

# INSTRUCTIONS for PUV-12, PUV-11 & PUV-10

## Self-Ballasted Mercury Vapor UVB Lamp

# POWERSUN<sup>UV</sup>



**PROVIDES ESSENTIAL UVA, UVB, LIGHT & HEAT ALL IN ONE LAMP!**



Congratulations on your purchase of Zoo Med's PowerSun® UV Mercury Vapor UVB Lamp! The following instructions will assist you with the proper set-up and operation of this lamp. Please read the following instructions carefully. If you have any questions regarding these instructions or the proper use of this item, please contact our customer service department at:

email: [zoomed@zoomed.com](mailto:zoomed@zoomed.com) website: [www.zoomed.com](http://www.zoomed.com)  
or by calling (888) 496-6633 (US and Canada only).  
Customers in other countries, please call (805) 542-9988.

### FEATURES:

- Provides essential UVB, UVA, visible light & heat all from one lamp!
- Keep your reptiles healthy: Prevents metabolic bone disease in reptiles.
- Self-ballasted: Screws into a standard lamp fixture with a ceramic socket\*. No external ballast needed.
- Unique Zoo Med lamp construction creates a true flood-lamp effect, eliminating dangerous UV "hot-spots" common to clear-faced and acid-etched mercury vapor reptile lamps.
- Full one year lamp guaranty from date of purchase.

\*Make sure that the lamp fixture has a ceramic socket and is rated for the appropriate wattage.

### SAFETY INSTRUCTIONS:

**WARNING! RISK OF FIRE:** Read and save all safety instructions before operating this lamp.

**IMPORTANT:** In order to reduce the risk of injury, fire, or electric shock, read and save these instructions prior to operation.

- **DO NOT** exceed electrical rating. Be sure that lamp wattage does not exceed fixture rating. Fixture must have a ceramic socket.
- **DO NOT** use in wet conditions. Use indoors only. Not for use with aquariums.
- Securely suspend lamp in a fixture above terrarium.
- Keep children and pets (other than your terrarium animals) away from lamp and fixture.
- Fully insert plug. Unplug when not in use. Unplug power cord before inserting or changing bulb.
- **DO NOT** cover with blankets, rugs, or any material.

### CAUTION:

PowerSun UVB lamps emit UV radiation and must be used in accordance with these instructions. Just as you would not stare into the sun, do not stare into this lamp! This lamp must be placed directly overhead of your reptiles, and not to the side which would force them to stare into this lamp! Carefully follow these instructions and be sure the lamp is a safe distance from your reptiles. Failure to use the lamp according to these instructions may result in personal injury or may cause injury to your animals.

### OPERATING INSTRUCTIONS\*:

PowerSun lamps have a large effective range, depending on the wattage of your bulb. Within this range are four zones of increasing UV intensity. These zones are described below and will help you determine the correct basking distance for your reptile(s). Determine the wattage of your lamp and select the appropriate distance based on the recommendations below. Please note that every bulb varies slightly in output due to factors such as age, electrical supply, and external temperatures. These distances are recommended based on average UV output.

## FERGUSON ZONES

	ZONE	DISTANCE			BASKING BEHAVIOR	*UV INDEX
		80 W	100 W	160 W		
MINIMUM	ZONE 1	16" to 26"	20" to 32"	26" to 38"	SHADE	0.4 to 0.7
	ZONE 2	6.0" to 16"	10" to 20"	16" to 26"	MOSTLY PARTIAL SUNLIGHT	0.7 to 1.0
MODERATE	ZONE 3	4.0" to 6.0"	6.0" to 10"	12" to 16"	MOSTLY FULL SUNLIGHT	1.0 to 2.6
HIGH	ZONE 4	ZERO to 4.0"	ZERO to 6.0"	ZERO to 7.0"	MIDDAY FULL SUNLIGHT	2.6 to 3.5 or more
DANGER						> 7.0

### ZONES 1 & 2 (minimum range):

**80 Watt: 16-26 inches (40-66 cm)**  
**100 Watt: 20-32 inches (50-81 cm)**  
**160 Watt: 26-38 inches (66-97 cm)**

#### Zone 1: UVI 0.4 to 0.7 (Shade/Crepuscular)

Species in this zone can be either diurnal (active during the day) or crepuscular (active at dawn or dusk). They avoid direct sunlight exposure and are able to meet their vitamin D requirements through exposure to low levels of UVB typically found in the shade, or at dawn and dusk. Examples include Jamaican Brown Anoles (*Anolis lineatopis*), Elaphe species (Corn and Rat Snakes), Leopard Geckos, Leaf-tailed Geckos, and Tokay Geckos. Some amphibian species (like Dart Frogs) will also benefit from UVB exposure in this zone. Some nocturnal species (such as Crested Geckos) may benefit from Zone 1 UVB exposure as they have been found to expose limbs and body parts to UVB while sleeping. Always provide a shelter for reptiles to retreat completely from any light and UVB exposure.

