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Inspections Division
Date: 03/14/18

Crossover Wall Mounted Hybrid Tankless Water Heater Submittal Sheet

JOB NAME: Mainely Burger

LOCATION: 108 Exchange Street

ARCH. / ENGR.:

WHOLESALER: FW Webb

MECH. CONTRACTOR: Spark Applied Efficiency

MODEL NUMBER: RGH 199

BTU/HR INPUT LOW - HIGH FIRE: 199,000

TYPE OF GAS: Natural Gas

NOTES:

Heat Exchanger

- **316 Stainless Steel Heat Exchanger**
- **Fire Tube Heat Exchanger, gasketless, vertical tube combustion heat exchanger design – provides maintenance-free operation on internal buildup of material inside the combustion chamber**
- **Fire Tube Heat Exchanger design provides high efficiency and low pressure drop in a very compact size**
- **High Fin Aluminum inner insert provides superior heat transfer to transmit energy more efficiently**

Combustion System

- **Modulating burner with up to 10 to 1 turndown**
- **150 Model Operates from 15,000 – 150,000 BTU/Hr**
- **199 Model Operates from 19,900 – 199,000 BTU/Hr**
- **150 Model Uniform Energy Factor (UEF) of up to .94**
- **199 Model UEF of up to .92**
- **High Grade Ceramic Fiber Burner Design**
- **Spark Ignition**
- **Models Available for Natural or LP Gas**
- **Optical Flame monitoring**

Integrated Control System

- **Digital operating control and display to program and monitor water heater operation**
- **Freeze protection**
- **Water Leak detection**
- **Three Recirculation Pump Modes - Smart Auto Learn, Pulse Mode, and Time Sequence**
- **Air Handler contacts for central heating circuit**
- **Two 120 Volt outputs – Central Heating Pump and Solenoid Valve**
- **Fault codes to assist in trouble shooting faults**
- **System Parameter monitoring**
- **Anti-scaling function to stabilize and eliminate heat exchanger hot spots with internal pump activation**

Additional Features

- **Maximum Outlet Temperature of 140°F**
- **Superior condensate collection system with overflow protection switch**
- **Vents in Plastic PVC – CPVC – ULC S636 flexible polypropylene vent liner (chimney lining only) - Stainless Steel**
- **Vents up to 100 combined equivalent feet in 3 inch venting, and 50 combined equivalent feet in 2 inch venting**
- **Twelve (12) Year Residential Limited Warranty**
- **Five (5) Year Commercial Limited Warranty**
- **Manual reset high temperature limit**
- **Included wall mount bracket**
- **Low NOx emissions – SCAQMD Certified**
- **NSF 372 Lead Free Compliant, as required by the Safe Drinking Water Act, Section 1417**

Optional Components

- ☐ **150 PSI Pressure Relief Valve (7850P-103)**
- ☐ **3/4" Tankless DHW Isolation Valves (7850P-090)**
- ☐ **2" Vent Screens (7850P-088)**
- ☐ **3" Polypro Flex Vent Kit (8400P-001)**
- ☐ **3" (80mm) PP Concentric Vent Kit (KGAVT0601CVT)**
- ☐ **3" Stainless Steel Termination Vent Kit (V1000)**
- ☐ **4" Stainless Steel Termination Vent Kit (V2000)**
- ☐ **Condensate Neutralizer (7450P-212)**

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Figure 1 – 150 Model Specifications and Dimensions

Figure 2 – 199 Model Specifications and Dimensions

	DESCRIPTION	DIAMETER
A	Air Intake Adapter	3”
B	Exhaust Outlet Adapter	3”
C	Gas Inlet Adapter	¾”
D	Condensate Adapter	½”
E	DHW Outlet Adapter	¾”
F	DHW Inlet Adapter	¾”
G	Recirculation Return Adapter	¾”

Table 1 – Adapter Specifications

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MODEL		150	199
Installation		Indoor, Wall Hung, Fully Condensing	
Minimum / Maximum Input (Btu/Hr)		15,000 / 150,000	19,900 / 199,000
Hot Water Capacity	35°F Rise	8.2 GPM	11 GPM
	45°F Rise	6.4 GPM	8.5 GPM
	77°F Rise	3.7 GPM	5 GPM
Flue System		Sealed Combustion Direct Vent, Power Vent	
Vent Run		2" (50 feet), 3" (100 feet), Schedule 40 PVC, CPVC, PP	
Weight (lbs)		90	100
Orifice Size	NG	7.2 mm (0.284")	8.3 mm (0.327")
	LP	5.5 mm (0.217")	6.2 mm (0.240")
Gas Supply Pressure	NG	3.5" to 14" WC	
	LP	3.5" to 14" WC	
Manifold Pressure	Min (3")	NG/LP: 0.006	NG: 0.003" / LP: 0.004" WC
	Max (3")	NG/LP: -0.13	NG: -0.19" / LP: -0.20" WC
Power Supply	Main Supply	120V 60 Hz, 6A	
	Maximum Power Consumption	72W (With Pump 100W)	
General Operating Conditions		Temperature Ambient Temperature Range: 33 – 104°F (0.6 – 40°C) Operating Relative Humidity: Up to 90% at 104°F (40°C) Shipping and Storage Temperature Range: -4 – 176°F (-20 – 80°C) Input Ratings Power Supply and Communication (CN4): 14V DC Product Approvals and Requirements EMC: 89/336/EEC LVD: 73/23/EEC	
Ignition System		Direct Electronic Ignition / Automatic Flame Sensing	
Burner System		Single Orifice Premixed Fuel Modulation / Ceramic Fiber Burner	
Gas Valve System		Air Ratio Valve	
Minimum Flow Rate		0.5 GPM (zero activation with internal recirculation mode active)	
Internal Pipe Material		Copper	
Dimensions		W 17.5" – H 30" – D 15.5"	W 19.7" – H 32" – D 16.3"
Heat Exchanger Water Capacity (DHW)		2.3 Gallons	3.5 Gallons
Control Panel / Main Controller		P-950H / NGTH-10C	
Water Pressure		Min 12 – Max 150 PSI	
DHW Setpoint Temperature Range		100°F – 140°F (35°C – 60°C)	
Connection Sizes	Cold Water Inlet / Hot Water Outlet / Recirculation Inlet	¾" NPT	
	Gas Inlet	¾" NPT	
Materials	Cabinet	Cold Rolled Carbon Steel	
	Heat Exchanger	316L Stainless Steel	
Safety Devices		Optical Flame Sensor, Burner Plate High Limit (392°F), Water Temperature High Limit Sensor (203°F), Water Leak Detection, Freeze Protection (Three Stage Operation - Activates at 46°F – See Freeze Protection in Installer Menu for Details), Exhaust Temperature High Limit Sensor (190°F), Blocked Flue and Intake Sensor, Condensate Switch, Built-In Low Water Cut-Off Probe	

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.