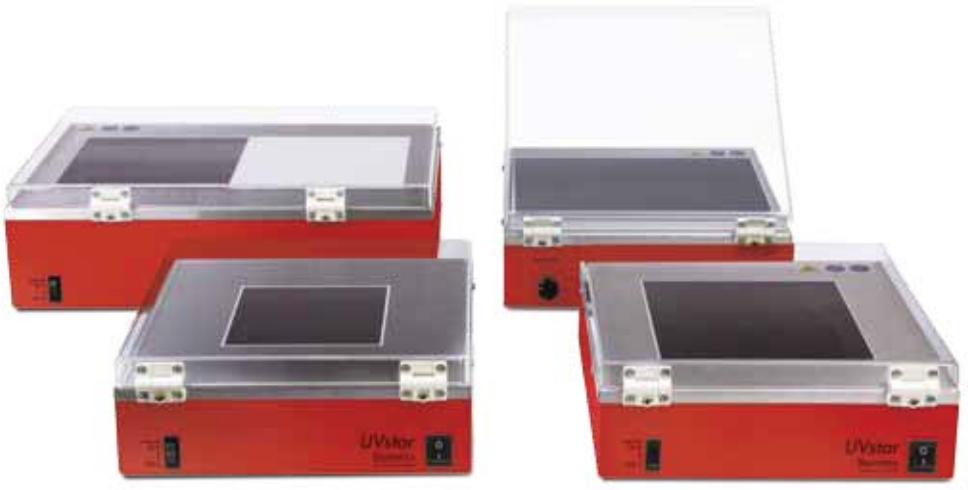
Transilluminators

UVstar Transilluminators for UV Fluorescent Stains

- **Filter sizes from 15 cm x 15 cm up to 23 cm x 30 cm**
- **Exceeding uniform illumination**
- **High-grade filter glass for low background**
- **Super Brilliant version for superior contrast available**

Biometra UV transilluminators feature a uniform and bright illumination based on modern control electronics.
The exclusive application of high-grade filter glass provides for excellent documentation results with lowest background signal. The great illumination uniformity allows the reliable quantification of electrophoretically separated fluorescent samples.



Design

Features	Benefit
Compact size with small footprint	Saves bench space and is compatible with Biometra BDA gel documentation darkhoods
Stainless steel filter frame	Robust and easy to clean for daily routine
Freely adjustable UV protection shield	User UV protection during handling the gel
Lamp control with electronic high-frequency operating system	Flicker-free illumination and extended lamp durability
Quiet, temperature controlled ventilation	Samples are protected from heating.

Application

Features	Benefit
Optimised number of UV bulbs per filter size	The high excitation intensity provides high sensitivity for the detection of even faint signals.
Built-in sophisticated diffuser and reflector	The homogenous illumination allows for critical quantitative analysis of protein and DNA gels.
Dual intensity switch (50 or 100 %) or regulator for intensity setting in 10 % increments from 10 % up to 100 %	Sample excitation can be individually adapted to the applications like documentation or preparative tasks as well to sample specific traits.

UV wavelength selection

The UV tables offer the choice between three different UV wavelengths. The most commonly used wavelength for sample documentation is the midrange UV of 312 nm. It provides a sensitive signal detection with many fluorophores as ethidium bromide, SYBR® Gold, GelStar® or SYPRO® Orange and minimizes DNA photonicking compared to shorter wavelengths.
The short wave 254 nm is preferred to achieve even higher sensitivity, e.g. when using SYBR® Green I dye. The long wave 365 nm is useful for excitation of e.g. Green Fluorescent Protein (GFP) and especially for preparative purposes.

UVstar with 2 wavelengths

For an optimal excitation and illumination the use of only one UV wavelength is recommended as otherwise the UV bulbs with different UV wavelengths are mounted alternating in the table. But sometimes it might be desired to use a dual wavelength transilluminator however. For these purposes the models "UVstar HM" and "UVstarML" are offered. These UV tables are coming with the medium UV wavelength of 312 nm and additionally with a shorter UV (254 nm) or a longer UV light (365 nm).

