



Senville HPWH

Heat Pump Water Heater
Inverter Performance & Efficiency



Senville HPWH



Product Lineup

Flexible Operation
& More Comfort



Easy
after-sale
service



Easy
installation



Unique Technology

Market Overview

Units

104K

HPWH Market Volume

**North
American
Market**

HPWH Market Volume

9,000K

Units
Water Heater
Market Volume

Source: USEPA

Flexible Installation Options

Designed with versatility in mind, Senville heat pump water heaters are perfect for semi-heated spaces like garages, basements and utility rooms.



Backyard



Basement



Garage



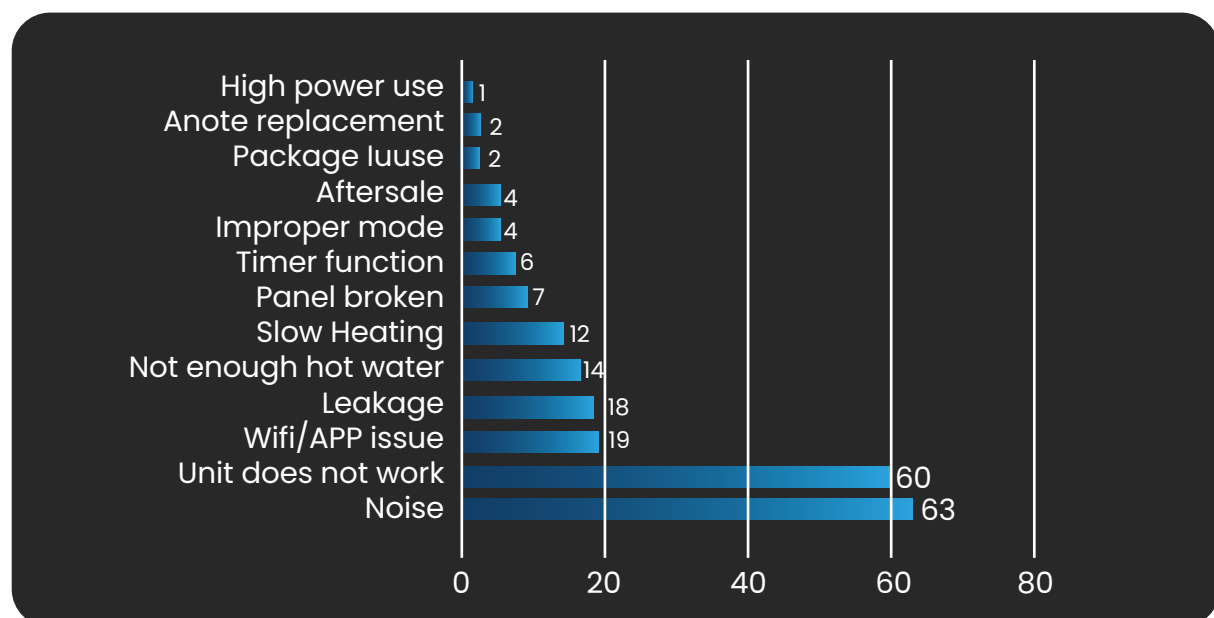
Closet

Senville HPWH

User Feedback Insights from Competitor Reviews

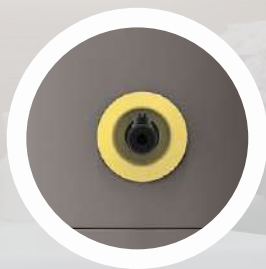
An analysis of customer reviews from competing heat pump water heater (HPWH) models reveals that the most common issues are excessive noise and frequent system failures. Key concerns include:

- **Noise Levels:** Actual operating noise is often higher than the levels claimed by manufacturers.
- **System Faults:** Frequent fault codes are reported, with many units unable to be repaired effectively.
- **App/Wi-Fi Issues:** Users experience lag, connectivity problems, and a lack of essential features.
- **Water leakage:** Common leakage points include electric heating elements and pressure relief valves.
- **Insufficient Hot Water:** Especially problematic for larger households where demand is higher.
- **Slow Heating Performance:** Extended heating times result in prolonged noise and delays in hot water availability.
- **Control Panel Failures:** Reports of unresponsive or completely inoperable panels are frequent.
- **Timer Malfunctions:** Units often fail to follow programmed schedules accurately.
- **Mode Control Problems:** Units do not consistently operate in the intended heat pump mode; electric x may activate unexpectedly.

