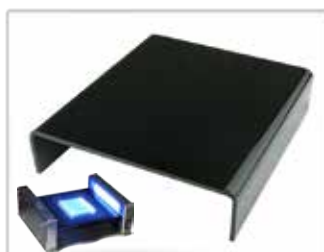
Cat. No.	Product Description
MBE-104	Package of MBE-100, MBE-102, MBE10-TANK, ME10-TANK-01 and MBE-150-CABLE
MBE-105	Package of MBE-100, MBE-103, MBE7-TANK, ME7-TANK-01 and MBE-150-CABLE
MBE-200	BluView Transilluminator, 470nm

Accessories

Cat. No.	Product Description
MBE-101	Observation tray for Mini SafeBlue Illuminator
MBE-102	Lid with 580nm Amber Filter and evaporation fan for Midi plus-1 Horizontal Electrophoresis system (ME10-7-10)
MBE-103	Lid with 580nm Amber Filter and evaporation fan for Midi plus Horizontal Electrophoresis system (ME7-7-10)
MBE-100	Mini SafeBlue Illuminator, 470nm
MBE7-TANK	ME7-7-10 Electrophoresis tank only, without Lid and Red / Black Cable
MBE10-TANK	ME10-7-10 Electrophoresis tank only, without Lid and Red / Black Cable
ME7-TANK-01	Image enhancer film for ME7-7-10 tank, black
ME10-TANK-01	Image enhancer film for ME10-7-10 tank, black
MBE-G-Y1	SafeBlue Amber Filter viewing glasses, 560nm
MBE-150-CABLE	Red / black cable for SafeBlue electrophoresis tank
MBE-201	Rubber flap



MBE-G-Y1



MBE-101



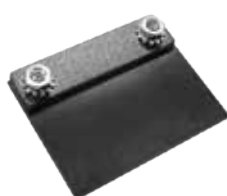
MBE-102



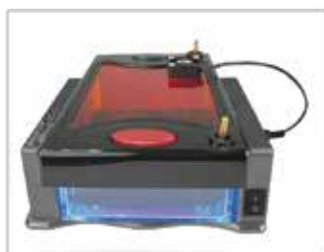
MBE-103



MBE-150-CABLE



MBE-201



MBE-104



MBE-105



ME7-TANK



ME10-TANK



ME7-TANK-01



ME10-TANK-01



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