NEW

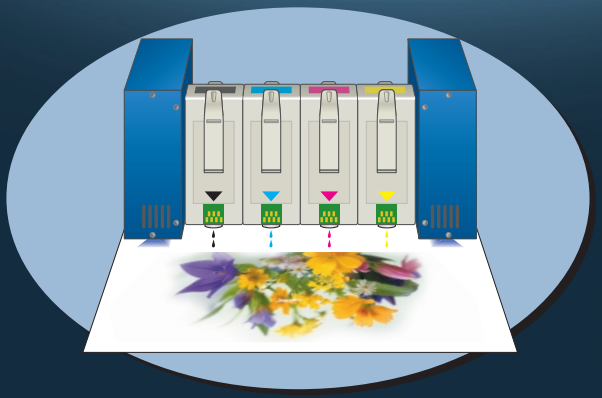
LINEAR IRRADIATION TYPE UV-LED UNIT

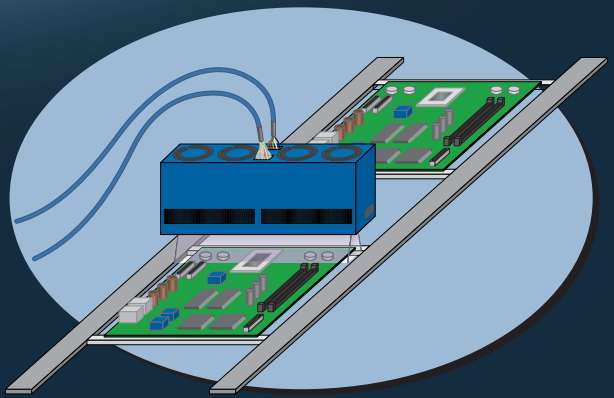
LIGHTNINGCURE™ LC-L5

Breaking all the old limits on product line irradiation work using UV lamps! A whole new generation of light sources is on the scene!

Why Hamamatsu?

As a pioneer and leader in photonics technology, Hamamatsu has stacked up many successes along the way. Hamamatsu now offers a new twist with linear irradiation type UV-LED units in a "New Profile" UV light source that incorporates all the technologies we have accumulated.
These UV-LED units work in new production processes impossible for conventional lamp units up to now. The UV-LED units will soon find their way into UV print devices and various types of industrial equipment.





HAMAMATSU

PHOTON IS OUR BUSINESS

APPLICATIONS

- **UV Ink Drying**
  UV inkjet printers
  UV seal & label printing
  UV offset equipment
- **UV Coating Agent Drying**
  Printed circuit board protective films
  IC cards & IC tag coatings
  Blu-ray & DVD media coatings
  Furniture & building materials (walls, floors, etc.) / woodworking applications
- **UV Tape Peeling**
- **UV Gluing**
  Manufacture of digital home electronics products
- **Fluorescence Excitation / Scratch & Flaw Inspection Lighting**

SPECIFICATIONS

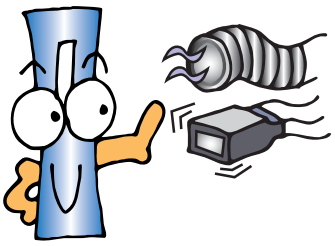
Parameter	L11403-1104	L11403-2104	L11403-1112	L11403-2112	Unit
Illumination Area ①	10 × 105		10 × 305		mm
UV Irradiation Intensity ②	1000	1200	1000	1200	mW/cm²
Peak Wavelength	365 ± 5	385 ± 5	365 ± 5	385 ± 5	nm
Class	4 (JIS C 6802: 2005)				—
LED Service Life ③	20 000				h
Input Voltage (DC)	36 ± 2				V
Power Consumption (Max.)	180		450		W
Cooling Method ④	Forced air cooling by fan motor (suction fan type)				—
-001	Forced air cooling by fan motor (blowing fan type)				—
Operating Ambient Temperature	+5 to +40				°C
Storage Ambient Temperature	-10 to +50				°C
Operating Ambient Humidity	20 to 80 (No condensation)				%
Storage Ambient Humidity	Below 80 (No condensation)				%
External Control	Lighting control, Irradiation power adjustment, Various alarm signal outputs				—
Applicable Standard	IEC 61326-1 Group 1 Class A				—
	IEC 61010-1				—

NOTE: ① Area subject to at least 80% irradiation intensity at distance of 2 mm within irradiation area ② 5 minutes after lamp ON at distance of 2 mm ③ Average time until irradiation intensity reaches 70% of initial value ④ Two types of cooling fans provided : suction fan and blower fan. The suffix "-001" is added to the end of the type No. for the blower fan type.

