

hpn<sup>o</sup>w  
peroxide made simple



## On-site Green Oxidant Generation

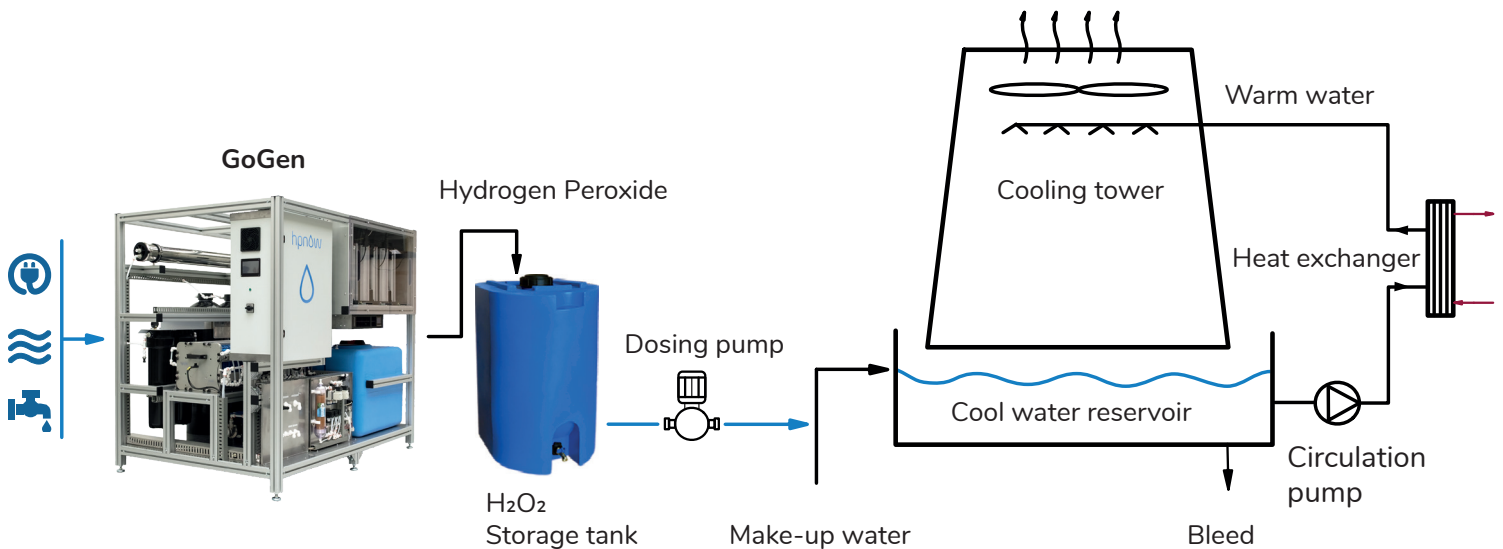
- 🔹 Generate your own ultra-high purity peroxide
- 🔹 Cost savings - no recurring chemical costs
- 🔹 Autonomous, safe, sustainable
- 🔹 Zero chemical inputs, only electricity and water
- 🔹 >99.999% purity, no stabilizers, no heavy metals

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SYSTEM	GOgen 1 kg	GOgen 2 kg	GOgen 3 kg	GOgen 5 kg	GOgen 10 kg	GOgen 15 kg	GOgen 20 kg
Capacity	1 kg/day	2 kg/day	3 kg/day	5 kg/day	10 kg/day	15 kg/day	20 kg/day
H <sub>2</sub> O <sub>2</sub> concentration	10,000 ppm						
Volume/day	100 L	200 L	300 L	500 L	1000 L	1500 L	2000 L
Feedwater pressure	0-4 bar						
Power consumption	1.3 kW	1.7 kW	2.6 kW	3 kW	6 kW	9 kW	12 kW

## CHEMICAL-INPUT FREE BIO-FILM AND PATHOGEN CONTROL FOR CLOSED WATER LOOPS AND PROCESS WATER LINES

Closed loop water systems used to exchange heat re-circulate the same water. Industrial process water lines may be heated and contain nutrients. Such conditions often favor pathogen growth. The build-up of bio-films in water pipelines increases heat impedance and serves as a hotbed for pathogens. Hydrogen peroxide is a powerful oxidizer and well-known water treatment agent which can prevent bio-film build-up and facilitate pathogen control. At high concentrations it is, however, also a hazardous chemical, posing an explosion hazard. Its permitting, storage and handling can accordingly be challenging and costly, and represent occupational hazards. GOgen enables for the first time fully-autonomous, safe and affordable on-site peroxide generation. By producing Peroxide UltraPure™ directly at the point of use at low and safe concentrations, HPGen reduces chemical consumable costs, improves occupational safety, and reduces labor, chemical storage, handling, and permitting costs, as well as dependence on chemical supply chains.



