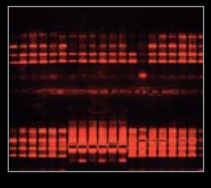
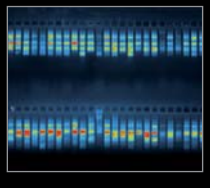
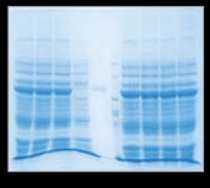
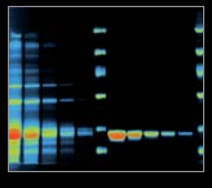
ULTRAVIOLET INSTRUMENTS

FLUORESCENCE | IRRADIATION | MEASURE



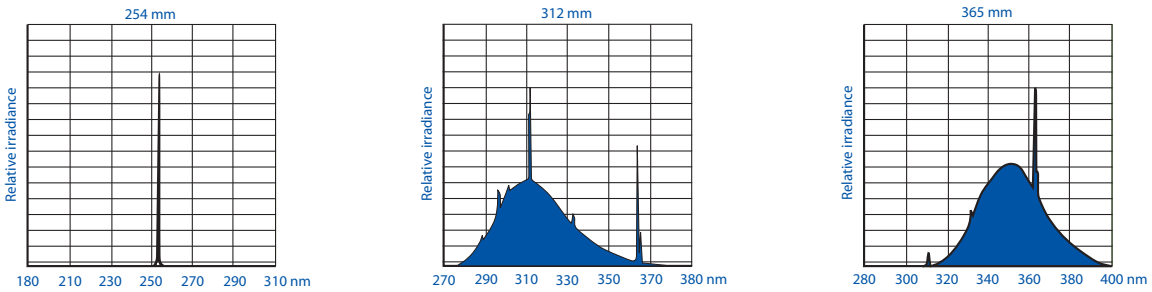


VILBER LOURMAT

Ultraviolet light (UV) forms a part of the invisible radiation which borders on the visible light spectrum. Ultraviolet starts beyond violet, where detection by the human eye ends. Ultraviolet is located at shorter wavelengths compared to visible light radiation and produced high energy potential. The ultraviolet spectrum extends from 180 to 380 nanometers (nm) and is divided into three categories.

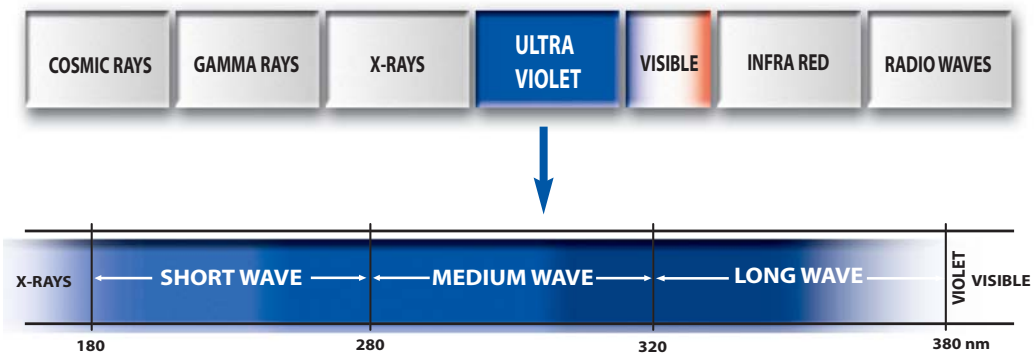
- Short wave band is also called UV-C. It extends from 180 to 280 nm with an energy peak at 254 nm. The UV-C light has a high bactericidal power and is then appropriate for germicidal applications.
- Medium wave (UV-B) runs from 280 to 320 nm with an energy peak at 312 nm ideal for DNA/RNA electrophoresis visualization and for mineralogy.
- Long wave UV light (UV-A) extends from 320 to 380nm with an energy peak at 365 nm. Long wave is also called "black light" or "wood light". Fluorescence detection or visualization, dermatology or polymer curing are its main applications.



SPECTRAL CURVES OF THE VILBER LOURMAT UV TUBES

UV TERMS

- Black light (BL): lamp producing 365 nm ultraviolet light with visible light.
- Black light blue (BLB): lamp with a special deep blue filter emitting 365nm without visible light.
- Fluorescence: emission of light produced by certain substances when excited by ultraviolet energy. The emission ends when UV source is removed.
- Germicidal: sterilization action of short wave ultraviolet light. UV light, in the range of 254 nm, penetrates the cell membrane of living cells and disrupts the DNA molecules, preventing cell replication.
- Luminescence: emission of light produced by the absorption of short wave radiation (such as ultraviolet).
- Phosphorescence: emission of light which continues after the excitation source is removed.



ELECTROMAGNETIC SPECTRUM (Enlargement of ultraviolet region)

Exclusive UV Master® filters

UNIQUE UV MASTER® TECHNOLOGY

Vilber Lourmat is the UV fluorescence expert since 1951. Our own UV lamps emit highly concentrated UV radiation. This output is reinforced with the use of our exclusive Ondulex® reflector, especially polished to reflect the maximum of the light to the outside. Combined with our innovative range of special UV filters, our unique fluorescence sources dramatically improve the quality of gel visualization and documentation and create unrivalled application capabilities.

- Long life filters. The Vilber Lourmat filters are designed to transmit specific ultraviolet rays and to absorb most of the visible light produced by the UV tubes. They provide the maximum UV transmittance all over their surface. Filters have an unlimited life expectancy for 312 nm and 365 nm.
- Ondulex® reflector is located behind the UV tubes to reflect the maximum of the light to the outside. The UV intensity of the whole instrument is dramatically increased, as well as its performance.
- Vilber Lourmat UV tubes. Our original UV tubes emit highly concentrated UV radiation. They use special ultraviolet ray glasses which efficiency transmit the ultraviolet rays. Their spectral energy distribution provide an optimum output for a large number of applications in the life science such as fluorescence or germicidal effect. A large selection is available from 4-watt to 40-watt and the most appropriate one can be selected according to the purpose.

