



# Commercial Gas Water Heaters

## FORCE™ 90+ MODELS SHE75 AND SHE50 100E 96% THERMAL EFFICIENCY VERSATILE POWER DIRECT VENT

The Force™ 90+ is a light-duty, power direct vent, fully condensing commercial gas water heater with an internal helical heat exchanger. This helical heat exchanger helps Force™ 90+ achieve 96% thermal efficiency and deliver outstanding hot water output.

### ENERGY STAR® QUALIFIED

#### ADVANCED ELECTRONIC CONTROL

- Exclusive State designed touch display control system.
- Temperature control up to 181°F.
- Built-in diagnostics and operational information.

#### CONDENSING DESIGN

- Operates at 96% thermal efficiency, which saves money on operating costs compared to a standard 80% efficient gas water heater.
- Equipped with condensate drain tee.

#### HELICAL INTERNAL HEAT EXCHANGER

- Spiral heat exchanger keeps hot combustion gases in the tank longer to lengthen the heat transfer cycle.
- Positioned in the center of the tank for more even heat distribution.
- Spiral design reduces lime scale formation on the heat exchanger to maintain high efficiency operation over time

#### POWER DIRECT VENT DESIGN

- Combined vertical and horizontal runs terminating through the roof or an outside wall. Vents using PVC, CPVC or polypropylene piping. Canadian installations require ULC S636 approved pipe for venting.
- 2" pipe, vents up to 45 equivalent feet.
- 3" pipe, vents up to 125 equivalent feet.

#### SIDE-MOUNTED HOT AND COLD RECIRCULATING TAPS

- Allows Force™ 90 to be installed as part of combination space heating/water heating applications.

#### AVAILABLE IN NATURAL GAS OR PROPANE

#### TOP FIRED ULTRA-LOW NOx GAS BURNER

- Enhanced Ultra-low NOx burner complies with SCAQMD Rule 1146.2 and other Air Quality Management Districts with similar requirements for NOx emissions of less than 14 ng/l or 20 ppm.

#### BLUE DIAMOND® GLASS COATING

- Provides superior corrosion resistance compared to industry-standard glasslining.

#### COREGARD™ ANODE ROD

- Our anode rods have a stainless steel core that extends the life of the anode rod allowing superior tank protection far longer than standard anode rods.

#### MAXIMUM HYDROSTATIC WORKING PRESSURE: 150 PSI

#### STANDARDS AND CERTIFICATIONS

- Design-certified by Underwriters Laboratories according to ANSI Z21.10.3 - CSA 4.3 Standards.
- These models meet the thermal efficiency and standby loss requirements of the U.S. Department of Energy and current edition ASHRAE/IES 90.1.
- CSA certified and ASME rated T&P relief valve.
- Approved for Canada.

#### 3-YEAR LIMITED TANK AND 1 YEAR LIMITED PARTS WARRANTY

- For complete warranty information, consult written warranty or [statewaterheaters.com](http://statewaterheaters.com).



