



Product Submittal for Hi Delta® FlexGas®- Type H Heating Boiler
Models 302CD-902CD

Date: _____ Job: _____ Location: _____

Equipment Tags: _____ Engineer: _____ Contractor: _____

Model: _____ Notes: _____

Prepared by: _____ Indoor Outdoor Gas Type: Natural Gas Propane

100% Factory fire-tested

Fast, economical natural-to-propane gas switchover

Thermal Efficiency: 84%

Versa IC® Controller with LCD Display

Maximum Setpoint: 220°F (104°C)

Maximum outlet temperature: 240°F (115.6°C)

Minimum non-condensing inlet temperature: 105°F (40.6°C)

Thermal shock proof heat exchanger

Limited 20-year thermal shock warranty

Limited 10-year heat exchanger warranty

Full safety diagnostics with fault history

PolyTuf Powder-coated cabinet

Fan-assisted

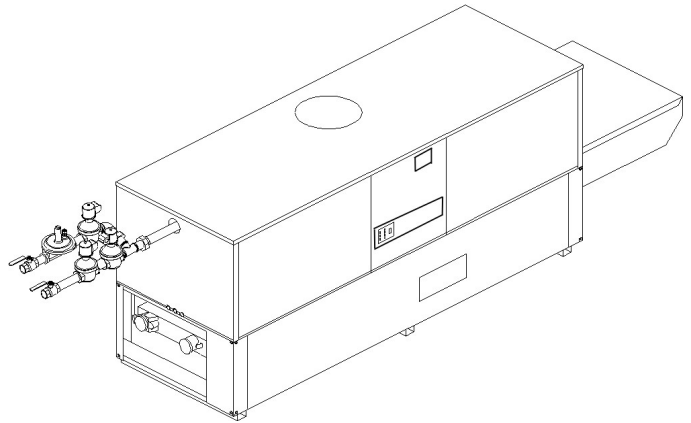
Patented burner security blanket

SCAQMD Rule 1146.2 certified, Low NOx < 20 ppm

Cascade up to 8 heaters - no external sequencer required

Cascade in parallel or sequential modulation modes

Proudly assembled in the USA



Job: _____

Features and Options

Heat Exchanger

Headers

- Glass-lined cast iron (standard)
- A-1 Bronze
- ASME H stamped; 160 PSIG MAWP
- National board registered
- Fin tubing
 - Copper (standard)
 - A-3 Cupronickel (optional)
- ASME Steel tube sheet
- Silicone high temp. O-rings
- ASME Pressure relief valve
 - 45 PSIG (standard on models 302CD-402CD)
 - 60 PSIG (standard on models 502CD-902CD)
 - A-20 30 PSIG MAWP
- T&P Gauge
- Water connections
 - Left handed (standard)
 - A-6 Right handed (optional)

Power

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

Control

- VERSA IC® Integrated control
- 100% Shut-off/lockout
- Hot surface ignition (HSI)
- Cascade up to 8 heaters
- Parallel and sequential modulation cascade modes
- Water temperature sensors 10kΩ (2 mtd, 3 loose, 1 well)
- Ignition module
 - 3-Try (standard)
 - C-6 Single-try
- Remote flame sensor
- High limit, manual reset, fixed 240°F (115°C)
- On/Off power switch
- Flow switch
- Blocked vent pressure switch
- Combustion air proving switch
- Programmable pump time delays
 - Heater
 - Recirculation
 - Enable/Disable
- LCD Display; status, fault and diagnostics

- Cold water protection function
 - CWR Variable-speed pump
 - CWS 3-Way valve
- Modbus RTU BMS Port (Up to 115K Baud)
 - B-85 – BMS Gateway – BACnet MS/TP, BACnet IP, N2 Metasys or Modbus TCP
 - B-86 – BMS Gateway – LonWorks

Gas Train

- Manual gas shutoff valve(s)
- Gas pressure regulator
- Safety shutoff valve
- Firing control valve
- H-3 Firing mode 2-Stage
- 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
- PolyTuf powder coat finish
- CSA low lead certified (≤ .25% Lead)

