

# Wallace & Tiernan® UV Disinfection Systems Barrier® Sun UV Systems

## Product Overview

### Barrier® Sun UV Systems

The Barrier® Sun UV systems are designed to treat flows ranging from 2 to 1,136 m<sup>3</sup>/h (10 to 5000 US gpm).

These systems can be used for germicidal disinfection, ozone destruction, TOC reduction, and liquid sugar disinfection applications. The chambers are suitable for indoor installation only.

### Barrier® Sun-DOH UV Systems

The Barrier® Sun-DOH Series of UV systems are designed for disinfection use in small community drinking water systems, businesses, and schools. The durable, stainless steel units can be installed at the point of entry. Available in sizes ranging up to 34 m<sup>3</sup>/h (150 US gpm), they come with many standard features for ease of installation, operation, and maintenance.

To meet the requirements of many of the world's health agencies, the Sun-DOH series come standard with several built-in safety features including: UV monitor, flow control, automatic shut-off valve, two-minute warm-up delay, quartz cleaning, remote audible and visual alarms, and spare parts.

### Barrier® Sun-LS UV Systems

The Barrier® Sun-LS Series of UV systems are designed for liquid sugar and opaque liquid disinfection. The units treat liquid sugars that have high osmotic pressure (brix 25-67) and zero to low UV transmittance. Available in sizes ranging up to 30 m<sup>3</sup>/h (1 to 130 US gpm), they come with many standard features for ease of installation, operation, and maintenance.

#### Key Benefits

- Several inlet, outlet sizes and orientations for easy installation and retrofit
- Simple maintenance; lamp replacement without draining vessel
- Automatic quick-stroke quartz cleaning
- Ease of installation, operation, and maintenance
- Low lifecycle cost with energy efficient low-pressure lamps and electronic ballasts

In order to provide proper disinfection, the UV system must treat the liquids using a "thin film" design. By doing so the UV lamps are spaced close together, which forces the liquid into close proximity to the light source.



## Product Line Sheet

## Applications

- Beverage plants
- Businesses
- Cosmetics
- Community drinking water systems
- Food processing
- Hospitals
- Laboratories
- Liquid sugar
- Off shore oil rigs
- Pharmaceutical
- Post DI/RO
- Process water
- Schools
- Semiconductors
- Wastewater

## Standard Features

- Electro-polished 304 or 316L stainless steel pressure vessel
- Electro-polished and passivated internal and external surfaces
- Heavy duty construction
- 10 bar (145 psi) operating pressure
- 12,000 hour lamp life on all 254 nm lamps and 9,000 on 185/254 nm lamps
- Removable heads
- Monitoring, drain, and sample ports
- Remote IP56 (NEMA 4X) modified stainless steel enclosure
- 150# raised face flanges and NPT connections
- Energy efficient electronic ballasts
- Running time meter
- LED lamp status indicators
- Anodized aluminum compression fittings

## Optional Features

- Vertical orientation (V) for space savings
- DIN flange connections
- Sanitary fittings
- UV monitoring system: basic or 4-20 mA
- Hand-Off-Auto switch (HOA)
- High-heat vessel shutoff
- PLC control
- Manual or automatic quick-stroke quartz cleaning system
- Sized for TOC reduction, ozone destruction, liquid sugar disinfection
- Explosion proof
- Skid mounting
- Stainless steel light traps
- Supplemental chemical cleaning system
- On-line UV transmittance monitoring

