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ELU Duo Heating Boiler Submittal Sheet
Models: ELUD-285FBN / ELUD-301FBN / ELUD-399FBN

JOB NAME:

LOCATION:

ARCH. / ENGR.:

WHOLESALER:

MECH. CONTRACTOR:

MODEL NUMBER:

BTU/HR INPUT LOW - HIGH FIRE:

TYPE OF GAS:

NOTES:

Heat Exchanger

- Type 441 Stainless Steel Water Tube ASME “H” Stamped Construction rated at 50 PSI
- National Board listed
- Dual XTRATECH Heat Exchangers provide up to 400% greater opening area versus traditional water tube designs, providing very low pressure drop, a gasketless water seal, and a single circuit combustion heat exchanger design with superior heat transfer capabilities
- 50 PSI Relief Valve

Combustion Systems

- Dual heating modules provide up to 20 to 1 total turndown
- Up to 95% AFUE / Thermal Efficiency
- High-Grade Stainless-Steel Burner Design
- Spark Ignition with Ignition Transformer
- Shipped Ready for Natural Gas Operation – Propane Gas Conversion Kits are Optional
- Flame safety probe to monitor flame

Additional Features

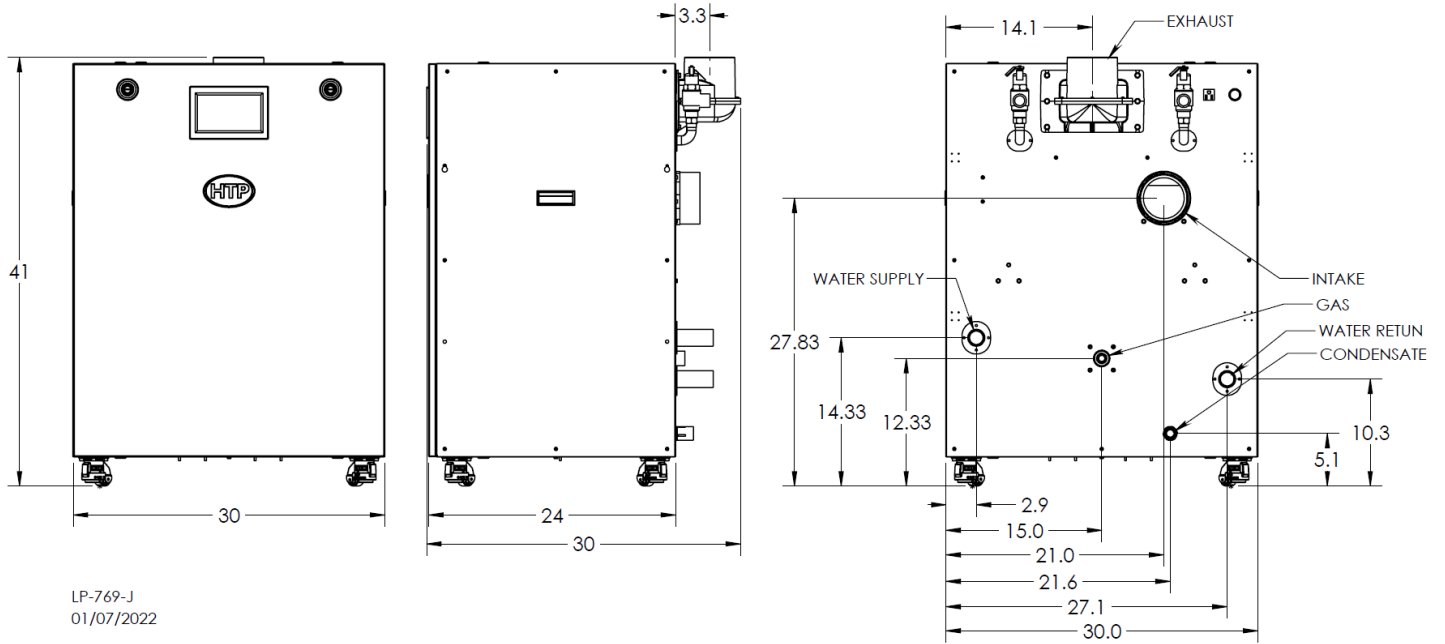
- Superior condensate collection system with overflow protection switch and clean out for easy maintenance
- Vents in PVC - CPVC – Polypropylene - Stainless Steel
- Intake and exhaust vents up to 150 feet in 4-inch pipe
- High resolution flow switch to ensure minimum flow rates through the heat exchanger
- 10 Year Limited Residential Warranty
- Integrated UL 353 certified CSD-1 compliant low water cut-off with manual reset
- Manual reset high temperature limit
- Caster wheels with adjustable leveling pads
- Automatic air vent installed on each heating module
- Additional Fittings for Relief Valve installation
- Outdoor Sensor
- Tridicator to monitor temperature and pressure
- Boilers have built-in outlet checks on the combustion blowers, allowing them to be vented with a single system
- System sensors provide highly sensitive temperature feedback to main control system, providing the exact temperature the system requires