ISO 9001

Vilber Lourmat has been approved for registration to ISO 9001:2000. This is an indication of Vilber Lourmat's commitment towards continuous process improvements and adopting the best practices to consistently exceed customer expectations. An independent registrar ensures that ISO standards are consistently met from year to year and conducts periodic surveillance audits. With several years of ISO compliance and experience, Vilber Lourmat is proud of his achievement – but never satisfied.

SUPER-BRIGHT MX

MULTI-APPLICATIONS

The Super-Bright UV table is a multi-applications transilluminator which works for an extended range of dyes including SYBR-Green®, Ethidium bromide, SYBR Gold®, SYBR Safe®, Sypro Orange®, Sypro Ruby®, Gel Star®...

The innovative Super-Bright filter stops all the visible light emitted by the tubes, making the transilluminator simply perfect for a large number of applications.

ECX-F26.MX

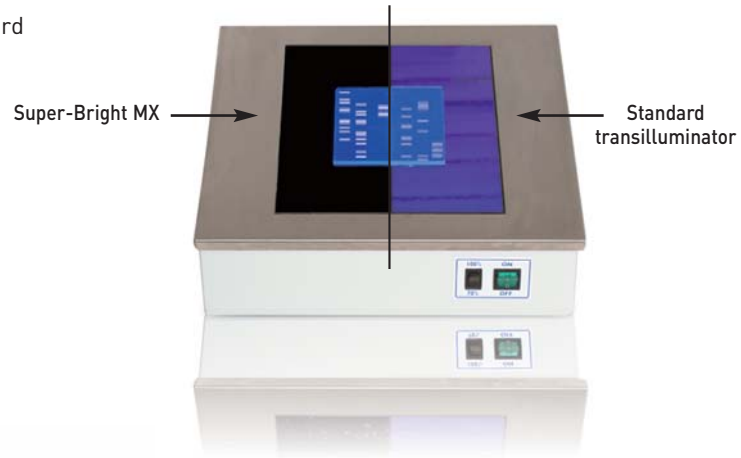
KEY FEATURES

- Multi-applications transilluminator
- Invisible UV tubes - No background light
- Enhanced signal imaging & contrast visualization of the faint bands
- Adjustable dual intensity selector (100%-70%)
- Unlimited filter life expectancy
- Adjustable UV safety screen
- Ondulex® reflector for higher UV output
- 100/115/230 volt, 50/60 Hz

ENHANCED RESULTS

As the UV tubes are no more visible, the Super-Bright improves dramatically the quality of gel visualization and documentation By contrast, your eyes can easily see the very faint bands.

The Super-Bright excitation light is far-off the sample fluorescence. This ensures the total transmission of the SYBR-Green® or ethidium bromide signal if combined with our unique F440 camera filter. For SYBR-Green®, the signal is then 25% higher compared to a standard configuration.



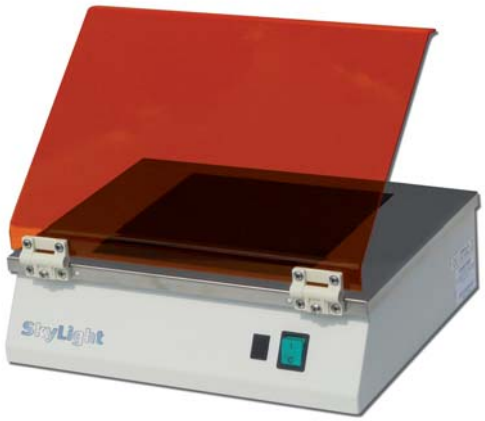
SPECIFICATIONS

Models	Description	nm	Filter (mm)	Tubes	Intensity (µW/cm²)
ECX-F26.MX	High / Low intensity	312	210 x 260	6 x 8-watt	9 000
ETX-F26.MX	High / Low intensity	312	210 x 260	6 x 15-watt	10 000

SKYLIGHT SUPER-BLUE

TECHNOLOGY

The SKYLIGHT SUPER-BLUE table is based on the latest blue LED technology for an unparalleled light uniformity. The table incorporates 270 Light Emitting Devices in an optimized array to give consistent intensity across the table. This uniform light is then filtered with a narrow excitation filter to obtain an excitation peak at 470nm and to eliminate light interference on the resulting image. On the surface, the protection glass allows you to cut the gel without damaging the table.



ADVANTAGES

The new Vilber SKYLIGHT SUPER-BLUE transilluminator eliminates the damage caused by UV light on DNA and RNA gels. It also improves cloning efficiency dramatically by eliminating the effects of UV-induced nicking or crosslinking, often encountered during the purification of DNA from gels for further use.

APPLICATIONS

The Vilber SKYLIGHT SUPER-BLUE is a new technology ideal for Sybr Safe®, Gel-Red®, Sypro Ruby®, Gel-Star®, Sypro Orange®, Sybr Gold®, Sybr Green® I & II and eGFP®, amongst others.