## Installation Images



## Technical Data

### Barrier® Sun Series of UV Systems

Model	Capacity <sup>1</sup>		Connection	Power Consumption	Electrical Supply	Number of Lamps	Dry Weight		Dimensions <sup>2</sup> L x H x W	Control Panel Dimensions W x H x D
	m <sup>3</sup> /h	US gpm					in	W		
SUN-4R-HO	23	100	2" NPT	370	120/230 V, 50/60 Hz, 1 phase, 2-wire	4	27	60	914 x 356 x 914 mm (36" x 14" x 13")	450 x 450 x 210 mm 18" x 18" x 8"
SUN-6R-HO	28	125	2" NPT	550	120/230 V, 50/60 Hz, 1 phase, 2-wire	6	27	60	914 x 356 x 914 mm (36" x 14" x 13")	450 x 450 x 210 mm 18" x 18" x 8"
SUN-8R-HO	38	165	3" NPT	735	120/230 V, 50/60 Hz, 1 phase, 2-wire	8	27	60	914 x 356 x 914 mm (36" x 14" x 13")	450 x 450 x 210 mm 18" x 18" x 8"
SUN-4RV-HO	23	100	2" NPT	370	120/230 V, 50/60 Hz, 1 phase, 2-wire	4	30	65	432 x 660 x 1295 mm (17" x 26" x 51")	450 x 450 x 210 mm 18" x 18" x 8"
SUN-6RV-HO	28	125	2" NPT	550	120/230 V, 50/60 Hz, 1 phase, 2-wire	6	30	65	432 x 660 x 1295 mm (17" x 26" x 51")	450 x 450 x 210 mm 18" x 18" x 8"
SUN-8RV-HO	38	165	3" NPT	735	120/230 V, 50/60 Hz, 1 phase, 2-wire	8	30	65	432 x 660 x 1295 mm (17" x 26" x 51")	450 x 450 x 210 mm 18" x 18" x 8"
SUN-4E-HO	45	200	2" Flange	710	120/230 V, 50/60 Hz, 1 phase, 2-wire	4	48	105	1727 x 356 x 432 mm (68" x 14" x 17")	450 x 600 x 250 mm 18" x 24" x 10"
SUN-6E-HO	58	255	3" Flange	1070	120/230 V, 50/60 Hz, 1 phase, 2-wire	6	45	100	1727 x 356 x 432 mm (68" x 14" x 17")	450 x 600 x 250 mm 18" x 24" x 10"
SUN-8E-HO	73	320	4" Flange	1425	120/230 V, 50/60 Hz, 1 phase, 2-wire	8	48	105	1727 x 356 x 432 mm (68" x 14" x 17")	450 x 600 x 250 mm 18" x 24" x 10"
SUN-12E-HO	114	500	6" Flange	2140	120/230 V, 50/60 Hz, 1 phase, 2-wire	12	111	245	1727 x 572 x 610 mm (68" x 22.5" x 24")	600 x 600 x 250 mm 24" x 24" x 10"
SUN-16E-HO	170	750	6" Flange	2850	120/230 V, 50/60 Hz, 1 phase, 2-wire	16	111	245	1727 x 572 x 610 mm (68" x 22.5" x 24")	600 x 750 x 250 mm 24" x 30" x 10"
SUN-20E-HO	227	1000	8" Flange	3565	120/230 V, 50/60 Hz, 1 phase, 2-wire	20	132	290	2057 x 572 x 610 mm (81" x 22.5" x 24")	750 x 1000 x 300mm 30" x 39" x 12"
SUN-3E-A300	102	450	4" Flange	1035	230 V, 50/60 Hz, 1 phase, 2-wire	3	48	105	1727 x 356 x 432 mm (68" x 14" x 17")	450 x 600 x 250 mm 18" x 24" x 10"
SUN-4E-A300	136	600	6" Flange	1380	230 V, 50/60 Hz, 1 phase, 2-wire	4	57	125	1727 x 356 x 432 mm (68" x 14" x 17")	450 x 450 x 210 mm 18" x 18" x 8"
SUN-6E-A300	204	900	8" Flange	2070	230 V, 50/60 Hz, 1 phase, 2-wire	6	107	235	1727 x 381 x 457 mm (68" x 15" x 18")	450 x 450 x 210 mm 18" x 18" x 8"
SUN-8E-A300	273	1200	8" Flange	2760	230 V, 50/60 Hz, 1 phase, 2-wire	8	132	290	2057 x 572 x 610 mm (81" x 22.5" x 24")	600 x 600 x 250 mm 24" x 24" x 10"
SUN-10E-A300	341	1500	8" Flange	3450	230 V, 50/60 Hz, 1 phase, 2-wire	10	132	290	2057 x 572 x 610 mm (81" x 22.5" x 24")	600 x 600 x 250 mm 24" x 24" x 10"
SUN-12E-A300	409	1800	10" Flange	4140	230 V, 50/60 Hz, 1 phase, 2-wire	12	143	315	2057 x 572 x 610 mm (81" x 22.5" x 24")	600 x 600 x 250 mm 24" x 24" x 10"
SUN-16E-A300	545	2400	12" Flange	5520	230 V, 50/60 Hz, 1 phase, 2-wire	16	265	585	2057 x 813 x 813 mm (81" x 32" x 32")	750 x 1000 x 300mm 30" x 39" x 12"
SUN-20E-A300	681	3000	12" Flange	6900	230 V, 50/60 Hz, 1 phase, 2-wire	20	265	585	2057 x 813 x 813 mm (81" x 32" x 32")	750 x 1000 x 300mm 30" x 39" x 12"
SUN-24E-A300	818	3600	14" Flange	8280	230 V, 50/60 Hz, 1 phase, 2-wire	24	392	865	2057 x 965 x 965 mm (81" x 38" x 38")	750 x 1000 x 300mm 30" x 39" x 12"
SUN-24E-A450	1,136	5000	14" Flange	12,420	230 V, 50/60 Hz, 1 phase, 2-wire	24	392	865	2057 x 965 x 965 mm (81" x 38" x 38")	800 x 1200 x 300 mm 32" x 47" x 12"

