

# Wallace & Tiernan® UV Disinfection Systems

## Barrier® M UV Systems

### Product Overview

The Barrier® M range of UV systems is primarily designed for the treatment of potable water, wastewater, swimming pool and process water with flow rates ranging from 10 to 1150 m<sup>3</sup>/h (44 to 5000 US gpm). It is equipped with special Wallace & Tiernan® medium-pressure lamps, type WTL. The wide emission spectrum of the lamps, ranging from 200 to 400 nm, attacks the nucleic acid (DNA), cell wall, proteins and enzymes of waterborne pathogens. Such attacks not only inactivate the microorganism by preventing the replication of its DNA, but also destroy its repair mechanisms (dark repair and photoreactivation). A wide range of DVGW certified systems is available. The Barrier® M reaction chamber is characterized by optimal hydraulics and low pressure loss, ensuring a high efficiency of the UV system.

### Applications

- Potable water
- Swimming pools, including chloramines reduction and disinfection
- Industrial process and wastewater, e.g. food & beverage, pharmaceutical, and fish hatcheries
- Small and medium size wastewater plants

### Standard Features

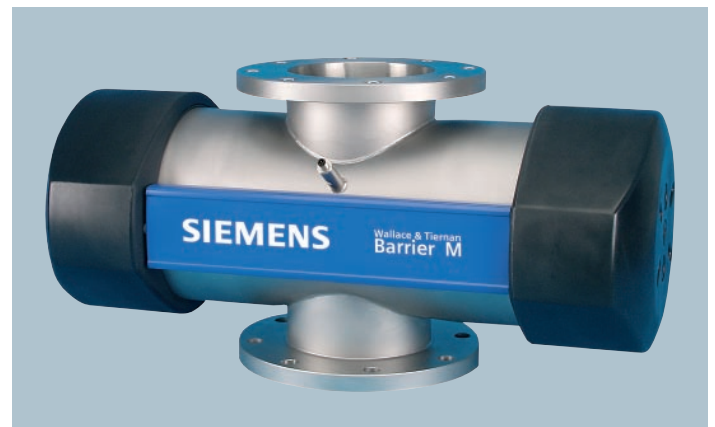
- Absolute calibrated UV sensor for optimal performance control
- Hydrodynamically optimized chamber design
- Simple, easy-to-use microprocessor
- Reaction chamber made of stainless steel AISI SS 316L

### Key Benefits

- Space savings and reduced installation cost with compact design and small footprint
- Extremely low pressure loss
- Easy installation and retrofit with in-line design; reduced installation cost
- Reduced maintenance cost and low head loss with minimal number of powerful medium-pressure lamps
- Low life-cycle cost with hydrodynamically optimized chamber design
- Negligible photoreactivation mechanisms, and no impact of water temperature on efficiency because of medium-pressure lamp technology
- Extended lamp life and reduced power consumption with lamp power control

### Optional Features

- Manual or automatic cleaning system (automatic for Barrier® M 80 system or larger)
- DVGW certification for Barrier® M 275, 525, 900, 1250, 2600 and 3800 systems
- Chemical cleaning system