* Feel free to consult us about any custom specifications you might need.

Needs NO duct installation & NO chiller equipment!

Air cooling eliminates need for bulky chiller equipment. Also minimal heat emissions means that no exhaust ducts are needed. This not only cuts the initial equipment investment cost but also helps save space!



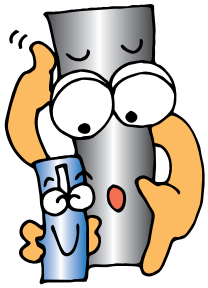
Huge cuts in maintenance costs!

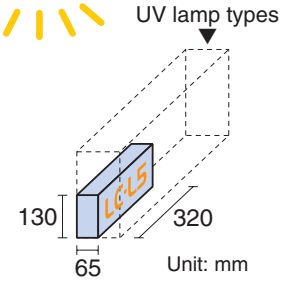
Our new UV-LED units ease the service chore of frequent lamp replacement which is a big problem in conventional UV lamps. LED units also have a service life far greater than conventional lamps. The LED units not only have low power consumption which cuts electrical bills but need very little service work such as lamp replacement, and so give huge savings in maintenance costs.

Greater freedom in component layout and no worries about space.

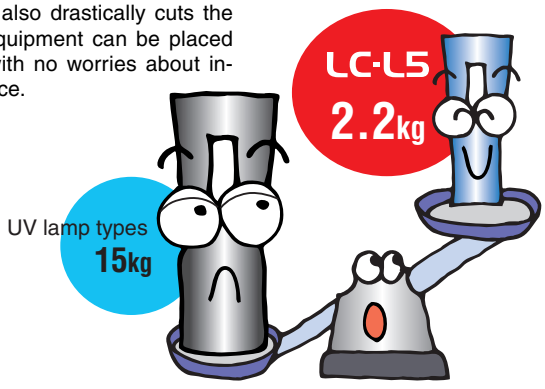
Using UV-LED allowed us to cuts space requirements by some 90% compared to conventional UV lamps.

Cuts unit size some 90%





This change also drastically cuts the weight, so equipment can be placed as needed with no worries about installation space.

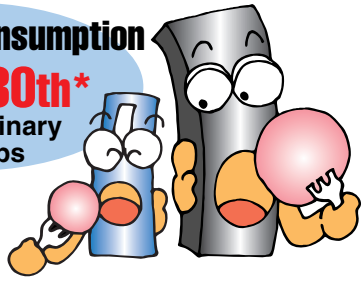


* Compared with other irradiation units

Environmental impact reduction

These UV-LED units cut power consumption to about 1/30th* that of conventional UV lamps. So switching over to the LC-L5 reduces the CO_2 in the air by 20,000 kg over a one-year period. That gives the same effect as planting about 1800 buna (beech) trees.

Low power consumption
about 1/30th*
that of ordinary UV lamps



■**Estimate conditions**

Light source type	quantity	operating time	operating time per day
Metal halide lamp (4 kW)	4 units	260 days	ON for 9 h
LC-L5 (0.4 kW)	4 units	260 days	ON for 3 h/Standby for 6 h

* Value allowing for duty cycle (LC-L5) for operating time per day

Cuts CO_2 emission quantity by about 20,000 kg per year

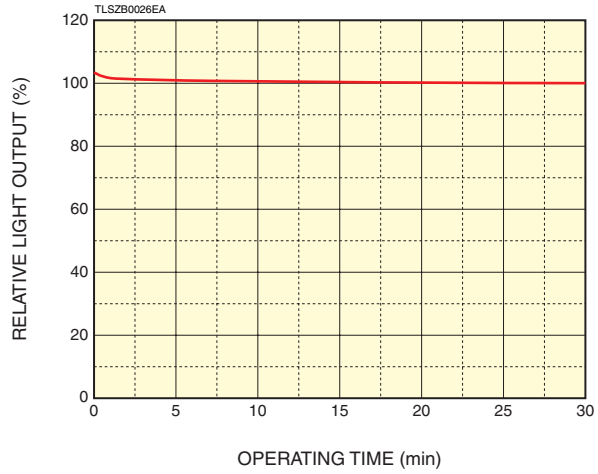
Yields same effect as planting about 1800 buna trees

