

FORCE™ 90 90% EFFICIENT

Power Vent Commercial Gas Water Heaters

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 a 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.



Series 100

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
- Can be vented vertically thru-the-roof or horizontally thru-the-wall
- 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 20 equivalent feet
 - 3" pipe allows vent runs up to 60 equivalent feet
 - 4" pipe allows vent runs up to 120 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% and meets low NOx emission requirements of less than 40 ng/j

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

SOLID.STATE.



FORCE™ 90 90% EFFICIENT

Power Vent Commercial Gas Water Heaters

Rough-In-Dimensions

Model	Units	A	B	C	D	E	F	G	H	J	K
SHE 50 76N	Inches	70.62	68.20	51.90	20.90	9.15	12.00	22.00	8.00	15.81	26.92
	cm	179.37	173.23	131.83	53.09	23.24	30.48	55.88	20.32	40.16	68.38

Top/Side Inlet and Outlet: 3/4" NPT
 Gas Inlet: 1/2" NPT

Capacity and Gas and Electrical Characteristics

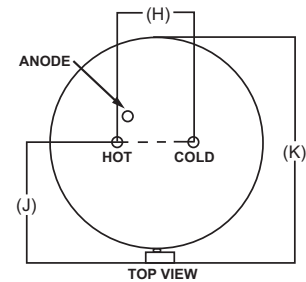
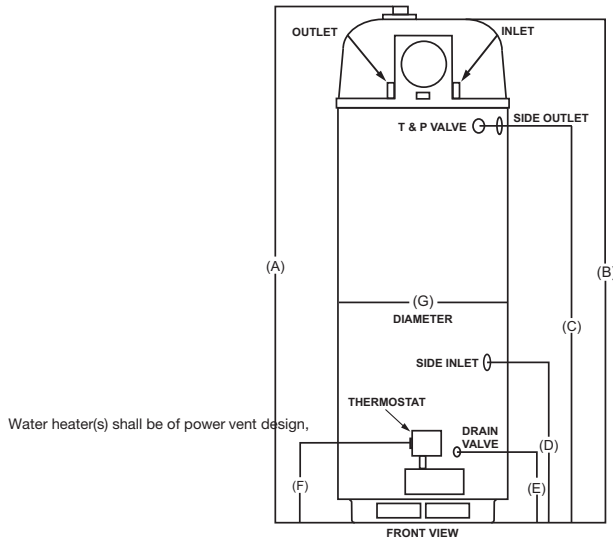
Model	Approximate Capacity		Manifold Pressure			Electrical Characteristics	
	U.S. Gals.	Liters	Gas Type	"WC	kPA	Volts/Hz	Amperes
SHE 50 76N	50	189	Nat.	4.00	0.99	120/60	<5

All models - Maximum Supply Pressure: 14 inches W.C. (3.48kPa)
 Minimum Supply Pressure Natural Gas: 5.0 inches W.C. (1.24kPa)
 Minimum Pressure must be maintained under both load and no load (static and dynamic) conditions.

Recovery Capacities - U.S. Gallons/Hr. and Liters/Hr. at Temperature Rise Indicated

Model	Input		Temp. Rise	Recovery Capacities												
	Rating (Btu/hr)	Rating (kW)		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
SHE 50 76N	76,000	22.25	GPH	275	206	165	138	118	104	92	83	75	69	64	59	
			LPH	1041	780	625	522	447	394	348	314	284	261	242	223	

Recovery capacity based on 90% thermal efficiency.



* INSTALL IN ACCORDANCE WITH LOCAL CODES

SUGGESTED SPECIFICATION

Natural 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. This water heater is not available in Propane. 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: 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
 800.365.0024 Toll-free USA
 www.statewaterheaters.com

SOLID.STATE.

