



- Pre-assembled, freeze-protected safety fixture and SNA heater skid system
- Bradley Heat Trace S19-300 with SpinTec™
- 54 - 144 kW (491,300 BTUs)
- Molded Duragrate® and integrated shower pan
- Temperature overshoot purge system
- NEMA 4 enclosure standard
- AL3 building communication alarm option included
- Dual Flow Heater Activation (Eye/Face Wash and/or Shower)
- Internal fusing (included) adds safety and permits single power connection
- Controller-locked temperature setting, output fixed at 80°F (27°C)
- Meets ANSI Z358.1 standards
- Emergency stop button and door cutoff switch

## Standard Heater Equipment

### Tankless Water Heating Specifications

Keltech, Inc. SNA Safety Shower Heaters provide warm water intended to supply safety fixtures. The heaters uniquely perform in applications with low line pressure, while still accommodating ANSI standard flow rates. The durable components withstand higher pressures which result in longer service life, while ensuring the delivery of precise output temperature. Keltech's durable components withstand power abnormalities found in industrial environments and ensure tepid water standards are never exceeded (100°F) with it's three-tier anti-scald protection and hot water purge. SNA-Series units are also suited to applications with 3 Phase Delta 480V or 600V. The heat exchanger features o-ring seals that out last typical gasket construction. 1-1/4" NPT female inlet and outlet connections.

## Construction Skid

Skid includes freeze-protected skid with pre-piped assemblies, 1-1/4" inlet, pre-piped pressure and temperature relief valve and piping connecting the heater to the safety shower and eye/face wash combination unit. Skid is #10 gauge electro galvanized sheet steel frame, powder painted "safety yellow." Square molded Duragrate fiberglass (1" x 1-1/2" x 1-1/2") grating with grit top, covers the integrated shower pan.

### Temperature Controller

Keltech's PID Temperature Controller is more energy efficient and reliable than traditional microprocessors using staged elements. Power is infinitely variable, with no fixed inputs. The PID controller makes it possible to modulate the amount of power applied to the elements while also dispersing the required power evenly across all elements. This unique feature increases the product's life cycle.

### Heating Element

Each heater features a heavy duty, low watt density, Incoloy® 800 sheathed resistive element. The Keltech design ensures greater protection, durability and resistance to scaling from hard water because water is only heated when flowing; this means sediment will not collect in the heat exchanger.

### Solid State Relays

The liquid cooled solid state relays provide silent switching, which has a fast response and works in conjunction with the PID controller to infinitely modulate and add to the life of the heater.

### Electrical

The SNA-Series requires only one service feed per unit. Includes internal fusing as standard. Internal fusing provides superior protection so the incoming circuit can be higher than 48 amps (NEC). Keltech protects each heating element with fusing.

### Cabinet Enclosure

The skid-mounted cabinet enclosure is NEMA 4 rated and made from 14 gauge mild steel and powder coated with ANSI 61 gray, corrosion resistant paint. The optional NEMA 4X enclosures are corrosion resistant for harsher environments and made from 16 gauge 304 stainless steel. The NEMA 4X enclosure can also be specified with 316 stainless steel. Additional service access panel located on top of cabinet enclosure.



S19361F

## Independent Safeties

Heater has three-tier anti-scald protection and TepiGuard™ hot water evacuation (overshoot purge protection). The controller alarm sends a signal to disconnect power to the elements if the temperature reaches 90°F (32°C). The internal thermostat with auto reset high limit switch ensures that when the temperature limit is reached, the unit will power down a bank of elements; when the temperature returns to the set point, power is restored. The surface mounted bi-metal thermostat with manual reset acts as a fail-safe and must be manually reset before power can be restored to the elements if the temperature limit is exceeded.

TepiGuard™ is an anti-scald feature, standard on all SNA-Series Safety Shower Heaters. This overshoot purge will automatically open and purge excess temperature water. This feature actively monitors temperature within the heater while operational. It also passively monitors water temperature while the heater is inactive. This is beneficial for outdoor installations where sun and weather can cause water temperature to exceed ANSI standards.

