

## **Chlorine:**

Chlorine is commonly used in water treatment. Chlorine in water can be very corrosive. It can cause damage to water treatment equipment, such as:

- Reverse Osmosis Membrane (RO)
- Electro deionization (EDI)
- Mix Beds Resins

Chlorine's (CL<sub>2</sub>) components are Chlorine ("Di chlorine")

Hypochlorous Acid (HOCL)

Hypochlorite ion (CIO)

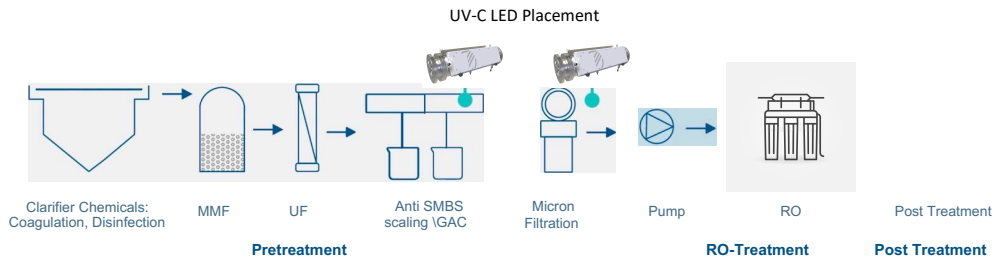
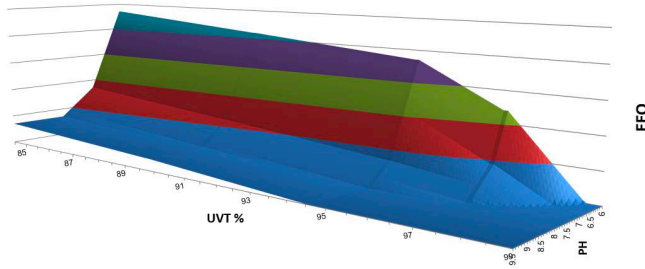
In many instances, Granulated Active Carbon (GAC) is used to remove Chlorine. It's readily available, proven and easy to integrate. GAC requires an enormous footprint and needs to be regenerated. Not to mention the possibility of bacterial buildup because of the removed chlorine.

In other instances, Sodium Metabisulfite (SMBS) is used. It is cheap, readily available and a proven method. The drawbacks are not good for SMBS, they include scaling of RO membranes, its hazardous material and the huge bacterial implications a huge. Not to mention the limited shelf life.

**UV-C LED** will supply dichlorination and disinfection in one treatment.

**Why use UV-C LED Technology?**

## Correct sizing depends on pH and UVT -Precise sizing tools





Attribute	Conventional Mercury Lamp	UV-C LED	Product Implication
Mercury Content	5-200 mg	None	Safe disposal – no special handling
Lifetime	5,000 – 15,000 hours	10,000 hours	Flexible operation
On/Off Cycles	Max. 4 per day	Unlimited	Intermittent-flow friendly
Warm-up Time	Up-to 15 minutes	Instantaneous	Extended replacement intervals
Operating Surface Temp.	100-600° C	Same as process water	Zero-flow friendly does not promote fouling
Architecture	Cylindrical tube	Point source	Versatile implementation
Durability	Fragile glass tube	Rugged semiconductor	Versatile operation
Wavelength	Polychromatic (200-300nm) Monochromatic (254 nm)	Selectable (250-300nm)	No wasted energy & targeted performance
Power Supply	110-240V ACv	6-30V DC	Battery/Solar option

Protect your membrane from biofouling.

**What you can expect:**

Increased efficiency.

Longer membrane life and quality.

Lower capital and operating costs.

Low maintenance.

Superior efficacy versus mercury-based UV systems.

Decrease in cleaning

Decrease in the number of micron filter replacements.



Chlorine is used in many industries. Food and Beverage, Desalination Plants, Power Plants, Drinking Water, Semi-Conductor and Semi Pharma, to name a few.

**Key benefits of the UV-C LED:**

Decompose chlorine

Prevent oxidation damage to RO membranes

Reduce CIP (clean in place)

Reduce CF replacement (carbon footprint)

Reduce chemical usage

Increase permeate recovery

Increase production uptime

Prolong membrane lifespan

Please do not hesitate to ask any questions.

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