## Product Line Sheet

# Technical Data

## Barrier® M Series of UV Systems

Model	Disinfection capacity <sup>1</sup>		Chloramine reduction capacity <sup>2</sup>	Connection flange acc. DIN 2576 ANSI	Power consumption <sup>3</sup>	Electrical supply	WTL Lamps	Weight dry	Dimensions	
		T <sub>10</sub> mm							UV chamber (A x H x L) <sup>4</sup>	Control panel (H x W x D)
M 35	33 m <sup>3</sup> /h 145 US gpm	98 %	19 m <sup>3</sup> /h 84 US gpm	DN 80 3" 150-lb	1.0 kW 1.1 kW	1/N/PE AC 230 V, 50 Hz 208 or 240 V, 60 Hz, 1 phase, 2-wire	1 x 1000	14 kg 32 lbs	300 x 214 x 600 mm 11-13/16" x 8-7/16" x 23-10/16"	760 x 760 x 300 mm 30" x 30" x 11-13/16"
M 80	70 m <sup>3</sup> /h 308 US gpm	98 %	39 m <sup>3</sup> /h 172 US gpm	DN 125 5" 150-lb	1.0 kW 1.1 kW	1/N/PE AC 230 V, 50 Hz 208 or 240 V, 60 Hz, 1 phase, 2-wire	1 x 1000	59 kg 132 lbs	350 x 306 x 1000 mm 11-13/16" x 8-7/16" x 39-3/8"	760 x 760 x 300 mm 30" x 30" x 11-13/16"
M 135	112 m <sup>3</sup> /h 493 US gpm	98 %	61 m <sup>3</sup> /h 269 US gpm	DN 125 5" 150-lb	1.9 kW 1.8 kW	3/N/PE AC 400/230 V, 50 Hz 208 or 240 V, 60 Hz, 1 phase, 2-wire	1 x 2000	59 kg 132 lbs	350 x 306 x 1000 mm 13-4/5" x 12" x 39-2/5"	760 x 760 x 300 mm 30" x 30" x 11-13/16"
M 210	116 m <sup>3</sup> /h 511 US gpm	90 %	n.a.	DN 125 5" 150-lb	3.8 kW 4.2 kW	3/N/PE AC 400/230 V, 50 Hz 208, 240, 480 or 575 V, 60 Hz, 3 phase, 3-wire	4 x 1000	60 kg 134 lbs	350 x 306 x 1000 mm 13-4/5" x 12" x 39-2/5"	1800 x 800 x 400 mm 70-7/8" x 39-2/5" x 15-3/4"
M 275 <sup>5</sup>	223 m <sup>3</sup> /h 982 US gpm	98 %	119 m <sup>3</sup> /h 524 US gpm	DN 200 8" 150-lb	1.9 kW 1.8 kW	3/N/PE AC 400/230 V, 50 Hz 208 or 240 V, 60 Hz, 1 phase, 2-wire	1 x 2000	63 kg 149 lbs	400 x 406 x 900 mm 15-3/4" x 16" x 35-1/2"	760 x 760 x 300 mm 30" x 30" x 11-13/16"
M 290	106 m <sup>3</sup> /h 467 US gpm	85 %	n.a.	DN 125 5" 150-lb	5.9 kW	3/N/PE AC 400/230 V, 50 Hz 208, 240, 480 or 575 V, 60 Hz, 3 phase, 3-wire	3 x 2000	60 kg 134 lbs	350 x 306 x 1000 mm 13-4/5" x 12" x 39-2/5"	1800 x 800 x 400 mm 70-7/8" x 39-2/5" x 15-3/4"
M 350	130 m <sup>3</sup> /h 572 US gpm	85 %	n.a.	DN 125 5" 150-lb	7.8 kW	3/N/PE AC 400/230 V, 50 Hz 208, 240, 480 or 575 V, 60 Hz, 3 phase, 3-wire	4 x 2000	60 kg 134 lbs	350 x 306 x 1000 mm 13-4/5" x 12" x 39-2/5"	1800 x 800 x 400 mm 70-7/8" x 39-2/5" x 15-3/4"
M 525 <sup>5</sup>	337 m <sup>3</sup> /h 1484 US gpm	98 %	176 m <sup>3</sup> /h 775 US gpm	DN 200 8" 150-lb	3.3 kW 3.7 kW	3/N/PE AC 400/230 V, 50 Hz 208, 240, 480 or 575 V, 60 Hz, 3 phase, 3-wire	2 x 2000	64 kg 151 lbs	400 x 406 x 900 mm 15-3/4" x 16" x 35-1/2"	760 x 760 x 300 mm 70-7/8" x 31-1/2" x 15-3/4"
M 700	313 m <sup>3</sup> /h 1378 US gpm	90 %	295 m <sup>3</sup> /h 1299 US gpm	DN 200 8" 150-lb	5.9 kW	3/N/PE AC 400/230 V, 50 Hz 208, 240, 480 or 575 V, 60 Hz, 3 phase, 3-wire	3 x 2000	64 kg 150 lbs	400 x 406 x 900 mm 15-3/4" x 16" x 35-1/5"	1800 x 800 x 400 mm 70-7/8" x 39-2/5" x 15-3/4"
M 900 <sup>5</sup>	298 m <sup>3</sup> /h 1312 US gpm	85 %	n.a.	DN 200 8" 150-lb	7.8 kW	3/N/PE AC 400/230 V, 50 Hz 208, 240, 480 or 575 V, 60 Hz, 3 phase, 3-wire	4 x 2000	64 kg 150 lbs	400 x 406 x 900 mm 15-3/4" x 16" x 35-1/2"	1800 x 800 x 400 mm 70-7/8" x 39-2/5" x 15-3/4"