#### Zone 2: UVI 0.7 to 1.0 (Mostly partial sun/Occasional full sun baskers)

This is a small range that is very close to Zone 1, but species in this zone will occasionally venture out into full sunlight for short periods of time. Examples include Green Anoles (*Anolis carolinensis*), Water Dragons (*Physignathus cocincinus*), Day Geckos (*Phelsuma* species), Skinks, Box Turtles (*Terrapene* species), Boa Constrictors, Ball Pythons, Garter and Ribbon Snakes (*Thamnophis* species), and most species of diurnal Colubrid snakes (like Kings Snakes and Gopher Snakes). This zone is also recommended for Old World Chameleons (Panther Chameleons, Jackson's Chameleons, and other Chameleo species). If you're unsure what the appropriate zone is for a given species, Zone 2 can be used as a safe and effective level that will prevent the onset of metabolic bone disease or nutritional secondary hyperparathyroidism (NSHP). Always provide a shelter for reptiles to retreat completely from any light and UVB exposure.

#### ZONE 3 (moderate range):

**80 Watt: 6-16 inches (20-40 cm)**  
**100 Watt: 10-20 inches (25-50 cm)**  
**160 Watt: 16-26 inches (40-66 cm)**

#### UVI 1.0 to 2.6 (Mostly full sun/Occasional partial sun baskers)

Zone 3 covers a fairly broad range and includes many species commonly kept as pets. These temperate, tropical, and sub-tropical species will bask in full sun early in the day or early afternoon. During mid-day, they may be found basking when conditions are partly cloudy. This zone is appropriate for most species of aquatic turtles and tortoises. Many of the small spiny lizards of the genus *Sceloporus* fall into this zone, as do Monitors and Tegus, Blue-tongued Skinks, Green Iguanas (*Iguana iguana*), and Curly-tailed Lizards of the genus *Leiocephalus*. With Zone 3 and above, it is **VERY IMPORTANT** to provide a UVB gradient down to Zone 1 UVB levels so that reptiles can photoregulate and adjust their UVB exposure as needed. Failure to provide a UVB gradient can result in illness, eye & skin damage, or even death. Always provide a shelter for reptiles to retreat completely from any light and UVB exposure.

#### ZONE 4 (high range):

**80 Watt: 4-6 inches (15-20 cm)**  
**100 Watt: 6-10 inches (20-25 cm)**  
**160 Watt: 12-16 inches (30-40 cm)**

#### UVI 2.6 to 3.5 or more (Mid day full sun baskers)

Zone 4 species would include the majority of "desert" species that bask in full sunlight, even after Zone 3 species have retreated into burrows or the shade. Examples include Bearded Dragons (*Pogona vitticeps*), Uromastix lizards, Chuckwallas (*Sauromalus* sp.) and Desert Iguanas (*Dipsosaurus dorsalis*). **IMPORTANT:** Just as with zone 3, it is critical that the habitat is large enough to provide a UVB gradient down to zone 1 levels to allow reptiles to photoregulate and adjust their UVB exposure. Failure to provide a UVB gradient can result in illness, eye & skin damage, or even death. Avoid UVI levels of 7.0 or more for zone 4 species as even the most sun-loving species begin to retreat from full sunlight at these high levels (see lamp safety notes below for more info).

(continued on back)

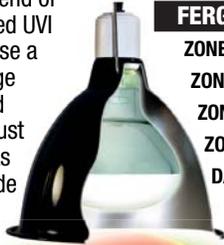
**OPERATING INSTRUCTIONS\*:** (continued)

**\*Notes on operating range:**

The operating range is the distance from the lamp to the reptile's basking site. In order for your reptile to benefit from UVB, you must provide your reptile with the appropriate temperature zone. Be sure to provide an appropriate temperature and UVB gradient. This will allow your reptile to adjust their distance to heat and UVB lamps in order to regulate their body temperature and UVB exposure.

