

Panasonic

ideas for life

UV Curing System **Aicure**

LED spot type

ANUJ5010 series

— Expert UV Curing —

The pinnacle of output, reliability, and operability
LED UV curing system that equals the lamp method.



- **Most powerful in its class** 2,000 mW/cm²*1
- **365nm UV**
- **Longest in its class** LED=20,000 hours*2
- **Smallest in its class** 12 mm dia. x 50 mm long head*3
- **First in its class** Supports for 4 languages*4
- Minimum thermal distortion
- **Minimum in its class** Low power consumption: 70VA
- Low running cost
- RS232C*4
- **2 head***4 / 4-head model added to series
- Wide variation lens



(High output head shown full scale.)

*1 When using high power head (ANUJ61424).
*2 Estimated life in standard environment and 85% output setting.
*3 With lens attached to high power head.
*4 ANUJ5012/5014
(According to our research as of July 1, 2005.)

UV Curing System LED-Aicure ANUJ5010 series
AACT1A55E-1 '05.8

NEW

<http://www.naismv.com/uv/>

Panasonic...the new name for **NAIS**

Matsushita Electric Works, Ltd.

We provide you solutions through our expertise in UV curing and control and lighting technologies.

Problems with precision bonding?



Cutting-edge applications

Bonding of lenses and prisms for Blu-ray Disc recorders, DVD-HD recorders, etc.

Problems caused by thermal distortion?



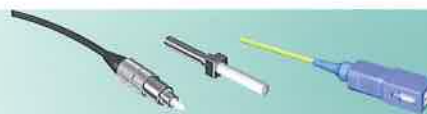
Assembly of lens units and filters for mobile phones, digital cameras, etc.

Problems with running costs?



Bonding of lenses and prisms for optical switches, relays, etc.

Problems with installation?

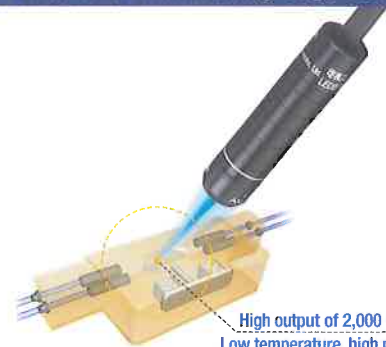


Bonding of optical fiber ferrules

High output comparable to the lamp type

We designed the ANUJ5010 Series to address the problems many users have faced up to now. High-speed curing with an irradiation power of 2,000 W/cm² reduces irradiation time and the 365 nm UV wavelength reduces thermal distortion. These features make this curing system ideal for applications that demand low-temperature, high-precision bonding.

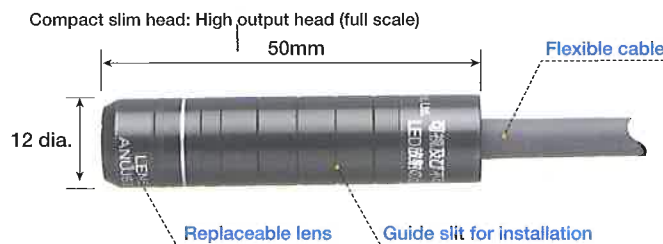
UV irradiation with cutting-edge technologies



High output of 2,000 mW/cm²
Low temperature, high precision
UV irradiation

Easy installation and setup

UV curing quality improvement through cutting-edge technologies



English/Japanese/Chinese/Korean
selectable display

2 head/4 head model



Fan-less controller ideal
for clean rooms

Programmable irradiation
for minimizing distortion

100-240 V AC
Low power consumption: 70VA

Equipped with RS232C

Individual head control

Cost cutting

Cost reduction through cutting-edge technologies

In addition to the 4-head model, a 2-head model has been added to reduce initial costs. Running cost has been greatly reduced thanks to long LED life, significantly less power consumption, and the elimination of long-term maintenance tasks such as parts replacement.

