

## Conservationist® LOW-NO<sub>x</sub> POWERED-BURNER MODELS

Conservationist® (BTP and BTPV) commercial water heaters offer precise powered-burner performance for medium-demand commercial applications, plus the flexibility of conventional atmospheric venting, sidewall venting or direct venting. To help ensure optimum performance, A. O. Smith offers professional start-up service on BTP and BTPV models.

### VENTING OPTIONS

- BTP models designed for conventional atmospheric vertical venting. Barometric draft regulating damper provided. Order Vent Kit Part # 170777-005.
- BTPV models designed for horizontal atmospheric sidewall venting or direct venting, using optional vent kits.
  - For sidewall venting order Vent Kit Part # 192049-000.
  - For direct venting order Vent Kit Part # 192050-002.

### LOW-NO<sub>x</sub> POWERED GAS BURNER (NATURAL GAS ONLY)

- Pre-mix design with internal Flue Gas Recirculation (FGR)
- Safety features include internal blocked flue sensor, separate pilot system, internal thermal cutoff and anti-flashback barrier

### FULLY AUTOMATIC CONTROLS

- Including safety shut-off, high-temperature limit control
- Dual thermostat, adjustable from 120° F to 180° F

### DRAFT EQUALIZING COMBUSTION CHAMBER

- Patented dome system ensures optimum flue loading and efficient heat transfer by balancing pressure inside combustion chamber

### ASME TANK CONSTRUCTION ON ALL MODELS

- Rated working pressure: 160 PSI

### FACTORY-INSTALLED AGA/ASME TEMPERATURE & PRESSURE RELIEF VALVE

### GLASS-LINED TANK WITH MULTIPLE ANODE RODS

- For optimum protection against tank corrosion

### FLAME INSPECTION PORT

### HANDHOLE CLEANOUT

- For easy cleanout of sediment from tank bottom

### HIGH-ALTITUDE INSTALLATION

- Adjustable air intake damper easily reset for high-altitude installation by authorized start-up agent

### CODES AND STANDARDS

- Meets ASHRAE/IESNA 90.1-1999 thermal efficiency and standby loss requirements
- Meets SCAQMD R1146.2 low-NO<sub>x</sub> requirements

### WARRANTY

- Three-year limited tank warranty
- For complete warranty information, consult written warranty shipped with water heater, or contact A. O. Smith Water Heaters



## Conservationist® LOW-NOx POWERED-BURNER MODELS

### CAPACITY, INPUT AND OUTPUT

MODEL NUMBER	BTU INPUT PER HOUR	Gallons or Litres	TANK SIZE	FIRST HOUR RATING 100° F RISE	GPH or LPH	RECOVERY-GALLONS PER HOUR AT °F TEMPERATURE RISE		
						40°F	100°F	140°F
						4°C	56°C	78°C
BTP 540A BTPV 540A	540,000	U.S. Gallons Litres	85 321.7	583 2206.7	GPH LPH	1309 4954.6	523 1979.6	374 1415.6
BTP 650A BTPV 650A	650,000	U.S. Gallons Litres	85 321.7	690 2611.7	GPH LPH	1579 5976.5	630 2384.6	450 1703.3
BTP 740A BTPV 740A	740,000	U.S. Gallons Litres	85 321.7	778 2944.7	GPH LPH	1794 6790.3	718 2717.6	512 1937.9

Based on 80% Thermal Efficiency obtained in A. O. Smith engineering laboratories.  
To compensate for effects of high altitude above 2,000 feet, recovery ratings should be reduced approximately 4% for every 1,000 feet above sea level.  
Current Draw (120V, 60Hz, 1 Phase): 6.0 Amps

### DIMENSIONS AND WEIGHT - ALL MODELS

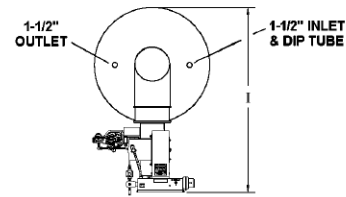
Inches or CM	DIMENSIONS									GAS CONN.***	SHIPPING WEIGHT
	A	B	C	D	E	F	G	H	I		
Inches	80-3/4	73	32-1/4	9	26-1/2	26-1/2	93	29-1/2	48-1/2	1"	950 Lbs.
CM	205.1	185.4	81.9	22.9	67.3	67.3	236.2	74.9	123.2	-	431.8 Kg

\*D dimension is for atmospheric vent size (BTP models).

