FIT Commercial Condensing WATER HEATER

399 - 999 MBH

HLW

Intertek

Intertek

ENERGY STAR

AHRI CERTIFIED® www.ahridirectory.org

98% EFFICIENT

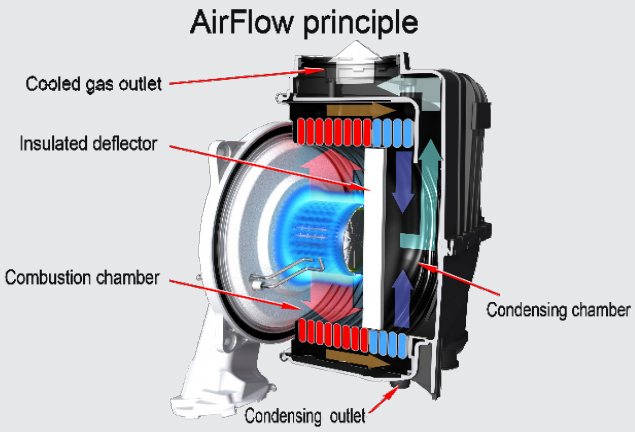
BRYAN® BOILERS™

BIG OUTPUT DESIGNED TO FIT

The BFIT Condensing Water Heater Series (BFITW) from Bryan Boilers delivers efficiency with unprecedented space saving innovation in a service friendly design. Now available in 399, 500, 650, 800, and 999 MBH input levels, all models are 98% Thermal Efficiency. The 316L stainless steel heat exchanger features cavernous internal circuits with commercially sized tubes that minimize pressure drop and proactively reduce pump sizing, saving on install and electrical operations.

WATER HEATER ADVANCEMENT

Commercial grade tubes, nearly twice the size of competitive models, promote self-cleaning and flushing of particulates.



SERVICEABLE

Leave it to a century old boiler company to make maintenance and service part of a water heater design. Why wasn't this done before? Gas burns clean, but fireside contaminants can form on tubes diminishing heat transfer and efficiency. All BFITW models provide complete access to burner and combustion chamber. Service, inspections, and cleanings can be completed with ease, ensuring new, out of the box efficiency and performance for the life of the product.

10:1 TURNDOWN

Reliability is our cornerstone and that means answering each and every call for more domestic hot water. We take additional measures, so you don't have any missteps. Extensive 50+ mile per hour wind tests at our vent outlet ensure the reliability of this Thermal Solutions product.

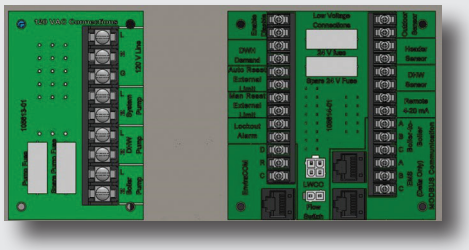
VENTING

Cat II or IV venting for either individual or common (engineered) venting systems. Capable of up to 200 equivalent feet of vent in stainless steel, polypropylene or CPVC.

SPACE SAVING INNOVATION

We moved the burner from the traditional bottom to the side and reduced required install height by 46%. Models 400-1000L fit through standard doorways and are compact for easy maneuvering. Designed to fit, BFITW 400-1000L models can be stacked on their respective sizes with mounting brackets only (no racking needed). Outdoor models can be stacked or set up with zero clearance on one side.

SIMPLIFIED WIRING AND SERVICEABILITY



Low and high voltage fused printed circuit boards (PCB) simplifies wiring, enhances serviceability & troubleshooting with easy to read labeling, and provides electrical protection (spare fuses located on PCB for quick replacement). Other connections include: 120/1/60 voltage and pumps (system & domestic hot water); alarm; auto & manual reset external limits; enable/disable; DHW demand; 4-20mA remote; sensors (outdoor, remote and DHW); EnviraCOM thermostat; low water cutoff; and flow switch.

ADVANCED CONTROL PLATFORM – CONCERT™ CONTROL

Intuitive Icon Navigation

"Touch" and move through our control menus effortlessly. Whether it be commissioning with the "Quick Setup" menu, pinpointing fault codes with corrective actions in seconds or seamlessly connecting to an EMS. Extensive data archives with graphical displays are available to evaluate performance and make value-added adjustments to maximize heater efficiency.

