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POLIMER

UV POLYMERIZATION EQUIPMENT

# EQUIPMENT





### POLIMER

#### UV CURING

UV technology represents one of the major innovations in the development of polymers. UV high-intensity light is used to crosslink resins, varnishes or inks. During conventional cross-linking, the hot air fosters the aggregation of polymers in the solvent, which evaporates due to the high temperature.

With UV source, the cross-linking process occurs thanks to a beam of ultraviolet light which activates specific substances (called photoinitiators) that are present in the product; these trigger a polymerization reaction, which occurs in a very short span of time (1-2 seconds).



#### Complete Polimer apparatus

• Polimer 500W – Cod. 85L00008

Polimer 400W – Cod. 85L00002

#### POLIMER

For many years now, Helios Quartz has been manufacturing UV polymerization equipment which are particularly useful for general photo-polymerization processes such as drying films of UV reactive inks, lacquers and paints, bonding glass to glass, glass to metal or electronic components sets with UV reactive adhesives. In case of bonding glass to glass or glass to metal, care must be taken to maintain the temperature of the coated film bonded surface below 120°C, in order not to reduce the adhesive sticking strength.

Helios Quartz POLIMER apparatus is universally recognized as the most reliable UV polymerization equipment available on the market and its product range is represented by the two turnkey instruments of 400W and 500W. In addition, the 1000W POLIMER may be supplied on request.

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The UV reflector, equipped with a comfortable grip made of an insulating material, is easy to be handled by the operator and it comes also with mounting points for in-line applications. It is made by a doublechamber metal body where the UV bulb is mounted. Helios Quartz, thanks to the great experience, has developed the design of this reflector to optimize the reflection of the ultraviolet radiation and to minimize the heat transmission produced by the ultraviolet lamp. Moreover, the reflector is equipped with a protective quartz glass plate transparent to ultraviolet radiation. All POLIMER units are ready to use and provided with a pair of protective safety goggles.

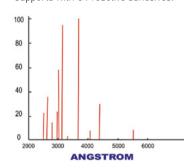


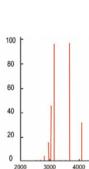
All POLIMER models can be equipped with the following types of quartz UV mercury vapour lamps, according to customer requirements and applications. Helios Quartz emphasizes the obligation for operators to use special safety goggles provided with the unit when the reflector is on; in case of missed use of the goggles, Helios Quartz disclaims any responsibility.

### UV LAMPS

#### Zp type

are available with complete UV spectrum emission from 180 nm to visible range of wavelengths, therefore UVC, UVB and UVA radiation emission. This kind of lamp is particularly useful for drying high thickness UV ink and paint films or in case of bonding high thickness transparent supports with UV reactive adhesives.





Zh type

Helios Quartz, in order to optimize the UV lamps lifetime, recommends the switching on/off cycles should not be more than once or twice a day. After switching off the UV lamp, in order to improve the UV lamp lifetime, it is recommended to wait about 15 minutes before switching it on again and we suggest our customer also to replace lamps after about 1500 hours of working time.

### ACCESSORIES

**UV Reflector Base** with electric cooling fan. It is particularly useful for the UV reflector stand-by situation (while it is ON): it can save lamp operative life time and it can prevent armful UV environment irradiation.

#### SPECIAL SAFETY GOGGLES







Control panel

All POLIMER models are manufactured according to CEI 62/5 standards. Helios Quartz POLIMER device is supplied with voltage line 230 Volts single-phase 50 Hz or 60 Hz (on request); the control panel is equipped with a master power switch and light voltage indicator, with a UV lamp's power switch 24 volt and related Voltmeter for UV lamp's voltage control. Specifically for the American market the device can be provided at 110V.

#### SECTORS INVOLVED

The POLIMER device is appreciated in all market niches where resins, glues, paints or products require UV exposure. In each case, Helios Quartz suggests costumers consult the technical data sheets of the UV products in order to select the appropriate UV lamp and get the best UV curing process.

- Graphic and printing
- Glass
- Universities and laboratories
- Wood
- Plastic

are available with UVB and UVA ozone free emission from 310 nm to visible range of wavelengths. It is particularly useful for textile printing UV reactive inks.

#### Zs type

are available only with UVA emittance from 360 nm; ozone free. The lamps Zs are mainly used for the bonding of glass to glass or glass to metal through UV reactive adhesives.