Note: Reference individual data sheets for specific technical data on TOC reduction and ozone destruction Barrier® Sun models. These data sheets are available upon request.

<sup>1</sup> Capacity at a UV dose of 40 mJ/cm<sup>2</sup> at end of lamp life, and UV transmittance of 98% (254 nm; 1-cm cell).

<sup>2</sup> Does not include the additional clearance requirements for a wiper.

## Technical Data (cont'd)

### Barrier® Sun-DOH (Department of Health) Series of UV Systems

Model	Capacity <sup>1</sup>		Connection in	Power Consumption W	Electrical Supply	Number of Lamps	Dry Weight		Dimensions L x H x W mm / (in)	Control Panel Dimensions H x W x D mm / (in)
	m <sup>3</sup> /h	US gpm					kg	lbs		
SUN-DOH-8R	23	100	2" NPT	370	120/230 V, 50/60 Hz, 1 phase, 2-wire	8	27	60	762 x 406 x 610 mm (30" x 16" x 24")	508 x 406 x 203 mm 20" x 16" x 8"
SUN-DOH-6E	28	125	3" Flange	480	120/230 V, 50/60 Hz, 1 phase, 2-wire	6	107	235	1549 x 305 x 457 mm (61" x 12" x 18")	610 x 457 x 254 mm 24" x 18" x 10"
SUN-DOH-8E	34	150	3" Flange	645	120/230 V, 50/60 Hz, 1 phase, 2-wire	8	132	290	1803 x 406 x 610 mm (75" x 16" x 24")	610 x 457 x 254 mm (24" x 18" x 10")

<sup>1</sup> Capacity at a UV dose of 40 mJ/cm<sup>2</sup> at end of lamp life, and UV transmittance of 98% (254 nm; 1-cm cell)

### Barrier® Sun-LS (Liquid Sugar) Series of UV Systems

Model	Capacity <sup>1</sup>		Sanitary Connection in	Power Consumption W	Electrical Supply	Number of Lamps	Dry Weight		Dimensions Includes power control built in L x H x W mm / (in)
	m <sup>3</sup> /h	US gpm					kg	lbs	
SUN-LS-4R-HO	2	10	1"	370	120/230 V, 50/60 Hz, 1 phase, 2-wire	4	36	80	1232 x 305 x 305 mm (48.5" x 12" x 12")
SUN-LS-12R-HO	8	35	3"	1100	120/230 V, 50/60 Hz, 1 phase, 2-wire	12	50	110	1232 x 305 x 305 mm (48.5" x 12" x 12")
SUN-LS-7E-A300	14	60	2"	2415	230 V, 50/60 Hz, 1 phase, 2-wire	7	52	115	2032 x 305 x 305 mm (80" x 12" x 12")
SUN-LS-12E-HO	17	75	3"	2140	120/230 V, 50/60 Hz, 1 phase, 2-wire	12	61	135	2032 x 305 x 305 mm (80" x 12" x 12")
SUN-LS-20E-HO	30	130	4"	3565	120/230 V, 50/60 Hz, 1 phase, 2-wire	20	118	260	2134 x 711 x 660 mm (84" x 28" x 26")

<sup>1</sup> Capacity at 67 brix.

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