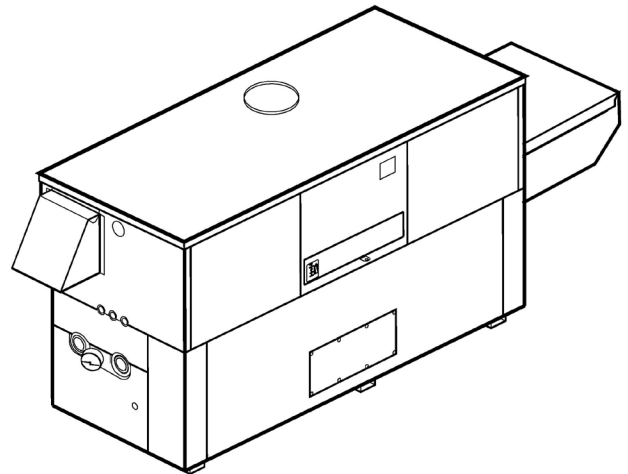




**Product Submittal for Hi Delta® - Type H Heating Boiler Models 302C-902C**

Date: \_\_\_\_\_ Job: \_\_\_\_\_ Location: \_\_\_\_\_  
Equipment Tags: \_\_\_\_\_ Engineer: \_\_\_\_\_ Contractor: \_\_\_\_\_  
Model: \_\_\_\_\_ Notes: \_\_\_\_\_  
Prepared by: \_\_\_\_\_ Indoor  Outdoor  Gas Type: Natural Gas  Propane

- 100% Factory Fire-Tested
- Thermal Efficiency: 84%
- VERSA IC® modulating controller with LCD display
- Maximum Setpoint: 220°F (104.4°C)
- Maximum Outlet Temperature: 230°F (110°C)
- Minimum Non-Condensing Inlet Temperature: 105°F (40.6°C)
- Thermal Shock Proof Heat Exchanger
- Cascade up to 8 heaters - No External Sequencer Required
- Cascade in Parallel or Sequential Modulation Modes
- Full Safety Diagnostics with Fault History
- PolyTuf Powder-Coated Cabinet
- No Combustible Floor Shield Required
- Fan-Assisted
- Limited 20-Year Thermal Shock Warranty
- Limited 10-Year Closed-System Heat Exchanger Warranty
- Patented Burner Security Blanket
- SCAQMD Rule 1146.2 Certified, Low NOx < 20 ppm
- Proudly Assembled in the USA



**Features and Options**

**Heat Exchanger**

- Headers
  - Glass-lined cast iron (standard)
  - A-1 Brass
- ASME H Stamped; 160 PSIG MAWP
- National board registered
- Fin Tubing
  - Copper (Standard)
  - A-3 Cupronickel
- ASME Steel tube sheet
- Silicone High-temp. O-rings
- ASME Pressure relief valve
  - 45 PSIG (models 302C & 402C only)
  - 60 PSIG (models 502C-902C)
  - \_\_\_\_\_ PSIG (optional)
- T&P Gauge
- Water connections
  - Left hand (standard)
  - A-6 Right hand

**Power**

- 120V, 60Hz, 1Ø Power supply
- 120/24V, 60Hz, Transformer

**Control**

- VERSA IC® with LCD display
- 100% Shut-off/lockout
- Hot surface ignition (HSI)
- Cascade up to 8 heaters
- Parallel and sequential modulation cascade modes
- Ignition module
  - 3-Try (Standard)
  - C-6 Single-try (optional)
- Remote flame sensor (optional)
- Water temperature sensors 10kΩ (2 mtd, 3 loose, 1 well)
- High limit, manual reset, fixed 240°F (115.6°C)
- On/off power switch
- Flow switch
- Blocked vent pressure switch
- Combustion air proving switch
- Programmable pump time delays
  - Boiler
  - Indirect storage tank
  - System

- Enable/Disable
- LCD Display; status, fault and diagnostics
- Cold water protection function
  - CWR Variable-speed pump
  - CWS Three-way valve
- Modbus RTU BMS Port (Up to 115K Baud, See Cat. 5000.73)
  - B-85 – BMS Gateway – BACnet MS/TP, BACnet IP, N2 Metasys or Modbus TCP
  - B-86 – BMS Gateway - LonWorks

**Burner**

- Manual gas shutoff valve(s)
- Combo valve(s)
- Firing mode 2-stage (H3)

**Gas Train**

- Fuel
  - Natural gas
  - Propane gas (minimum grade HD-5)
  - G-20 4" WC Nat Supply
- Design Certified ANSI Z21.13/CSA 4.9

**Construction**

- Indoor/outdoor construction
- Front controls enclosed
- CSA Low-Lead Certified (≤ .25% Lead)