CO_2 emissions were calculated as equivalent to 0.555 kg/kWh (Value based on Section 3 of enforcement order for act on promoting global warming prevention measures)
Calculated at 11 kg which is the amount of CO_2 absorbed by one buna tree over a one-year period (Estimate by Forestry and Forest Product Research Institute: independent institution)

Stable output accuracy

Advance heat-dissipation technology is yet another in a long string of UV-LED successes from Hamamatsu. This technology delivers stable irradiation that suppresses heat drift to an absolute minimum by a cooling technique that ensures both ample light intensity and long service life.

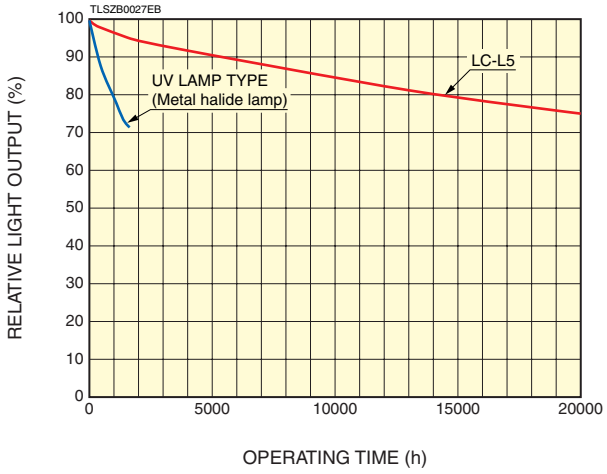
●Drift Characteristics



Long service life and huge cut in running costs.

A great feature of LED type UV lamps is their super long service life compared to ordinary UV lamps. These UV lamps only need to turn on momentarily unlike other lamps which are ON most of the time. This smaller ON time makes a huge difference in actual service life!