"Super Brilliant" UVstar: UVstar Plus

The precise detection of very faint signals can be further optimised by the application of a newly developed filter glass. This unique background uniformity filter remarkably enhances the contrast and improves the illumination uniformity even more. UVstar plus works with excitation wavelengths 312 nm and 365 nm.
The Super Brilliant version of the UVstar should especially be the choice when the camera filter is not the standard filter with narrow bandpass (for e.g. ethidium bromide stain) but the bandpass filter with wide bandpass. This bandpass filter BP 590 / 200 features a wide bandpass for emission signals between 490 to 690 nm. This wide range enables the image acquisition of fluorescences of different stains with one bandpass filter only. For an improved contrast it is advisable to use a Super Brilliant UVstar, a UVstar Plus, which reduces the background signal at its best.

For further information please see also section "Bandpass Filter for BioDocAnalyze Systems".

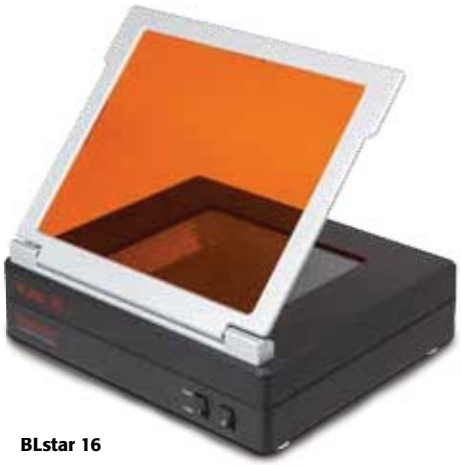
UV transilluminators	Filter size (cm x cm)			
Filter type and intensity setting	**15 x 15**	**20 x 20**	**23 x 30**	**20 x 20 + 20 x 20 White light**
High-grade filter 50 or 100 % dual switch	UVstar 15	UVstar 20 UVstar 20HM UVstar 20ML	UVstar 30 UVstar 30HM UVstar 30ML	UVstar WL
10 – 100 % 10 % increment regulator	UVstar 15i	UVstar 20i	UVstar 30i	UVstar WLi
Super Brilliant high-grade filter 50 or 100 % dual switch	-	UVstar 20 Plus	UVstar 30 Plus	-
10 – 100 % 10 % increment regulator	-	UVstar 20i Plus	UVstar 30i Plus	-

Transilluminators

Blue Light LED BLstar Transilluminators for Fluorescent Stains

- **Blue light LED illumination for e.g. green fluorescent stains**
- **Compact tables with 12.5 cm x 9 cm or 16 cm x 20 cm field of view**
- **Safe solution: No damage of DNA, no risk of UV exposure for users**

BLstar 9

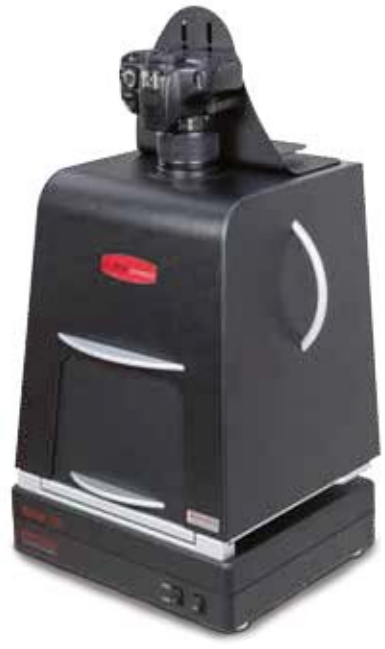


BLstar 16

Blue light transilluminators are a quite interesting alternative to UV transilluminators as there is no risk of sample damage during illumination. This is important when samples shall be processed furthermore after gel documentation. Users also benefit from it as there is no risk of UV exposure. Blue light excitation is applicable for fluorescent dyes for nucleic acid or protein stains with excitation wavelengths around 470 nm. Examples for compatible stains are: SYBR® Green, GelGreen™, SYBR® Safe, SYBR® Gold or SYPRO® Ruby.