**Venting**

- Flue collar
  - Top (standard)
  - D-14 Rear
- Vent termination cap
  - D-11 Vent termination, outdoor
  - D-15 Indoor, horizontal
  - D-18 Adapter, boiler vent
  - D-19 Adapter, vent termination (cat III)
  - D-20 Vent termination, vertical (Cat 1)
- Venting accessories
  - D-12 Barometric damper w/o thermost switch (single-acting)
  - D-23 Outdoor vent supports
  - D-37 Motorized combustion air damper
  - D-16 Air intake elbow
- Direct vent (TruSeal™)
  - D-17 Filter kit, intake air
  - D-21 Factory-installed
  - D-22 Field-installed

**Options**

- A-20 30 PSI Maximum working pressure
- B-32 Sensor, outdoor air
- B-65 Indirect tank Aquastat control
- E-5 Alarm with 4" Bell
- F-10 Low water cut-off, remote probe
- I-1 High limit control, auto reset, 240°F (115°C) max
- I-2 High limit, manual reset, 240°F (115°C) max
- I-5 High limit, manual reset, 200°F (93.3°C) max
- I-13 Adj auto reset, high limit 200°F (93.3°C) max
- M-1 Safety valve, motorized
- M-10 Safety valve, solenoid
- M-15 Safety valve, vent (requires M-1 or M-10)
- P\_ Pump: \_\_\_\_\_ HP, 120V, 1Ø, 60Hz
  - Cast Iron       Bronze
  - Mounted         Loose
  - Front             Rear
- S-1 Low gas pressure switch, manual
- S-2 High gas pressure switch, manual
- X-1 SureRack® kit
- X-2 SureRack add-on
- X-3 Restraint brackets
- Z-4 T&P relief valve
- Z-9 Thermometer

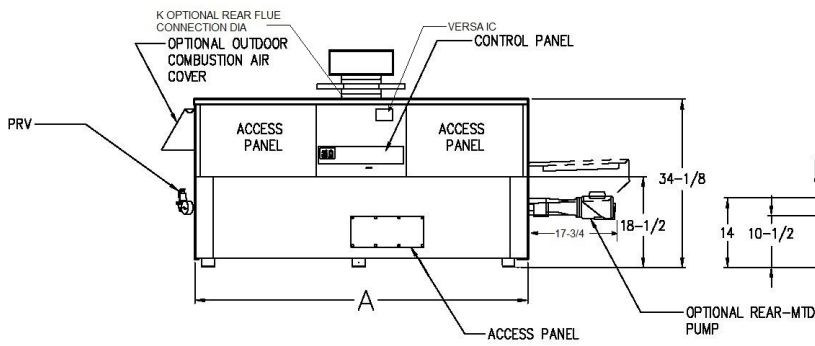
**Additional options or accessories**

\_\_\_\_\_

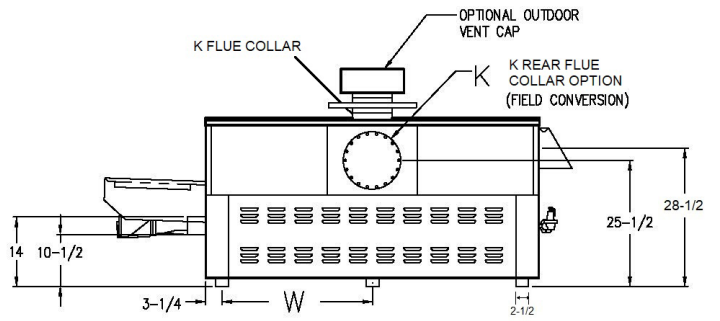
**Multi-boiler temperature controllers**

- TempTracker Mod+ Hybrid
  - B-36 2-4 Heaters
  - B-37 5-10 Heaters
  - B-38 11-16 Heaters
  - B-39\* EMS 4-20 mA remote setpoint interface module
  - B-62\* BACnet MS/TP Interface (\*requires B-36 to B-38)

