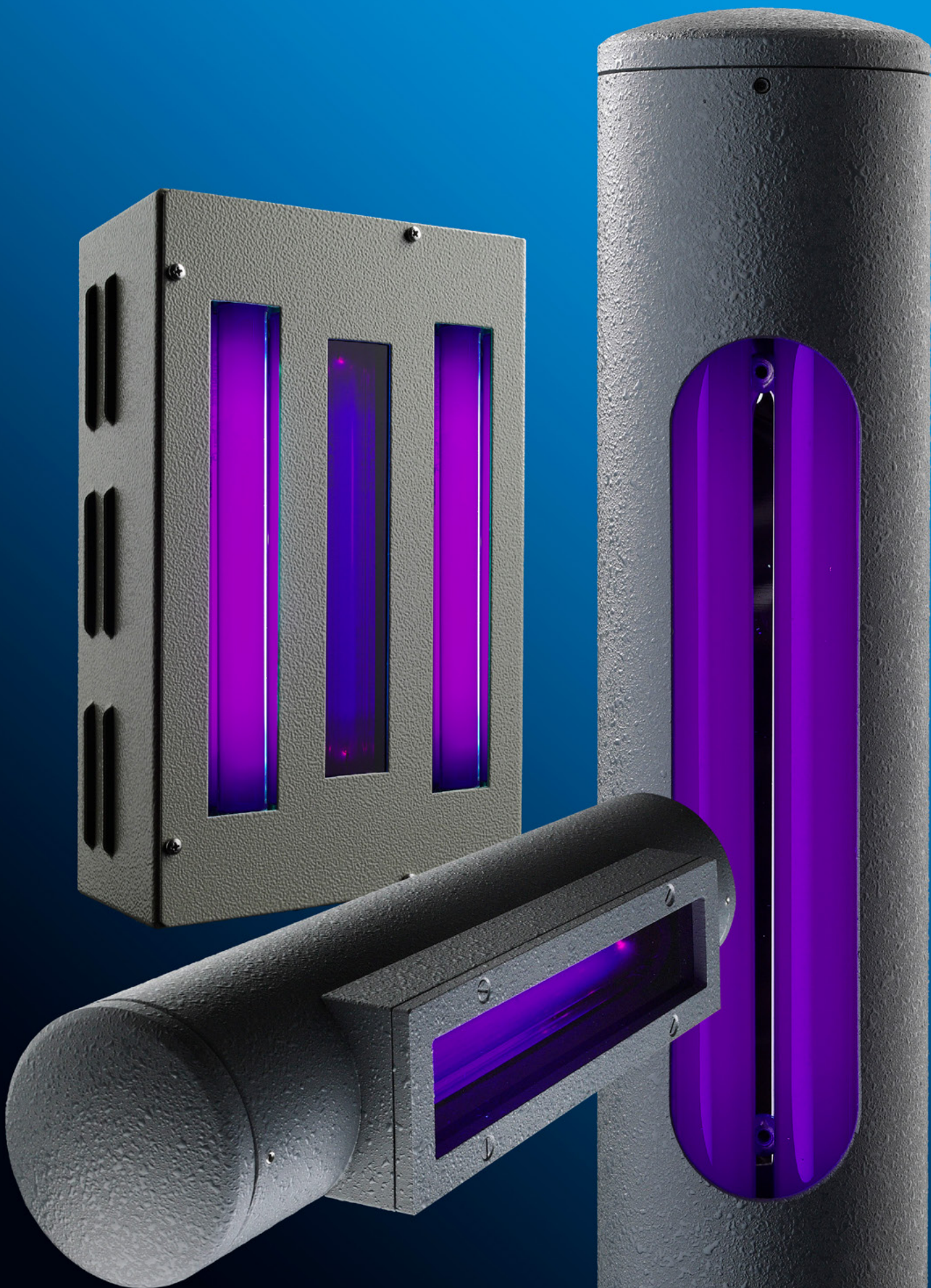


BLACK LIGHT  
(WOOD)

# EQUIPMENT









# BLACK LIGHT UV LAMPS (WOOD LIGHT)

The name **Wood lamp** (named after the American scientist Robert Williams Wood), or black light, refers to a light source that emits electromagnetic radiation predominantly in the range of ultraviolet and in the visible light range.

