

Engineering Specification

Job Name _____

Contractor _____

Job Location _____

Approval _____

Engineer _____

Contractor's P.O. No. _____

Approval _____

Representative _____

SmartStream® UV 254 Nanometer Germicidal UV Disinfection Systems

Models

WA002 WA008 WA012

Connection: $\frac{3}{8}$ " to 1"

Flow Rates: From 2 gpm to 12 gpm (7.6 lpm to 45.4 lpm)

The Watts SmartStream® line of ultraviolet systems provides water disinfection for residential and light commercial applications with flow rates up to 12 gallons per minute.

Disinfection of water with SmartStream® is a simple, rapid physical process. When contaminated water is exposed to SmartStream's® 254 nanometer UV light, the UV light penetrates the cell walls of microorganisms and disrupts their genetic deoxyribonucleic acid (DNA) material. This quickly inactivates microorganisms by destroying their ability to replicate and infect. SmartStream® UV systems have been tested and verified at their rated flow rate (see Product Specification Table) by an accredited third-party lab for disinfecting water with a higher than 99.99999% reduction of E. Coli bacteria and a higher than 99.999% reduction of Hepatitis A virus.

Watts SmartStream® UV disinfection systems are engineered to be tough and reliable. The UV chambers are constructed of highly polished 304 stainless steel and the controllers are UL listed.

SmartStream® UV disinfection systems can be used as a point of entry or point of use disinfection device. They should be installed as close as possible to the treated water's point of use.

Utilizing SmartStream® for the disinfection of water does not induce chemicals into the water. This means no tastes, odors, or residual chemicals are left over in the water after the disinfection process. SmartStream® systems can be installed in a wide variety of applications such as residential drinking water and whole house disinfection for wells, rainwater catchment and municipal water. Commercial applications include water bottling, food and beverage processing, aquaculture, laboratories, reverse osmosis pre and post treatment, as well as anywhere disinfection of water without the use of chemicals is preferred.



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The SmartStream® UV systems are certified by WQA to NSF/ANSI/CAN 372 for lead free compliance.

⚠ WARNING

DO NOT rely solely on this system to make water safe to drink. SmartStream® UV disinfection systems are intended to be used as part of a well designed water treatment system. Water that contains microbiological contamination should be tested regularly to ensure its quality and safety at the point of use.

Features

- 304 highly polished stainless steel reactor chambers
 - Electrically grounded UV chamber
 - Strain relief for lamp power wire built into quartz sleeve nut
 - High output and high efficiency 9000 hour rated lamps
 - Universal power input 110v 60Hz
- NPT thread options
 - Audible and visual alarm to indicate lamp failure
 - Uses environmentally friendly "green" technology
 - Simple sizing & installation

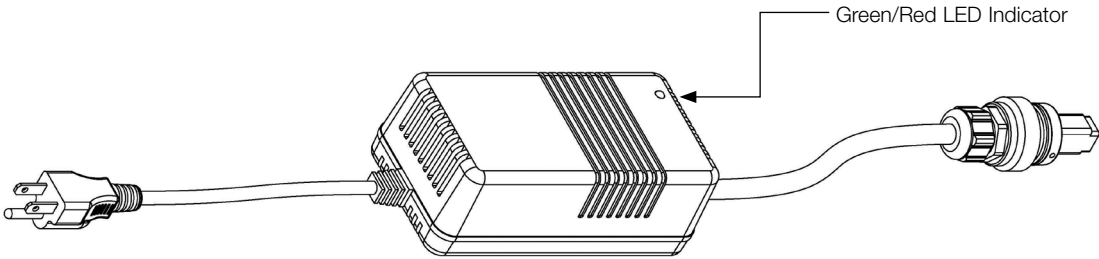
System Specifications

SmartStream® UV System Part Number Identification Key						
Prefix "W"	"Controller Series"	"GPM"	"Connection Type"	"Pipe Size"	"Plug"	"Accessories"
Watts	Controller Type A: Controller A	GPM of System (3-Digits)	Connection Port Types: A: NPT	Pipe Size B: 3/8" D: 3/4" E: 1"	A: North American 110V	Accessories X: No Accessories

Controller Features

SmartStream® UV Controllers are designed with simplicity in mind. Input power is converted to the correct voltage required by the lamp for the production of UV light. During normal operation, the LED indicator will be illuminated green. If the lamp burns out then an audible alarm will sound and the Green/Red LED Indicator will change from Green to Red. This informs the user that the system requires servicing.