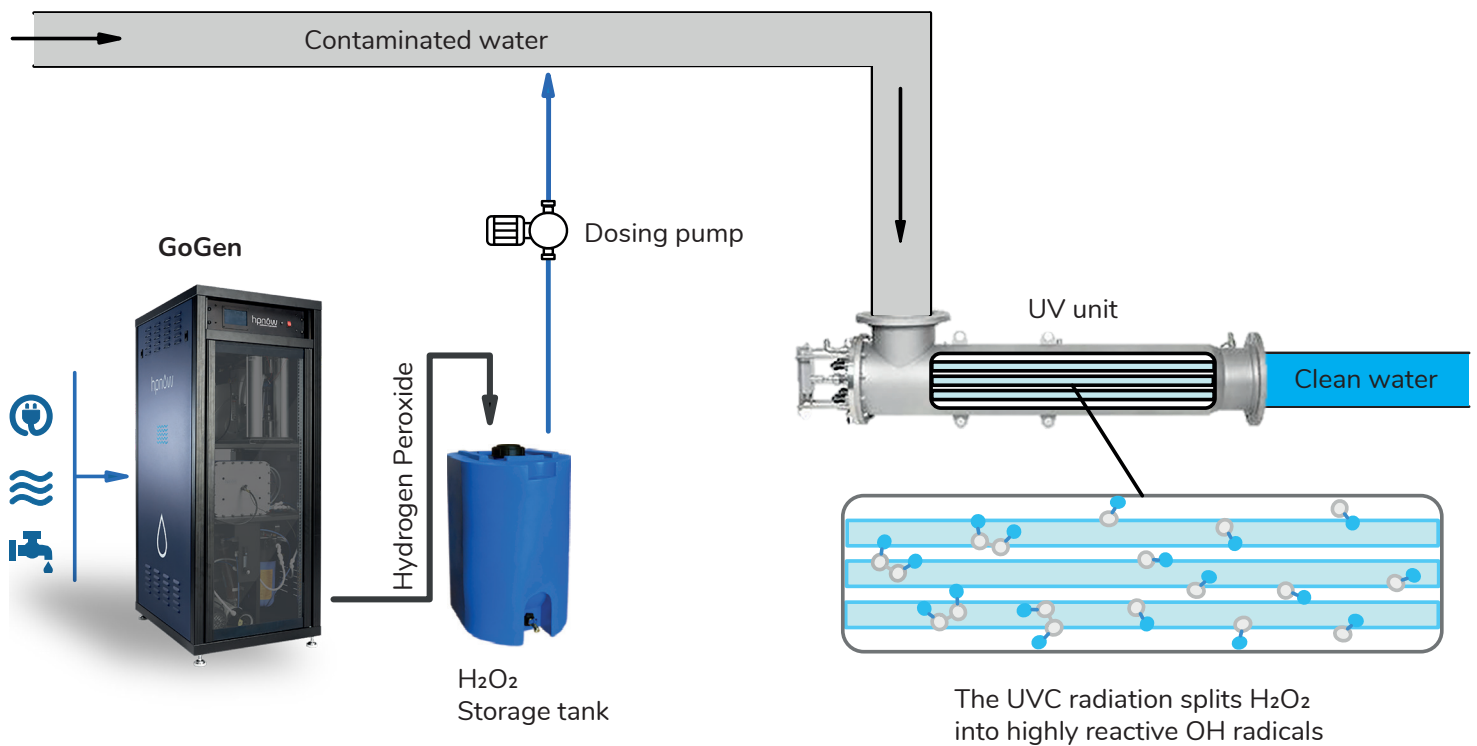
GOgen

GOgen by HPNow eliminates bulk H<sub>2</sub>O<sub>2</sub> challenges, concerns, and related costs, by autonomously generating safe, ultra-high purity, low-concentration H<sub>2</sub>O<sub>2</sub> directly on site. GOgen inputs are only water and electricity. Output Peroxide UltraPure™ solution is generated at a safe concentration up to 1% (10,000 ppm) and temporarily stored in a buffer tank, from which it is dosed into the treated water or wastewater at ppm-level in-line concentrations. The buffer tank is automatically refilled based on actual demand. HPNow further provides a remote GOgen system monitoring service to ensure a smooth and fully controllable operation without the need for on-site presence.

## CHEMICAL-INPUT FREE ADVANCED OXIDATION PROCESS (AOP)

Water safety is increasingly threatened by trace organic contaminants originating from pharmaceutical, cosmetics, oil and gas, and chemical industries. These Trace Organic Compounds (TrOC) are becoming the subject of rising public concern and tightening regulations. The activation of hydrogen peroxide by UV creates highly potent hydroxyl radicals which break down these resilient organic compounds. This process is termed Advanced Oxidation Process (AOP).

GOgen enables for the first time fully-autonomous, safe, chemical input free AOP, by producing UltraPure™ hydrogen peroxide directly at the point of use. GOgen for AOP reduces chemical consumable costs, improves occupational safety, and reduces chemical storage, handling, and permitting costs, as well as dependence on 3rd party chemical supply chains.



GOgen

# CASE STUDIES

## ON-SITE GENERATION OF HYDROGEN PEROXIDE USING ONLY WATER, ELECTRICITY AND AIR

The future of AOP is green



The HPGen uses only air, electricity and water as inputs to produce 99.999% pure hydrogen peroxide directly on site. The output Peroxide UltraPure can be used in conjunction with a UV reactor in an advanced oxidation process, to remove all trace organic compounds from water.



## On-site hydrogen peroxide generation versus on-site chlorine generation



Recent advancements in technology have made it feasible to produce oxidizing agents on-site, leading to reduced costs and increased safety. On-site hydrogen peroxide generation, particularly by companies using no chemical inputs like HPNow, has shown promise in offering numerous advantages over on-site chlorine.



## Green oxidant as a green alternative



The development of on-site hydrogen peroxide generation technology presents a revolutionary solution in industrial water treatment. By eliminating the need for transportation, storage, and handling of hazardous chemicals, this method offers enhanced safety and convenience for water treatment professionals.