SPECIFICATIONS

Model	Filter (mm)	Description	Light device
ECX-F20. Blue	200 x200	SkyLight technology	Led technology

THE UV STANDARD

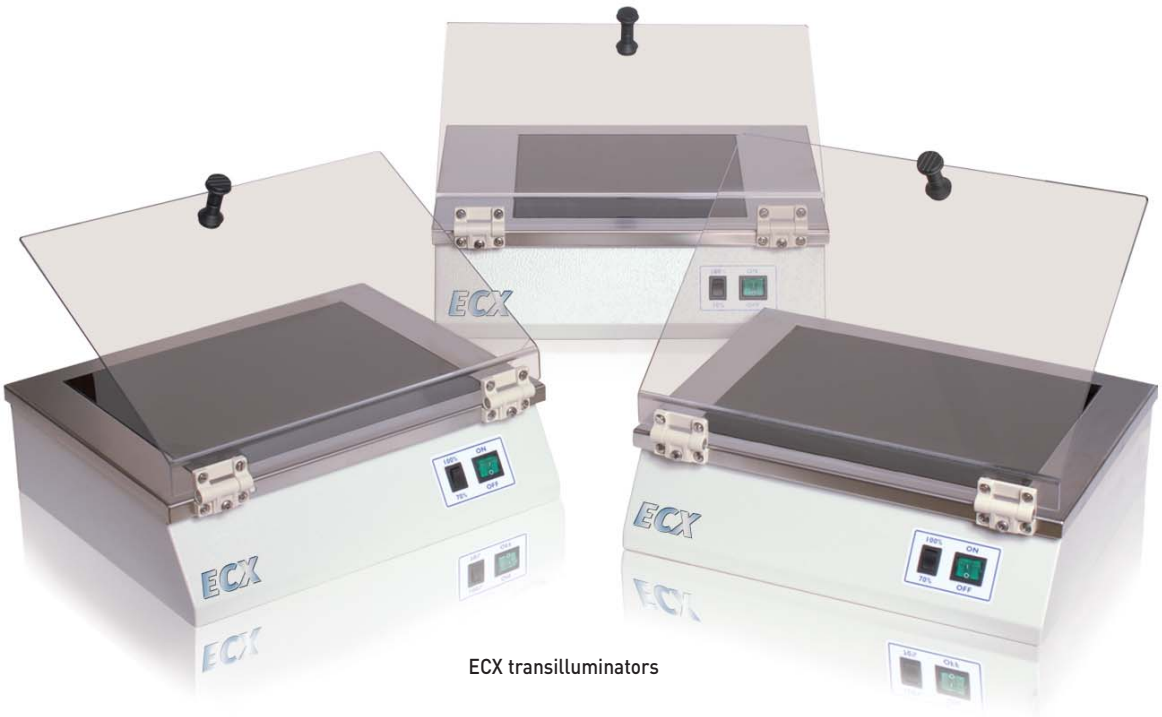
The ECX transilluminator is both compact and economical for laboratories with budget in mind.

The fully adjustable UV safety screen can be positioned to suit the operator's viewing angle against exposure to harmful UV rays.

The High/Low intensity selection is ideal to switch from short gel visualization to longer preparative work.

KEY FEATURES

- UV Master® technology
- Stainless steel frame
- Adjustable UV safety screen
- Ondulex® reflector for higher UV output
- Unlimited filter life expectancy for 312 and 365nm
- Adjustable dual intensity selector (100%-70%)
- 100/115/230 volt, 50/60 Hz



ECX transilluminators

SPECIFICATIONS

Models	Description	nm	Filter (mm)	Tubes	Intensity (µW/cm²)
ECX-F15.M	High / Low intensity	312	150 x 150	4 x 8-watt	10 000
ECX-F15.C	High / Low intensity	254	150 x 150	4 x 8-watt	7 000
ECX-F20.M	High / Low intensity	312	200 x 200	6 x 8-watt	10 000
ECX-F20.C	High / Low intensity	254	200 x 200	6 x 8-watt	7 000
ECX-F20.L	High / Low intensity	365	200 x 200	6 x 8-watt	7 000
ECX-F26.M	High / Low intensity	312	210 x 260	6 x 8-watt	10 000
ECX-F26.C	High / Low intensity	254	210 x 260	6 x 8-watt	7 000

ETX HIGH INTENSITY

SUPER HIGH SIGNAL

The ETX 15-watt transilluminator has very high UV output to obtain more signal compared to a standard 8-watt transilluminator.

This model has been specifically designed to meet demand for analytical and preparative DNA electrophoresis. The ETX model is available in 254nm, 312 nm and 365nm.

ETX-F36.M

KEY FEATURES

- Dual intensity selector (100%-70%)
- 6 x 15W UV tube
- UV safety screen
- Air cooling fan

ETX-F26.M

KEY FEATURES

- UV Master® technology
- Powerful UV output ideal for the visualisation of faint bands.
- Adjustable dual intensity selector (100%-70%)
- Stainless steel frame
- Adjustable UV safety screen
- Ondulex® reflector for higher UV output
- Unlimited filter life expectancy for 312 and 365nm
- 100/115/230 volt, 50/60 Hz

SPECIFICATIONS

Models	Description	nm	Filter (mm)	Tubes	Intensity (µW/cm²)
ETX-F20.M	High / Low intensity	312	200 x 200	6 x 15-watt	10 600
ETX-F20.C	High / Low intensity	254	200 x 200	6 x 15-watt	7 800
ETX-F20.L	High / Low intensity	365	200 x 200	6 x 15-watt	7 000
ETX-F26.M	High / Low intensity	312	210 x 260	6 x 15-watt	10 600
ETX-F26.C	High / Low intensity	254	210 x 260	6 x 15-watt	7 800
ETX-F36.M	High / Low intensity	312	250 x 350	6 x 15-watt	10 600
ETX-F36.C	High / Low intensity	254	250 x 350	6 x 15-watt	7 800

UV / WHITE LIGHT TRANSILLUMINATOR

Two models in one! The UV / white light tables feature two 200 x 200 mm illumination areas. The UV side is ideal for RNA and DNA visualization. The white light side can be used for protein gels, autoradiograms or microtitration plates

Models	Description	Sample surface (mm)	UV Tubes	WL Tubes	UV Intensity (µW/cm²)
TFP-M/WL	312nm / white light	2 (200 x 200)	6 x 8-watt	2 x 8-watt	10 000
TFP-C/WL	254nm / white light	2 (200 x 200)	6 x 8-watt	2 x 8-watt	7 000
TFP-L/WL	365nm / white light	2 (200 x 200)	6 x 8-watt	2 x 8-watt	7 000

MULTIBAND TRANSILLUMINATOR

The multiband transilluminator accommodates two UV wavelengths in one single transilluminator. This versatile model is ideal for a wide range of applications requiring different wavelengths. It can be used for both visualization and documentation.