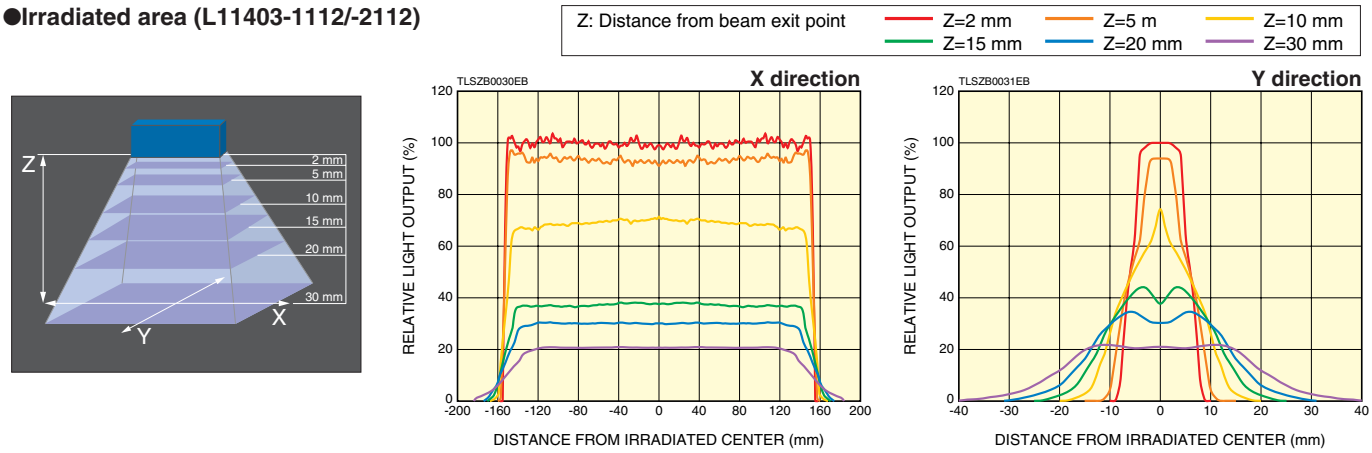
●Service Life Characteristics



Uniform UV irradiation over a wide range

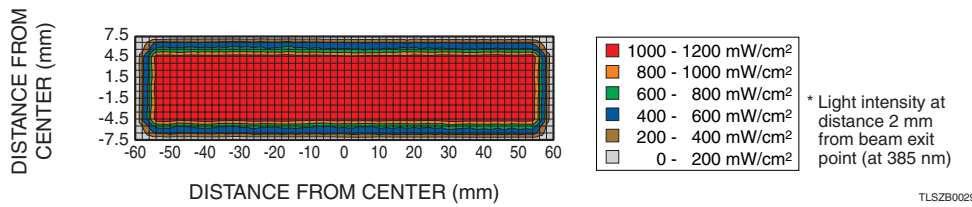
Our uniquely designed optical systems are what make super-uniform UV irradiation possible over a wide range with minimal variations in light intensity (these can replace UV ovens). Uniform UV irradiation supports quality control by minimizing uneven drying of printed items and warping from adhesive hardening.

●Irradiated area (L11403-1112/-2112)

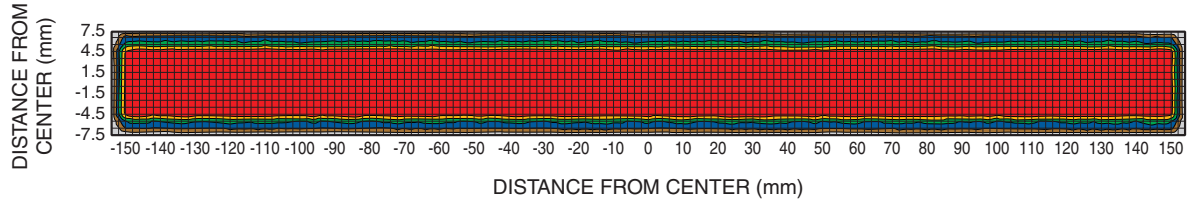


●Irradiation intensity distribution (typical example)

●L11403-2104

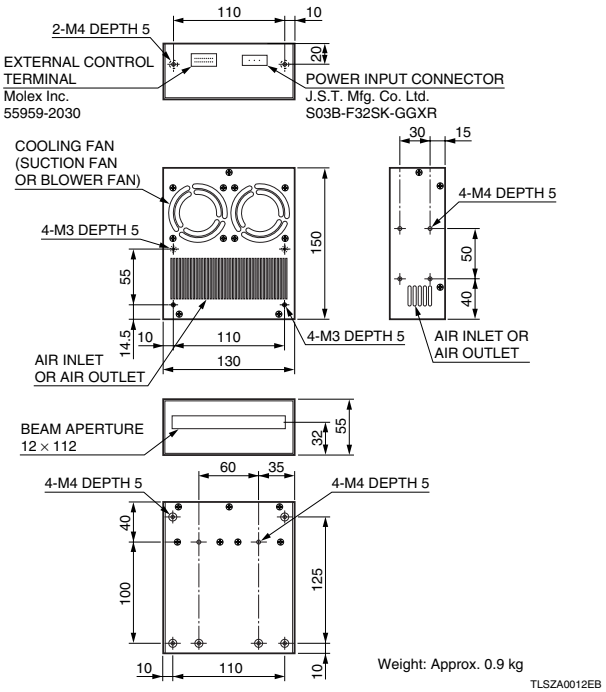


●L11403-2112



DIMENSIONAL OUTLINES (Unit: mm)