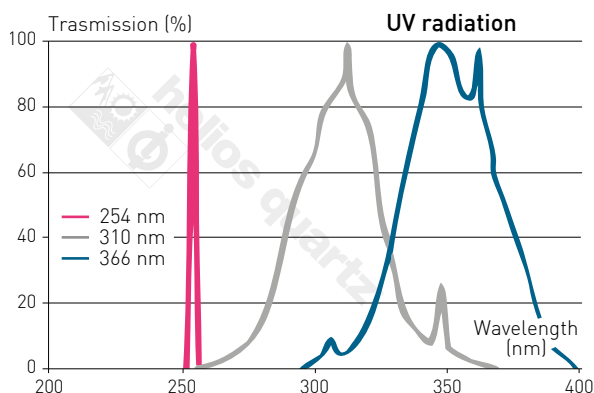
A Wood lamp produces light which is not directly visible to the human eye; however, it can be used to illuminate materials on which an ultraviolet radiation causes fluorescent and phosphorescent effects.

Among several possible applications, we have the fight against the counterfeiting of banknotes, through the use of banknote verification, or in the search for cracks in metal structures that are coated with materials responsive to UV rays.

## SOME APPLICATIONS

- Wood light can be used to find marks of organic fluids, which are not visible to the human eye.
- In the medical field Wood light can be used to detect some skin fungus infections and many other skin pathologies, like vitiligo, with white fluorescence.
- In microbiology Wood light can be used to read and count colonies and isolation basins for those bacteria that are fluorescent to UV light.
- In palaeography Wood light is often used to identify symbols and characters on scrolls and papyrus, which would be otherwise unreadable.
- In the food sector, Wood light can be used to detect the presence of fungus and bacteria in food products.
- In the restoration field, Wood light is used because UV-fluorescence is immediately visible; varnishes appear to be opaque and whitish. Wood light lamp detects several colours, like mountain-green, which through the light appears different from the repaints, with which it can be mixed up.
- In philately, Wood light is used to verify the type of paper of the stamps and to recognize the different emissions according to their fluorescence. Some fluorescent pigments are used against banknotes counterfeiting and their pigments are fluorescent to the lamp.
- In discotheques and amusement parks, Wood light is used for fun purposes, creating fluorescence effects on clothes – which are often bleached with fluorescent products –, eyes and teeth – which contain fluorine.

Helios produces Wood lamps with ultraviolet emission peaks at 254 nm, 310 nm and 366 nm.



• **UV-C short-waves (180-280 nm)** emitted at 254 nm are suitable for chemical, photochemical and chromatographic applications; in microbiology they are useful for the identification of bacteria and fungi, for the analysis of fluorescent materials and for the analysis of minerals.

• **UV-B medium waves (280-320 nm)** emitted at 310 nm are suitable for the chromatographic analyses and GEL, for tests on thin layers, for searching tests of electrophoresis in DNA / RNA, and for the analysis of minerals.

• **UV-A long-waves (320-380 nm)** emitted at 366 nm are suitable for many organic applications, fluorescence tests, in the food processing industry, for the control of banknotes and documents, art restoration, in many microbiological tests or in the field of dermatology diseases and for the cure of favism or for geological inspections.





# BLACK LIGHT EQUIPMENT (WOOD LIGHT)

Since 1950 Helios Italquartz has been producing Wood light equipment and transluminators, giving its customers a professional and reliable solution to perform fluorescence test on every kind of material.

The whole range of black Wood equipment has been developed and continuously improved, also thank to the collaboration between Helios' R&D department and research centres, universities and labs of world leading companies in several fields.

Black light equipment produced by Helios Italquartz have always had a great success, due to their ease of use, competitive price, low usage costs and today they can count on several references from more than twenty countries around the world.

Helios Italquartz produces equipment with wavelengths between 180 and 380 nm, from small instruments for external testing up to larger ones for laboratory purposes, all with practical, economical and versatile features.

