

# *You'll Have Peace of Mind*

## **Ultraviolet Protection**

Many of us have heard of the term "ultraviolet"; however, it was most likely in reference to exposure to the sun rather than its disinfection capabilities of drinking water and other fluids!



*Ultraviolet Disinfection Systems*

# Benefits of a Nelsen Ultraviolet System



## Ultraviolet Light

The safety of the water supply in your home is the key to a healthy lifestyle. Where you live, and your water source determines its level of safety. In the end, you, your family, and your guests will be the ones who will consume the water from the tap, wherever that tap may be and in whatever form it may take. Ultimately only you can determine whether or not you trust the source and are willing to take that drink!

## UV & Microorganisms...

Microbiological contaminants may be in your water supply for a variety of reasons. Although microbiological issues such as fecal coliform (E-coli), Cryptosporidium, Giardia Lamblia (Beaver Fever) and many others, may be contaminating your water supply, Nelsen Water Treatment Solutions (NWS) UV is a relatively easy solution to any of these problems.

## No Chemicals...

UV is safe, easy to use, environmentally friendly, and provides virtually immediate disinfection without altering the taste of the water or imparting any potentially harmful disinfection by-products (DBP's).

## Whole House Protection...

For homes that have more than one tap, and that include a bathroom faucet, the installation of a point-of-entry (POE) UV system is the best choice. Safety is the main reason for this logic although you may never drink from that bathroom tap. Safety is the prime reason to install a whole home UV system.

## Economical & Efficient...

As long as proper pre-treatment is maintained, an annual system check-up and lamp replacement is all that is required. The UV system is designed to be left on; a typical household system will draw about the same energy as a 40 watt light bulb!



NWTS-UV5-11  
11 GPM

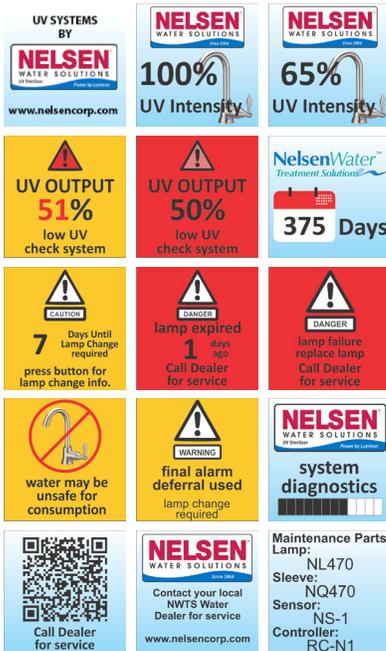
# UV5 Series

## NWS Ultraviolet Disinfection Systems

If you're looking for a feature-laden premium UV system, then THE NWS UV5 series of residential UV systems should be your choice. In looking at this line, one easily sees how this product is truly different from everything else in the market. The state-of-the-art five-series controller is a constant current electronic power source housed in a splash-proof case that comes standard with a "future-proof" expandability port for future upgrades or options.

### SYSTEM SCREENS

- Provides the homeowner feedback as to status of the system.



### LAMP KEY

- Alerts user to incorrect lamp size as controllers are automatically programmed for their individual flow rate. This also prevents systems from operating beyond the useful life of a UV lamp. Prevents potential damage to ballast from starting lamps that are past their useful lifetime.



### INTELLIGENT DESIGN

- The single-end design allows for lamp change without the need to drain the reactor chamber
- Axial flow, 304 stainless steel polished reactors, designed & manufactured to ASME pressure vessel standards

### UV CONTROLLER

- Color user interface allows for easy visual identification of remaining lamp life and any error or fault codes
- System incorporates QR codes to access lamp change information and videos via web access
- LED lamp countdown constant current electronic ballast
- Constant current electronic controller in a splashproof case, fully potted ballast virtually eliminates common water damage issue

### "FUTURE-PROOF"

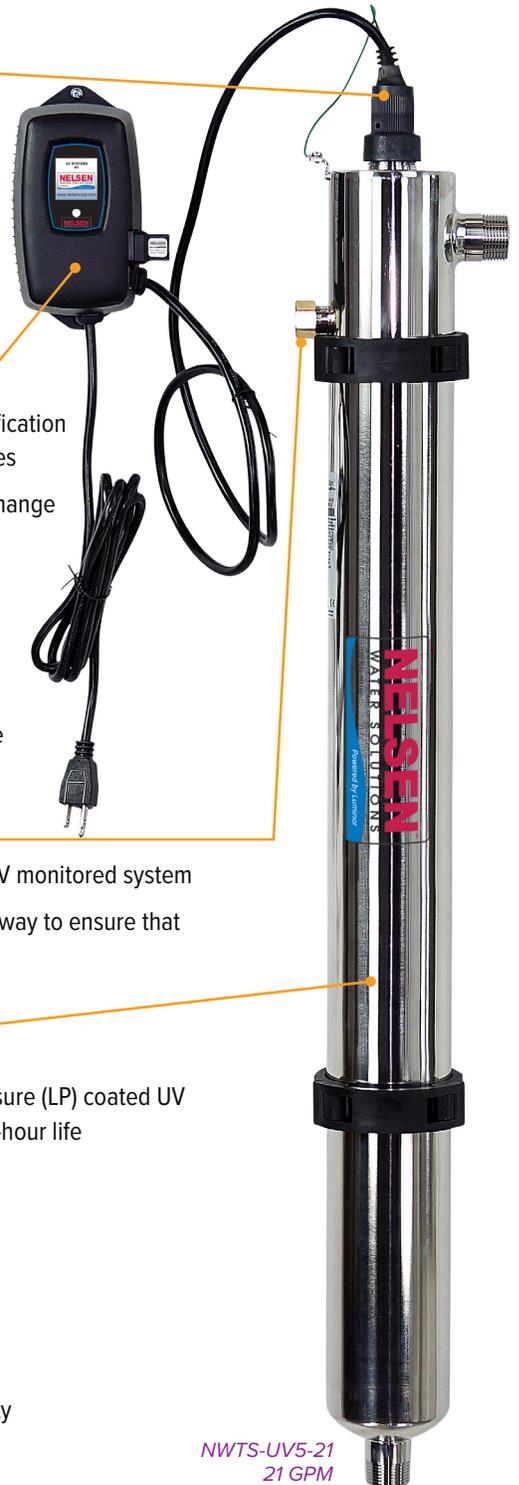
- Integral port to allow for a future upgrade to a UV monitored system
- Integral visual glow plug is provided as an extra way to ensure that your UV lamp is illuminated

