HEATEFLEX® by White Knight — AQUARIUS DIW HEATERS

Ultra-Pure Deionized Water Heating Systems

Aquarius® deionized water (DIW) heating systems feature the Heateflex® heating coil and all-PVDF/PFA wetted surfaces to ensure ultra-pure conditions throughout the heating process. The systems are engineered to deliver high flows of continuous, at temperature, hot DIW. With models from 40 kW to 225 kW available, Heateflex® offers the flexibility to meet your exact flow and temperature process requirements.

Ultra-Pure Design

- All-PVDF/PFA wetted surfaces
- Effective high-purity DIW heating

User-Friendly Touch Screen

- High-resolution LCD touch screen with graphic user interface (GUI)
- Simplified system offers better accessibility and easy navigation

Enhanced Temperature Stability & Control

- Excellent temperature stability
- Fast response to temperature changes and flow variations
- Eliminates excessive overshoots and temperature drops
- Programmable logic controller (PLC) with Power-to-Flow® control delivers constant, stable, and accurate temperature output
- Ethernet read/write connection enables rapid transfer of heater data to fab SECS/GEM systems

Safety Integrated Into the Design

- Meets or exceeds stringent requirements for UL-499, SEMI S2, SEMI S3, and CE
- Short circuit current rating (SCCR) at 100kA
- Advanced ground fault circuit interrupter (GFCI) system, sub-30 mamp rating
- Redundant safety PLC monitoring for GFCI, thermal cut-off sensor, and Hi-Limit thermocouples with independent power supply
- Redundant safety monitoring relay for door interlock switch and EMO
- NIST-certified thermocouples
- Dual-pressure relief valves for both input and output flows ensure rapid pressure dissipation

Operator Convenience

- Plug-and-play system with complete integration of controls for ease of startup
- Seismic mounting brackets relocated inside the heater cabinet for improved fab floor space
- Lifting lugs added to top of cabinet, for ease of positioning during installation
- No N_2 required

Aquarius DIW Heater

Power-To-Flow® Control

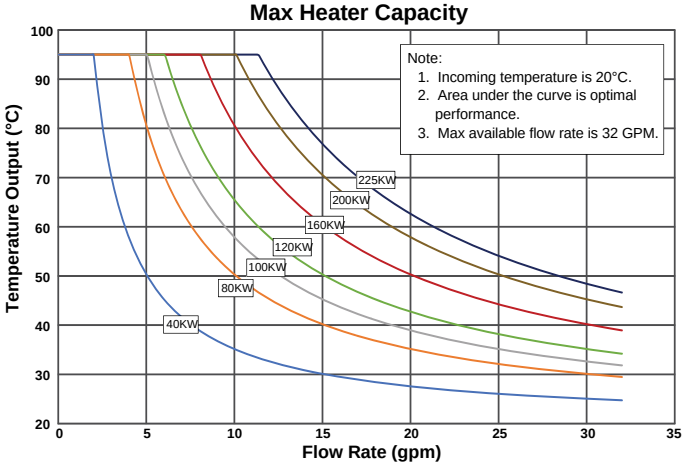
Aquarius® innovative systems provide accurate temperature output in single-pass heating applications. The system eliminates undesirable overshoots or drops in temperature. The sophisticated Aquarius® temperature control system features multi-loop capability and feed-forward functions to moderate variations in the process flow rate. It measures the inlet flow and temperature at various stages in the heating process, and then it adjusts the power applied to each heating zone accordingly. This advanced integrated control method reacts quickly to any variations in flow, providing a steady supply of DIW at a stable temperature.

High Resolution LCD Touch Screen with GUI

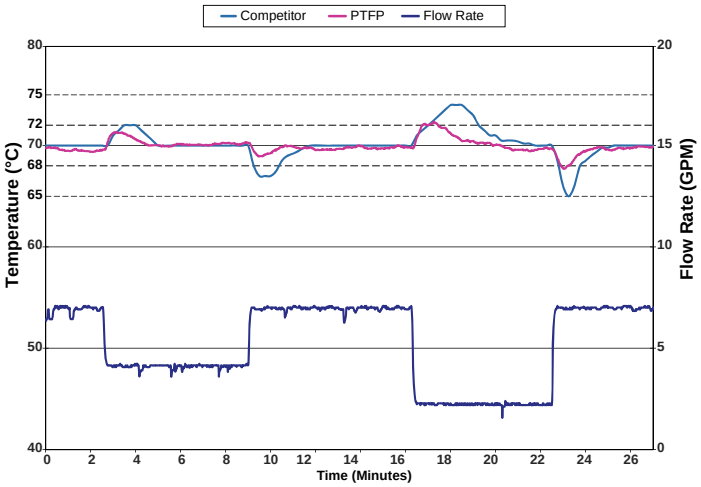
P: 626.599.8566 | sales@heateflex.com | https://wkfluidhandling.com/heaters/

