



Better Boilers

SFT-199 Water Heater

(Natural Gas or Propane)



WARNING: If the information in this manual is not followed exactly, a fire or explosion may result causing property damage, personal injury, or loss of life.

Do not store or use gasoline or other flammable vapours and liquids or other combustible materials in the vicinity of this or any other appliance.

WHAT TO DO IF YOU SMELL GAS:

- Do not try to light any appliance.
- Do not touch any electrical switch; do not use any phone in your building.
- Immediately call your gas supplier from a nearby phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

Installation and service must be performed by a qualified installer, service agency or the gas supplier.

Ce manuel est également disponible en français sur notre site Web, au www.ibcboiler.com/TIPortal.



⚠ WARNING

If the information in this manual is not followed exactly, a fire or explosion may result causing property damage, personal injury, or loss of life.

SAFETY CONSIDERATIONS

Installation, start-up and servicing of IBC units must be done with due care and attention, and should only be performed by competent, qualified, licensed and trained heating technicians. Failure to read and comply with all instructions and applicable National and local codes may result in hazardous conditions that could result in property damage and injury to occupants which in extreme cases might result in death.

HAZARDS & PRECAUTIONS**⚠ DANGER**

Points out an immediately hazardous situation which must be avoided in order to prevent serious injury or death.

⚠ WARNING

Points out a potentially hazardous situation which must be avoided to prevent serious injury or death.

⚠ CAUTION

Points out a potentially hazardous situation which must be avoided to prevent possible moderate injury and/or property damage

⚠ NOTE

Points out installation, maintenance and operation details that will result in enhanced efficiency, longevity and proper operation of your unit.

⚠ BEST PRACTICES

Points out recommendations for better installation.

Supplied with the unit - The SFT unit is shipped with an accessory parts kit consisting of the following items:

- 1 x Wall Mounting Bracket, 4 x 1 $\frac{3}{4}$ " bolts - IBC part P-837
- 1 x Condensate trap assembly
- 1 x SFT Installation & Operating Instructions
- 1 x Propane Conversion Kit: P-802

SPECIFICATIONS

SPECIFICATION	SFT 199
DHW - CSA Input (Natural Gas or Propane) - MBH	28.5 - 199
DHW - CSA Input (Natural Gas or Propane) - KW	8.3 - 58.3
U.E.F	0.91
Min Gas Pressure (Nat. Gas or Propane) – inch w.c.	5
Max Gas Pressure (Nat. Gas or Propane) – inch w.c.	14
Power (120Vac/60Hz) - Watts @ full fire	120
Weight (empty) – lbs/Kg	68 / 31
Pressure Vessel water content – USG/Liters	0.19 / 0.72
Max Operating Pressure – Domestic Hot Water Coil - psig	150
Approved installation altitude - ASL	10,000 ft
Ambient Temperature – Low (°F/°C)	32 / 0
Ambient Temperature – High (°F/°C)	122 / 50
Max relative humidity (non-condensing)	90%
Min water Temperature – Domestic Hot Water (°F/°C)	34 / 1
Max water Temperature – Domestic Hot Water (°F/°C)	149 / 65
Min flow rate to activate DHW heating - USgpm	0.5
Max flow rate DHW heating - USgpm	7.0
Max equivalent vent length 3" (each side)	120'
Max equivalent vent length 2" (each side)	35'

* Natural Gas units require a Propane conversion kit included with unit (see page #3-2, Table 11). Propane (LP) units require a Natural Gas conversion kit (see page #3-2, Table 11) to be ordered separately if converting a Propane unit to Natural Gas.



DANGER



- Water temperature over 125°F (52°C) can cause severe burns instantly or death from scalds.
- Children, disabled, and elderly are at highest risk of being scalded.
- See instruction manual before setting temperature at water heater.
- Feel water before bathing or showering.
- Temperature limiting valves are available, see manual.

WATER HEATER INSTALLATION GUIDELINES

WARNING

- This unit must be installed in accordance with local codes, if any; if not follow the National Fuel Gas Code, ANSI Z223.1/NFPA 54, or the Natural Gas and Propane Installation Code, CAN/CSA B149.1, as applicable.
- Failure to correctly install and operate this appliance can result in severe personal injury or death.
- The unit shall have a pressure relief valve installed within 6" [152mm] of the DHW HOT outlet connection.
Refer to the unit's User Manual before operating the relief valve.
- The unit requires a pressure relief valve identified with the ASME V or HV symbol and set to relieve at or below 150psi of domestic water pressure and a minimum relieving capacity of 199,000 Btu/hr with 3/4" NPT threads. For safe operation of the unit, the relief valve must not be removed from its designated point of installation or plugged.
- Read and follow warnings and instructions.

CAUTION

- Hotter water increases the risk of scald injury. Before changing the temperature setting, see instruction manual.