●L11403-1104/-2104



Weight: Approx. 0.9 kg

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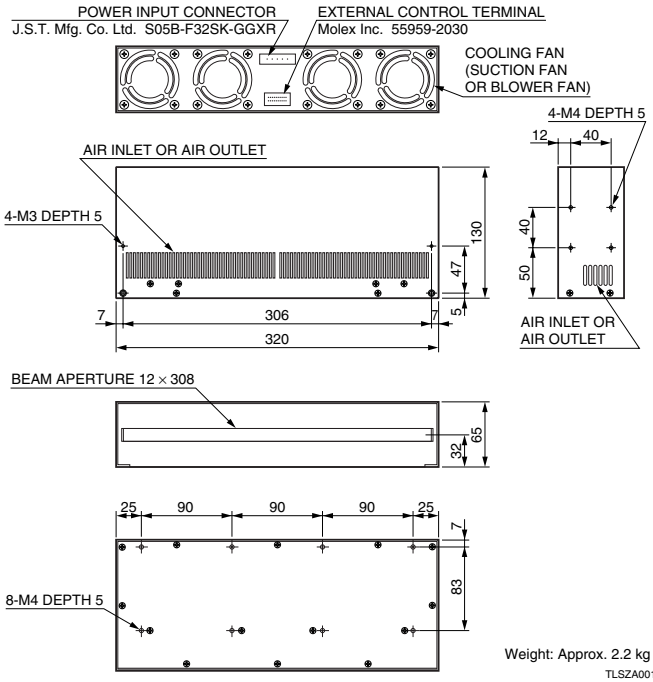
●L11403-1112/-2112



Weight: Approx. 2.2 kg

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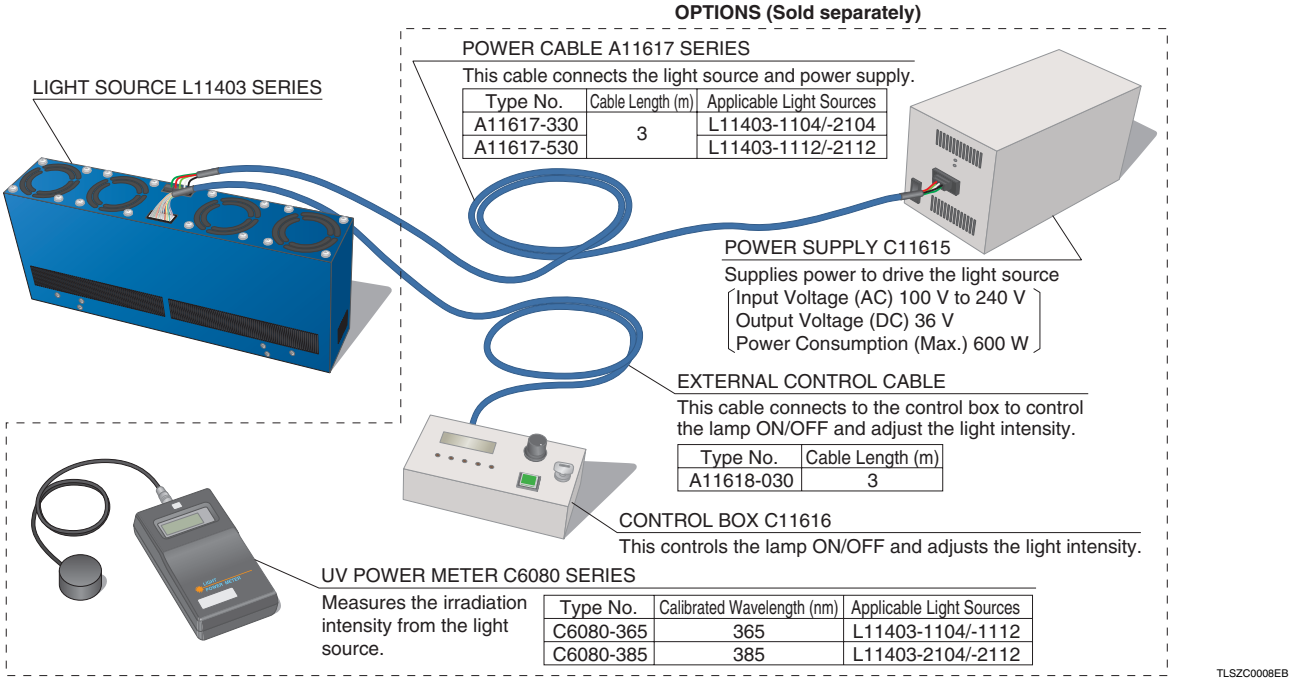
SETUP EXAMPLE



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