### Temperature Safety Values:

- Internal thermostat with auto reset high limit switch: 95°F (35°C)
- Surface mounted bi-metal thermostat with manual reset: 100°F (38°C)
- Overshoot purge: 95°F (35°C)

### Dual Flow Activation

Keltech Safety Shower heaters have a dual flow activation. The low flow activation is used with eyewashes, eye/face washes, and drench hoses. The high flow activation is for safety shower usage. This allows just the right capacity of heated water to be used for each application. Heater operating range is 30 - 150 psi.

## Standard Safety Fixture Equipment

Bradley S19-300 Heat Trace Safety Shower mounted to skid provides a superior washdown with a more even spray pattern. Combination shower and eye/face wash unit is intended for use in areas where temperatures fall below freezing. Heat trace cable protects unit from freezing. Unit is encased in highly visible yellow ABS removable plastic shell. Shower valve operates quickly by a pull rod with a triangular handle and provides superior washdown. Eye/face wash is operated by a large push handle.

### SpinTec Showerhead

Showerhead is 3.1" (78.7mm) diameter highly visible yellow impact-resistant plastic. SpinTec drench shower's head features integral 22 GPM (83.3 L) flow control (exceeds minimum water flow of 20 GPM (75.7 L) at 30 psi (2.0 bar)), conserving water, allowing you to accurately size your S19361F skid system.

Protected by one or more of the following patents: 7,007,316 B2; 7,243,381 B2.



**Eye/Face Wash**

Twin perforated-disc eye/face wash heads. Safe, steady flow under varying water supply conditions assured with flow control for 30 to 90 PSI. Pop-off dust covers protect sprayheads from debris. Eye/face wash sprayheads contain an antimicrobial agent to protect the sprayheads.

**Heater Product Options**

**Fused Disconnect**

Internal fused disconnect interlocks with enclosure door when energized, prohibiting access to a live cabinet. Select the FDS option for an additional level of safety and convenience at the heater location. Not available with SNA-723/600D.

**Alarm Selections**

Keltech offers two levels of building communication alarm options. The AL3 option comes standard on the S19361F and provides dry contacts that open to signal flow >1.5 gpm has activated the heater. The AL3-SL option provides these dry contacts and additionally activates a local audible and visual alarm on the heater. Alarms activate at 1.5 gpm flow or greater.

**Freeze Protection**

The S19361F includes heater with ENHT which offers protection to -20°F (-28°C). The ENHT30 option offers protection to -30°F (-34°C). Each level of protection utilizes the normal heater supply voltage. No additional dedicated circuit to the unit is required during field installation. Freeze protection (ENHT and ENHT30 options) include an internally insulated NEMA 4/4X enclosure and thermostatically controlled forced air heater to maintain internal temperatures above freezing. Freeze protection options also include a connection point for DCS monitoring. IN the event of a power interruption or ENHT system failure when internal enclosure temperatures reach 40°F (4.4°C) or lower, the unit will notify a facilities control/monitoring system that the unit is unable to maintain freeze protection. Regardless of state of power to the unit, this warning notifies maintenance personnel and provides an opportunity to correct the condition before any damage occurs to the unit.

**Ground Fault**

Optional equipment protection ground fault senses leakage current to ground >1 Amp. In the event a fault is detected, this device will terminate the high voltage power supply to heating elements and disable operation of the unit. Fault status is communicated EXTERNALLY at the control interface. Personnel may also test the Ground Fault system and reset any nuisance trips without opening the cabinet.

**Continuous Flow Explosion Proof Purge System**

Keltech's EXP2CFPM option makes heaters compliant for classified areas; Class 1, Division 2, Groups A-D, T5. The Purge System requires a supply of clean instrument air or inert gas (provided by installer). This supply maintains a positive internal pressure and prevents the enclosure from filling with flammable gasses, dusts or vapors from the ambient environment. In addition to manufacturer certifications on the purge system, Keltech independently tests and 3rd party certifies all finished product with EXP2CFPM to comply with NFPA 496.