ADJUSTABLE TEMPERATURE SETTING

- Touch the panel above the white dot twice, then touch the Tap  Adjust the water temperature with the Plus + and Minus – then touch the Return button  to save the changes.

6.0 DIAGRAMS

6.1 - PARTS DIAGRAM

6.2 - WIRING DIAGRAMS

6.1 PARTS DIAGRAMS

SFT Series water heater - Parts assembly

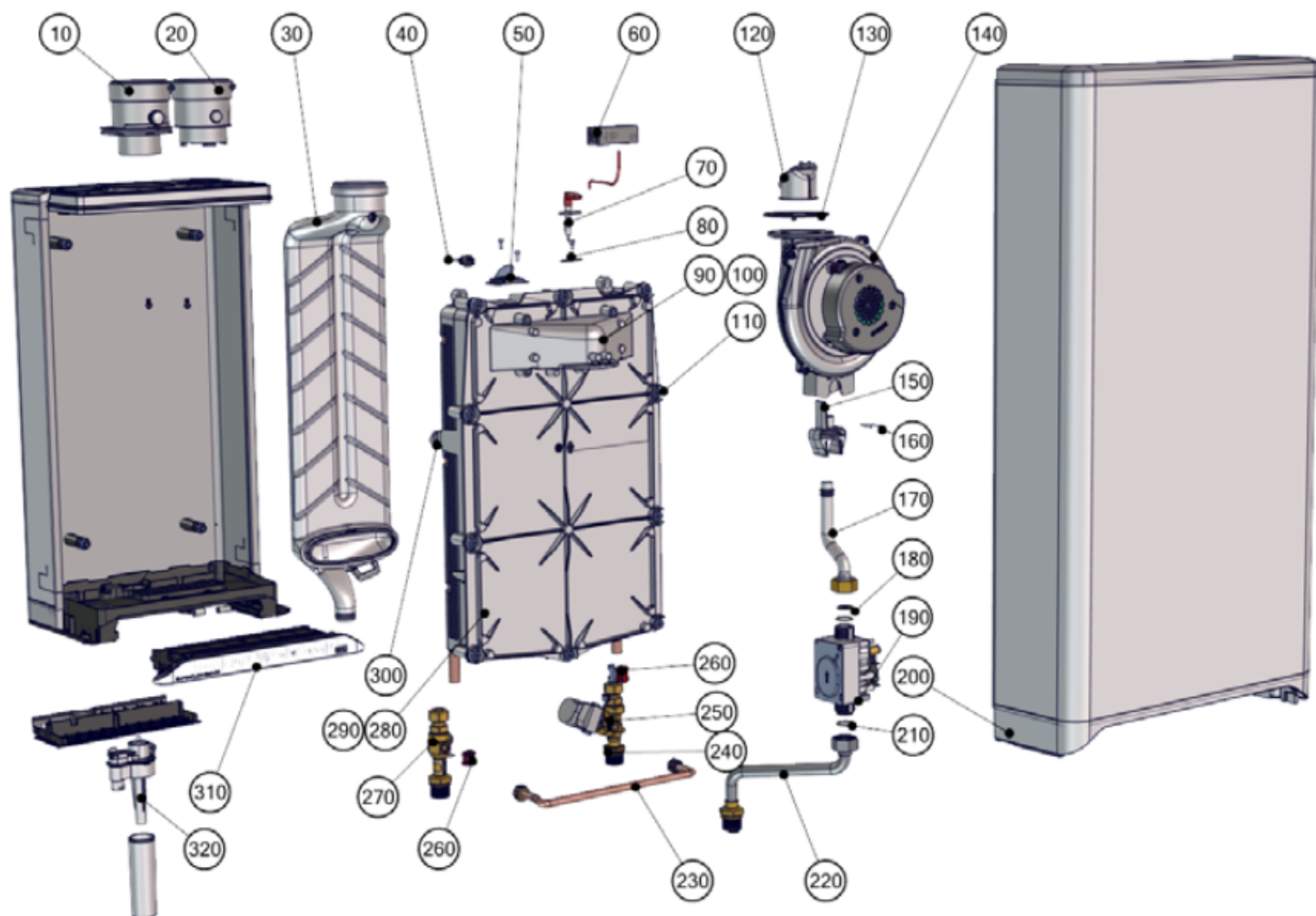


Diagram 6.1-1: Unit assembly parts

BOM ID	Part Description	Part #	Replacement Kit Numbers
10	Combustion air intake fitting and screen	180-203	P-809
20	Flue exhaust fitting	180-204	P-810
30	Rear flue duct	180-239	P-813
	*Flue / Heat exchanger gasket	150-312	
	*Flue Pipe Outlet Gasket	150-313	
40	Flue gas temperature sensor	180-205	P-814
	*NTC shaft 1/8" SW15	150-314	
50	Sight glass	250-626	P-730
60	Ignition module	180-202	P-811
70	Ignitor and cable	180-201	P-815
80	*Ignitor gasket	250-622	
90	Burner	180-170	P-841
100	*Burner gasket	250-808	
	Screws x 4	150-344	
	Spring x 1	150-241	
	*O-ring x 4	150-343	
110	*Heat exchanger gasket	250-807	P-850
120	Back flow insert	180-178	P-817
	*Backflow valve flapper (viton)	180-184	
130	*Fan gasket	250-627	P-818
140	Fan	240-114	
150	Venturi insert # 375	180-168	P-858
160	Venturi clip	150-244	
170	Gas line (gas valve to fan)	180-245	P-842