Models	Description	Sample surface (mm)	Tubes	Intensity (µW/cm²)
TCP-20.LC	365nm / 254nm – 8-watt	200 x 200	(6 x 365nm) + (5 x 254nm)	7 600 / 5 200
TCP-20.LM	365nm / 312nm – 8-watt	200 x 200	(6 x 365nm) + (5 x 312nm)	5 400 / 6 400
TCP-20.MC	312nm / 254nm – 8-watt	200 x 200	(6 x 312nm) + (5 x 254nm)	8 400 / 5 200
TCP-26.LC	365nm / 254nm – 8-watt	210 x 260	(6 x 365nm) + (5 x 254nm)	5 400 / 5 200
TCP-26.LM	365nm / 312nm – 8-watt	210 x 260	(6 x 365nm) + (5 x 312nm)	7 600 / 6 400
TCP-26.MC	312nm / 254nm – 8-watt	210 x 260	(6 x 312nm) + (5 x 254nm)	8 500 / 5 200
TFX-20.LC	365 / 254 – 15-watt– Hi/Lo selector	200 x 200	(6 x 365nm) + (6 x 254nm)	5 900 / 6 400
TFX-20.LM	365 / 312 – 15-watt– Hi/Lo selector	200 x 200	(6 x 365nm) + (6 x 312nm)	4 400 / 8 500
TFX-20.MC	312 / 254 – 15-watt– Hi/Lo selector	200 x 200	(6 x 312nm) + (6 x 254nm)	9 000 / 5 900
TFX-26.LC	365 / 254 – 15-watt– Hi/Lo selector	210 x 260	(6 x 365nm) + (6 x 254nm)	6 900 / 6 400
TFX-26.LM	365 / 312 – 15-watt– Hi/Lo selector	210 x 260	(6 x 365nm) + (6 x 312nm)	3 800 / 8 000
TFX-26.MC	312 / 254 – 15-watt– Hi/Lo selector	210 x 260	(6 x 312nm) + (6 x 254nm)	8 000 / 5 900

WHITE LIGHT TRANSILLUMINATOR

White light transilluminators offer uniform light diffusion and variable intensity control. They are designed for protein stained gels, autoradiographs, x-ray film and microtitration plates.

Models	Description	Sample surface (mm)	Tubes	Intensity (µW/cm²)
TFX-35.WL	Hi/Lo intensity selector	200 x 350	(2 x 15-watt) + (2 x 6-watt)	NA

BIO-LINK BLX

BIO-LINK BLX

The Bio-Link crosslinker is an UV irradiation system, mainly dedicated to the linking of nucleic acid to membranes and elimination of PCR contamination. Its innovative design ensures unique features:

- The programmable microprocessor constantly monitors the UV light emission. The irradiation stops automatically when the energy received matches the programmed energy.
- Thanks to its UV sensor, the irradiation cycles are perfectly reproducible, regardless of intensity fluctuation of the UV source. Just programme your energy and Bio-Link delivers it!
- The UV light sensor is positioned above a well of light, in the top of the irradiation chamber. The UV measure is then collected from all the UV tubes and not just from one for enhanced consistency!
- The large number of presets in either energy unit or time unit makes the Bio-Link a very simple instrument to use while very powerful.

KEY FEATURES

- Precise irradiation in either energy (Joules/cm^2) or time (seconds)
- Preset programme for dosage of 0.120 J/cm^2 to optimise nucleic acid linking
- Storage of the last UV setting
- Protective quartz disk on the UV sensor cell
- Spacious UV exposure chamber in stainless steel
- Safety interlock door with UV blocking observation window
- UV wavelengths interchangeable

SPECIFICATIONS

UV source	5 x 8-watt Either in 254nm, 312nm, 365nm
Energy display	Two measurement ranges: • from 0.025 to 9.999 Joules • from 0.025 to 99.99 Joules
Exposure time display	Two measurement ranges: • from 00.10 to 99.59 Minutes/Seconds • from 000.1 to 599.5 Minutes/Seconds
Manual controls	Manual energy exposure setting Manual time exposure setting
Presets	Energy: 9 presets Exposure Time: 9 presets
Internal dimensions (H x D x W)	14.5 x 33 x 26 cm
External dimensions (H x D x W)	30.5 x 36 x 35 cm
Weight	10.500 kg
Power (voltage / hertz)	230 V / 50-60 Hz 115 V / 60 Hz 100 V / 50-60 Hz

PRECISE AND ACCURATE

The radiometers measure UV light intensity for a specific wavelength (254 nm, 312 nm or 365 nm). They are designed for an accurate and direct measurement of the UV radiation. All our radiometers use a silicon photo-electric sensor for a direct measurement of the UV intensity and thus do not convert UV into visible light.

UV-3W

UV-3W is a highly accurate and user friendly radiometer. The radiometer is controlled by a microprocessor to measure UV intensity.
The UV-3W is pluggable to interchangeable sensors.

VLX-3W

The VLX-3W is a highly accurate and user friendly radiometer. The radiometer is controlled by a microprocessor to measure the UV radiation dosage according to two parameters: time (mn or sec) or energy (J/cm²). The VLX-3W is plugable to interchangeable sensors.

