

The Brightwater Freeze Concentrator R200

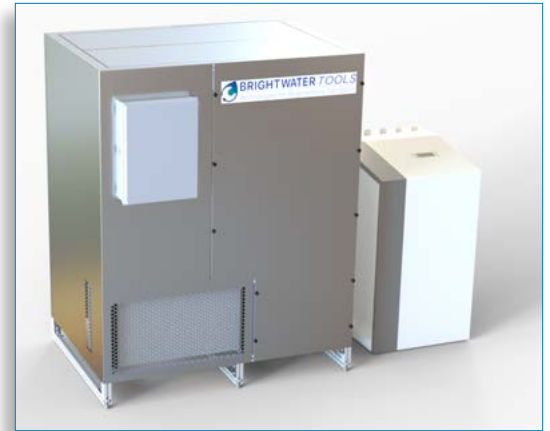
Description

- The Brightwater Freeze Concentrator decreases nutrient loading to onsite wastewater management systems and reduces toilet waste hauling costs. This is accomplished by separating high-strength wastewater into two streams: liquid fertilizer and water.
- Block freeze concentration is a purely physical process in which a wastewater stream, (e.g., urine) is partially frozen, creating a mixture of pure ice crystals and concentrated liquid.
- The concentrated liquid is completely drained from the reactor, after which the ice crystals are melted, separating the feedstock into high-strength (concentrate) and low-strength (melted ice) streams.
- The concentrated liquid contains 90% of the dissolved nutrients, and collected nutrients can be used as a sustainable fertilizer.
- The low-nutrient strength melted ice can be lightly treated for non-potable reuse or discharged to the existing wastewater treatment system.
- Block freeze concentration does not require chemical pretreatment, which reduces resource consumption and maintenance requirements.
- The Brightwater Freeze Concentrator is completely automated and only requires periodic servicing.
- Monitoring can be conducted through an integrated hardware and control box, or remotely through a web interface where internet access is available.
- The Brightwater Freeze Concentrator is designed to be used indoors with secondary containment.

Metric	Undiluted Urine	Vacuum Flush Black Water
Person Equivalents Served per day*	176	21
Daily Wastewater Treatment Capacity*	224 L	211 L
Fertilizer Product Volume*	35 L per day	8,4 L per day
Concentration Factor**	6X	20X
Water Weight Removed Per Year*	68860 kg	72270 kg
Mass Hauling Reduction Factor	83%	96%
Main Unit Footprint (Width x Depth)*	2,3 m x 1,3 m (2,8 m ²)	
System Height	1,72 m	
Energy Consumption	40 Wh per L treated	
Maximum Power Draw	1000 W	
Necessary Power Connections	230V AC, @ 50-60 Hz	
Operating Ambient Conditions	4-30°C	
Ventilation Requirements	< 90% Relative Humidity	
	40mm vent pipe to outdoors, if machinery room is not actively ventilated	

* The Brightwater Freeze Concentrator is scalable. The values stated in this table can be scaled up or down to meet customer specifications.

** The achievable concentration factor can also be adjusted to meet customer specifications.



The Brightwater Freeze Concentrator shown above is designed to separate high-strength wastewater into two streams: liquid fertilizer and water.

Ordering Information:

- Each unit is built to order — please contact us for our current lead time.
- A deposit will be required to initiate an order and to secure a spot in our production queue.
- Contact kim@brightwatertools.com to initiate an order, or for any further inquiries including current pricing and lead time.



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