Venting

- Vent location
 - Top (standard)
 - D-14 Rear/top exhaust tee
- Vent termination cap
 - D-11 Vent termination, outdoor
 - D-15 Vent termination, sidewall (Cat III)
 - Indoor, vertical (by others)
- Combustion air
 - D-16 Air intake elbow (indoor only)
 - D-17 Inline air intake filter (used with Truseal™)
 - D-12 Barometric damper (without thermoswitch)
 - D-18 Boiler vent adapter (Cat III & IV)
 - D-19 Vent termination cap adapter (Cat III & IV)
 - D-20 Vent termination vertical (Cat I)
 - D-21 Truseal™ direct vent air intake (factory installed)
 - D-22 Truseal™ direct vent air intake (shipped loose)
 - D-23 Outdoor vent supports
 - D-37 Motorized combustion air damper

Options

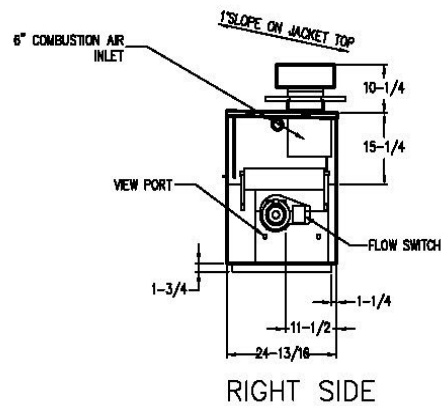
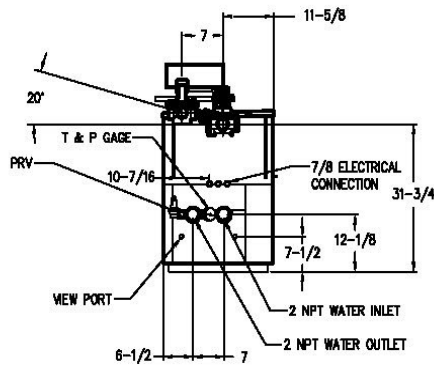
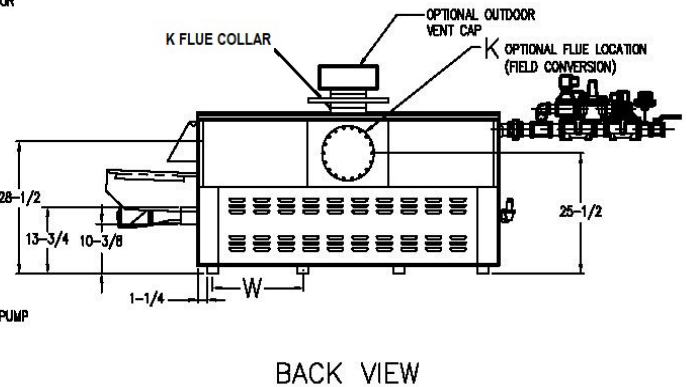
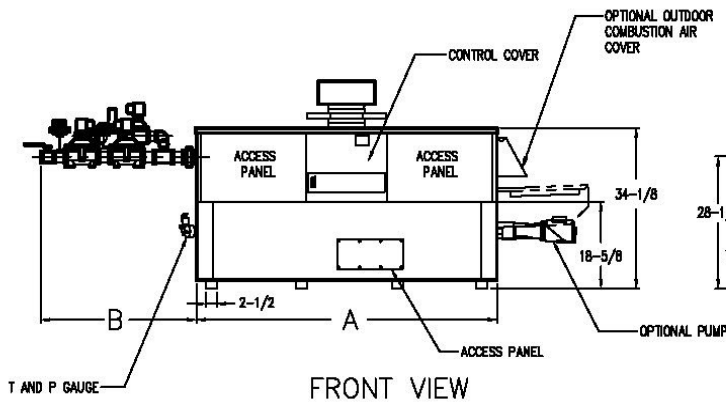
- B-32 Outdoor air sensor
- B-65 Indirect tank Aquastat control
- E-5 Alarm with 4" bell
 - Factory mounted
 - Shipped loose
- F-10 Low water cut-off, remote probe
 - Factory mounted
 - Shipped loose
- G-2 Vent valve with safety valve combo (models 502CD to 902CD only)
- I-1 Auto reset high limit 240°F (115.6°C) max
 - Factory mounted
 - Shipped loose
- I-2 Adj. Manual reset high limit 240° (115.6°C) max
 - Factory mounted
 - Shipped loose
- I-5 Adj. Manual reset high limit 200°F (93.3°C) max
 - Factory mounted
 - Shipped loose
- I-13 Adj. Auto reset high limit 200°F (93.3°C) max
 - Factory mounted
 - Shipped loose
- P_ Pump: _____ HP, 120V, 1Ø, 60Hz
 - Cast Iron
 - Bronze
 - Mounted
 - Loose
 - Front
 - Rear
- P_ Cold water start (See 2000.48)
- P_ Cold water run (See 2000.48)
- S-1 Low gas pressure switch, manual
- S-2 High gas pressure switch, manual
- X-1 SureRack® Kit
- X-2 SureRack above ground support
- X-3 SureRack restraint brackets
- Z-4 3/4" T&P relief valve
- Z-9 Thermometer