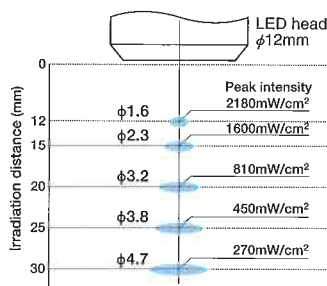
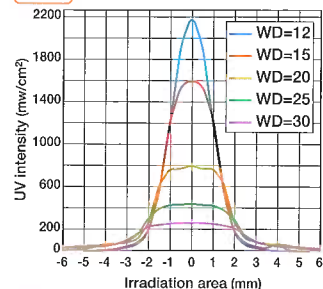
UV irradiation with cutting-edge technologies

High irradiation power: 2,000 mW/cm²

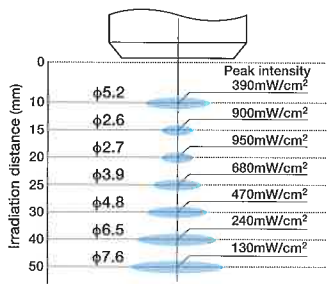
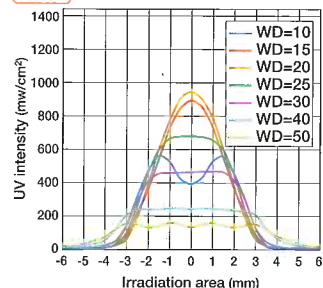
Boasting the highest output in its class, the 1,400 mW/cm² standard head (ANUJ61324) was increased by 40% and we also added an amazing 2,000 mW/cm² high-power head (ANUJ61424). This makes high-speed curing comparable to the lamp type possible. Also, output will not decrease with the number of fiber branches. With enough power to spare, this high output handles anything, from spot to wide-area irradiation.

*Standard installation bracket, 25°C ambient temperature, and 100% output.

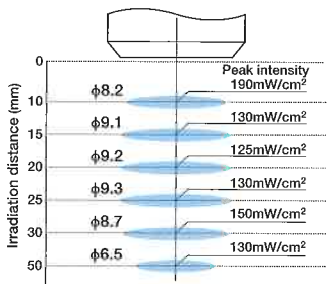
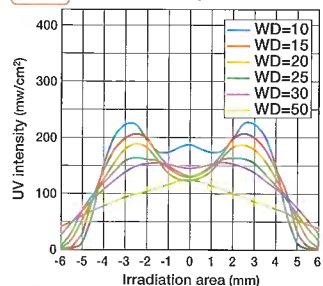
NEW ANUJ61424



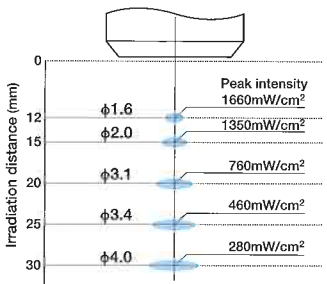
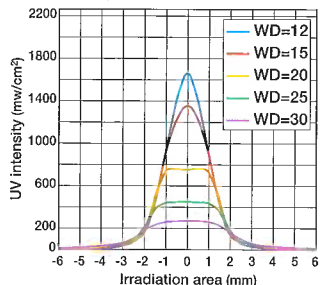
NEW ANUJ61426



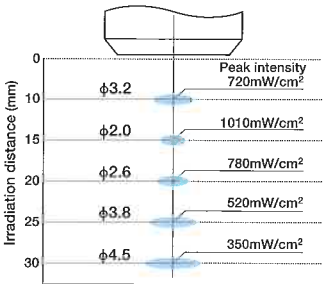
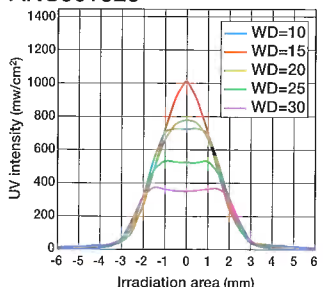
NEW ANUJ61420



ANUJ61324



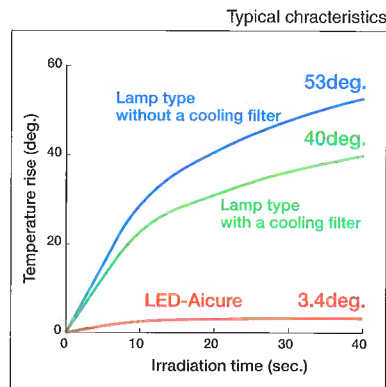
ANUJ61325



(Typical characteristics)

● : 70% irradiation diameter intensity at central intensity.

Precision adhesion for thermal distortion-less.

