

# FORCE™ 90 90% EFFICIENT

## Power Vent Commercial Gas Water Heater

The 50-gallon, 76,000 BTU Force 90 light-duty commercial gas water heater is equipped with a fully submerged, spiral-shaped condensing heat exchanger. This design provides much greater heat transfer surface than a standard straight flue tube, resulting in 90% thermal efficiency and higher hot water output than comparable 80% efficient water heaters. With 22" diameter, the 50-gallon Force 90 can be installed in less space than a 75-gallon unit and delivers greater recovery and lower operating costs.



### Power Vent Design for Installation Versatility

- Modular blower, with 120 volt, 60Hz electrical system (5 amps or less), 6-foot cord with standard 3-prong connector
- Combined horizontal and vertical vent runs terminating through outside wall, using PVC, CPVC or ABS pipe as follows:
  - 2" pipe allows vent runs up to 45 equivalent feet
  - 3" pipe allows vent runs up to 128 equivalent feet
  - 4" pipe allows vent runs up to 128 equivalent feet
- Supplied with PVC pipe and elbows to connect heat exchanger outlet to blower, including condensate elbow and drain
- PVC Vent Attenuation Assembly (VAA) supplied to help ensure extra-quiet operation

### Side-Mounted Taps for Recirculating Systems

- Hot and cold "side taps" allow Force 90 to be used for "combination" systems for water heating plus space heating, radiant floor heating or other applications requiring a recirculating hot water loop
- Plugs for recirculating taps are factory installed

### Intelli-Vent® Gas Control with Silicon Nitride Hot Surface Ignitor

- Premium-grade hot surface ignitor eliminates standing pilot
- Electronic circuitry provides superior system diagnostic capabilities plus extremely precise temperature control
- 180°F maximum temperature setting

### Glasslined Tank with Two Magnesium Anode Rods

- Provides superior protection against corrosion
- Glass lining protects all "water side" tank surfaces plus inside of internal heat exchanger exposed to condensate

### Low NOx Green Choice® Burner

- Reduces NOx emissions up to 33%, complies with SCAQMD Rule 1146.2 and other Air Quality Management Districts with similar requirements for Low NOx emissions

### PEXAN™ Diffuser Dip Tube

- Helps reduce lime and sediment buildup, maximize hot water output
- PEXAN cross-link polymer withstands long-term exposure to temperatures up to 400°F

### CSA Certified and ASME Rated T&P Relief Valve

Maximum Hydrostatic Working Pressure: 150 psi

### Compliance

- Design-certified by UL (Underwriters Laboratories) according to ANSI Z21.10.3-CSA4.3 standards governing storage-type water heaters
- Meets the thermal efficiency and standby loss requirements of the U.S. Department of Energy and current edition of ASHRAE/IESNA 90.1

### Three-Year Limited Tank Warranty

- Consult written warranty shipped with water heater or contact State for complete warranty information

\* Intelli-Vent is a registered trademark of the Emerson Electric Company

For more information on State® contact:  
 State Water Heaters  
 500 Tennessee Waltz Parkway, Ashland City, TN 37015  
 800.365.0024 Toll-free USA  
 www.statewaterheaters.com

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**SPECIFICATIONS**

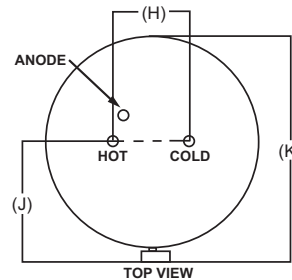
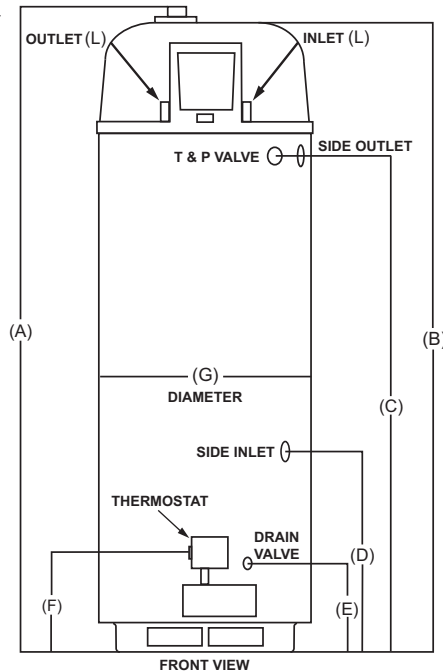
MODEL NUMBER	BTU INPUT PER HOUR	TANK SIZE GALLONS	RECOVERY – GALLONS PER HOUR AT DEGREE RISE			SHIPPING WEIGHT LBS.
			40°F	100°F	140°F	
			22°C	56°C	78°C	
SHE50 76NE	76,000	50	206	83	59	210

Manifold Pressure: 4.0 inches n.c. (.99 kPa); All models–Maximum Supply Pressure: 14 inches w.c. (3.48 kPa)  
 Minimum Supply Pressure Natural Gas: 5.0 inches w.c. (1.24 kPa); Minimum Pressure must be maintained under both load and no-load (static and dynamic) conditions

**DIMENSIONS**

SHE50 76NE	A	B	C	D	E	F	G	H	J	K
INCHES	70-5/8	68-1/4	52	21	9-1/8	12	22	8	15-3/4	27

Top inlet and outlet: 3/4" male NPT  
 Side inlet and outlet: 3/4" female NPT  
 Gas inlet: 1/2" NPT



\* INSTALL IN ACCORDANCE WITH LOCAL CODES

**SUGGESTED SPECIFICATION**

(Natural or Propane) gas water heater(s) shall be State Force 90 model # SHE50 76NE, with 90% thermal efficiency, a storage capacity of 50 gallons, an input rating of 76,000 BTUs per hour, a recovery rating of 83 gallons per hour at 100°F rise and a maximum hydrostatic working pressure of 150 psi. Water heater(s) shall be of power-vent design, using 2", 3" or 4" PVC pipe for horizontal and/or vertical vent runs. Water heater(s) shall have: 1: Seamless, glasslined steel tank construction and a spiral-shaped heat exchanger placed entirely inside the tank, which shall be glasslined on the flue gas side to protect against acidic condensate. 2: An Intelli-Vent gas control system with silicon nitride hot surface ignitor. 3: A 3-year limited warranty against tank leaks. Water heater(s) shall meet the thermal efficiency and standby loss requirements of the U.S. Department of Energy and current edition of ASHRAE/IESNA 90.1 and be design-certified by UL (Underwriters Laboratories) according to ANSI Z21.10.3-CSA 4.3 standards governing storage tank water heaters.

For complete information on limited warranties, consult written warranty, or contact the State Customer Care Center, 1-800-365-0024.

State Industries, Inc. reserves the right to make product changes or improvements without prior notice.

For more information on State® contact:  
 State Water Heaters  
 500 Tennessee Waltz Parkway, Ashland City, TN 37015  
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[www.statewaterheaters.com](http://www.statewaterheaters.com)

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