Two different instruments are available within the BLstar line: **BLstar 9**, the small and handy solution for mini gels up 12.5 cm x 9 cm and **BLstar 16** for documentation of gels up to 16 cm x 20 cm.
Arrays of high-performance blue light LEDs are located at two sides below the illumination area. They provide for a great illumination uniformity and high signal intensity.
Both BLstar versions come with an installed lid with amber filter. The lid can be freely adjusted in different angles and allows an easy access to the gel during cutting out of the gel. There is no need to wear amber glasses as the amber lid serves as filter to see the fluorescent samples. This filter lid is also used for gel documentation with a camera. An additional bandpass filter in front of the camera lens is not necessary.
BLstar is compatible with BDAdigital and BDA live gel documentation systems. The small "BDA Hood" of "BDAdigital compact" or "BDA live compact" is directly placed over (BLstar 9) or on (BLstar 16) the blue light table.

For use of BLstar together with the advanced darkhood "BDA Box" please choose model "BDA Box 2BL". This darkhood with drawer for a transilluminator comes with a specific adapter for the BLstar tables.



BDAdigital compact and BLstar 16 transilluminator

Technical data:

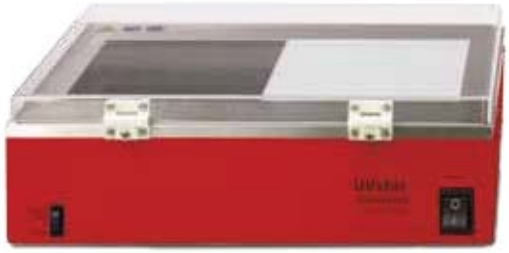
Filter size:	BLstar 9: 12.5 cm x 9 cm BLstar 16: 16 cm x 20 cm
LED wavelength:	470 nm
Intensity setting	BLstar 9: no intensity switch, only 100 % BLstar 16: 50 % or 100 % dual switch
Filter:	Lid with amber filter for visualisation of fluorescent signals
Dimensions (W x D x H, cm):	BLstar 9: 21 x 21 x 4 BLstar 16: 34 x 25.5 x 8
Weight (kg):	BLstar 9: 2.3 BLstar 16: 4.6
Power:	Input 100 - 240 V AC, 50 - 60 Hz,1.0 A, output 24 V DC, 1.25 A

Transilluminators

Documentation of Visible Coloured Samples

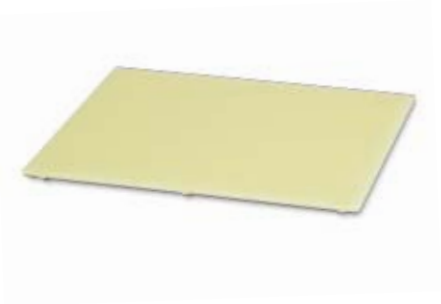
UVstar with white light: UVstar WL

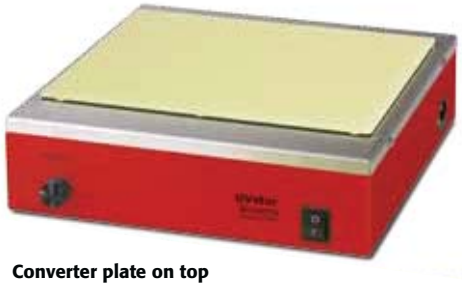
The UVstar transilluminator is also available as dual use version: UV table and white light table. UVstar WL features a 20 cm x 20 cm filter size for UV fluorescent samples and additional a 20 cm x 20 cm filter size for white light transillumination.
The white light table can be used for the documentation of all visible coloured samples like silver or Coomassie Blue stained gels as well as for radiographs. The UVstar WL can not be integrated into a Biometra darkhood due to its geometry.



UV to white light converter plate

Alternatively to the use of a white light table a converter plate can be applied at the top of a UV transilluminator. The converter plate converts the UV light to visible light and thus economically extents the application scope of all UV table models to the visualisation of coloured dyes.





Converter plate on top of a UVstar transilluminator

White light table WLstar

For documentation of only visible coloured samples without the need for any UV light the white light transilluminator WLstar is the table of choice. It comes with 20 cm x 20 cm or 23 cm x 30 cm filter size. The exceeding uniform illumination provides for bright sample images.