**ASME Heat Exchanger**

Keltech offers any product above 200,000 btu equivalent (58kw+) the option to be fitted with internal plumbing certified to Section IV of the ASME Boiler and Pressure Vessel Code - an industry exclusive certification. HLW certification represents not only an approved design and method of construction, but an intensively audited construction and documentation process that concludes with a pressure test witnessed by an ASME official. Upon completion of this process, each heat exchanger is issued a unique serial number for registration in the National Board. This information is supplied with the unit via Form "HLW-6 Manufacturer Data Report" for verification and reference by local inspection officials. The HLW options also include additional features such as dry-fire protection, stainless steel bulkheads and boiler drain valves, adding an extra level of quality and durability to Keltech heaters.

**Other Product Options**

For additional heater options and installation accessories, reference the appropriate section at the end of this document.

**Heater Code Compliance and Certifications**



Lead-Free

Products marked with the Lead-Free logo comply with the Safe Drinking Water Act (SDWA) requirements of a weighted average of less than 0.25% lead content on wetted surfaces of pipes, pipe fittings, plumbing fittings, and fixtures.



ETL listed to UL499

ETL listed to UL 50E

ETL listed to NFPA 496 (Requires EXP2CFPM Option)

cETL listed to CSA-C22.2 No. 88



Standard product selections contained within this document are third party CERTIFIED to NSF/ANSI 372 meeting the Lead-Free content requirement. Any product configured with custom options will be COMPLIANT with NSF/ANSI 372 meeting the Lead-Free content requirement.



ASME Certification available. Keltech units 58kW (200,000 btu) and higher are the only electric tankless water heaters National Board certified with the HLW stamp (Requires HLW Option).

**Safety Shower Code Compliance and Certifications**





**Electrical Specifications for the Heater (3-Phase)**



All internal fuses necessary for installation are included with the unit.

Capacity (kW)	Voltage	Maximum Amperage	Minimum AWG Wire Size
54	480	65	4
54	600	52	6
63	480	76	4
63	600	61	4
72	480	87	3
72	600	69	4
108	480	132	1
108	600	104	2
126	480	152	1/0
126	600	121	1
144	480	174	2/0
144	600	139	1/0