Performance

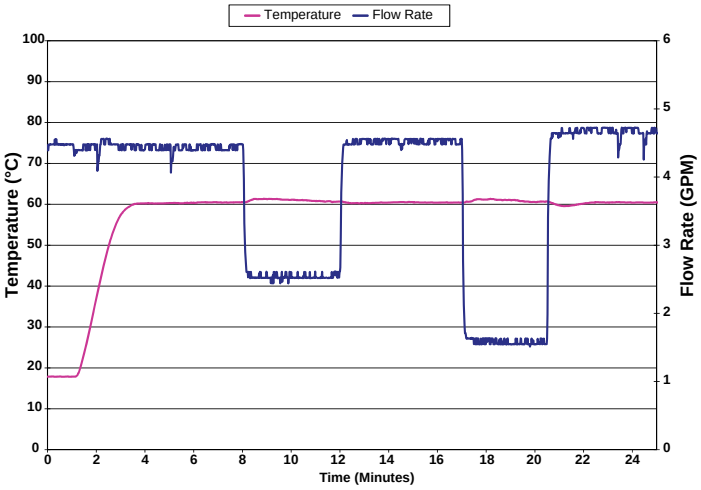
Max Heater Capacity

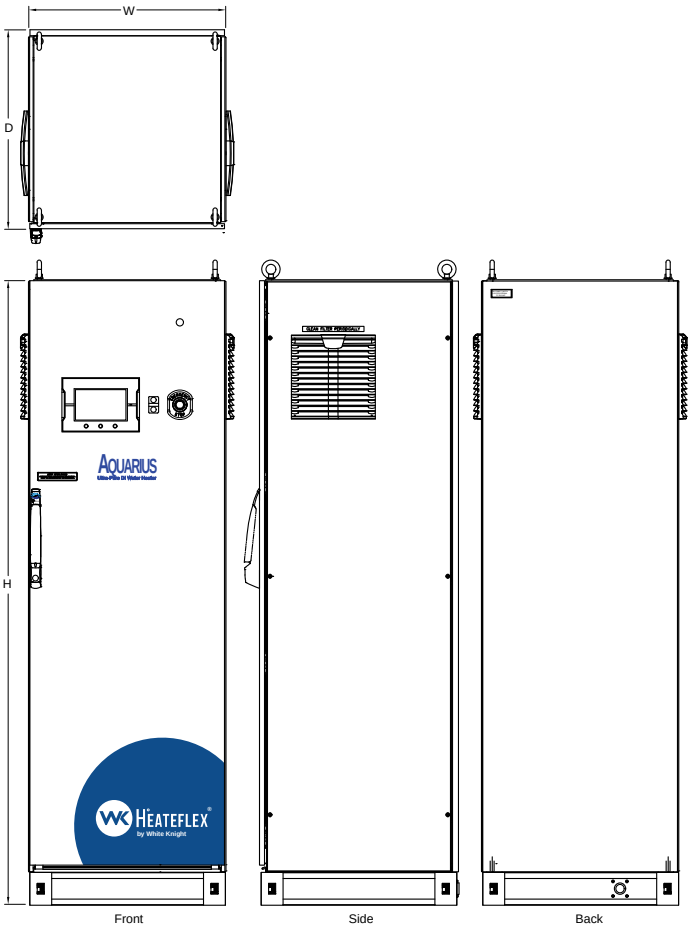


Power-to-Flow vs. Competitor L



Start-Up and Performance with Flow Rate Changes





Dimensions

Inches H x W x D

Model	kW	Low VAC (Standard)	High VAC (Standard)	Low VAC with Recirculation	High VAC with Recirculation
DI-40	40	78 x 32 x 24	78 x 24 x 24	78 x 24 x 24	78 x 24 x 24
DI-80	80	78 x 32 x 24	78 x 24 x 24	78 x 32 x 24	78 x 24 x 24
DI-100	100	78 x 39 x 24	78 x 32 x 24	78 x 39 x 24	78 x 32 x 24
DI-120	120	78 x 39 x 24	78 x 32 x 24	78 x 39 x 24	78 x 32 x 24
DI-160	160	N/A	78 x 39 x 24	N/A	78 x 39 x 24
DI-200	200	N/A	78 x 39 x 24	N/A	78 x 39 x 24
DI-225	225	N/A	78 x 39 x 24	N/A	78 x 39 x 24

**Low VAC: 200-240 VAC, 3-Phase · High VAC: 380-480 VAC, 3-Phase*
**Model with built-in DIW recirculation feature for on-demand hot DIW at temperature.*

Patent No.: 4756781, 4875957, 2685505 (Japan), 7,258,801, 8,349,122, 1859919 (EU), other Patents Pending