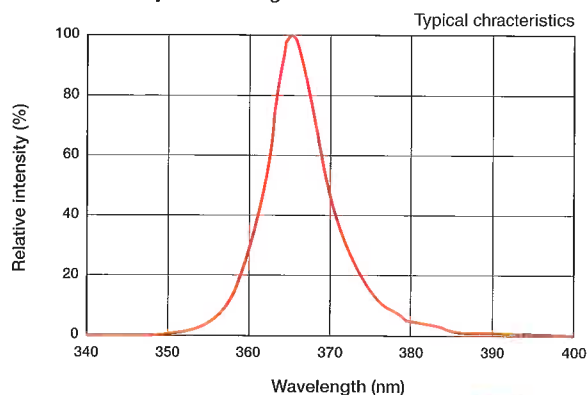


Conditions Workpieces: Optical pickup lenses
UV intensity: 250 mW/cm²
Irradiation distance: 20 mm

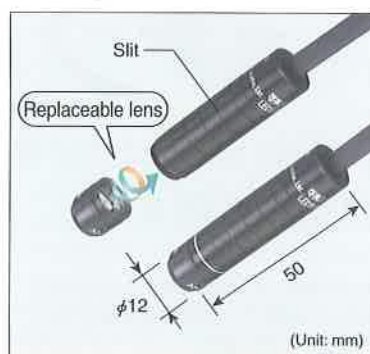
The 365 nm wavelength enables clear UV irradiation. The irradiation beam does not contain infrared rays, minimizing the temperature rise of workpieces. This is ideal for applications that require low temperature, high precision bonding with minimum thermal distortion, such as the assembly of thin plastic lenses.

Ideal UV wavelength of 365 nm

The ideal wavelength for UV resin curing is 365 nm and this is used as the main wavelength. The problem of insufficient curing below the surface caused by UV energy absorption at the resin surface due to the influence of a short wavelength component, and the problem of heat generation caused by infrared radiation, are both eliminated. UV resin transforms a monomer to a polymer by a optical-photopolymerization reaction (reaction starting wavelength = 365 nm), curing itself and allowing adhesion to occur. You can use your existing UV meter as is.



Compact 12 mm dia. x 50 mm length head



Even with the lens attached, this high-power head is the smallest in its class at 12 mm diameter by 50 mm length. Being small makes it easy to install and it is highly compatible with the conventional fiber type. The slits in the head also serve as a head installation guide. With a diameter of 52 mm and a length of 52 mm, the standard head is also small.

Top
in its class

Smallest
in its class

According to our research as of 1st July 2005

UP!

Signifies an improvement over our conventional model.

► Cost reduction through cutting-edge technologies

■ Light source life of 20,000 hours

When the high-power ANUJ61424 2,000 mW/cm² head is used at an 85% output setting of 1,700 mW/cm² or the standard ANUJ61324 1,400 mW/cm² head is used at an 85% output setting of 1,190 mW/cm², the estimated LED life is 20,000 hours. Using our unique optical technology, the ANUJ61424 allows both high power and long life, two qualities that have been considered mutually incompatible.

	Head	High power head ANUJ61424	Standard head ANUJ61324
Set output	100%	2,000mW/cm ² 10,000 hours	1,400mW/cm ² 10,000 hours
	90%	1,800mW/cm ² 15,000 hours	1,260mW/cm ² 15,000 hours
	85%	1,700mW/cm ² 20,000 hours	1,190mW/cm ² 20,000 hours

Estimated lamp life when secured with standard installation bracket and with an ambient temperature of 25°C.
(UV intensity maintenance ratio is 70% of initial UV intensity.)

■ Running cost cutting = Low power consumption

At only 70 VA or less, power consumption is low even when all heads are used at full power. This does not affect controllability, which can still be carried out with enough to spare, so energy can be saved and running cost reduced.

Furthermore, the digitally controlled LED, which supports 100 to 240 VAC, can be safely used in areas where the power supply is unstable, and in the event of a power failure, recovery is instantaneous.



■ 2-head controller lineup

Now available is the ANUJ5012, a controller with excellent cost performance that takes a maximum of two heads. ANUJ5012's all other features are identical, except the number of connectable heads. ANUJ5012 can be used to optimise startup cost in applications where one or two head are required.