RMX-3W

The RMX-3W is designed for the control of an external device. The radiometer is controlled by a microprocessor to program and to measure the UV radiation dosage according to two parameters: time (mn or sec) or energy (J/cm²). The RMX-3W is connectable to interchangeable sensors at the same time.

Radiometer

	RMX-3W	VLX-3W	UV-3W
USB port	No USB port	USB port for data output	USB port for data output
Features	Display of the UV intensity in Mw/cm², UV energy in Joules/cm², running time and mini and max intensities. Hold button to fixe the reading.		Display of the UV Intensity Mw/cm² Hold button to fixe the reading.
Measurement range	Intensity: 0 to 250 Mw/cm² Energy: 0 to 9999 joules/cm² Time: 0 to 99 hours		Intensity: 0 to 250 Mw/cm²
	Sensor to be purchased separately.		Sensor to be purchased separately.

Sensor

	Sensor accuracy	Features	Bandwidh mesurement
CX-254	Accuracy +/-5% Linearity +/-5%	Silica photo electric cell Interference filter Quartz disk diffuser	Monochromatic bandwidh
CX-312	Accuracy +/-5% Linearity +/-5%	Silica photo electric cell Interference filter Quartz disk diffuser	Bandwidh 280 to 320nm
CX-365	Accuracy +/-5% Linearity +/-5%	Silica photo electric cell Interference filter Quartz disk diffuser	Bandwidh 355 to 375nm
CX-UVR	Accuracy +/-5% Linearity +/-5%	Silica photo electric cell Interference filter Quartz disk diffuser	Bandwidh 364 to 376nm

VIEWING CABINET

CN-15 CABINET

The CN-15 darkroom provides a large effective capacity and UV power intensity unequalled in this field. The darkrooms offer any combination of UV sources, simultaneously or not. Its key features are:

- Extra large capacity
- Black rubber curtain for easy access into the darkroom
- White-light bulb for normal observation
- UV absorber shield to protect the user from UV light
- Removable bottom panel for use with a Vilber Lourmat ETX fluorescent table

CN-6 CABINET

The CN-6 darkroom holds one or two hand-held UV lamps... (VL-6 model) in any of the three following wavelengths: 254, 365 or 312 nm. The darkroom is supplied without lamps and allows different lighting possibilities according to the user's choice. Its key features are:

- → Large capacity
- → Black rubber curtain for easy access into the darkroom
- → UV absorber shield to protect the user from the UV light
- → Removable lamps that can be used for hand-held applications

CN-15.LC

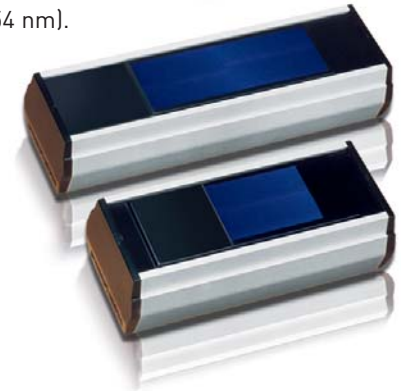
CN-6

SPECIFICATIONS

Models	Tubes (Watt)	Wavelength (nm)	Intensity at bottom (µW/cm²)	Size - W x D x H (mm)
CN-15.LL	4 x 15-W	365	2 000	505 x 415 x 280
CN-15.CC	4 x 15-W	254	1 750	505 x 415 x 280
CN-15.MM	4 x 15-W	312	2 500	505 x 415 x 280
CN-15.LC	2 x 15-W	365	1 050	505 x 415 x 280
	2 x 15-W	254	900	
CN-15.LM	2 x 15-W	365	1 050	505 x 415 x 280
	2 x 15-W	312	1 300	
CN-15.MC	2 x 15-W	312	1 300	505 x 415 x 280
	2 x 15-W	254	900	
CN-6	Lamps not included			300 x 280 x 240

FILTERED LAMPS FOR FLUORESCENCE

The Vilber Lourmat lamps are provided in 254, 312, 365 nm or combined. Our unique filter minimizes white light interference allowing you to easily detect weak fluorescence. The filter has unlimited life expectancy for 312 and 365nm (3000 hours for 254 nm).



KEY FEATURES

- UV Master® technology with single or dual wavelength
- Long life filter and high UV output
- Ondulex® reflector & aluminium housing for increased durability
- Easy to handle; stand or holder to add versatility

SPECIFICATIONS

Models	Tubes (Watt)	Wavelength (nm)	Intensity at 15cm (µW/cm²)
VL-215.L	2 x 15-watt	365	2 300
VL-215.C	2 x 15-watt	254	1 780
VL-215.M	2 x 15-watt	312	3 000
VL-215.LC	1 x 15-watt	365	1 350
	1 x 15-watt	254	1 100
VL-215.LM	1 x 15-watt	365	1 350
	1 x 15-watt	312	1 800
VL-215.MC	1 x 15-watt	312	1 800
	1 x 15-watt	254	930
VL-115.L	1 x 15-watt	365	1 100
VL-115.C	1 x 15-watt	254	1 000
VL-115.M	1 x 15-watt	312	1 000
VL-8.L	1 x 8 -watt	365	800
VL-8.C	1 x 8 -watt	254	820
VL-8.M	1 x 8 -watt	312	790
VL-8.LC	1 x 8 -watt	365	720
	1 x 8 -watt	254	520
VL-8.LM	1 x 8 -watt	365	720
	1 x 8 -watt	312	660
VL-8.MC	1 x 8 -watt	312	660
	1 x 8 -watt	254	520
VL-6.L	1 x 6-watt	365	700
VL-6.C	1 x 6-watt	254	710
VL-6.M	1 x 6-watt	312	680
VL-6.LC	1 x 6-watt	365	610
	1 x 6-watt	254	400
VL-6.LM	1 x 6-watt	365	610
	1 x 6-watt	312	580
VL-6.MC	1 x 6-watt	312	580
	1 x 6-watt	254	400
VL-4.L	1 x 4-watt	365	400
VL-4.C	1 x 4-watt	254	340
VL-4.LC	1 x 4-watt	365	350
	1 x 4-watt	254	265

UNFILTERED LAMPS

Our large choice of unfiltered lamps range from 4 watt to 3x40-watt each. The black light (BL) lamps provide a 365 nm UV radiation, with visible light. The black light blue (BLB) lamps provide a 365 nm UV radiation, without visible light (self-filtering tube).