✓ Mod. **Manwood 25 /36**

✓ Mod. **Manwood 6/36**

✓ Mod. **T.S. 36 - N**

✓ Mod. **T.S. 31 - N**

✓ Mod. **T.S. 25 - N**

✓ Mod. **Manwood 25**

✓ Mod. **Manwood 36**

All these units allow non-destructive analysis and tests. Their use is very simple in the observation of fluorescence and sophistication of materials without any alteration.





# TRIWOOD mod.25/36, mod.6/36

## mod. Triwood 25/36 (cod. 86L00026)

This equipment is the best option for tests where a high light output is needed and where there is a variation in the wavelength. It is very easy to handle and therefore much appreciated in labs.



- Manual
- Short and long wave length (UV-C/UV-A)
- 4x6W quartz glass lamps FL6BLBT5, with emission at 366 nm, in two lateral groups with on/off switch
- 6 A cable with plug – Connection for 230V
- Metal case

## mod. Triwood 6/36 (cod. 86L00021)

This equipment is the best for tests where a high light output is needed and where there is a variation in the wavelength. It is very easy to handle and therefore much appreciated in labs.



- Manual
- Long wavelength (UV-A)
- 6x6W quartz glass lamps FL6BLBT5, with emission at 366 nm, in three lateral groups with on/off switch for single or combined operations
- 6 A cable with plug – Connection for 230V
- Metal case

In case of continuous inspection tests we suggest to fix the equipment onto a support at about ten centimetres from the test samples. After 40-60 seconds the lamps reach their working efficiency and it is possible to make the tests. In order to achieve the best fluorescent visibility, we suggest making the tests in a dark environment.



# TRIWOOD accessories

## Open base (cod. 86L00062)



Pyramidal case, closed on three sides, with blanked vision. Good solution to test chromatographic plates.

## Closed base (cod. 86L00061)



Box with a central window, with rectangular base with two locks and blanked vision. Good solution for tests on chromatographic plates with max dimensions of 200x200mm.



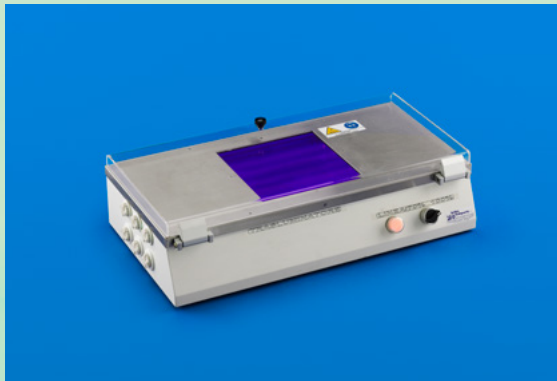




# TRANSLUMINATORS for laboratories

mod. T.S.36, T.S.31, T.S.25

Best option for chromatographic tests on thin wires.



## **Mod. T.S. 36** (cod. 86L00041)

- Long wavelength (UV-A)
- 8 x 6W quartz glass lamps FL6BLBT5, with emission at 366nm
- 1 x glass filter
- 4 x on/off switches, one for each group of two lamps, for single or combined operations
- 6 A cable with plug for 230V connection
- Metal case

## **Mod. T.S. 31** (cod. 86L00043)

- Medium wavelength (UV-B)
- 8 x 6W quartz glass lamps FL6BLBT5, with emission at 310nm
- 1 x glass filter
- 4 x on/off switches, one for each group of two lamps, for single or combined operations
- 6 A cable with plug for 230V connection
- Metal case



## **Mod. T.S. 25** (cod. 86L00042)

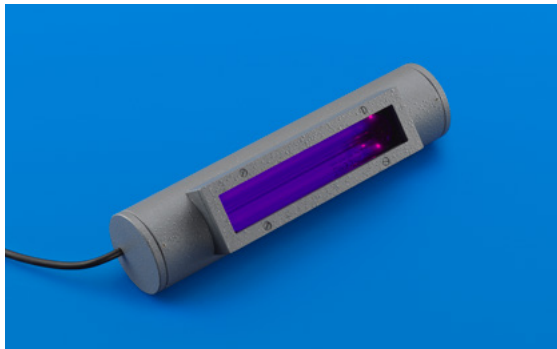
- Short wavelength (UV-C)
- 6 x 6W quartz glass lamps G6T5, with emission at 254nm
- 1 x filter in transparent quartz glass
- 3 x on/off switches, one for each group of two lamps, for single or combined operations
- 6 A cable with plug for 230V connection
- Metal case



# MANWOOD mod.25, mod.36

## **mod. Manwood 25** (cod. 86L00007)

For photochemical and chromatographic applications.