ANUJ5012

■ Fan-less construction for long life and clean operation

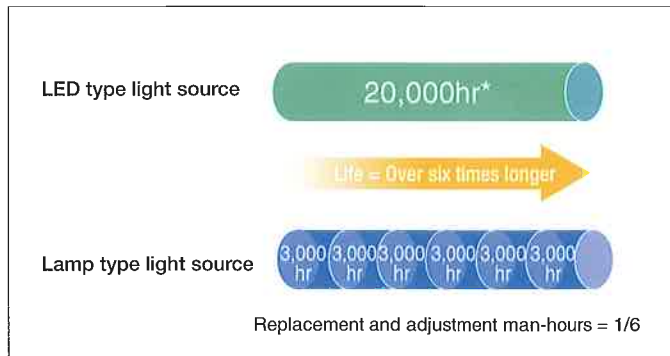
As the first fan-less controller in its class, it eliminates the need for an exhaust process which was a problem when installing into clean rooms where precision bonding took place. Also, the fan-less construction lengthens the life of the controller itself, which goes hand-in-hand with the long LED life.

Longest
in its class

Top
in its class

■ LED method cuts running cost

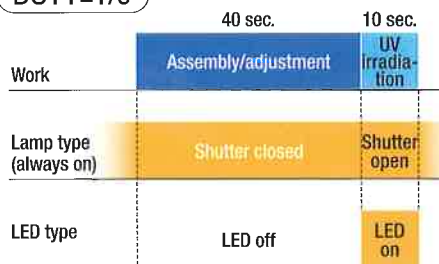
LED life achieved to be dozens of times longer than the lamp type.



The UV-lamp has to keep lit and the irradiation is controlled by the opening/closing of the shutter.

The LED can be instantly turned on/off, thereby allowing LED to be turn-off when irradiation is not required.

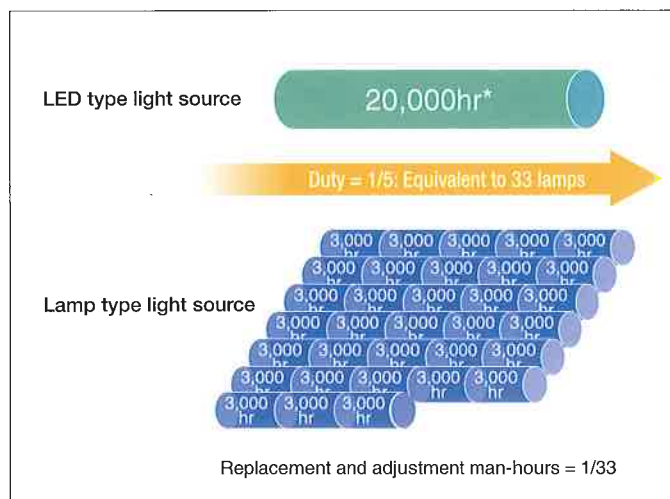
DUTY=1/5



A duty of 1/5 means that the LED usage time will be about 5 times that of the lamp type.

With a duty of 1/5, irradiation time corresponds to about 100,000 hours that of the lamp method (over 33 lamps worth).

The cost and work involved in replacing lamps is greatly reduced.



* Estimated lamp life when secured with standard installation bracket, 25°C ambient temperature and 85% output.

Top
in its class

Longest
in its class

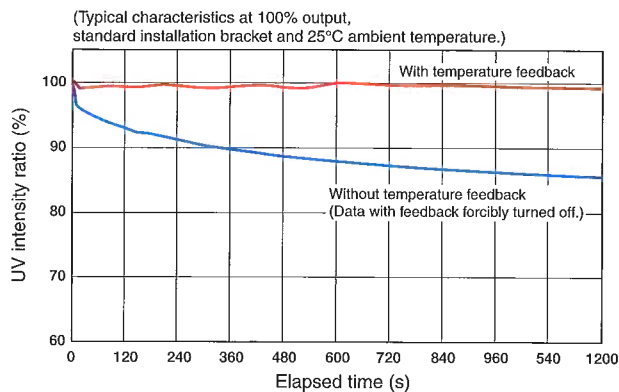
No.1
energy
efficiency

According to our research as of 1st July 2005

► UV curing quality improvement through cutting-edge technologies

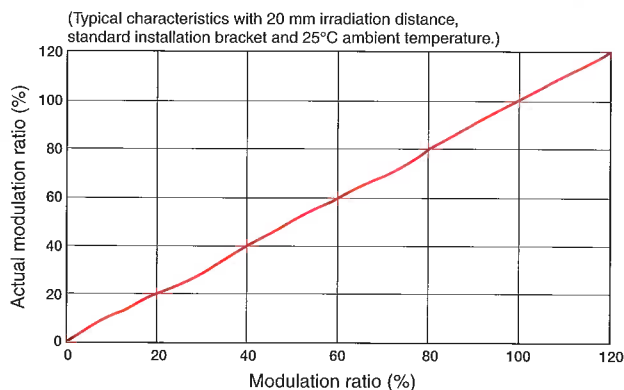
■ Feedback control for stable UV irradiation

Feedback is performed for each head to prevent LED heating from causing UV intensity to drop and to achieve stable UV irradiation. This increases curing quality, prevents light source heating, and prevents degradation of light source life.