### UV LAMPS

- Reliable, industry-proven, high-quality, low-pressure (LP) coated UV lamps offer a consistent output over their 9,000-hour life

### UV WARRANTY

- REACTORS – Ten (10) year Limited Warranty
- ELECTRONICS – Three (3) year Limited Warranty
- UV LAMPS – One (1) year Limited Warranty
- UV SENSORS – One (1) year Limited Warranty
- QUARTZ SLEEVES – One (1) year Limited Warranty



NWTS-UV5-21  
21 GPM

# UV5 Series - Options & Specs

## UV Sensor Module



The 254nm UV sensor module allows for a UV sensor upgrade to all NWS UV5 systems. All NWS UV5 systems come supplied with a built-in expandability port; remove the Teflon glow plug from the port and affix the UV sensor module. Plug the sensor into the IEP (infinite expandability port) on the controller and restart the system, and your system will now monitor the UV intensity given off by the system.

## Solenoid Module

Install a NORMALLY CLOSED line voltage solenoid valve (not supplied) into this junction box. Connect the power and the supplied lead to the controller. Please note that when this device is connected to a NWS UV5 system without the UV Sensor Module, then the solenoid will close on a lamp failure mode only. When used with the UV Sensor Module, the solenoid will close when the UV level drops below 50%. Also note that in cases where emergency use of untreated water is required, the module can be placed into a manual override mode allowing for the flow of water in an alarm condition.



## 4-20mA Connection Module



This device will allow for a 4-20mA signal transfer of the UV output to a remote device such as a data logger or computer.

## Remote Alarm Module

This device is a “dry (volt free) contact” allowing for the remote installation of alarms, lights, PLC input, data logger, flow control, etc.



## UV Specifications (standard-output)

Model	NWS-UV5-11	NWS-UV5-21
Flow Rate (30mJ/cm2 @ 95% UVT)*	11 gpm (41 lpm) 2.5 m <sup>3</sup> /hr	21 gpm (79 lpm) 4.8 m <sup>3</sup> /hr
Flow Rate (40mJ/cm2 @ 95% UVT)*	8.3 gpm (31 lpm) 1.9 m <sup>3</sup> /hr	16 gpm (59 lpm) 3.6 m <sup>3</sup> /hr
Flow Rate (16mJ/cm2 @ 95% UVT)*	20 gpm (77 lpm) 4.6 m <sup>3</sup> /hr	39 gpm (150 lpm) 8.9 m <sup>3</sup> /hr
Port Size	3/4" MNPT	1" MNPT
Electrical	90-265V/50-60Hz./24VDC as indicated	
Plug Type	American, Nema 5/15, 3 wire for all 110V systems	
Lamp (Watts)	39	42
Power (Watts)	49	51
Maximum Current (amps)	1	1
Chamber Material	Polished 304 stainless steel, A249 pressure rated tubing	
Reactor Dimensions	2.5" x 35.2" (6.4 x 89.5cm)	3.5" x 36.1" (8.9 x 91.7cm)
Controller Dimensions	6.8" x 3.6" x 3" (17.2 x 9.2 x 7.6 cm)	
Operating Pressure	7-10.3 bar (10-150 psi)	
Operating Water Temp.	36 - 104°F (2-40° C)	
UV Monitor	Optional	
Solenoid Output	(Requires optional solenoid module)	
Dry Contacts	(Requires optional remote alarm module)	
4-20mA Output	(Requires optional 4-20mA module)	
Lamp Change Reminder	YES (audible & visual full color graphic)	
Lamp Out Indicator	YES (audible & visual full color graphic)	
Shipping Weight	15.0 lbs (.8 kg)	16.5 lbs (7.5 kg)

\*Millijoules per square centimeter – A unit of measurement given to UV dose, expressed as intensity vs. time. The unit is mJ/cm<sup>2</sup>. 1 mJ/cm<sup>2</sup> is equivalent to 1,000 microWsec/cm<sup>2</sup>. UV dose is the product of UV intensity (total UV energy per unit volume) and residence time (total time the water is in contact with the UV light), expressed by the equation  $D = I \times T$ . Typically UV dose is expressed in the units mJ/cm<sup>2</sup> but can also be in microWsec/cm<sup>2</sup>. The conversion between the two is, 1 mJ/cm<sup>2</sup> equals 1,000 microWsec/cm<sup>2</sup>.

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