INSTA-THERM™

Ultra High Purity Chemical and DI Water Heaters

For applications where temperature stability, high purity, fast response, and reliability are of critical importance.

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APPLIED INTEGRATED SYSTEMS

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Ultra High Purity Chemical and DI Water Heaters

Introducing *Insta-Therm*™, Applied Integrated Systems' ultra high purity, in-line, chemical and DI water heaters for applications where temperature stability, high purity, fast response, and reliability are of critical importance.

AIS's unique patent pending infrared technology allows for instantaneous heating, making it ideal for single pass and re-circ applications where process flow rate and inlet temperatures may vary. AIS's technology does not rely on immersion-type heating elements, and therefore, all issues associated with hot-spots, which leads to costly chemical contamination, are eliminated.

The all Teflon heating module design provides an ultrapure flow path without the use of seals, o-rings, and pipe threads, thus eliminating particle traps and potential for leaks.

Features and Benefits

- **ULTRA HIGH PURITY HEATING**
  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**
  High efficiency heating module design coupled with unique infrared technology assures tight temperature accuracy is achieved even during varying inlet temperature and fluctuating flows.

- **FAST RESPONSE TIME**
  Patent pending advanced infrared technology results in exceptionally fast response to changes in inlet temperature, flow rate, and temperature set point.

- **MULTI-STAGE CAPABILITY**
  Multi-stage capable technology coupled with sophisticated control algorithm makes *Insta-Therm*™ the only heater in today's market capable of maintaining accurate temperature control during varying flows (no flow to high flow) and inlet temperature conditions.

- **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 module coupled with modular design approach allows for the most compact footprints in the market.

- **OPTIONAL CONTROL SYSTEM**
  Insta-Therm™ heaters can be operated with either a user provided or AIS provided control system.

- **HIGH RELIABILITY**
  The *Insta-Therm*™ 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 module over-temperature protection, process over-termperature thermoccuple, and redundant over-temperature interlocks. CE, SEMI, UL compliant.

Specifications

Wetted Flow Path	Teflon (PFA)
Heating Technology	High-efficiency Infrared
Heating Capacity	Up to 150 KW
Voltages	120 - 600 VAC, 1Ø, 3Ø, 50/60Hz
Temperature Control	Up to 180˚C
Temperature Accuracy	±0.1˚C (varies with application)
Pressure Rating	Up to 689 Kpa (100 psig)
Flow Rate Range	Up to 100 lpm (26 gpm)
Temperature Sensors	J-Type (process), K-Type (over-temp), optional RTD
Fluid Connections	1/4" (6mm) up to 1.0" (25mm) Flare, Pillar, Sanitary
Power/Interlock Connections	Hard wired or connectors with FEP conduit
Control System	AIS or user provided. Integrated, stand-alone, or multi-stage
Enclosure	FM4910 (CPVC, PTFE, CP7D, others)
Compliance	SEMI, CE, UL
Warranty	12 months

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

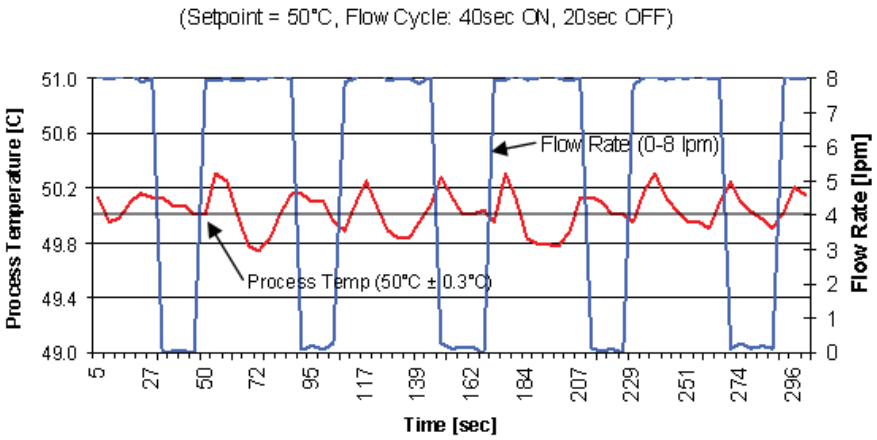
Safety Features

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

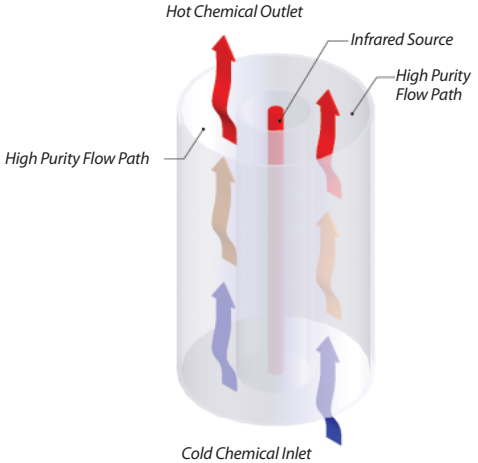
Options

- Control System:
  - PID or Multi-Stage based
  - Communication protocol (Ethernet, RS-232, RS-485, others)
  - Host communication signals
- Chemical inlet/outlet location
- Physical shape and mounting location
- Electrical connection style and location
- Multi-Stage capability
- Extended warranty
- Additional options upon request

Superior Performance



Flow Path Technology



For more information, contact AIS at: sales@appliedintegratedsystems.com

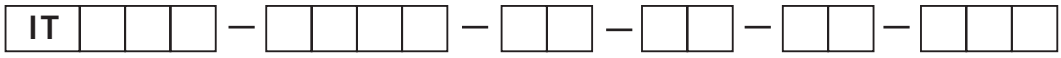
INSTA-THERM™

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 *Insta-Therm* ™ heater 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



WATTAGE (KW)
Specify wattage. Example: for a 12KW heater, write 012

VOLTAGE
1201: 120 VAC, 1Ø
2081: 208 VAC, 1Ø
2083: 208 VAC, 3Ø
2401: 240 VAC, 1Ø
2403: 240 VAC, 3Ø
3803: 380 VAC, 3Ø
4153: 415 VAC, 3Ø
4803: 480 VAC, 3Ø

CHEMICAL INLET/OUTLET
F1: ¼" Flare (6mm)
F2: ¼" Pillar (6mm)
F3: ½" Flare (12mm)
F4: ½" Pillar (12mm)
F5: ¾" Flare (19mm)
F6: ¾" Pillar (19mm)
F7: 1.0" Flare (25mm)
F8: 1.0" Pillar (25mm)
F9: Sanitary ¾" Mini Tri-Clamp
F10: Other

ENCLOSURE MATERIAL
CP: CPVC
TF: Teflon (PTFE)
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

CONTACT US

www.appliedintegratedsystems.com

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