■ High linearity for high reliability.

High-linearity UV irradiation intensity improves UV curing quality, makes settings and adjustments easier, and increases reliability. Stable, high-quality UV curing is achieved through feedback control, the unevenness control function, and high linearity.



■ Adjusting unevenness for curing quality

Even if there is slight unevenness of mounting position between each heads, the actual emitted UV intensity can be balanced by adjusting functions for curing quality. Adjusting can be made over a ± 15 step ranges. (at 100% setting: -5% to +10%)



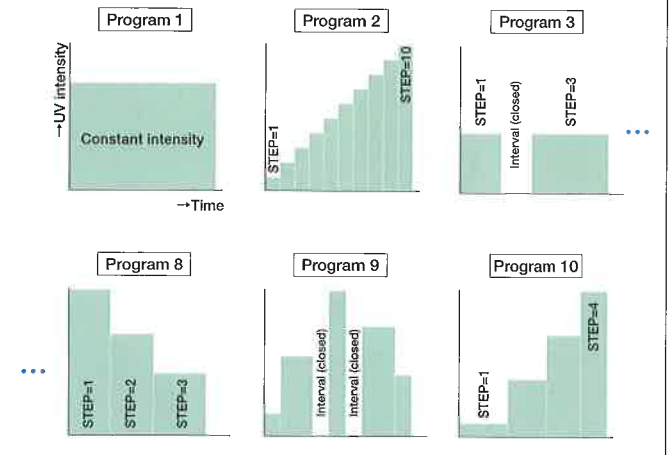
■ Programmable irradiation for distortion-less.

Pattern irradiation (function for controlling distortion when curing resin) can be controlled for each head.

Along with a reduction in thermal irradiation distortion, it is ideal for applications that demand low-temperature, high-precision adhesion.

Ten different irradiation intensities/patterns can be selected externally. Flexible irradiation is possible with heads controlled individually, all together, or in combination.

Program examples

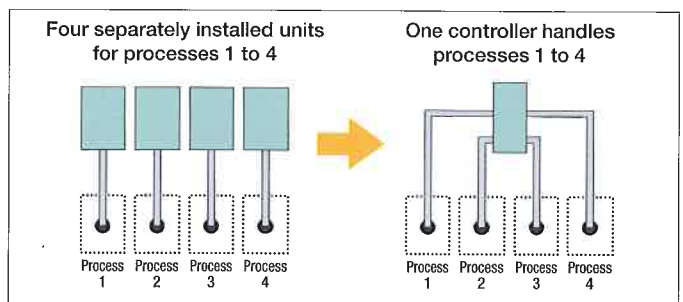


The irradiation pattern programming function allows changes in the irradiation intensity in accordance with the irradiation time.

Example: Set the UV intensity so that it remains low during the initial stage to minimize distortion and then increases as curing progresses (time) during one irradiation cycle. This allows both a cycle time reduction and supply of the irradiation energy required for curing.

■ Individually control for cutting initial cost.

One controller can individually control the different timing, intensity, and time settings of up to four heads. Therefore, one controller can do the work of four conventional units, reducing the initial investment.



■ Self-diagnosis functions

Each head has a self-diagnosis function for detecting problems, such as temperature rise, disconnection, and overcurrent. In addition, the I/O circuit for external equipment has a short-circuit protection circuit, which minimizes damage to the unit by means such as stopping internal power supply. A monitoring function has been built in for monitoring the irradiation time of each head and the number of irradiation times. The ANUJ5012/5014 also sounds an alarm when an error occurs.

► Easy operations and installations

■ Easy setup with interactive LCD that supports 4 languages

The 2-color-switchable interactive graphical panel facilitates setting operations. The status of each connected head can also be monitored. When an error occurs, the display will turn red and an alarm will sound. Also, since you can switch the interface language to Japanese, English, Chinese (Simplified), or Korean, the unit can be used as is for overseas production.