Filter type and intensity setting	Filter size (cm x cm)	
White filter	**20 x 20**	**23 x 30**
50 % / 100 % dual switch for intensity setting	WLstar 20	WLstar 30

Transilluminators

Order Information

The order numbers below refer to 230 V versions.
Order numbers of 115 V versions are supplied on request.

UVstar

Item	Order No.
UV Transilluminators with 50 or 100 % intensity switch	
UVstar 15 transilluminator, filter size 15 cm x 15 cm, 6 x 8 W UV bulbs (312 nm), 50 or 100 % intensity switch, UV protection shield	057 - 400
dto., but wavelength 254 nm	057 - 401
dto., but wavelength 365 nm	057 - 402
UVstar 20 transilluminator, filter size 20 cm x 20 cm, 8 x 8 W UV bulbs (312 nm), 50 or 100 % intensity switch, UV protection shield	057 - 500
dto., but wavelength 254 nm	057 - 501
dto., but wavelength 365 nm	057 - 502
UVstar 30 transilluminator, filter size 23 cm x 30 cm, 12 x 8 W UV bulbs (312 nm), 50 or 100 % intensity switch, UV protection shield	057 - 600
dto., but wavelength 254 nm	057 - 601
dto., but wavelength 365 nm	057 - 602
UVstar WL transilluminator, filter size 20 cm x 20 cm, 6 x 8 W UV bulbs (312 nm) + white light filter size 20 cm x 20 cm, 6 x 8 W white light bulbs, 50 or 100 % UV intensity switch, UV protection shield	057 - 700
dto., but UV wavelength 254 nm	057 - 701
dto., but UV wavelength 365 nm	057 - 702
UV Transilluminators with 10 – 100 % intensity control	
UVstar 15i transilluminator, filter size 15 cm x 15 cm, 6 x 8 W UV bulbs (312 nm), 10 – 100 % intensity setting, UV protection shield	057 - 410
dto., but wavelength 254 nm	057 - 411
dto., but wavelength 365 nm	057 - 412
UVstar 20i transilluminator, filter size 20 cm x 20 cm, 8 x 8 W UV bulbs (312 nm), 10 – 100 % intensity setting, UV protection shield	057 - 510
dto., but wavelength 254 nm	057 - 511
dto., but wavelength 365 nm	057 - 512
UVstar 30i transilluminator, filter size 23 cm x 30 cm, 12 x 8 W UV bulbs (312 nm), 10 – 100 % intensity setting, UV protection shield	057 - 610
dto., but wavelength 254 nm	057 - 611
dto., but wavelength 365 nm	057 - 612
UVstar WLi transilluminator, filter size 20 cm x 20 cm, 6 x 8 W UV bulbs (312 nm) + white light filter size 20 cm x 20 cm, 6 x 8 W white light bulbs, 10 – 100 % UV intensity setting, UV protection shield	057 - 710
dto., but UV wavelength 254 nm	057 - 711
dto., but UV wavelength 365 nm	057 - 712

UVstar Plus

Item	Order No.
UV Transilluminators with Super Brilliant filter and 50 or 100 % intensity switch	
UVstar 20 Plus transilluminator, filter size 20 cm x 20 cm, 8 x 8 W UV bulbs (312 nm), 50 or 100 % intensity switch, UV protection shield	057 - 520
dto., but wavelength 365 nm	057 - 522
UVstar 30 Plus transilluminator, filter size 23 cm x 30 cm, 12 x 8 W UV bulbs (312 nm), 50 or 100 % intensity switch, UV protection shield	057 - 620
dto., but wavelength 365 nm	057 - 622
UV Transilluminators with Super Brilliant filter and 10 – 100 % intensity control	
UVstar 20i Plus transilluminator, filter size 20 cm x 20 cm, 8 x 8 W UV bulbs (312 nm), 10 – 100 % intensity control, UV protection shield	057 - 530
dto., but wavelength 365 nm	057 - 532
UVstar 30i Plus transilluminator, filter size 23 cm x 30 cm, 12 x 8 W UV bulbs (312 nm), 10 – 100 % intensity setting, UV protection shield	057 - 630
dto., but wavelength 365 nm	057 - 632