Self-Guiding Diagnostics

Troubleshooting issues has never been this easy! The industry-leading fault identification and correction feature allows the service technician to quickly drill down on the issue, with cause and corrective measures.

Unmatched Archives

With the largest collection of stored operational data (4 months), no stone is left unturned when it comes to evaluating a heater's performance and pinpointing adjustment for improvement. The heater's onboard energy management system is a true step above all others!

USB Data Sharing

Make room on the tool belt for a flash drive as the USB data sharing port has become another important device to have in commissioning (upload/download settings from one boiler to the next), servicing (download data and email file to factory for assistance) and analyzing operation (historical info can be downloaded & saved in .CRV formatted files).

Peer-To-Peer Sequencing

Unique control logic uses both temperature and firing rate of the connected heaters to sequence up to eight units in unison to optimize system efficiency. Included dual RJ45 connections make peer-to-peer and/or simultaneous EMS communications (ModBus Standard / Other Protocols Optional) a snap without the need of a separate splitter.

TANKS & PACKAGING

BFIT Water Heaters are commonly paired with hot water storage tanks. Tanks are available to suit all applications: vertical or horizontal orientation; glass, epoxy or cement-lined; metal jacketing with insulation, sprayed foam insulation or bare exterior; and in various shell materials (i.e. stainless steel). Shipped separately for field installation or skid mounted as a factory package.

BFIT COMMERCIAL CONDENSING WATER HEATER

CONCERT

BFITW STANDARD EQUIPMENT

PRESSURE VESSEL DESIGN
Watertube stainless steel heat exchanger
ASME Section IV-certified, "HLW" Stamp
MAWP 160 PSIG & design temp 210°F
Five Year limited heat exchanger warranty
Ten year limited pressure vessel warranty
One year parts and burner warranty
CSD-1 Compliant

COMBUSTION DESIGN
Stainless steel pre-mix burner
Low NOx emissions (<10 ppm);
Full modulation, 10:1 turndown
Natural gas or LP gas
4" wc to 14" wc inlet gas pressure
8" wc LP min
Direct spark ignition system
High/low gas pressure switches w/ manual reset
Combustion air switch
Modulating gas valve
Variable speed combustion blower
Air proving switch
Blocked vent switch

VENTING
CPVC, polypropylene or stainless steel materials acceptable
Air intake – sealed combustion or room air
Category II or IV venting
Individual or common (engineered) venting systems

EQUIPMENT
Concert™ Control
High limit w/ manual reset safety temperature control
Low water cutoff w/ manual reset
Water flow switch
Outlet, inlet & DHW temperature sensors
Flue gas temperature sensor
Condensate trap
Blocked condensate switch
Pressure & temperature gauge
ASME safety temperature & pressure relief valve
Water circulation pump

ELECTRICAL DESIGN
High voltage printed circuit board (PCB)
BFITW400-1000L: 120 VAC / 60 Hz / 1PH power supply
120 VAC manual reset external limit contacts
Three sets of pump contacts
PCB fused connections

Printed Circuit Board (PCB)
24 VAC enable/disable sensor contacts
24 to 120 VAC proving switch or auto reset external limit contacts
24 to 120 VAC lockout alarm contacts
24 VAC EnviraCom thermostat contacts
DHW demand contacts
Remote header sensor contacts
DHW tank sensor contacts
Peer-to-peer communication contacts
EMS interface contacts

CONCERT™ CONTROL

Dashboard - color touch screen display, 4.3"
- Intuitive icon navigation
- "Quick" setup menus
- "Real time" BTU/H display*

Temperature demand input
- Time of day setback capability (EnviraCom thermostat must be installed)

Three (3) pump control
- DHW pump with On/Off or variable speed control
- System pump
- Alternative control to isolation valve, combustion air damper, or standby loss damper
- Pump overrun for heat dissipation
- Pump exercise
- Pump rotor seizing protection

Peer-to-peer communications
- Multiple size unit sequencing; up to 8 units
- Lead unit automatic rotation

Energy management system (EMS) interface
- Firing rate and water temperature based algorithms for multiple units; loss of EMS signal defaults to local settings*
- 4-20mAdc input/output
- ModBus Input/Output
- Simultaneous interface with peer-to-peer