* The ANUJ5010 supports 2 languages (Japanese and English) and does not have an audible alarm feature.



English



Japanese



Chinese (Simplified)

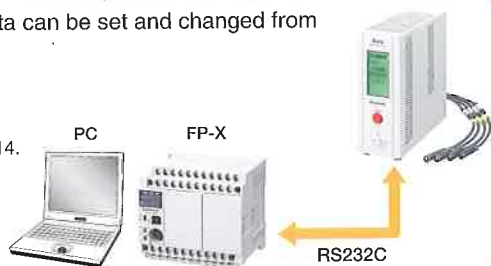


Korean

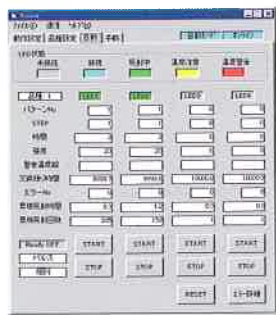
■ Remote setting with RS232C

Irradiation data can be set and changed from a PLC or PC.

* RS232C is supported by ANUJ5012/5014.



■ Utility software available (Free of charge)



Software is available that allows you to monitor all data, make settings, and view the status from a PC via RS232C. The ability to copy setting data allows you to easily apply the same settings to multiple units, which shortens the installation time.

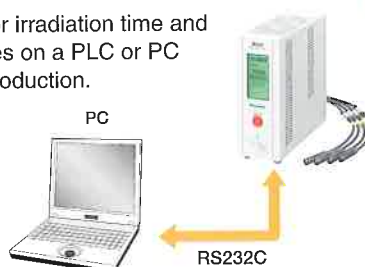
* RS232C is supported by ANUJ5012/5014.

The software can be downloaded free of charge at <http://www.naismv.com/uv/>

■ Tracking by RS232C

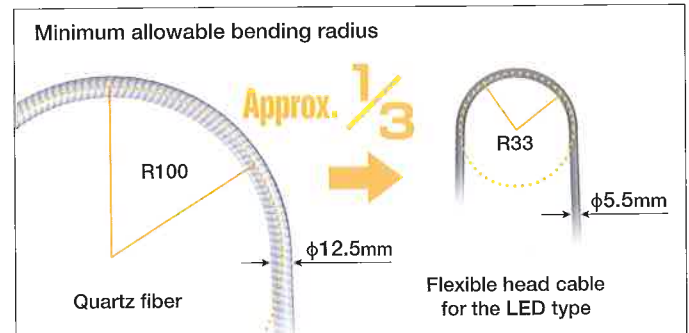
The ability to read data for irradiation time and irradiation number of times on a PLC or PC makes it easy manage production.

* RS232C is supported by ANUJ5012/5014.



■ Flexible cables for smooth head handling

Flexible cables are adopted as standard to cope with frequent head movements. The minimum allowable bending radius is less than one third the conventional quartz fiber, allowing smooth head handling at your work site. (Flexibility: Can be bent 10 million times or more)



Installation on moving part



The compact head and flexible cable make it easy to install onto moving parts such as robot arms, a task that was difficult using quartz fiber.

■ Space reduced 60%

The controller is a mere 85 mm wide. This saves over 60%¹⁾ in foot space and volume. Compared to quartz fiber, the head cables require approximately 88%²⁾ less space to bend. The connection cables are placed at the rear of the controller to provide a neatly organized workspace, which improves workability and enables high-density installation of equipment.

- 1) Compared with our horizontally-installed conventional model ANUP5204.
- 2) Since the bending radius is one third, the area ratio is 1/9 ($1/3 \times 1/3$).

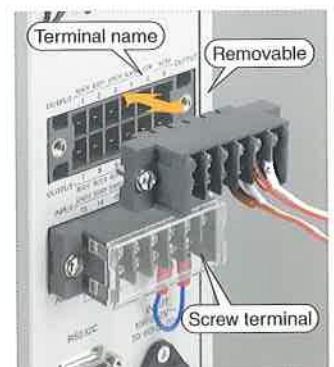


■ The removable screw terminal facilitates connection work.

External equipment can be connected to the M3 screw-terminal block, which is backward-compatible and supports Y-and ring-type crimp terminals. The removable terminal block has significantly improved the workability.

