



## Water Disinfection Systems

- **ultraviolet** short wavelength (253.7 nm)
- +
- **ultrasound** and hydrodynamic cavitation

} **in a single unit**

**KALWAVE** is an advanced water disinfection system which uses a unique combination of **Ultraviolet light** and **Ultrasound** for the disinfection of water.

Unlike conventional UV systems, **KALWAVE** successfully inactivates particle-associated micro organisms.

The **KALWAVE** system provides many benefits:

- **Combined UV and ultrasound** ensures reliable disinfection for waters, even with low UV transmittance and high concentrations of Total Suspended Solids (TSS) and Total dissolved Solids (TDS).  
The synergistic action of UV light and Ultrasound produces
  - Bactericidal effect equivalent to a UV dose of 75-150 mJ/cm<sup>2</sup>
  - Up to 99.9999% efficiency in inactivation and elimination of pathogens in water
- **No accumulation of biological or chemical residue on the Quartz sleeves** providing continuous optimal UV transmittance, ensuring reliable disinfection.

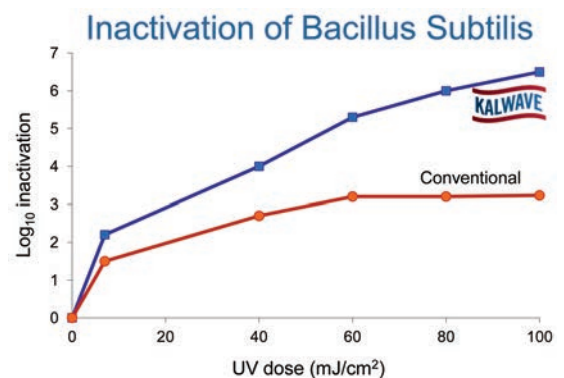


**WITH ULTRASOUND**




**WITHOUT ULTRASOUND**

- **No mechanical or chemical cleaning required** eliminating risk of UV lamp damage and mercury leaching into the treated water
- **High equivalent dose** reduces the risk of microorganism reactivation, during water storage after treatment.
- **Synergistic action of UV and ultrasound produces high equivalent UV dose of up to 70 mJ/cm<sup>2</sup>** resulting in smaller system size and lower power consumption than equivalent conventional UV system.  
Low energy consumption:  
0.008 kWh per 1m<sup>3</sup> for drinking water  
0.02 kWh per 1m<sup>3</sup> for treated industrial or sewage effluent  
Inactivation of pathogens with shorter exposure times and lower energy consumption:  
5 seconds of combined UV and Ultrasound are equivalent to 30 seconds of UV



**KALWAVE** (Low pressure UV lamps + ultrasound)  
Conventional UV (Medium pressure UV lamps)

## SYSTEM SIZES COVER A BROAD RANGE OF FLOW RATES

	FLOW RATE (m <sup>3</sup> /hr)	POWER CONSUMPTION (W)	WORKING PRESSURE (Bar), up to	UV DOSE (mJ/cm <sup>2</sup> ), no less than
<b>KALWAVE M1K</b>	0.5 - 2	50	10	40
<b>KALWAVE M3K</b>	1.5 - 6	170	10	40
<b>KALWAVE M5K</b>	2.5 - 10	250	10	40
<b>KALWAVE M10K</b>	5 - 20	320	10	40
<b>KALWAVE M30K</b>	15 - 60	900	10	40
<b>KALWAVE M50K</b>	25 - 100	1900	10	40
<b>KALWAVE M100K</b>	50 - 200	2800	10	40
<b>KALWAVE M250K</b>	125 - 500	7000	10	40
<b>KALWAVE M500K</b>	250-1000	12500	10	40