Controller A



Product Specifications Table

MODEL		WA002	WA008	WA012
FLOW RATE @ 30mJ/cm2 (at 1 year)	usgpm liters/min	2 gpm 7.6 lpm	8 gpm 30.3 lpm	12 gpm 45.4 lpm
STANDARD NPT INLET / OUTLET PORTS		3/8" NPT-M	3/4" NPT-M	1" NPT-M
CHAMBER MATERIAL		304 SS		
INPUT VOLTAGE		110V 60 Hz		
SYSTEM MAX INPUT POWER (Watts)		18.6	32	45
LAMP MAX ELECTRICAL POWER (Watts)		14	29	40
VISUAL ALARM		Green/Red LED		
AUDIBLE ALARM		Yes		
AUDIBLE ALARM MUTE		No		
MIN/MAX AMBIENT AIR TEMPERATURE / MAX HUMIDITY		32°F (0°C) to 122°F (50°C) / 90% RH (non-condensing)		
INLET WATER TEMPERATURE RANGE		36°F (2°C) to 104°F (40°C)		
MAX WATER PRESSURE		100 psi (689 kPa)		
SHIPPING WEIGHT		4.6 lbs (2.1 Kg)	8 lbs (3.7 Kg)	11 lbs (5 Kg)

Specification

A Watts SmartStream® ultraviolet disinfection system shall be installed on the main water service pipe just after it enters the building, but after other whole building water safety devices (backflow preventers or pressure reducing valves), to effectively address microbiological concerns. A system may also be installed further downstream to protect specific point of use applications. The minimum UV dosage from the system shall be 30 mJ/cm2 at 1 year end of lamp life. The system's UV chamber shall be constructed of 304 stainless steel. A red/ green LED indicator and audible alarm shall be an integral part of the system's controller to inform the user of the current operational status. A properly sized 5 micron cartridge type prefilter must be installed just before the inlet to the system to reduce sediment. The installation area should be suitable in size for mounting of the system and have enough end clearance for replacing lamps and quartz sleeves.

Feed Water Requirements

Please review operating pressures, temperatures and water chemistry limitations to ensure compatibility.

Hardness (maximum)	7 Grains (120 mg/L as CaCO3)
Max Water Pressure	100 psi (6.9 bar)
pH	6.5-8.5
Water Temperature	36°F to 104°F (2°C to 40°C)
Turbidity	<5 Nephelometric Turbidity Units (NTU)
Total Suspended Solids	<10 mg/L
Iron (maximum)	0.3 mg/l
Manganese (maximum)	0.05 mg/l
Maximum Ambient Atmospheric Conditions	122°F / 50°C 90% Relative Humidity (Non-condensing)
Oil & H2S	None allowed

NOTICE

Water that does not meet the above guidelines will require additional pretreatment. Do not install this system higher in elevation than 10,000 feet above sea level.

Lamp and Quartz Sleeve Replacement

Lamps should be replaced annually. Quartz sleeves should be cleaned as needed and replaced every 3 years minimum.

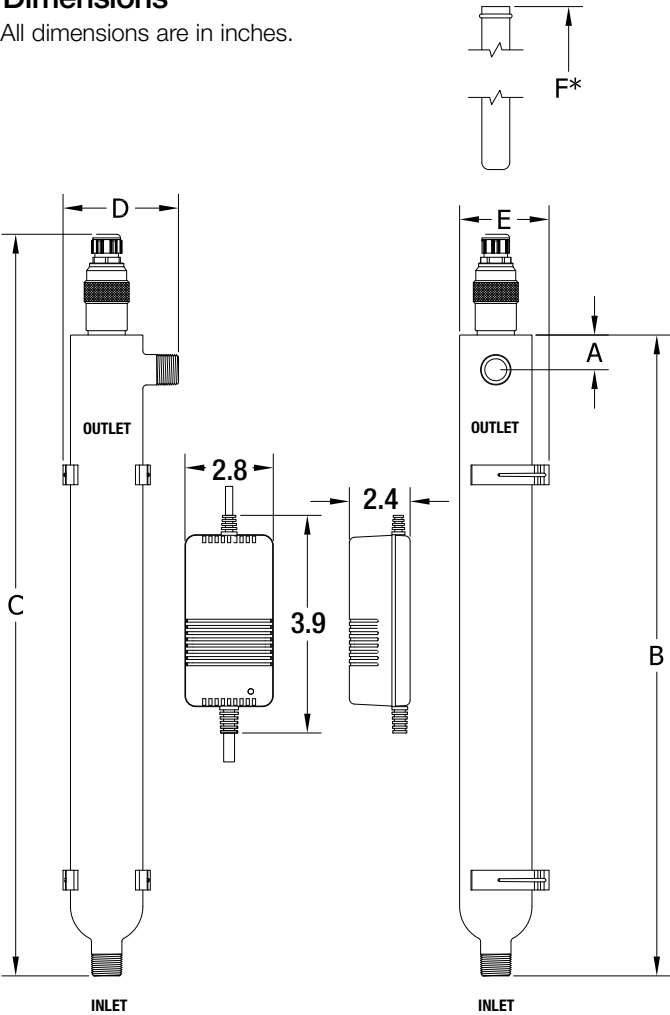
For additional installation information see Watts SmartStream® Installation document IOM-WQ-SmartStream.

NOTICE

The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

Dimensions

All dimensions are in inches.



SmartStream UV Systems							
Model	GPM	A	B	C	D	E	F
WA002	2	1.1	14.17	17.65	3.83	3.09	14
WA008	8	1.2	28.06	31.54	3.99	3.09	28
WA012	12	1.35	37.07	40.54	4.01	3.09	39

Allow this end clearance (F) for the removal of lamp and quartz sleeve.