KEY FEATURES

- UV Master® technology
- High UV output
- Ondulex® reflector for optimum UV irradiance
- Anodised aluminium housing for increased durability
- Lamp stand or holder to add versatility

SPECIFICATIONS

BLACK LIGHT LAMPS

Models	Tubes (Watt)	Wavelength (nm)	Intensity (µW/cm²)
VL-204.BL	2 x 4-watt	365 BL	715 (1)
VL-206.BL	2 x 6-watt	365 BL	1 215 (1)
VL-208.BL	2 x 8-watt	365 BL	1 400 (1)
VL-115.BL	1 x 15-watt	365 BL	50
VL-215.BL	2 x 15-watt	365 BL	108
VL-315.BL	3 x 15-watt	365 BL	147
VL-120.BL	1 x 20-watt	365 BL	60
VL-220.BL	2 x 20-watt	365 BL	129
VL-320.BL	3 x 20-watt	365 BL	177
VL-130.BL	1 x 30-watt	365 BL	106
VL-230.BL	2 x 30-watt	365 BL	228
VL-330.BL	3 x 30-watt	365 BL	312
VL-140.BL	1 x 40-watt	365 BL	140
VL-240.BL	2 x 40-watt	365 BL	302
VL-340.BL	3 x 40-watt	365 BL	413

Intensity at 1 meter except (1) at 15 cm

BLACK LIGHT BLUE LAMPS

Models	Tubes (Watt)	Wavelength (nm)	Intensity (µW/cm²)
VL-204.BLB	2 x 4-watt	365 BLB	660 (1)
VL-206.BLB	2 x 6-watt	365 BLB	1 120 (1)
VL-208.BLB	2 x 8-watt	365 BLB	1 300 (1)
VL-115.BLB	1 x 15-watt	365 BLB	46
VL-215.BLB	2 x 15-watt	365 BLB	100
VL-315.BLB	3 x 15-watt	365 BLB	136
VL-120.BLB	1 x 20-watt	365 BLB	55
VL-220.BLB	2 x 20-watt	365 BLB	119
VL-320.BLB	3 x 20-watt	365 BLB	163
VL-130.BLB	1 x 30-watt	365 BLB	98
VL-230.BLB	2 x 30-watt	365 BLB	210
VL-330.BLB	3 x 30-watt	365 BLB	288
VL-140.BLB	1 x 40-watt	365 BLB	129
VL-240.BLB	2 x 40-watt	365 BLB	279
VL-340.BLB	3 x 40-watt	365 BLB	381

Intensity at 1 meter except (1) at 15 cm

THE DESTRUCTOR

The UV germicidal lamps help to prevent contamination in research laboratories, food factories or in medical environment. These lamps emit 254 nm UV radiation, well known for their efficiency in the destruction of bacteria, moulds, yeasts and viruses.

KEY FEATURES

- High UV output
- Ondulex® reflector for optimum UV irradiance
- Anodised aluminium housing for increased durability
- Lamp stand or holder to add versatility
- Ease of use

SPECIFICATIONS

Models	Tubes (Watt)	Wavelength (nm)	Intensity (µW/cm²)
VL-204.G	2 x 4-W	254	680 (1)
VL-206.G	2 x 6-W	254	1 400 (1)
VL-208.G	2 x 8-W	254	1 800 (1)
VL-115.G	1 x 15-W	254	31
VL-215.G	2 x 15-W	254	76
VL-315.G	3 x 15-W	254	95
VL-120.G	1 x 20-W	254	38
VL-220.G	2 x 20-W	254	95
VL-320.G	3 x 20-W	254	119
VL-130.G	1 x 30-W	254	60
VL-230.G	2 x 30-W	254	152
VL-330.G	3 x 30-W	254	191
VL-140.G	1 x 40-W	254	70
VL-240.G	2 x 40-W	254	157
VL-340.G	3 x 40-W	254	219

Intensity at 2 meters except (1) at 15 cm

254NM ENERGY REQUIRED TO KILL GERMS ON CULTURE

Bacteria	Dose 90%[1]	Dose 99%[2]
Bacillus anthracis	4,52	9,04
Bacillus megatherium - spores	2,73	5,46
Bacillus megatherium - vegetal	1,30	2,60
Bacillus paratyphosus	3,20	6,40
Bacillus subtilis	7,10	14,20
Bacillus subtilis - spores	12,00	24,00
Campylobacter jejuni	1,10	2,20
Clostridium tetani	12,00	24,00
Corynegacterium diptheriae	3,37	6,74
Dysenteriae bacilli	2,20	4,40
Eberthella typhosa	2,14	4,28
Escherichia coli	3,00	6,00
Klebsiella terrifani	2,60	5,20
Legionella pneumophila	0,90	1,80
Micrococcus candidus	6,05	12,10
Micrococcus sphaeroides	10,00	20,00
Mycobacterium tuberculosis	6,00	12,00
Neiseria catarrhalis	4,40	8,80
Phytomonas tumefaciens	4,40	8,80
Pseudomonas aeruginosa	5,50	11,00
Pseudomonas fluorescens	3,50	7,00
Proteus vulgaris	2,64	5,28
Salmonella enteritidis	4,00	8,00
Salmonella paratyphi	3,20	6,40
Salmonella typhimurium	8,00	16,00
Salmonella lutea	19,70	39,40
Serratia marcescens	2,42	4,84
Shigella paradysenteriae	1,63	3,26
Shigella sonnei	3,00	6,00
Staphylococcus albus	1,84	3,68
Staphylococcus aureus	2,60	5,20
Streptoccoccus faecalis	4,40	8,80
Streptoccoccus hemolyticus	2,16	4,32
Streptoccoccus lactus	6,15	12,30
Streptoccoccus viridans	2,00	4,00
Vibrio cholerae	3,50	7,00
Yersinia enterecolitica	1,10	2,20