Additional Options or Accessories

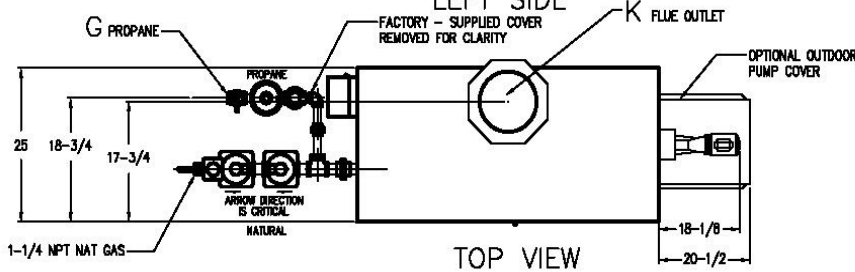
Multi-Boiler Temperature Controllers

- 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: _____



NOTE: Pump location varies based on model and application



SPECIFICATIONS									
Model	MBTUH (Kw)		Dimensions in (mm)						Approx. Shipping Wt. (Lbs.)
	Input	Output	A Width	B	Gas Connection, PRO G NPT	Flue Collar K	W	Amp. Draw*	
<input type="checkbox"/> 302CD	300 (88)	252 (74)	36 (914)	41 (1041)	3/4 (19)	5 (127)	18 (457)	6	405 (183.7)
<input type="checkbox"/> 402CD	399 (117)	335 (98)	43 (1092)	41 (1041)	3/4 (19)	6 (152)	18-1/2 (470)	6	470 (213.2)
<input type="checkbox"/> 502CD	500 (147)	420 (123)	50 (1270)	35-1/2 (902)	3/4 (19)	6 (152)	22 (559)	6	570 (258.5)
<input type="checkbox"/> 652CD	650 (190)	546 (160)	60-1/2 (1537)	30-1/2 (775)	3/4 (19)	8 (203)	27-1/4 (692)	6	615 (278.9)
<input type="checkbox"/> 752CD	750 (220)	630 (185)	67-1/2 (1715)	27-1/2 (699)	1-1/4 (32)	8 (203)	30-3/4 (781)	6	700 (317.5)
<input type="checkbox"/> 902CD	900 (264)	756 (222)	78 (1981)	34-1/2 (876)	1-1/4 (32)	8 (203)	36 (914)	7	765 (346.9)

*Without pump

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



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Job: _____

RATES OF FLOW AND PRESSURE DROPS														
Model	10°F ΔT		20°F ΔT		30°F ΔT*		40°F ΔT*		Minimum Flow*			Maximum Flow		
	GPM (L/min)	ΔP ft.	GPM (L/min)	ΔP ft.	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)
302CD	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)
402CD	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)
502CD	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)
652CD	N/A	N/A	55 (208)	4.1	36 (136)	1.8	27 (102)	1.1	28 (106)	1.1	40 (22.2)	90 (341)	10.8	12 (6.6)
752CD	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)
902CD	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 40°F ΔT for minimum flow, 90 GPM for maximum flow.

Note: Flow switch will not operate if flow is less than 20 GPM.