

# KOOL-PURE™

## Ultra High Purity Thermoelectric Chemical Heater/Chiller System

For applications where high temperature accuracy,  
high purity, and reliability are of critical importance.



APPLIED INTEGRATED SYSTEMS

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## Ultra High Purity Thermoelectric Chemical Heater/Chiller System

Introducing *Kool-Pure™*, Applied Integrated Systems' ultra high purity, thermoelectric-based, chemical and DI water heater/chiller system for applications where high temperature accuracy, high purity, and reliability are of critical importance.

AIS's unique patented technology is ideal for re-circulation and single pass applications. Innovative, patented plug-flow design provides a continuous, smooth, flow path for your fluid, without any sharp corners or crevices where contaminants can accumulate.

### Features and Benefits

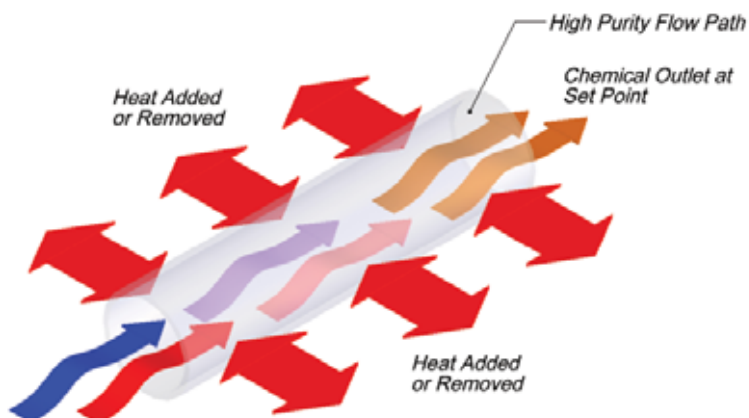
- **ULTRA HIGH PURITY HEATING/COOLING**  
All Teflon flow path with no seals, no o-rings, no pipe threads, and no metal exposure eliminates any potential for contamination and assures the highest purity level is maintained.
- **HIGH TEMPERATURE ACCURACY**  
AIS's unique thermoelectric based heating/cooling module design assures tight temperature accuracy is achieved ( $\pm 0.1^{\circ}\text{C}$  or better).
- **THERMOELECTRIC TECHNOLOGY**  
AIS's thermoelectric based technology is environmentally friendly, reliable, and maintenance free.
- **NO COOLING COILS REQUIRED**  
Unique flow path design allows the chemical to flow through it, thus eliminating the need to dip expensive and pin-hole prone cooling coils into the process bath.
- **PATENTED PLUG-FLOW FLUID PATH**  
Patented plug-flow path design provides a continuous, smooth, flow path for your fluid, without any sharp corners or crevices where contaminants can accumulate.
- **FLEXIBLE DESIGN**  
Modular design approach allows for a wide range of wattages, physical shapes, electrical configuration, plumbing connections, mounting styles...all configured around your preference.
- **COMPACT FOOTPRINT**  
High efficiency heating/cooling module coupled with modular design approach allows for the most compact footprints in the market.
- **OPTIONAL CONTROL SYSTEM**  
*Kool-Pure™* products can be operated with either a user provided or AIS provided control system.
- **HIGH RELIABILITY**  
The *Kool-Pure™* product series only utilize the highest quality components available in the market, resulting in years of maintenance free operation.
- **USER FRIENDLY**  
Intuitive design makes it simple to install and operate.
- **SAFETY**  
Heating/cooling module over-temperature protection and redundant over-temperature interlocks. CE, SEMI, UL compliant.

## Specifications

Wetted Flow Path	Teflon (PFA)
Heating/Cooling Technology	AIS Thermoelectric
Heating Capacity	Up to 4 KW
Cooling Capacity	Up to 2 KW
Voltages	24 - 130 VDC
Temperature Control	5 to 75°C
Temperature Accuracy	±0.1°C (varies with application)
Pressure Rating	Up to 689 Kpa (100 psig)
Process Flow Rate Range	Up to 40 lpm (10 gpm)
Cooling Water Requirement	Varies upon final configuration
Temperature Sensors	J-Type, K-Type, or RTD
Fluid Connections	1/4" (6mm) up to 1.0" (25mm) Flare, Pillar, Tube Stub, Sanitary
Power/Interlock Connections	Flying leads or connectors with FEP conduit
Control System	AIS or user provided. Integrated or stand-alone
Enclosure Material	FM4910 (CPVC, PTFE, CP7D, others)
Compliance	SEMI, CE, UL
Warranty	12 months

*Applied Integrated Systems reserves the right to change specifications without notice.*

## Flow Path Technology



## Safety Features

- Heating/cooling module over-temp protection
- Enclosure environment over-temp protection
- Over-current and over-load protection (AIS controller)
- Fire retardant enclosure
- Grounded heating/cooling module
- SEMI, CE, UL compliance

## Options

- Control System:
  - Remote/manual
  - Communication protocol (Ethernet, RS-232, RS-485, others)
  - Host communication signals
- Chemical inlet/outlet location
- Physical shape and mounting configuration
- Enclosure material
- Electrical connection style and location
- Extended warranty
- Additional options upon request

For more information, contact AIS at: [sales@appliedintegratedsystems.com](mailto:sales@appliedintegratedsystems.com)



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