Mould spores	Dose 90%[1]	Dose 99%[2]
Aspergillus flavus (yellow green)	60	120,00
Aspergillus glaucus (blue green)	44	88,00
Aspergillus niger (black)	132	264,00
Mucor racemosus A (white gray)	17	34,00
Mucor racemosus B	17	34,00
Oospora lactis (white)	50	100,00
Penicillium digitatum (olive)	44	88,00
Penicillium expensum (olive)	13	26,00
Penicillium roqueforti (green)	13	26,00
Rhizopus nigricans (black)	110	220,00

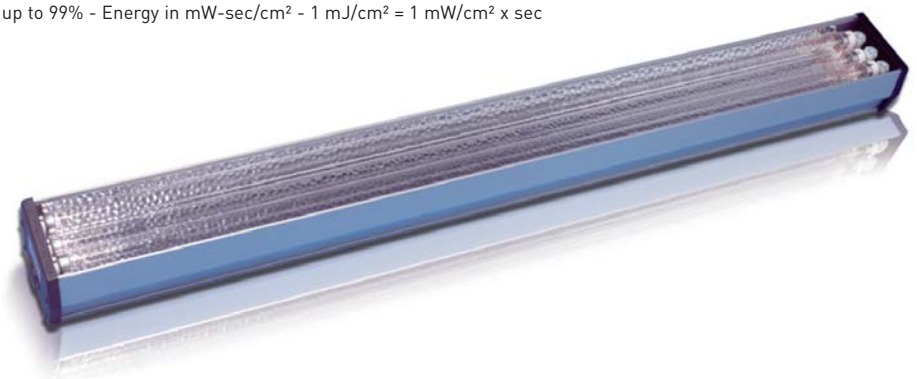
Protozoa	Dose 90%[1]	Dose 99%[2]
Blue green (algae)	300	600,00
Chlorella vulgaris (algae)	12	24,00
Cryptosporidium parvum	2,5	5,00
Giardia lamblia	1,1	2,20

Virus	Dose 90%[1]	Dose 99%[2]
Hepatitus A	7,3	14,60
Influenza virus	3,6	7,20
MS-2 Coliphage	18,6	37,20
Poliomyelitis (polio virus)	5,8	11,60
Rotavirus	8,1	16,20

Yeasts	Dose 90%[1]	Dose 99%[2]
Baking yeast	3,90	7,80
Brewing yeast	3,30	6,60
Saccharomyces cerevisiae	6,00	12,00
Saccharomyces ellipsoideus	6,00	12,00
Saccharomyces	8,00	16,00

[1] Sterilization up to 90% - Energy in mW-sec/cm² - 1 mJ/cm² = 1 mW/cm² x sec

[2] Sterilization up to 99% - Energy in mW-sec/cm² - 1 mJ/cm² = 1 mW/cm² x sec



Bio-Spectra is an irradiation system for photo-sensibilization testing on laboratory animals (phototoxicity, photo-allergy...). The UV irradiation dosage is programmed by the user. The UV sensor continuously measures the irradiation, which stops automatically when the energy received matches the energy programmed. Thus, the system ensures an absolute reproducibility.

KEY FEATURES

- Scientific grade UV irradiation system
- Perfectly reproducible UV irradiation cycles
- Three irradiation modes (365nm or 312nm or both)
- Large irradiation area: 900 x 80 mm, enough to accommodate 10 guinea pigs simultaneously
- Excellent homogeneity of the irradiated area
- Data acquisition controlled by micro-processor
- Constant monitoring of the received energy versus the programmed energy
- Temperature, UV intensity, and time passed supervision
- At animal level, temperature does not exceed 30°C (86°F) for room temperature of 20°C (68°F)
- Optional software connection for data monitoring and recording
- Fantastic ease of use & maintenance

PUBLICATIONS

UV-induced DNA Damage and Mutations in Hupki (Human p53 Knock-in) Mice - Recapitulate p53 Hotspot Alterations in Sun-exposed Human Skin1

German Cancer Research Center, D69120 Heidelberg, Germany; IARC, F-69372 Lyon France; and Beckman Research Institute, City of Hope, Duarte California

Skin Hyperproliferation and Susceptibility to Chemical Carcinogenesis in Transgenic Mice Expressing E6 and E7 of Human Papillomavirus Type 38

International Agency for Research on Cancer, World Health Organization, Lyon, France ; Deutsches Krebsforschungszentrum, Heidelberg, Germany ; Gynäkologische Molekularbiologie Frauenklinik der FSU Jena

The Bio-Sun is a complete, microprocessor controlled UV irradiation system designed for Petri dishes or microplates. Based on a programmable microprocessor, the system constantly monitors the UV light emission. The irradiation stops automatically when the energy received matches the programmed energy. Thanks to its advanced UV sensors, the irradiation cycles are perfectly reproducible, regardless of intensity fluctuation of the UV source. Just programme your energy and Bio-Sun delivers it!

