

# FORCE™ 90+

96% Efficient

## Power Direct Vent Commercial Gas Water Heater

The 100,000 BTU Force™ 90+ light-duty commercial gas water heater is equipped with a fully submerged, spiral-shaped condensing heat exchanger and 50 gallons of storage capacity. This design provides much greater heat transfer surface than a standard straight flue tube, resulting in 96% thermal efficiency and higher hot water output than comparable 80% efficient water heaters. With a 22" diameter, the Force™ 90+ can be installed in less space than a 75-gallon unit yet delivers greater recovery and lower operating costs.



### Power Direct Vent Design for Installation Versatility

- Modular blower, with 120V, 60Hz electrical system (5 amps or less)
- Can be vented vertically thru-the-roof or horizontally thru-the wall.  
Vents using PVC, CPVC or ABS pipe.
  - 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
- Optional concentric vent and sidewall termination kits available

### Available in Natural Gas or Propane

### Side-Mounted Taps for Recirculating Systems

- Hot and cold "side taps" allow the 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

### Advanced Electronic Control

- Large LCD display
- Precise temperature control
- Advanced diagnostics
- iCOMM™ Compatible and can be monitored from remote locations.  
Call 1.888.WATER02 for more information.



### Glasslined Tank with Two Magnesium Anode Rods

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

### Top-Fired Low-NOx Burner

- Reduces NOx emissions and complies with SCAQMD Rule 1146.2, and other Air Quality Management Districts with similar requirements for low NOx emissions

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

### Maximum Hydrostatic Working Pressure: 150 psi

**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

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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	
SHE50 100NE	100,000	50	291	116	83	255

Manifold Pressure: 4.0 inches w.c. (.99 kPa); All models-Maximum Supply Pressure: 14 inches w.c. (3.48 kPa) Minimum Supply Pressure Natural Gas: 3.5 inches w.c. (.87 kPa). Minimum Pressure Propane: 8.0 inches w.c. (1.99 kPa). Minimum Pressure must be maintained under both load and no-load (static and dynamic) conditions.

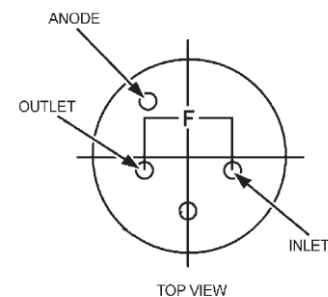
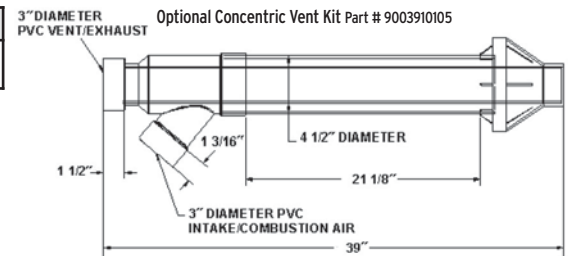
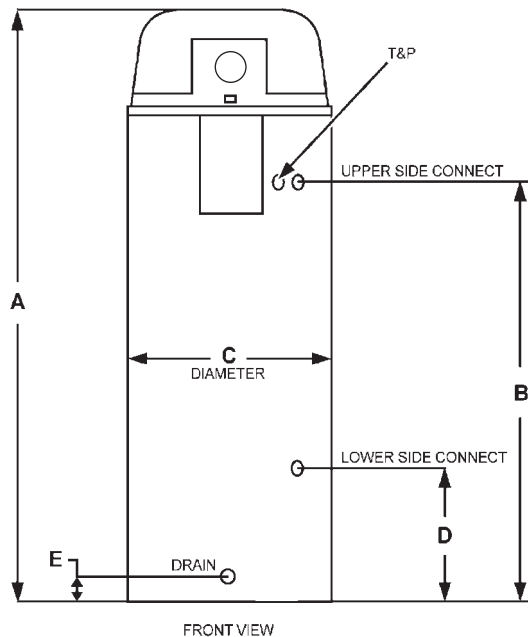
### DIMENSIONS

SHE50 100NE	A	B	C	D	E	F
INCHES	66-3/4	49-1/4	22	15-3/4	3	8

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 100NE, with 96% thermal efficiency, a storage capacity of 50 gallons, an input rating of 100,000 BTU per hour, a recovery rating of 116 gallons per hour at 100°F rise and a maximum hydrostatic working pressure of 150 psi. Water heater(s) shall be of power direct vent design, using 2, 3 or 4" PVC, CPVC or ABS 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: Advanced electronic control with large LCD display and advanced diagnostics. Water heaters shall incorporate the iCOMM™ system for remote monitoring, leak detection and fault alert. 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.

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

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

For more information on State Water Heaters, 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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