M 950	n.a.		402 m <sup>3</sup> /h 1770 US gpm	DN 250 10" 150-lb	5.9 kW	3/N/PE AC 400/230 V, 50 Hz 208, 240, 480 or 575 V, 60 Hz, 3 phase, 3-wire	3 x 2000	81 kg 185 lbs	400 x 406 x 900 mm 15-3/4" x 16" x 35-1/5"	1800 x 800 x 400 mm 70-7/8" x 39-2/5" x 15-3/4"
M 1200	n.a.		528 m <sup>3</sup> /h 2325 US gpm	DN 250 10" 150-lb	7.8 kW	3/N/PE AC 400/230 V, 50 Hz 208, 240, 480 or 575 V, 60 Hz, 3 phase, 3-wire	4 x 2000	81 kg 185 lbs	400 x 406 x 900 mm 15-3/4" x 16" x 35-1/2"	1800 x 800 x 400 mm 70-7/8" x 39-2/5" x 15-3/4"
M 1250 <sup>5</sup>	320 m <sup>3</sup> /h 1409 US gpm	80 %	n.a.	DN 200 8" 150-lb	11.8 kW 11.6 kW	3/N/PE AC 400/230 V, 50 Hz 208, 240, 480 or 575 V, 60 Hz, 3 phase, 3-wire	6 x 2000	64 kg 150 lbs	400 x 406 x 900 mm 15-3/4" x 16" x 35-1/2"	1800 x 800 x 400 mm 70-7/8" x 39-2/5" x 15-3/4"
M 1400	493 m <sup>3</sup> /h 2171 US gpm	90 %	n.a.	DN 350 14" 150-lb	6.6 kW 9.6 kW	3/N/PE AC 400/230 V, 50 Hz 480 or 575 V, 60 Hz, 3 phase, 3-wire	2 x 3500	160 kg 402 lbs	600 x 590 x 1000 mm 23-5/8" x 23-1/4" x 39-3/8"	2000 x 800 x 500 mm 78-3/4" x 31-1/2" x 19-3/4"
M 1700	n.a.		653 m <sup>3</sup> /h 2875 US gpm	DN 350 14" 150-lb	7.8 kW	3/N/PE AC 400/230 V, 50 Hz 208, 240, 480 or 575 V, 60 Hz, 3 phase, 3-wire	4 x 2000	160 kg 402 lbs	600 x 590 x 1000 mm 23-5/8" x 23-1/4" x 39-3/8"	1800 x 800 x 400 mm 70-7/8" x 39-2/5" x 15-3/4"
M 2000	709 m <sup>3</sup> /h 3122 US gpm	90 %	750 m <sup>3</sup> /h 3302 US gpm	DN 350 14" 150-lb	10.6 kW 15.4 kW	3/N/PE AC 400/230 V, 50 Hz 480 or 575 V, 60 Hz, 3 phase, 3-wire	3 x 3500	160 kg 402 lbs	600 x 590 x 1000 mm 39-2/5" x 23-1/4" x 39-2/5"	2000 x 800 x 500 mm 78-3/4" x 31-1/2" x 19-7/10"
M 2600 <sup>5</sup>	923 m <sup>3</sup> /h 4064 US gpm	90 %	974 m <sup>3</sup> /h 4288 US gpm	DN 350 14" 150-lb	14.3 kW 18.8 kW	3/N/PE AC 400/230 V, 50 Hz 480 or 575 V, 60 Hz, 3 phase, 3-wire	4 x 3500	160 kg 402 lbs	600 x 590 x 1000 mm 39-2/5" x 23-1/4" x 39-2/5"	2038 x 800 x 500 mm 80-1/4" x 31-1/2" x 19-3/4"
M 3800 <sup>5</sup>	912 m <sup>3</sup> /h 4015 US gpm	85 %	n.a.	DN 350 14" 150-lb	21.9 kW 30.3 kW	3/N/PE AC 400/230 V, 50 Hz 480 or 575 V, 60 Hz, 3 phase, 3-wire	6 x 3500	160 kg 402 lbs	600 x 590 x 1000 mm 23-5/8" x 23-1/4" x 39-3/8"	2138 x 1200 x 600 mm 84-3/16" x 47-1/4" x 23-5/8"

<sup>1</sup> Capacity at a UV dose of 400 J/m<sup>2</sup>, end of lamp life, at the specified UV transmittance, and based on the multiple point source summation method

<sup>2</sup> Capacity at a UV dose of 600 J/m<sup>2</sup>, end of lamp life, and a UV transmittance (254 nm; 1 cm cell) of 95 %

<sup>3</sup> Average power consumption over the economical lamp life based on constant flow rate, UV transmittance and UV dose as used for the selection of this system (unless specified different)

<sup>4</sup> A x H x L: Assembly dimension x height x length

<sup>5</sup> Also available in DVGW certified execution; please consult factory or individual datasheet for biosimmetrical certified capacities

(DVGW - Internationally recognized authority on certification of UV disinfection systems. DVGW - German Technical and Scientific Association for Gas and Water)

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