- Very easy to handle
- Short wave (UV-C)
- 2 x 6W quartz glass lamps G6T5, with emission at 254nm
- 1 x filter in transparent quartz glass 170x35 mm
- On/off switch
- 6 A cable with plug for 230V connection
- PVC case

## **mod. Manwood 36** (cod. 86L00001)

For photochemical and chromatographic applications.



- Very easy to handle
- Long wave (UV-A)
- 2 x 6W quartz glass lamps FL6BLBT5, with emission at 366 nm
- On/off switch
- 6 A cable with plug for 230V connection
- PVC case





# NOTES

## TRIWOOD/TRANSLUMINATOR

The strengths of this equipment are: the easy of use, the ease to observe the fluorescence without altering the products and its lifetime.

It is a turnkey solution: you just insert the plug in the socket and switch on the desired group for the desired lamps.

In order to have the best fluorescent visibility, we suggest to work in a dim light environment or in the dark. After the tests, turn off the device and put it away. The G6T5 lamps have a lifetime of about 4000 hours and the G6T5 of about 2000 hours, considering 3-4 operations each day. In case of very close tests, don't turn the device off, in order to prevent both the lifetime of the lamps and to have always a full light efficiency, because by turning on the device the lamps need 40/50 seconds to reach their full operation.

## MANWOOD

The ManWood device can be used manually to observe the fluorescence of small surfaces and particulars which are normally invisible to the human eye; it can be also placed on stands in labs and orientate it towards the observation point.

The basic idea of these devices is to turn an incidental UV radiation into a visible radiation and this phenomenon is called "fluorescence".

In order to have the best visibility, it is suggested to work in a dim light environment or in the dark. After 3 or 4 minutes the lamp reaches its full efficiency and the observation can start.

This model is particularly appropriate for test on organic fluorescence, studies on bacteria, for analysis of skin pathologies and other purposes in dermatological field.

## ATTENTION:

- Do not insert foreign bodies in the windows
- Do not wash with water or with detergent solutions
- To clean the lamps and the filters use a dry rag which doesn't leave traces
- Do not irradiate directly the eyes; use the apposite glass
- Do not expose body parts to the direct light (they are NOT UV-A tanning devices)
- Turn off the device before plugging it off
- In case of failure contact qualified personnel
- Do not open or alter the device without our authorization
- Turn off the device before operating on the electrical system

## Devices summary

CODE	MODEL	LAMP TYPE	LAMP POWER	FILTER DIMENSIONS	FILTER $\lambda$	CASE DIMENSIONS	WEIGHT
86L00001	Manwood 36	2x FL6BLBT5	2x6W	-	366 nm	Ø63 mm, L.280 mm	0,50 Kg
86L00007	Manwood 25	2x G6T5	2x6W	170x35 mm	254 nm	Ø63 mm, L.280 mm	0,70 Kg
86L00021	Triwood 6/36	6x FL6BLBT5	6x6W	-	366 nm	260x160x80 mm	2,15 Kg
86L00026	Triwood 25/36	4x FL6BLBT5	6x6W	-	366 nm	260x160x80 mm	2,15 Kg
		2x G6T5	6x6W	170x35 mm	254 nm	260x160x80 mm	
86L00041	T.S.36	8x FL6BLBT5	48W	180x220 mm	366 nm	610x330x150 mm	12,00 Kg
86L00043	T.S.31	8x FL6T5	48W	180x220 mm	310 nm	610x330x150 mm	12,00 Kg
86L00042	T.S.25	8x G6T5	48W	170x140 mm	254 nm	610x330x150 mm	12,00 Kg
86L00062	Open support	-	-	-	-	495x170x180 mm	1,75 Kg
86L00061	Closed support	-	-	-	-	305x270x150 mm	3,00 Kg





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