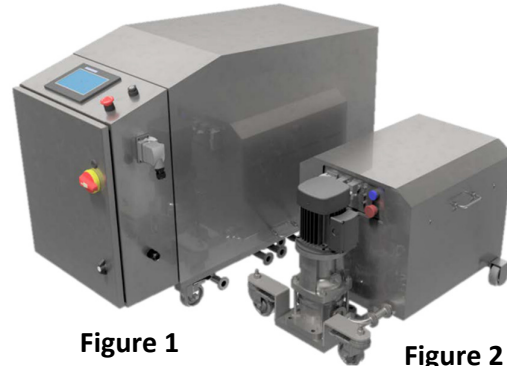


HWRS - Homogenizer Water Recycling System

Refer also to the HWRS Datasheet



1. **How does it work?**

The system comprises two elements; a water collection Tank Skid (Fig 2) and a Sanitation Skid (Fig 1).

Lubrication and cooling water exiting the homogenizer is pumped from the Tank Skid to the Sanitation Skid. The Sanitation skid houses UV generators with varying intensities, which, in series with specific filter media and quality sensors, constitute the primary treatment process for the water. The water is then cooled and pumped back to the homogenizer.

2. **How do I know that the treated water from the unit is safe to use in my process?**

The system utilizes redundant water quality sensors to monitor for impurities. If the water is outside of set quality tolerances, the system will reject the water and will supply municipal water to the homogenizer.

In addition, users have the ability set alarm parameters within the system which can communicate system alarms via email and/or text message through network settings.

3. **Do I need regulatory approval to install this system?**

Minor forms of regulatory approval are typically necessary; however, requirements vary by State. We recommend informing your authority having jurisdiction for guidance.

4. **What is the build construction?**

HWRS systems construction is 304 stainless steel with 304 stainless steel piping. All external components are rated at or above IP67.

5. **What uptime does the unit provide? i.e. do I get 100% water recycling**

Uptime can be up to 97 percent depending on homogenizer health and supplied water quality.

6. **What is the minimum and maximum flow requirement?**

0.5 GPM and 10 GPM

7. **Can I separate the lubrication and cooling streams?**

Yes, the HWRS-S+ model allows for the separation and temperature differentiation of both streams.

8. **Can I connect the unit to more than one homogenizer?**
Yes, the HWRS-D integrates two Tank Skids with a specialized Sanitation Skid which can be connected to two homogenizers at a time.
9. **Can I use it with an aseptic installation?**
We have the ability to satisfy most sterile process configurations, although each installation requires review. If sterile concerns cannot be satisfied, recycled lubrication water may be applied toward a different use.
10. **How does the system control the temperature outputs for recycled water?**
Parameters for temperature output may be set on the HMI and are automatically regulated by the system.
11. **What happens if a there is a leak into the water stream, e.g. packing failure?**
If the leak contributes to water quality outside of set tolerances, the water is rejected. In its place, municipal water is automatically supplied to the homogenizer and an alarm is issued. Ethernet communication comes standard for communicating water quality and system status. Additional integration services are available across multiple platforms.
12. **If the unit has a fault, do I have to stop my process? Will the unit self-diagnose faults?**
The system is designed to never allow production interruptions. The default action in any fault scenario is to supply the homogenizer with municipal water. The system will self-diagnose certain faults such as communication losses, out of range quality readings, low amperage readings to UV generators, and many more.
13. **What is the installation process?**
The installation focuses on plug and play principals. The Tank Skid is located next to the homogeniser and the Sanitization Skid can be up to 75ft away. Each customer is provided in advance with site specific installation documents noting the mechanical/piping and electrical/communication requirements to allow for a seamless and timely installation process.
14. **Can this be retrofitted to my current Homogenizer?**
Yes. Retrofitting may allow for substantial benefit as older equipment is likely to use more water. The skids have a small footprint and are built for wash-down environments.
15. **What is the control system and are alternatives available?**
Control components such as PLC, VFD and HMI are Automation Direct components. Options for Allen Bradley are available as a standard upgrade. Special considerations may be made for other control systems upon request.
16. **Can I integrate to my plant control system?**
Yes. As a standard feature, the system outputs live water quality values, system statuses, and recycled volume data via Ethernet connection. Additional plant integration services (to include system control, for example) are available across a variety of platforms.
17. **Can glycol and chilled water mediums be used?**
Yes, either medium functions in the cooling system.

18. What maintenance or calibration is required? (daily, weekly etc.)

Filter changes are recommended every 2-3 months, sensor calibrations are recommended every 6 months, and UV bulb replacements are recommended annually. No special training is required.

19. What is the estimated annual operating and maintenance cost?

The average maintenance cost is \$1500-1800 per year. This includes electricity costs and the costs for standard replacement parts (e.g. bulbs, filters, and calibrated sensors).

20. Do I need special skills to operate or maintain the system?

No, they are not required. Standard understandings and procedures for manufacturing operations will suffice.

21. Is training provided?

Yes, demonstrations for operations and maintenance procedures are provided at the time of installation.

22. Are spare parts easily available?

Yes, spare parts can be stocked or accessed through your distributor within days.

23. What is the cost/payback?

On average, HWRS systems have paybacks of two years
(Based on combined municipal and sewer water rates of approximately \$0.02 per gallon)

24. What is the typical lead time for a system?

Four weeks.