

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

KOOL-PURE™

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

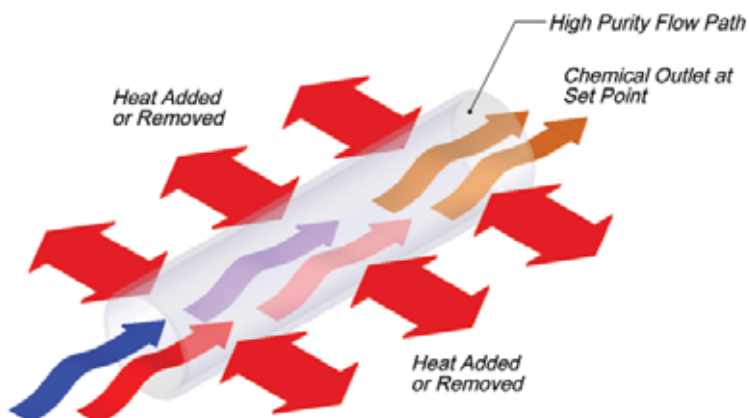
- **ULTRA HIGH PURITY HEATING/COOLING**
All Teflon flow path with no seals, no o-rings, no pipe threads, and no metal exposure eliminates any potential for contamination and assures the highest purity level is maintained.
- **HIGH TEMPERATURE ACCURACY**
AIS's unique thermoelectric based heating/cooling 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



KOOL-PURE™

ORDERING INFORMATION

Please don't hesitate to contact us to help you determine the best product for your application. You may compose the part number of your *Kool-Pure*™ thermoelectric heater/chiller by using the guideline below or simply call one of our product specialists for assistance.

You may also e-mail us at sales@appliedintegratedsystems.com

USE THIS CHART TO COMPOSE THE PART NUMBER

KP																				
----	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

COOLING CAPACITY (KW) Example: for 2KW enter 02K For 800 watts, enter 800 Note: heating capacity is always twice the cooling capacity	VOLTAGE Enter voltage between 24 and 130 VDC	CHEMICAL INLET/OUTLET F1: ¼" Tube Stub (6mm) F2: ½" Tube Stub (12mm) F3: ¼" Flare (6mm) F4: ¼" Pillar (6mm) F5: ½" Flare (12mm) F6: ½" Pillar (12mm) F7: ¾" Flare (19mm) F8: ¾" Pillar (19mm) F9: 1.0" Flare (25mm) F10: 1.0" Pillar (25mm) F11: Sanitary ¾" Mini Tri-Clamp F12: Other	ENCLOSURE MATERIAL CP: CPVC PP: Polypro (CP7D) SS: Stainless Steel XX: Other	PROCESS THERMOCOUPLE RM: user provided JT: J-type T/C KT: K-type T/C RT: RTD XT: Other	POWER/INTERLOCK CABLE L6: 6 ft with 5 ft FEP conduit L10: 10 ft with 8 ft FEP conduit L15: 15 ft with 13 ft FEP conduit L20: 20 ft with 18 ft FEP conduit LXX: Specify length Leave Blank for Connectors
---	--	---	---	--	---

CONTACT US

498 Lindbergh Avenue, Livermore, CA 94551, U.S.A. Tel: (925) 447-0162 Fax: (925) 447-0174

www.appliedintegratedsystems.com



Printed in the U.S.A. 3/2010