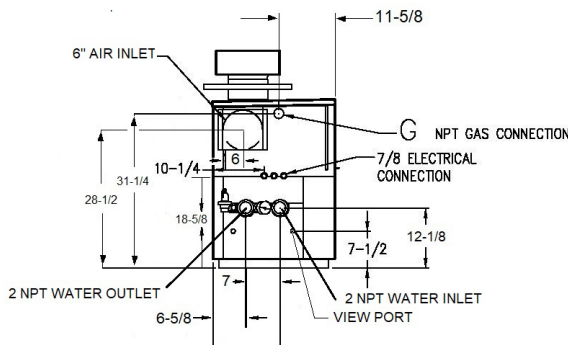
Job: \_\_\_\_\_



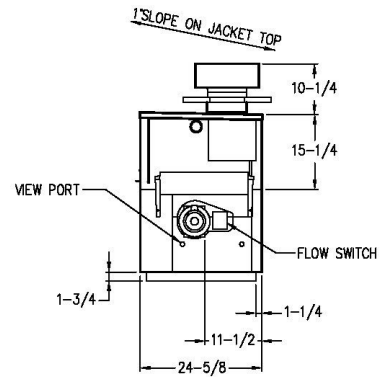
FRONT VIEW



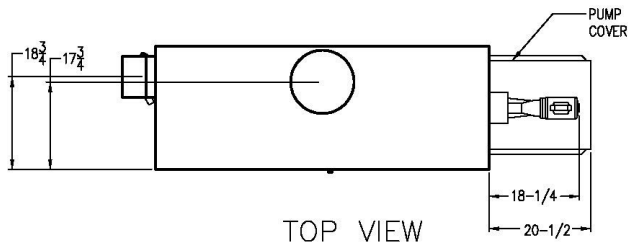
BACK VIEW



LEFT SIDE



RIGHT SIDE



TOP VIEW

SPECIFICATIONS								Approx. Shipping Wt. (Lbs.)
Model	MBTUH (Kw)		Dimensions In. (mm)					
	Input	Output	A Width	Gas Connection G NPT	Flue Collar K	W	Amp. Draw	
<input type="checkbox"/> 302C	300 (88)	252 (74)	36 (914)	3/4 (19)	5 (127)	14-3/4 (375)	6	14-3/4 (375)
<input type="checkbox"/> 402C	399 (117)	335 (98)	43 (1092)	3/4 (19)	6 (152)	18-1/2 (470)	6	18-1/2 (470)
<input type="checkbox"/> 502C	500 (147)	420 (123)	50 (1270)	1-1/4 (32)	6 (152)	22 (559)	6	22 (559)
<input type="checkbox"/> 652C	650 (190)	546 (160)	60-1/2 (1537)	1-1/4 (32)	8 (203)	27-1/4 (692)	6	27-1/4 (692)
<input type="checkbox"/> 752C	750 (220)	630 (185)	67-1/2 (1715)	1-1/4 (32)	8 (203)	30-3/4 (781)	6	30-3/4 (781)
<input type="checkbox"/> 902C	900 (264)	756 (222)	78 (1981)	1-1/4 (32)	8 (203)	36 (914)	7	36 (914)

RATES OF FLOW AND PRESSURE DROPS														
Model No.	10°FΔT		20°FΔT		30°FΔT		40°FΔT		Min. Flow			Max. Flow		
	GPM (L/min)	ΔP ft	GPM (L/min)	ΔP ft(m)	GPM (L/min)	ΔP ft	GPM (L/min)	ΔP (ft)	GPM (L/min)	ΔP (ft)	ΔT °F (°C)	GPM (L/min)	ΔP (ft)	ΔT °F (°C)
<input type="checkbox"/> 302C	50 (190)	3.3	25 (95)	0.8	N/A	N/A	N/A	N/A	20 (76)	0.5	25 (13.8)	90 (341)	9.8	6 (3.3)
<input type="checkbox"/> 402C	67 (254)	5.8	34 (129)	1.4	22 (83)	0.6	N/A	N/A	20 (76)	0.5	34 (18.8)	90 (341)	10	7 (3.8)
<input type="checkbox"/> 502C	84 (318)	9.1	42 (159)	2.3	28 (106)	1.1	21 (80)	0.6	21 (80)	0.6	40 (22.2)	90 (341)	10.4	9 (4.9)
<input type="checkbox"/> 652C	N/A	N/A	55 (208)	4.1	36 (136)	1.8	27 (102)	1.1	27 (102)	1.1	40 (22.2)	90 (341)	10.8	12 (6.6)
<input type="checkbox"/> 752C	N/A	N/A	63 (239)	5.7	42 (159)	2.6	32 (121)	1.5	32 (121)	1.5	40 (22.2)	90 (341)	11.3	14 (7.7)
<input type="checkbox"/> 902C	N/A	N/A	76 (288)	8.3	50 (190)	3.8	38 (144)	2.2	38 (144)	2.2	40 (22.2)	90 (341)	11.7	17 (9.4)

Basis is 20 GPM or 39°F ΔT for minimum flow, 90 GPM for maximum flow.

1. Rates shown are for natural or propane gas, and elevations up to 4,500 feet. De-rate above 4,500 ft.
2. Required natural gas pressure is 5.6" - 10.5" WC. Required propane gas pressure is 11 - 13" WC.