**S19361F Series Pressure Drop Advantage**

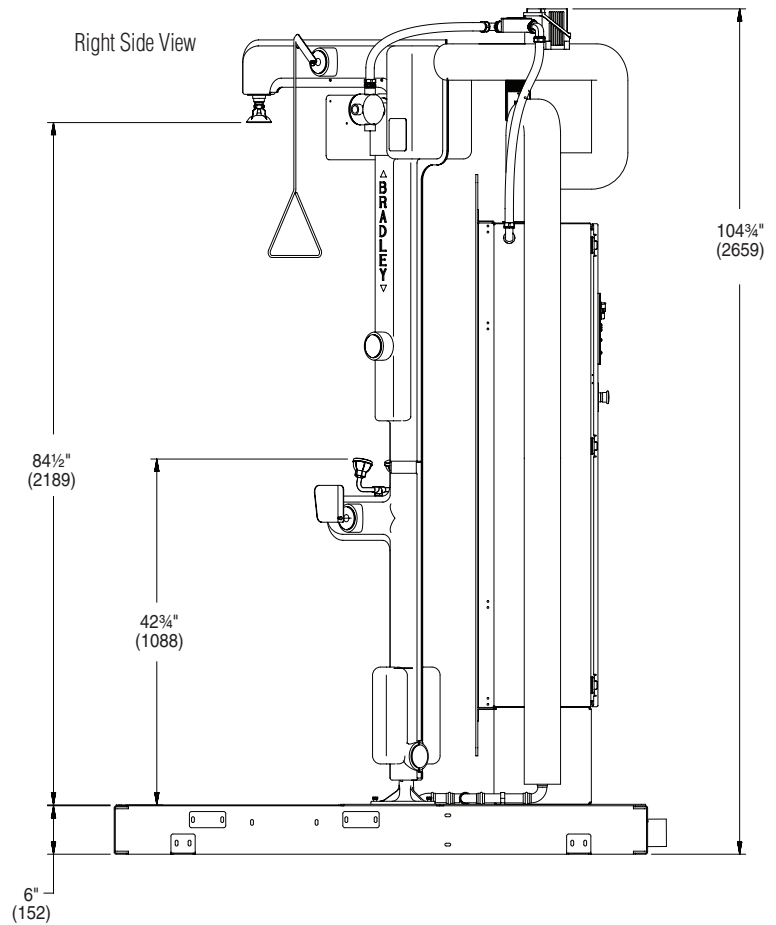
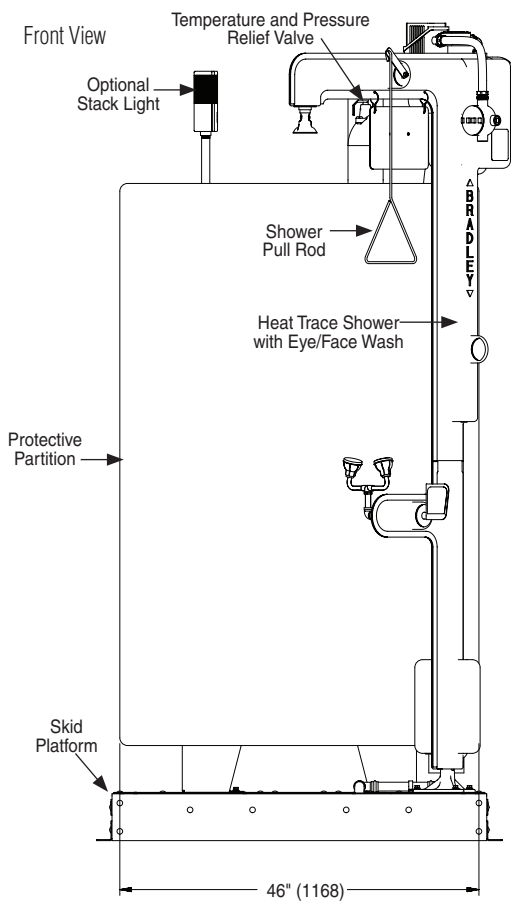
GPM	1.5	2	3	4	5	6	8	10	15	20	25	30	35	40	45	50
<b>54-63 kW PSI</b>	0.0	0.0	0.1	0.2	0.2	0.3	0.6	0.9	2.0	3.6	5.5	7.9	10.8	14.0	17.6	21.7
<b>72-144 kW PSI</b>	0.0	0.0	0.1	0.2	0.3	0.4	0.8	1.2	2.6	4.7	7.3	10.4	14.2	18.5	23.3	28.7
<b>L-MIN</b>	5.7	7.6	11.3	15.1	18.9	22.7	30.2	37.8	56.7	75.6	94.5	113.4	132.5	151.2	170.1	189
<b>54-63 kW BAR</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.4	0.5	0.7	1.0	1.2	1.5
<b>72-144 kW BAR</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.5	0.7	1.0	1.3	1.6	2.0



**S19361F Series - Dimensions**

(mm)

Select product options shown. Other options available.