The name of each terminal is indicated on the rear panel to prevent mistakes when connecting terminals.

* Printing of terminal names is available on ANUJ5012/5014.



First in its class
According to our research as of 1st July 2005

UP! Signifies an improvement over our existing model.

Wide lineup and compatibility

UV intensity is determined by the head and lens connected to the controller. The high compatibility of this product makes it expandable. Standard and high output heads can be connected to any controller and different types of head can be connected to a single controller at the same time.

Product number table

Product number

Item	Specification	Product No.
Controller	Without RS232C	4-head controller
	With RS232C	2 head, RS232C controller
	4 head, RS232C controller	ANUJ5014
Head	High power head	With 4 dia. lens and 1.7 m extension cable
		With 6 dia. lens and 1.7 m extension cable
		With 10 dia. lens and 1.7 m extension cable
	Standard head	With 4 dia. lens and 1.7 m extension cable
		With 5 dia. lens and 1.7 m extension cable

Replacement parts and options

Item	Specification	Product No.
Head with lens	High power head	With 4 dia. lens
		With 6 dia. lens
		With 10 dia. lens
	Standard head	With 4 dia. lens
		With 5 dia. lens
Head	Head only	High power head
		Standard head
Lens unit	For high power head	4 dia. lens
		6 dia. lens
		10 dia. lens
	For standard head	4 dia. lens
		5 dia. lens
Connection cable	Cable only	1.7 m flexible cable
Goggles		UV protective goggles

Specifications

Head specifications

Head	High power head	Standard head
Product number (head only)	ANUJ6140	ANUJ6130
Applicable lens	Spot radius (mm)	4 dia. 6 dia. 10 dia.
Product number (lens only)	ANUJ 6424 ANUJ 6426 ANUJ 6420	ANUJ 6324 ANUJ 6325
Head and lens set product number	ANUJ 61424 ANUJ 61426 ANUJ 61420	ANUJ 61324 ANUJ 61325
Head block product number	ANUJ 61424C ANUJ 61426C ANUJ 61420C	ANUJ 61324C ANUJ 61325C
Irradiation intensity *1	Intensity (mW/cm ²)	2000 950 190
Irradiation distance	12mm 20mm 10mm	12mm 15mm
Light source	Max. output: 150 mW; wavelength: 365 ±5 nm; Class 3B LED product	
Estimated lamp life *2	10,000 hours (at 100% set output) 20,000 hours (at 85% set output)	
Ambient temperature/humidity range	Head: 5 to 35°C, 85% max. (no condensation)	
Storage temperature/humidity range	Head: -10 to 60°C, 85% max. (no condensation)	

*1 Secured to standard installation bracket and with 100% initial output at 25°C ambient temperature.

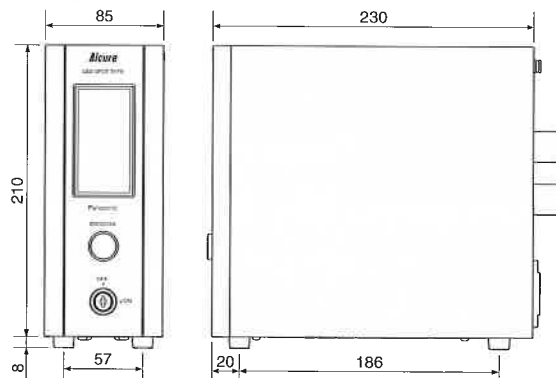
*2 Secured to standard installation bracket and with 25°C ambient temperature.

Controller specifications

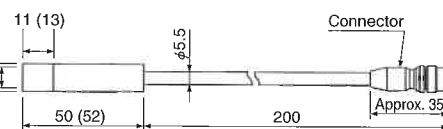
Controller	RS232C controller	Controller
Product number	ANUJ5012	ANUJ5014
Connectable heads	2 heads	4 heads
UV irradiation	Programmable irradiation patterns (10 steps in each of 10 patterns) Collective/Individual control of the heads	
Pattern switching	Stores 10 patterns, selectable by external signals	
Intensity/irradiation control	Digital intensity and irradiation control Manual or timer control (0.1 to 999.9 sec.)	
Setting/Operation	Setting by touch switches on the interactive two-color LCD/ Power key switch	
Display switching	4 language switching (Japanese, English, Chinese (Simplified) and Korean)	2 language switching (Japanese and English)
Communications function	Method	RS232C parallel I/O
	External input	Individual irradiation/stop input, interlock, full-irradiation input, and pattern switching
	External output	READY signal, error signal, alarm output, BUSY output (each head separately)
Operating voltage	100-240VAC (±10%) 50/60Hz 70VA	
Ambient temperature/humidity range	Controller: 0 to 40°C, 85% max. (no condensation)	
Storage temperature/humidity range	Controller: -10 to 60°C, 85% max. (no condensation)	