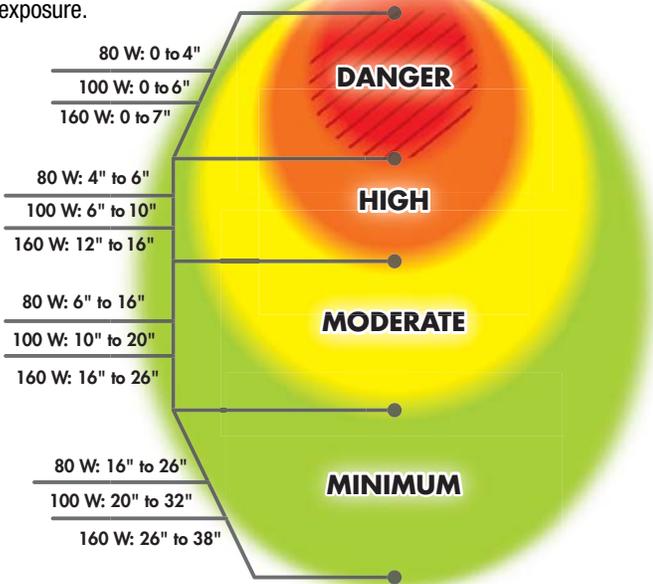
**IMPORTANT NOTES**

**UVB Gradient:** When placing UVB lamps over a terrarium, it is imperative that the lamp is positioned in a way that creates a UVB gradient in the habitat. UVB will be strongest close to the lamp, and will gradually decrease with distance. This gradient can often be achieved by placing the lamp fixture above the terrarium and off to one end of the habitat. To verify that the desired UVI levels and gradient are achieved, use a UVI meter. The habitat must be large enough to provide this gradient and allow reptiles to photoregulate (adjust their exposure to UVB as needed) as they would in nature. Always provide a shelter for reptiles to retreat completely from any light and UVB exposure.



**FERGUSON ZONES**

- ZONE 1 0.4 – 0.7 UVI
- ZONE 2 0.7 – 1.0 UVI
- ZONE 3 1.0 – 2.6 UVI
- ZONE 4 2.6 – 3.5+ UVI
- ANGER 7.0+ UVI



**Watch for abnormal behaviors:** It is important to monitor the reptile's behavior following the introduction of a new UVB lamp. If the reptile spends unusually long periods of time basking as close as possible to the UVB and heat lamp(s), then the temperature and/or UVB level may be too low for that species. If a species appears to be trying to avoid the UVB lamp, spending most of its time as far from the lamp as possible then the lamp may be too strong. Under ideal conditions, reptiles should spend some time basking, and should also move throughout the habitat to perform natural behaviors (feeding, sleeping, etc.).

**Screen mesh:** Screen covers on terrariums significantly reduce the amount of UVB that reaches your reptile's basking site. As the screen mesh gets finer, more UVB is blocked or filtered. The distance recommendations given may need to be decreased depending on the amount of shading produced by the screen mesh. Watch your reptile's behavior as noted above in the section on abnormal behaviors. Glass and most plastics filter all UVB emissions and should not be placed between the lamp and animals.

The information given is provided as a guideline for the proper use of this lamp with your reptile(s). Exact UVB requirements are not known for every species and UVB levels may need to be adjusted for each specific application. If you are unsure about the proper use of this lamp, contact Zoo Med's customer service department for more information.

**SUSPENDING THIS LAMP FIXTURE:**

**CAUTION:** Be sure that the lamp fixture is securely suspended above the enclosure. Never place this lamp inside a terrarium. Zoo Med's adjustable Reptile Lamp Stand (Item LF-20) is recommended for safely suspending this fixture above your terrarium. For taller terrariums, the Reptile Lamp Stand Extension Pole (Item LF-20X) can be used and is available on the "store" section of Zoo Med's website. Contact customer service for more information.



**WHEN TO REPLACE YOUR LAMP:**

Your lamp will provide beneficial UVB for a period of 12 months. After 12 months, the lamp should be replaced with a new PowerSun® UV Mercury Vapor UVB Lamp. Before you turn your lamp on for the first time, record the date of first use so that you know when to replace your lamp. Log on to [www.zoomed.com](http://www.zoomed.com) and click "UVB Reminder" to receive an email from Zoo Med letting you know that it is time to replace your lamp.

**DIGITAL UV INDEX METERS:**

If you are interested in measuring the amount of UV that your lamp is producing, you may want to purchase Zoo Med's Digital UV Index Radiometer (Item # ST-7). This meter is available in the "store" section at [www.zoomed.com](http://www.zoomed.com), or by special order through your reptile product retailer.



**CAUTION**

Lamp emits ultraviolet radiation. Intended for reptile use only.

**Hg** -LAMP CONTAINS MERCURY, Manage in Accord with Disposal Laws, See: [www.lamprecycle.org](http://www.lamprecycle.org)

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