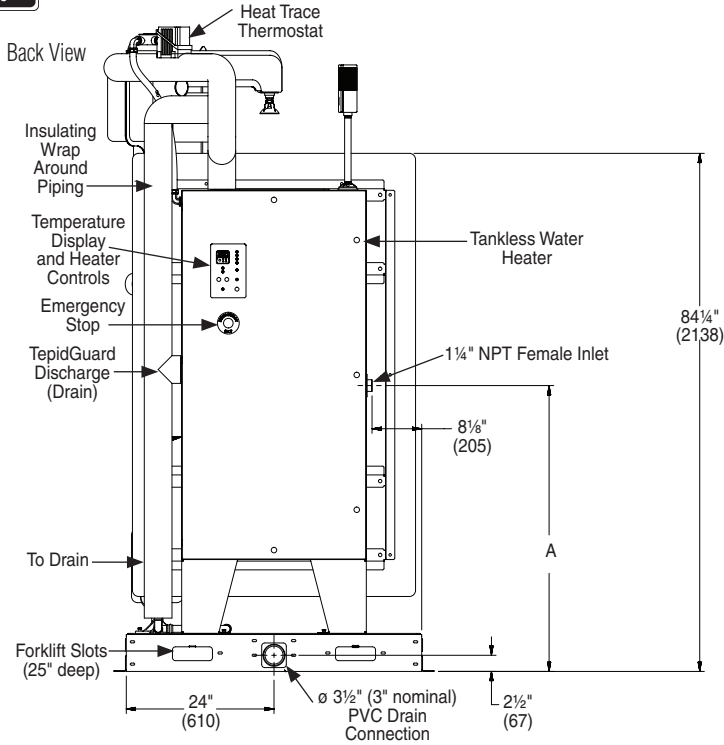




**S19361F Series - Dimensions**

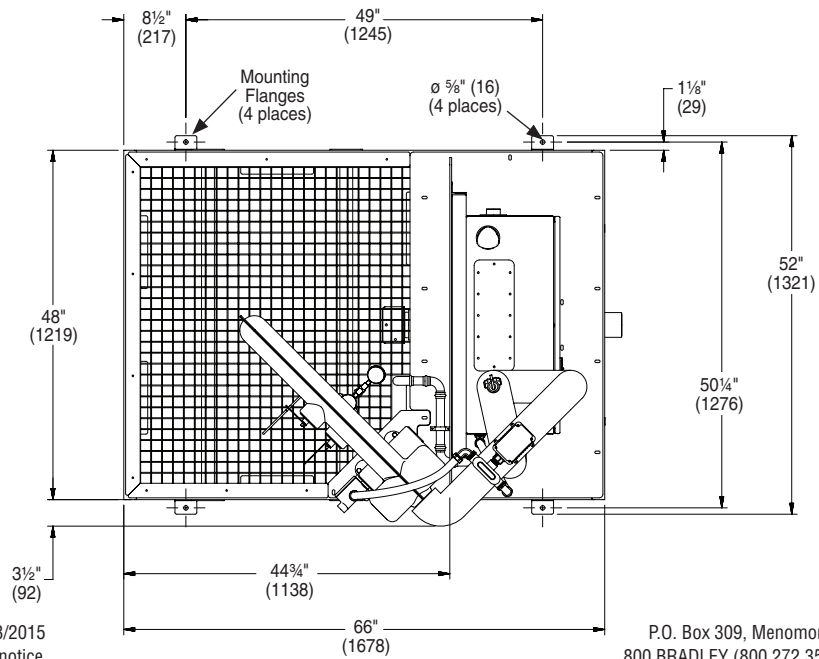
(mm)

Select product options shown. Other options available.



Dim. "A"	
<b>54kW</b>	34-1/2" (876)
<b>63kW</b>	46-1/2" (1180)
<b>72kW</b>	34-1/2" (876)
<b>108kW</b>	34-1/2" (876)
<b>126kW</b>	46-1/2" (1180)
<b>144kW</b>	46-1/2" (1180)

Top View





**Heater kW Calculator**

SNA-Series (kW): 54, 63, 72, 108, 126, 144

		Temperature Δ°F (°C)																											
		10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°	110°	115°	120°	125°	130°	135°	140°	
		(6°)	(8°)	(11°)	(14°)	(17°)	(19°)	(22°)	(25°)	(28°)	(31°)	(33°)	(36°)	(39°)	(42°)	(44°)	(47°)	(50°)	(53°)	(56°)	(58°)	(61°)	(64°)	(67°)	(69°)	(72°)	(75°)	(78°)	
Flow	GPM L-MIN	2 7.6	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	
	3 11.3	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	63	63	63	63
	4 15.1	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	63	63	72	72	72
	5 18.9	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
	6 22.7	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
	7 26.5	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
	8 30.2	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
	9 34.0	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
	10 37.8	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
	12 45.4	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
	15 56.7	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
	20 75.6	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
	25 94.5	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
	30 113.4	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
	35 132.3	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
	40 151.2	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
45 170.1	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	
50 189.0	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	

ASME Certification Available

*Sizing for the proper flow rate is important. If the temperature rise requirements exceed a single SNA model, consider using model SNA-SKID series units to supply tepid water to multiple emergency fixtures. Please contact your Keltech Representative for additional product information.*