USB data port transfer*
- Upload settings between units
- Download parameters for troubleshooting
- Import data into .CRV formatted files for performance analysis

Energy efficiency enhancer
- Anti-cycling technology
- Multiple unit base load common rate
- Boost temperature & time
- Ramp delay
- Over-temperature safeguarding

Self-guiding diagnostics
- Identifies fault
- Describes possible problems
- Provides corrective actions

Time/Date stamp on alarms and lockouts*

Unmatched archives
- Historical trends - collects up to 4 months of data
- Event history - up to 3,000 alarms, lockouts, and cycle & run times
- Alarm - limit string faults, holds, lockouts & others
- Cycle & run time - water heaters & pumps
- Resettable

Domestic hot water priority
- DHW tank piped with priority in the loop
- DHW tank piped as a zone in the system with the pumps controlled by the Concert Control

Other features
- Factory default settings*
- Three level password security
- Frost protection
- Contractor contacts (up to 3)
- Low water flow control & indication
- Proportion integral derivative (PID) parameters for DWH, sequencer and fan
- Built-in brown-out protection

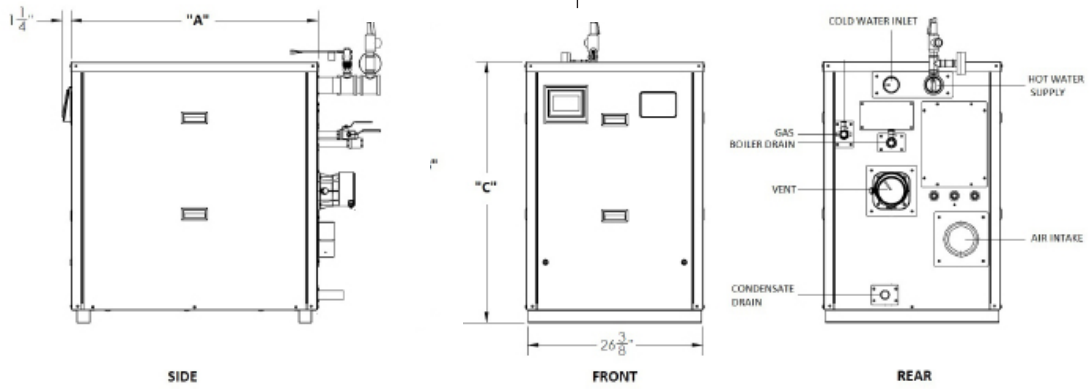
* Unique to Concert™ Control

BFITW OPTIONAL EQUIPMENT

Remote 4-20mA contacts
- External high limit with manual reset safety switch
- Alarm buzzer with silencing switch
- Extended Warranty

CONCERT CONTROL OPTIONS

- Communications gateway - BACnet, LonWorks, Metasys N2 or ModBus TCP/IP compatible
- 0-10v signal converter
- Header sensor, direct immersion
- Header sensor, well mounted (with well)



SPECIFICATIONS, DIMENSIONS, & RATINGS

Models	Input		Gross Output (MBH)	DHW Recovery (GPH)*	"A" Length (Inches)	Width (Inches)	"C" Height (Inches)	Gas/LP Conn. (Inches)	Outlet Conn FNPT (Inches)	Inlet Conn MNPT (Inches)	Air Intake/ Vent Size (Inches)	Approx Shipping Weight (Lbs)
	Min (MBH)	Max (MBH)										
BFITW-400	40	399	392	475	37-3/4	26-3/8	38-1/2	3/4 NPT	2	2	4	460
BFITW-500	50	500	490	594	37-3/4	26-3/8	38-1/2	3/4 NPT	2	2	4	470
BFITW-650	65	650	637	772	53-7/8	26-3/8	38-1/2	1 NPT	2	2	6	530
BFITW-800	80	800	784	950	53-7/8	26-3/8	38-1/2	1 NPT	2	2	6	560
BFITW-1000L	99	999	979	1188	53-7/8	26-3/8	38-1/2	1 NPT	2	2	6	600

* Based on 40° F to 140° F temperature rise
[1] Ratings shown are for installation at sea level and elevations up to 2000 ft. at minimum vent length. For high altitude installations above 2000 ft. consult factory.

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