UVstar with 2 wavelengths

UV Transilluminator with 50 or 100 % intensity switch	
UVstar 20HM transilluminator, filter size 20 cm x 20 cm, 4 x 8 W UV bulbs (254 nm) and 4 x 8 W UV bulbs (312 nm), 50 or 100 % intensity switch, UV protection shield	057 - 540
UVstar 30HM transilluminator, filter size 23 cm x 30 cm, 6 x 8 W UV bulbs (254 nm) and 6 x 8 W UV bulbs (312 nm), 50 or 100 % intensity switch, UV protection shield	057 - 640
UVstar 20ML transilluminator, filter size 20 cm x 20 cm, 4 x 8 W UV bulbs (312 nm) and 4 x 8 W UV bulbs (365 nm), 50 or 100 % intensity switch, UV protection shield	057 - 550
UVstar 30ML transilluminator, filter size 23 cm x 30 cm, 6 x 8 W UV bulbs (312 nm) and 6 x 8 W UV bulbs (365 nm), 50 or 100 % intensity switch, UV protection shield	057 - 650

BLstar

Blue light transilluminators, for BDA Box 2BL	
BLstar 9: viewing area 9 cm x 12.5 cm, 2 arrays of 470 nm LEDs, lid with amber filter, power supply	057 - 370
BLstar 16: viewing area 16 cm x 20 cm, 2 arrays of 470 nm LEDs, 50 or 100 % intensity switch, lid with amber filter, power supply	057 - 570

WLstar

White light Transilluminator with 50 or 100 % intensity switch	
WLstar 20 transilluminator, white light filter size 20 cm x 20 cm, 8 x 8 W white light bulbs, 50 or 100 % intensity switch	057 - 504
WLstar 30 transilluminator, white light filter size 23 cm x 30 cm, 12 x 8 W white light bulbs, 50 or 100 % intensity switch	057 - 604

Table dimensions (W x D x H):

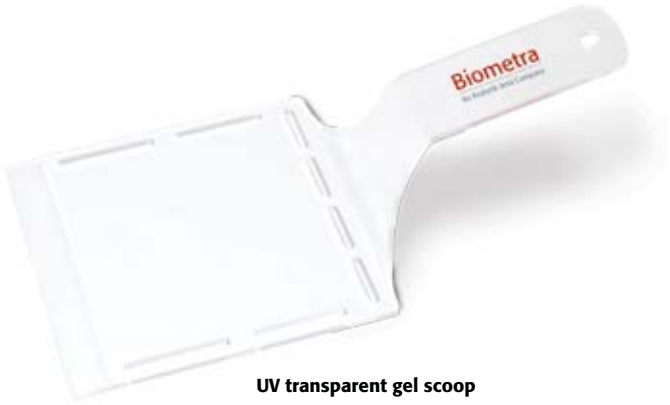
UVstar, UVstar plus and WLstar:	32.5 cm x 32.2 cm x 12.5 cm
UVstar WL:	47.8 cm x 32.2 cm x 15.5 cm
BLstar 9:	21.0 cm x 21.0 cm x 4.0 cm
BLstar 16:	34.0 cm x 25.5 cm x 8.0 cm

Transilluminators

Order Information

Item	Order No.
Accessories	
Converter plate: For application on an UV transilluminator for documentation of colour stains (0.8 x 30 x 24, H x W x D, cm)	057-005
UV light face protection shield	055-001
UV light protecting glasses	055-002
UV transparent acrylic tray for preparative tasks on a transilluminator, 31 cm x 36 cm	057-012
UV transparent gel scoop, scoop area 14 cm x 15 cm	057-013
Spare parts	
UV protection shield for UV transilluminators "UVstar"	057-010
UV protection shield for UV/white light transilluminator "UVstar WL"	057-011
UV bulb 8 W, 254 nm	057-007
UV bulb 8 W, 312 nm	057-002
UV bulb 8 W, 365 nm	057-009
White light bulb, 8 W	9-720-007

For order numbers of UV tables without UV protection shield please refer to section "BioDocAnalyze Systems".



UV transparent gel scoop