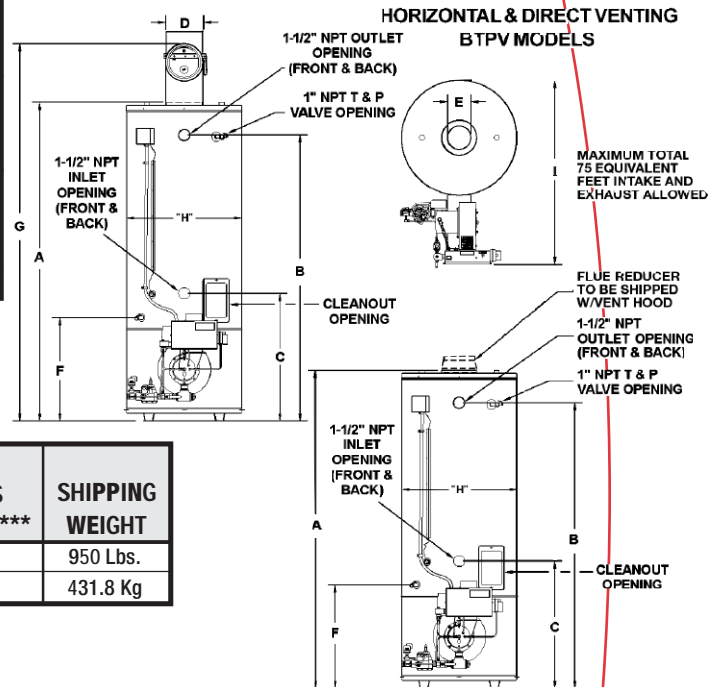
\*\*E dimension is for direct and sidewall vent size (BTPV models).

\*\*\*Minimum gas supply pipe is 1-1/4". See Reference Manual, Table 7 for gas supply pipe size.

### STANDARD BAROMETRIC DRAFT CONTROL BTP MODELS



### HORIZONTAL & DIRECT VENTING BTPV MODELS



### SUGGESTED SPECIFICATION

Water heater(s) shall be A. O. Smith Model \_\_\_\_\_ or equal, with maximum storage capacity of 85 gallons, an input rating of \_\_\_\_\_ BTU/Hr., a recovery rating of \_\_\_ GPH at 100° F temperature rise, and minimum thermal efficiency of 80%. Heater(s) shall meet ASHRAE/IESNA 90.1-1999 requirements for thermal efficiency and standby loss, and meet SCAQMD R1146.2 low-NOx requirements. In addition, heater(s) shall: 1) Include a powered gas burner, redundant main gas valves, gas pressure regulator and flame inspection port. 2) Include a high-temperature limit control, dual-bulb thermostat for accurate temperature control and anti-stacking compensation and a factory-installed AGA rated temperature and pressure relief valve. 3) Be equipped with 1-1/2" NPT water inlet and outlet and a boiler-type handhole cleanout. 4) Shall be constructed and stamped in accordance with ASME Boiler and Pressure Vessel Code and be so marked for a maximum working pressure of 160 PSI. 5) Have a glass-lined steel tank with multiple anodes for corrosion protection, and polyurethane foam insulation. 6) Tank shall have a 3-year limited warranty against corrosion as outlined in the written warranty.

Venting: BTP heater(s) shall be supplied with a Barometric Draft Regulator for conventional atmospheric venting. BTPV heater(s) shall be supplied with an optional vent kit allowing for horizontal sidewall venting or direct venting.

Burner and Controls: Burner(s) shall be pre-mix design, with internal FGR and thermal cutoff, separate spark pilot ignition system, integral blocked flue sensor, glass view port, main gas regulator, automatic gas valve, manual test cock and manual gas shutoff. Burner(s) must be factory-installed, tested and started by an A. O. Smith Authorized BTP Start-up Agent before being placed into operation.