Integrated Control System

- 928 Digital Operating Control
- Color Touchscreen Display allows user to monitor operation and parameters of dual heat exchangers on one screen
- Embedded Wi-Fi control standard on all models
- Fault indicators for System Pump – Boiler Pump – DHW Pump – System Fault – System Operation – Freeze Protection – Flame On – Fault Indication
- On/Off Switch
- Password protected
- Outdoor reset with indirect priority
- Multiple 120-volt pump outputs – boiler pump – system pump – DHW pump
- 0-10 VDC input from a building management system
- 0-10V output A offers variable speed pump support, which controls pump speed via an analog VDC signal
- 0-10V output B relates to one of the following values: boiler or cascade power, fan speed, alarm status, temperature based on outdoor reset curve, or flame
- Boiler output regulation (adjustment of boiler output down to 10% of rated capacity)
- Field wiring connection board / Cascade wiring CAT 3 or 5
- Dry contact for alarm output
- Cascade up to four (4) boilers with eight (8) heating modules for up to 80 to 1 turndown
- Highly accurate supply and return temperature sensors are surface mounted for trouble free operation

Optional

- System Sensor (7250P-324)
- 4” Stainless Steel Termination Vent Kit (V2000)
- 6” Stainless Steel Termination Vent Kit (V3000)
- Condensate Neutralizer (7450P-212)
- Alarm System (7350P-602) to monitor any failure
- PC Connection Cable w/ Software (7450P-330)
- ¾” 50PSI 950,000 BTU/Hr Relief Valve (7450P-184)
- MODBUS / BACnet (7350P-636)



LP-769-J
01/07/2022

Figure 1 – Boiler Dimensions – NOTE: All Dimensions Are Approximate

Model	Water Connection	Vent Size	Air Intake	Gas Connection	Condensate
285	1-1/2" COPPER SWT	4"	4"	3/4" NPT	3/4"
301					
399					

Table 1 – Boiler Adapter Dimensions

Model		ELUD-285FBN	ELUD-301FBN	ELUD-399FBN
Installation		Indoor, Floor Standing, Fully Condensing		
Minimum / Maximum Input (Btu/Hr) ¹		19,900 / 285,000	19,900 / 301,000	19,900 / 399,000
DOE AFUE / Thermal Efficiency (TE) ²		95% AFUE	95% TE	95% TE
Heating Capacity (HC) / Gross Output (GO) (MBH) ^{1,2}		265 HC	286 GO	379 GO
Net AHRI Rating, Water (MBH) ²		230	N/A	N/A
Flue System		Category IV, Sealed Combustion Direct Vent, Power Vent		
Min - Max Exhaust Vent Run ³		4" (10 - 150 feet)		
Min - Max Intake Air Pipe Run ³		4" (0 - 150 feet)		
Approved Exhaust Vent Materials ³		PVC, CPVC, PP, Stainless Steel		
Packaging Dimensions (in Inches)	W	35"		
	H	47.5"		
	D	35"		
Shipping Weight (lbs)		355.5		
Gas Supply Pressure		3.5" to 14" WC (NG or LP)		
Manifold Pressure	Min / Max	NG/LP: -0.08" WC		
Power Supply		120V 60 Hz, 20A		
Customer Connection Board Fuse Amperage Ratings		2 Amps		
General Operating Conditions		Ambient Temperature Range: 33 – 104 ^o F (0.6 – 40 ^o C) Product Approvals and Requirements: ANSI Z21.13 / CSA 4.9		
Ignition System		Direct Electronic Spark Ignition / Flame Rectification		
Burner System		Premixed Fuel Modulation / Stainless Steel Burner		
Gas Valve System		Air Ratio Valve		
Dimensions (in Inches)	W	30"		
	H	41"		
	D	24"		
Boiler Water Content (Gallons)		5.4		
Boiler Setpoint Temperature Range		50 – 190 ^o F / 32 - 190 ^o F (with Outdoor Reset Curve)		
DHW Indirect Setpoint Temperature Range		70 – 185 ^o F		
Water Pressure (PSI)	Heat Exchanger MAWP	55		
	Pressure Relief Valve	50		
Control Panel		7" Full Color Touch Screen		
Main Controller		928 SIT Control		
Connection Sizes	Supply / Return	1-1/2" Copper Male Sweat		
	Gas Inlet	3/4" NPT		
Materials	Cabinet	Painted and Galvanized Steel		
	Heat Exchanger	Type 441 Stainless Steel Water Tube		
Safety Devices		Flame Rectifier Probe, Dual Water Supply Temperature Sensor / High Limit (210°F), Freeze Protection, Condensate Trap, Blocked Condensate Pressure Switch, Flue Temperature High Limit Sensor (210°F), Blocked Vent Pressure Switch, Internal UL 353 Low Water Cut-Off, High Resolution Flow Switch, Pressure Relief Valve		

Table 2 – Technical Specifications - NOTE: HTP reserves the right to make product changes or updates without notice and will not be held liable for typographical errors in literature. NOTES:

¹Listed Input and Output Ratings are at minimum vent lengths at an altitude of 0 - 2000 ft. Numbers will be lower with longer venting and/or altitudes greater than 2000 ft.

²Ratings based on standard test procedures prescribed by the US Department of Energy.

³The ELU Duo requires a special venting system. Use only the vent materials and methods detailed in these installation instructions.