



LIQUID SUGAR AND OPAQUE FLUID ULTRAVIOLET DISINFECTION SYSTEMS

SYSTEM OVERVIEW

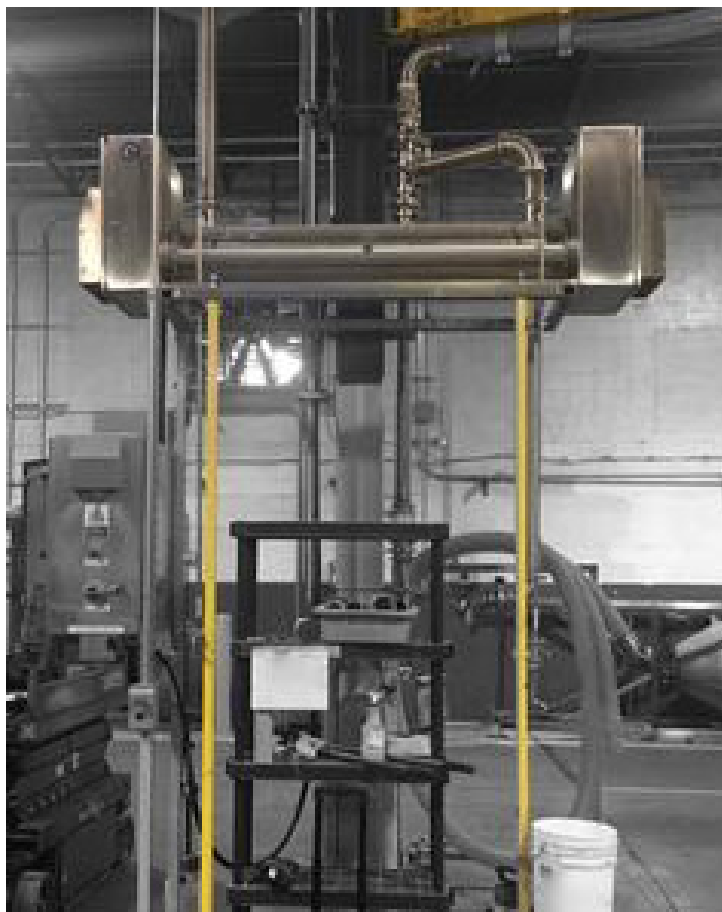
The FUV 5000 and FUV 6000 systems are manufactured in the USA and are designed to treat flows ranging from .25 to 200 gallons per minute (1-757 lpm).

The systems are specially designed to treat liquids in a thin film manner. Lamps are spaced close together to force the liquid to be exposed to high doses of UV energy.

The systems are designed to treat opaque and thick liquids, syrups with high osmotic pressure (brix 25-67), glucose, juices and other base materials.

While these systems have been used primarily for disinfecting liquid sugars, where microorganisms can exist in spore form and can reproduce once introduced into the food and beverage lines, they have been proved effective for treating fruit juices and pharmaceutical base liquids.

Systems are scalable and available with many options including PLC controls for integration into facility network.



CONTAMINATION MECHANISM

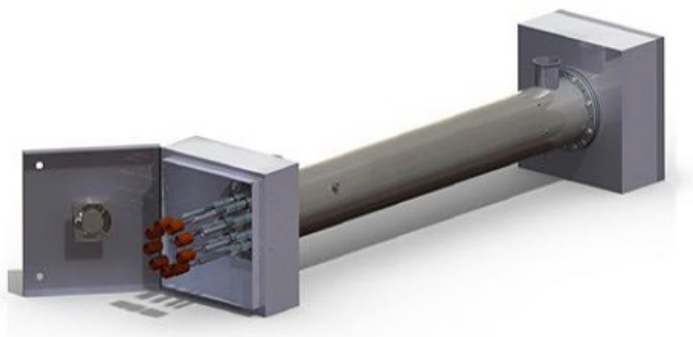
Liquid sugar can become contaminated at many stages of the handling process. By integrating a UV system, the plant can greatly reduce this risk.

- Incoming liquid sugar to the plant
- Filling delivery trucks at manufacturing
- Storage tanks and air in tanks
- Process feed water

APPLICATIONS

- Food and Beverage Plants
- Pasteurized Milk Ordinance (PMO)
- Pharmaceutical
- Apple Cider and Other Juices
- Enhanced Waters
- Glucose Based Material
- Liquid Sucrose
- Cosmetics





SYSTEM INSTALLATIONS

The FUV 5000 and FUV 6000 liquid sugar UV disinfection systems are manufactured from 316L stainless steel, which have been electro-polished, integrate low pressure UV lamps and are designed to treat 150-200 gpm. Systems integrate high heat shroud cooling to maintain proper operating temperatures. A remote Ballast Control Center houses the electronics, displays, controls and monitoring devices.

ULTRAVIOLET LAMP OPTIMIZATION

When designing UV disinfection systems, knowing the liquid's transmission (the amount of energy absorbing material) is critical to system design. Tap water can be as high as 95%, but most liquid sugars are closer to 0%.

The FUV-5000 systems were designed using computational fluid dynamics (CFD) modeling and biological testing. The "thin film" design forces the liquid into close proximity with the UV lamps.

In addition to battling the low transmission, many liquid sugar processing facilities heat the sugars to aid in handling. High temperatures will impact the UV lamp's output. The addition of cooling shrouds on the ends of the unit ensures that the lamp temperature is kept at an optimal rate, which also protects the product.

MODELS	GPM 67 BRIX	LPM 67 BRIX	INLET/OUTLET	WATTS	LAMPS	VOLTAGE	AMPS
FUV 5000-6	40	132	2" SANITARY	1,050	6	120-277V	12
FUV 5000-12	75	283	3" SANITARY	2,100	12	120-277V	15
FUV 5000-20	100	379	3" SANITARY	3,400	20	120-277V	20
FUV 6000-16	150	568	4" SANITARY	5,280	16	230V	30
FUV 6000-20	200	757	4" SANITARY	7,000	20	230V	40

STANDARD FEATURES

- 316L Stainless Steel Vessel Manufactured in USA
- Electro-Polished Internal and External Surfaces
- Removable Heads
- Monitoring Port, Drain Port, and Sample Ports
- Sanitary Fittings
- Remote Ballast Control Center (BCC)
- Energy Efficient Electronic Ballasts
- Running Time Meter
- LED Lamp Status Indicators
- 9,000+ Hour Lamp Life
- GE Type 214 Quartz Sleeve
- Anodized Aluminum Compression Fittings

OPTIONAL FEATURES

- UV Monitoring
- Hand Off Auto Switch (HOA)
- Internal Baffling
- High Heat Shutoff
- PLC Control

ULTRAVIOLET BENEFITS

- Non-Chemical Method of Controlling Microorganism Growth
- Reduces Food Discoloration
- Increases Shelf Life
- Helps Maintain Flavor
- Can Create Photochemical Reactions
- Instantaneous Kill
- Effective on a Wide Range of Pathogens
- No Heat Treatment in Processing
- No Change in Odor, Color or Taste
- No Residuals Left in Liquids

DATA REQUIRED FOR SIZING

- Flow Rate
- Brix Rating or Sample of Liquid
- Pipe Sizing
- Cleaning and Sanitation Program

FULLER ULTRAVIOLET

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