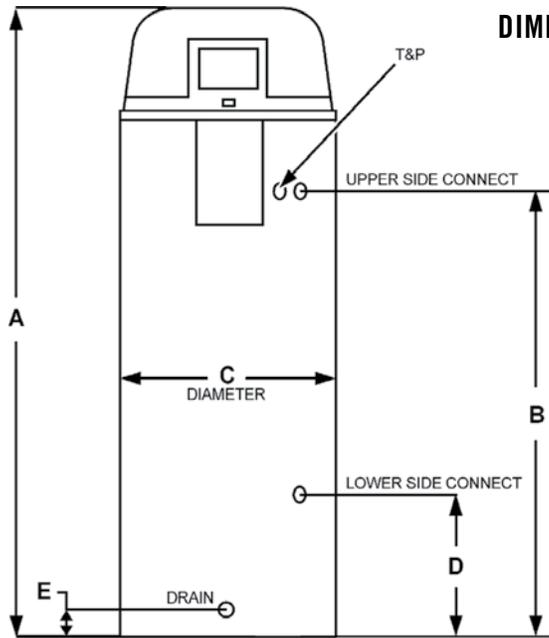
SHE75 100

SHE50 100

#### SERIES 300/301

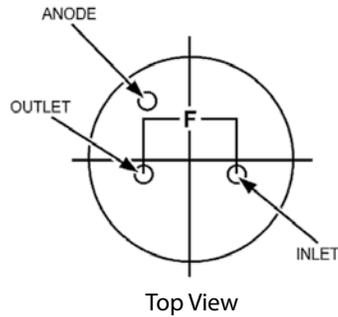


# SOLID. STATE.



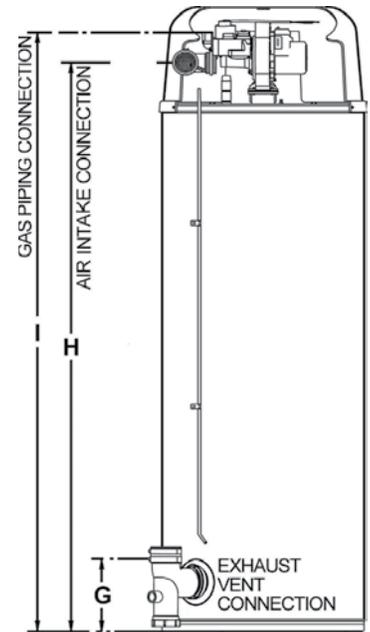
Front View

### DIMENSIONS FOR 50 GALLON UNIT



Top View

\*INSTALL IN ACCORDANCE WITH LOCAL CODES



Rear View

### ROUGH-IN DIMENSIONS

Model Number	Approximate Capacity		Units	A	B	C	D	E	F	G	H	I
	U.S. Gals.	Liters										
SHE50 100NE	50	189	Inches	66.75	49.25	22	15.75	3	8	8	62	65
			cm	169.5	125.09	55.88	40	7.62	20.32	20.32	157.48	165.1

Specify when ordering propane (LP) gas. Change NE to PE for propane (LP).

Standard model certified from sea level to 10,100 ft. elevation.

Optional Concentric Vent Kit (100111100) and Condensate Neutralization Kit (100112380).

Top Inlet and Outlet: 3/4" NPT

Side Inlet and Outlet: 3/4" NPT

Gas Inlet: 1/2" NPT

Condensate drain outlet: 1/2" NPT

120V 60Hz <5 amps

\* The manifold pressure is the factory setting and is not adjustable. A negative pressure will be seen with just the blower running without the Gas Control Valve open.

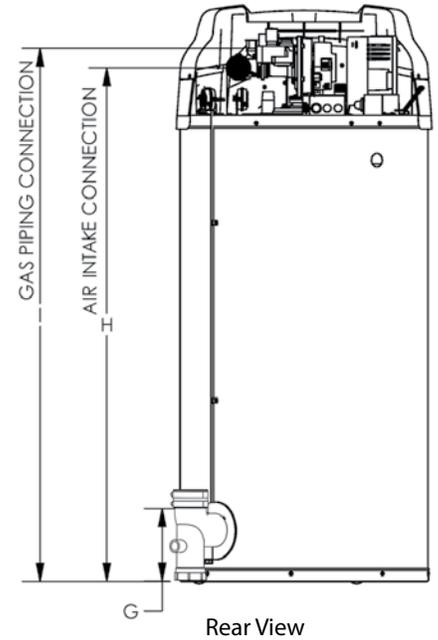
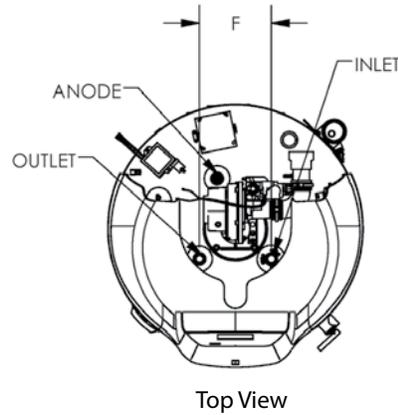
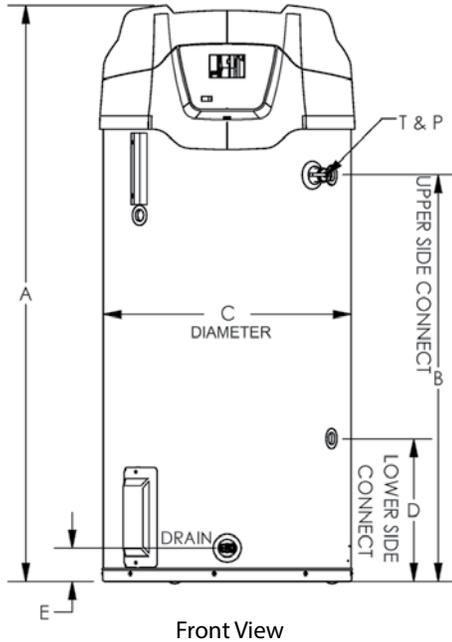
All models - Maximum Supply Pressure: 14 inches W.C. (3.48kPa)