Dimensional drawing (Unit: mm)

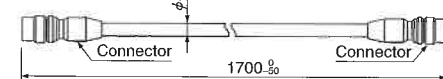
LED power supply



LED head



Connection cable



*Size when standard head is used is in brackets.

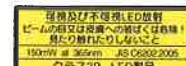
Please use safely!

This LED UV curing system uses a Class-3B ultraviolet LED. Safety labels are affixed to the product.

English



Japanese



Chinese (Simplified)



Both LED and lamp type UV curing systems are included in the lineup to meet a wide variety of applications

International standard spot-type model

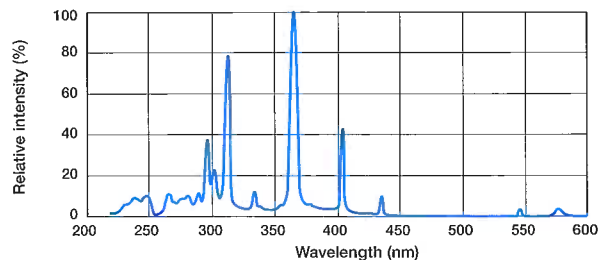
ANUP5204

- High output of 4,000 mW/cm²
- Worldwide compatible power supply range from 100 to 240 V AC
- By consuming 40% less power than conventional models, this unit reduces electric power costs.
- Low temperature filters to prevent temperature rises are available.
- Instructions manuals are available in Chinese and English.

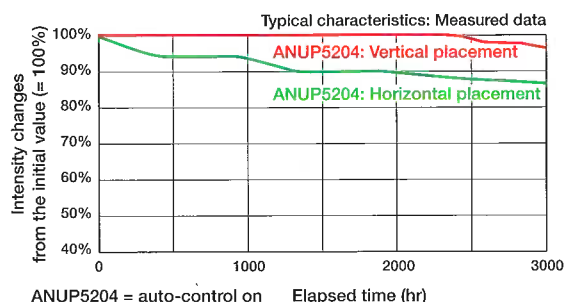


Ideal UV wavelength

The 365 nm wavelength is supported as the main wavelength. Short wavelengths are also supported, so surface tacking caused by different resin types can be quickly removed.

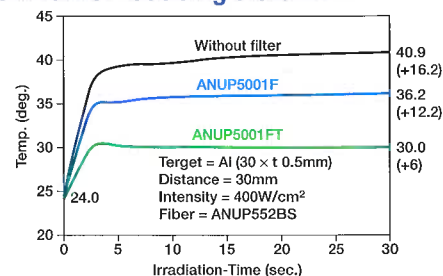


The UV auto control function provides stable, high output UV irradiation over the entire lamp life.



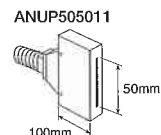
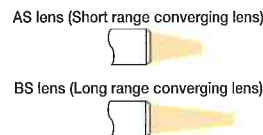
Low temperature filter for reducing distortion

Filters are available that apply the right amount of heat to suit the resin type.



Wide variation

In addition to 1 to 4 branches and 3.5, 5 and 8 mm diameters, a wide range of other irradiation fibers are available.



Wide variation of models for even UV irradiation over a wide area is also available.

ANUP5256 offers the convenience you get with a spot type.

ANUP5256

For lens adhesion and stamp UV curing, etc., this system can be added to existing facilities. The slim controller takes up little space.



Power supply units up to 12 kW available.
Supports irradiation widths from 4 cm up to 120 cm.

To meet your needs, power supply units ranging from 1kW to 12 kW are also available for the irradiation units you are using such as integrated belt-conveyor types, batch types, and separate lamp house types.



Safety Precautions

- In order to use this product properly, be sure to read the Installation Instructions and Manual before use.

These materials are printed on ECF pulp.
These materials are printed with earth-friendly vegetable-based (soybean oil) ink.



Please contact

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Panasonic

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