**How to Size a Heater**

- Calculate Delta-T (ΔT).  
Set point temp - coldest ground water temp = ΔT      ΔT = \_\_\_\_\_
- Select kW required by using chart or formula below.  
Peak demand in GPM x ΔT x .1465 = kW      kW = \_\_\_\_\_
- Confirm voltage and phase available on site.      Voltage and Phase = \_\_\_\_\_
- Confirm minimum flow.      Minimum Flow = \_\_\_\_\_



<b>Heater Model</b>	
<input checked="" type="checkbox"/> <b>SNA</b>	SNA-Series - Safety Shower Heater with TepidGuard™
<input checked="" type="checkbox"/> <b>SKID2</b>	Safety Skid and 1-1/4" pre-piped assemblies mounted to SNA Series Heater
<b>Standard Heater Selections</b> (Must select one from each category)	
<b>Kilowatts</b>	
<input type="checkbox"/> <b>54</b> 54 kilowatts	<input type="checkbox"/> <b>108</b> 108 kilowatts
<input type="checkbox"/> <b>63</b> 63 kilowatts	<input type="checkbox"/> <b>126</b> 126 kilowatts
<input type="checkbox"/> <b>72</b> 72 kilowatts	<input type="checkbox"/> <b>144</b> 144 kilowatts
<b>AC Power Supply</b>	
<input checked="" type="checkbox"/> <b>3</b>	Three Phase
<b>Voltage</b>	
<input type="checkbox"/> <b>480</b>	480 Volts
<input type="checkbox"/> <b>600</b>	600 Volts
<b>System Controller</b>	
<input checked="" type="checkbox"/> <b>D</b>	Digital Control

Heaters listed above can be down rated in 380, 400 and 415 volts. Contact your local Keltech Representative for power ratio and effective kW.

<b>Product Options</b>	
<input type="checkbox"/> <b>AL3-SL</b>	Stack Light with Distributed Control System Link
<input type="checkbox"/> <b>EXP2CFPM</b>	Continuous Flow Explosion Proof Class1/Division2
<input type="checkbox"/> <b>ENHT30</b>	Freeze Protection to -30°F
<input type="checkbox"/> <b>FDS*</b>	Internal Fused Disconnect
<input type="checkbox"/> <b>GF</b>	Ground Fault Package
<input type="checkbox"/> <b>HLW</b>	ASME Heat Exchanger (63kW and Higher Only)
<input type="checkbox"/> <b>N4X</b>	NEMA-4X Enclosure - Stainless Steel

<b>Safety Shower Model</b>	
<input checked="" type="checkbox"/> <b>A</b>	S19-300/D2/T/1/A/EFW/N/N/N/N - Heat trace Unit. Class 1/Div 2, top supply, 120v, ABS showerhead, eye/face

<b>Heater Installation Accessories</b>	
<input type="checkbox"/> <b>BSPP</b>	Stainless steel thread adapter converts NPT to BSPP
<input type="checkbox"/> <b>PRS</b>	1" ASME Pressure relief valve, stainless steel
<input type="checkbox"/> <b>YS</b>	1-1/4" Y-Strainer
<input type="checkbox"/> <b>YSS</b>	1-1/4" Y-Strainer, stainless steel

\* Not available with SNA-723/600D

Keltech Tankless Water Heater Skid Systems are non-cancelable, non-refundable and non-returnable.

Verify ASME Code applicability for all installations 58kw (200,000 btu) and higher.

<b>Application Attributes (MANDATORY)</b>	
Coldest ground water temperature:	_____
Minimum Flow:	_____
Maximum Flow:	_____
Set point temperature 80°F/ 27°C:	_____

**Delta T Calculation**

Set Point Temperature - Coldest Incoming Water Temperature = Minimum Delta T for Application

**Model Number Configuration**

<b>S19361F-SNA-</b>	<b>3</b>	<b>/</b>	<b>D</b>	-	-	-	-	-	-
	kW		Volts						
<b>INSTL_ACCESSORY</b>	-		-						

Customer Signoff \_\_\_\_\_