Minimum Supply Pressure for Natural Gas: 3.50" (.87kPa)

Minimum Supply Pressure for Propane Gas: 8.00" (1.99kPa)

Minimum pressure must be maintained under both load and no load (dynamic and static) conditions.

## DIMENSIONS FOR 75 GALLON UNIT



## ROUGH-IN DIMENSIONS

Model Number	Approximate Capacity		Units	A	B	C	D	E	F	G	H	I
	U.S. Gals.	Liters										
SHE75 100NE	75	284	Inches	65.25	45.64	27.75	16	3.71	8	7.93	57.36	58.98
			cm	165.7	115.9	70.5	40.6	9.4	20.32	20.1	145.7	149.8

Specify when ordering propane (LP) gas. Change NE to PE for propane (LP).

Standard model certified from sea level to 10,100 ft. elevation.

Optional Concentric Vent Kit (100111100) and Condensate Neutralization Kit (100112380).

Top Inlet and Outlet: 1" NPT

Side Inlet and Outlet: 1" NPT

Gas Inlet: 1/2" NPT

Condensate drain outlet: 1/2" NPT

120V 60Hz <5 amps

\* The manifold pressure is the factory setting and is not adjustable. A negative pressure will be seen with just the blower running without the Gas Control Valve open.

All models - Maximum Supply Pressure: 14 inches W.C. (3.48kPa)

Minimum Supply Pressure for Natural Gas: 3.50" (.87kPa)

Minimum Supply Pressure for Propane Gas: 8.00" (1.99kPa)

Minimum pressure must be maintained under both load and no load (dynamic and static) conditions.



## RECOVERY CAPACITIES - SHE50 100NE AND SHE75 100NE

Input		Recovery Capacities													
Rating (Btu/hr)	Rating (Kw)	Temp Rise	F	30	40	50	60	70	80	90	100	110	120	130	140
			C	17	22	28	33	39	44	50	56	61	67	72	78
		GPH	387	291	233	194	166	145	129	115	106	97	90	83	
100,000		LPH	1465	1102	882	734	628	549	488	439	401	367	341	314	

## MAXIMUM VENTING DISTANCES - SHE50 100NE AND SHE75 100NE

Number of 90° Elbows	2" Maximum Pipe-ft. (m)	3" Maximum Pipe-ft. (m)
1	40 (12.19)	120 (36.57)
2	35 (10.66)	115 (35.05)
3	30 (9.14)	110 (33.52)
4	25 (7.62)	105 (32)
5	20 (6.09)	100 (30.48)
6	15 (4.57)	95 (28.95)

Note: See the Instruction Manual for the most current and detailed venting information.

## SUGGESTED SPECIFICATION

(Natural or Propane) gas water heater(s) shall be Force™ 90+ model with 96% thermal efficiency with storage capacity \_\_\_\_\_; an input rating of 100,000 BTUs 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" or 3" PVC, CPVC, or polypropylene pipe for horizontal and/or vertical vent runs. Water heater(s) shall have: 1: Steel tank construction with seamless glass lining 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 LCD touchscreen display and integral diagnostics. 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 MORE INFORMATION, CONTACT: STATE WATER HEATERS 500 TENNESSEE WALTZ PARKWAY, ASHLAND CITY, TN 37015 • 800-365-0024 TOLL-FREE USA • STATEWATERHEATERS.COM