

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)
- Combined horizontal and vertical vent runs terminating through outside wall, using Schedule 40 PVC pipe as follows:
 - 2" pipe allows vent runs up to 20 equivalent feet
 - 3" pipe allows vent runs up to 60 equivalent feet
 - 4" pipe allows vent runs up to 120 equivalent feet

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

Glass Lined 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 up to 33%, complies with Southern California and Texas requirements

Factory-Installed Temperature and Pressure Relief Valve

Maximum Hydrostatic Working Pressure: 150 psi

Meets ASHRAE/IESNA 90.1 (latest standard)

- Design-certified by UL (Underwriters Laboratories) according to ANSI Z21.10.3-CSA4.3 standards governing storage-type water heaters



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.

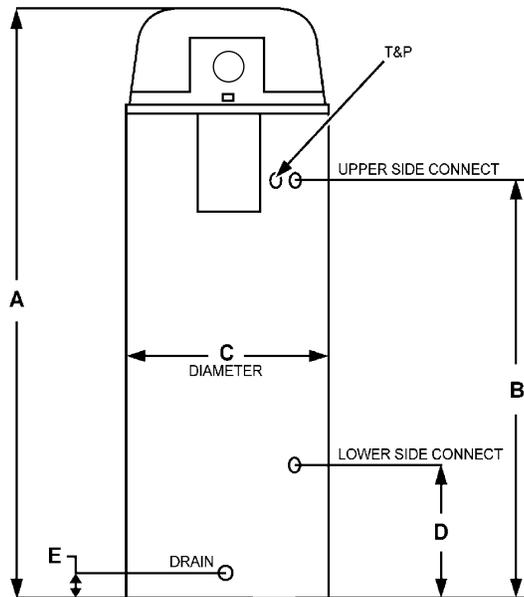
DIMENSIONS

SHE50 100NE	A	B	C	D	E	F
INCHES	68-1/2	49-1/4	22	15-3/4	3	8

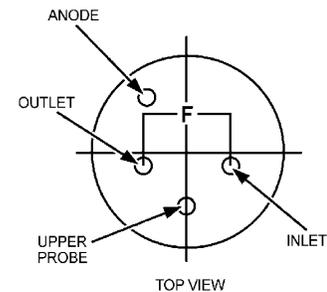
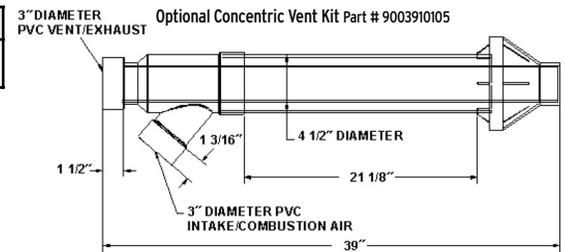
Top inlet and outlet: 3/4" male NPT

Side inlet and outlet: 3/4" female NPT

Gas inlet: 1/2" NPT



FRONT VIEW



TOP VIEW

*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 pipe for horizontal and/or vertical vent runs. Water heater(s) shall have: 1: Seamless, glass lined steel tank construction and a spiral-shaped heat exchanger placed entirely inside the tank, which shall be glass lined on the flue gas side to protect against acidic condensate. 2: Advanced electronic control with large LCD display and advanced diagnostics. 3: A 3-year limited warranty against tank leaks. Water heater(s) shall meet or exceed ASHRAE/IESNA 90.1 (latest revision), and be design-certified by UL (Underwriters Laboratories) according to ANSI Z21.10.3-CSA4.3 standards governing storage tank water heaters.

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

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Ashland City, TN 37015

800-365-0024 Toll-free USA

www.statewaterheaters.com

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SCGS01108