	*Gas line O-ring	150-245	

* See next page for gasket package for SFT-199; includes all gaskets asterisked above

BOM ID	Part Description	Part #	Replacement Kit Numbers
180	*O-ring and orifice	150-175 included with conversion kits	
	Orifice - Natural Gas - #660	180-173	P-803
	Orifice- Propane - #535	180-174	P-802
	Alternative low calorific Natural Gas Orifice - # 725	180-108	P-846
190	Gas valve	180-215	P-824
	*Inlet gasket	150-206	
	*Outlet O-ring	150-175	
200	Front panel assembly 160/199	180-261	P-819
210	*Gas valve inlet gasket	150-206	P-847
220	Inlet gas tube	180-246	
230	Bypass water pipe	180-248	
240	Water Flow sensor, clip-on	240-121	P-849
250	By-pass valve	240-117	P-851
260	Water temperature sensor	240-122	P-852
270	Outlet water connection	180-250	P-853
280	Heat exchanger (replacement kit)	170-031	P-854
290	Heat exchanger refractory plate	180-208	P-830
300	Supply temperature sensor heat exchanger	180-206	P-832
310	Control unit	180-247	P-855
320	Condensate trap	180-224	P-833
	Condensate hose	180-128	
	Wall bracket	250-809	P-837
	Screw x 4	150-345	
*	Gasket package for SFT-199; includes all gaskets asterisked above		P-843

6.2 WIRING DIAGRAMS

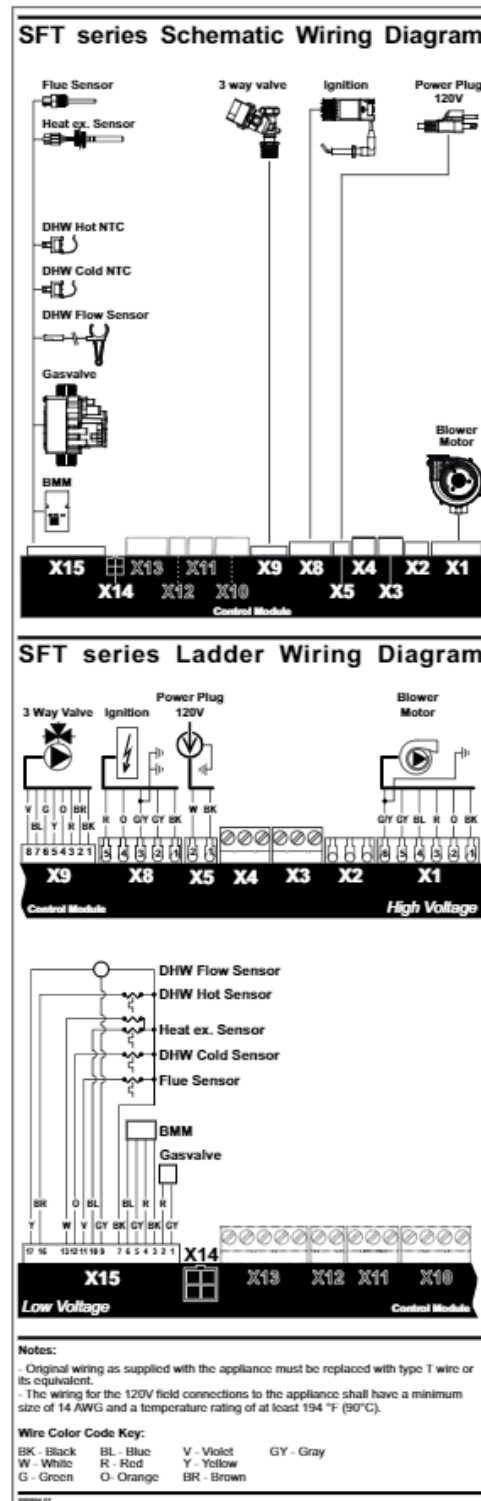


Diagram 6.2-1: Pictorial wiring diagram