KEY FEATURES

- Scientific grade UV irradiation system
- Perfectly reproducible UV irradiation cycles
- Highly homogeneous UVA and UVB sources (312 and 365nm)
- UVA, UVB or UVA & UVB irradiation
- UVC 254nm germicidal lamp for tray sterilization
- Silicon photoelectric sensor for direct measurement of the UV intensity
- Data acquisition controlled by micro-processor
- Constant monitoring of the received energy versus the programmed energy
- Temperature, UV intensity, and time passed supervision
- Powerful cooling system
- Optional software connection for data monitoring and recording
- Fantastic ease of use & maintenance

REFERENCE LIST

Procter and Gamble
Cincinnati, OH USA

Pfizer Global Research & Development
Ann Arbor, MI USA

Institut für Umweltmedizinische Forschung Heinrich-Heine University Dusseldorf
Dusseldorf, Germany

Louis Vuitton Moet Hennessy Research and Development Laboratory
Saint Jean de Braye, France

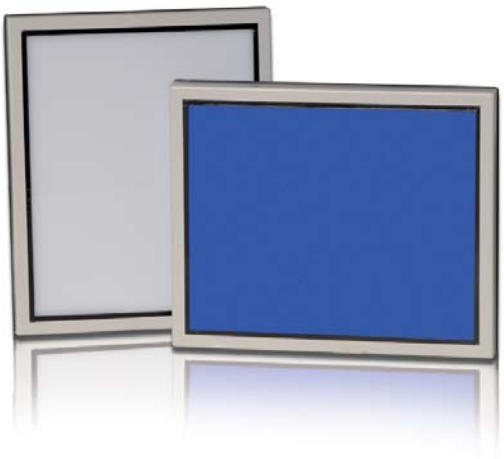
Instituto de Investigaciones Químicas y Ambientales / Universidad de Barcelona
Barcelona, Spain

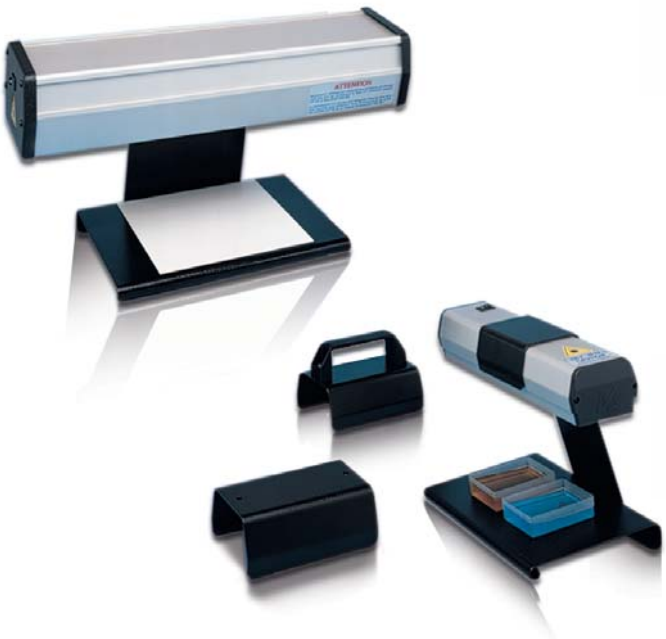
FACE SHIELD AND GOGGLE

UV radiation is dangerous for unprotected eyes and skin. Users must protect themselves against UV radiation by wearing glasses or face shields. The MP-80 is recommended for the protection of the eye and the face. The MP-800 is a face shield with two lateral protections to cover the operator ears in addition to his eyes and face. Comfortable and efficient, the LP-70 glasses provide total protection for the eyes.

CONVERSION SCREEN

The conversion screen converts the 312 nm UV light into blue or white light. The FC-26.WL converts UV to white light and is ideal for autoradiographs or protein gels. The FC-26.Blue converts UV to blue light (480 nm) and it could be used for application such as GFP II, SYBR Safe®, SYBR Green® or SYPRO Orange®.





LAMP STANDS

The lamp stands or the handlers give you ease of use and versatility. Lamp handle and bracket let you conveniently mount your lamp below a horizontal surface. The lamp stand frees your hands.

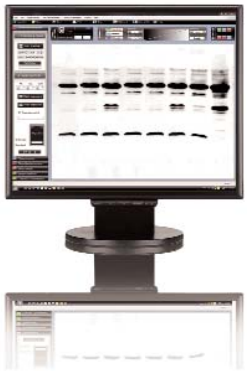
SPECIFICATIONS

Models	Type	Compatibility
SVL-30	Stand	For VL-215 and VL-115
SVL-6	Stand	For VL-8, VL-6 and VL-4
SMA	Handle	For VL-8, VL-6 and VL-4
SMU	Bracket	For VL-8, VL-6 and VL-4

STARLIGHT MODULE

COMPLEMENTARY RANGE OF PRODUCTS

Vilber Lourmat is the specialist of post-electrophoresis instruments. We design, manufacture and market instruments for gel visualization, gel documentation and gel analysis. Our product range includes imaging systems and software for chemiluminescence and fluorescence. Please contact us for details, or visit our web site for a complete description of our product range.



FUSION FX7

E-BOX VX2

Vilber Lourmat is the leading European provider of molecular imaging systems, analysis software and UV fluorescence equipment. Founded over 50 years ago to serve the research, Vilber Lourmat has pioneered the post electrophoresis market and introduced breakthrough products such as stand alone gel-documentation, Bio-1D imaging software, Super-Bright UV technology, dedicated chemiluminescence imaging system and 3D approach to 1D gel analysis.

Through a network of owned subsidiary offices and local distributors located in over 60 countries around the world, Vilber Lourmat offers a broad range of products:

- *Gel documentation systems*
- *Chemiluminescence imaging systems*
- *Image analysis software*
- *UV instruments for molecular biology such as transilluminators, crosslinkers and UV lamps.*

For more information about Vilber Lourmat, visit our website at ***www.vilber.com***

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