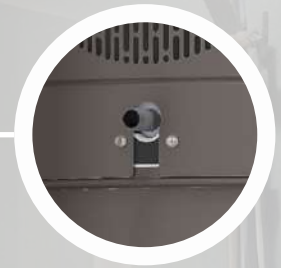


Minimalist Design

Eye-catching
connection
valve position



Round inlet
& outlet hole



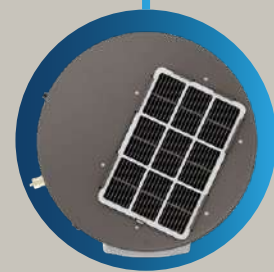
Metal outer shell
in polar Cobalt Gray

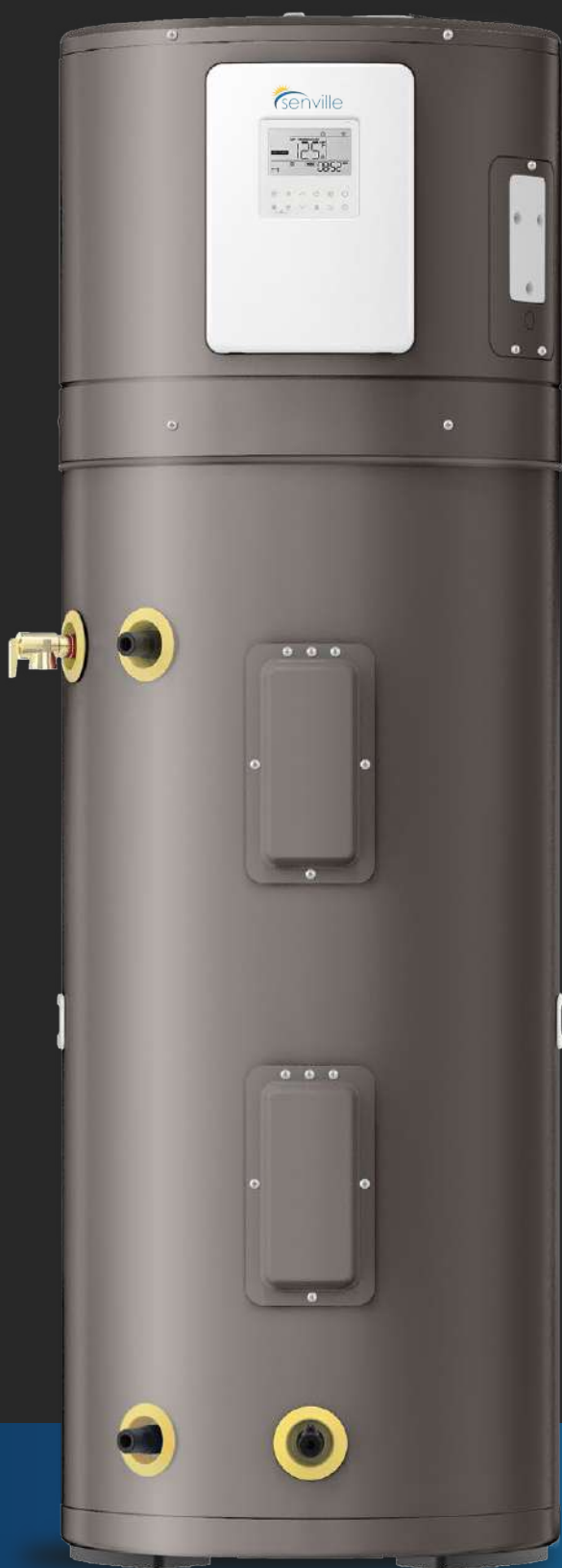


Round inlet &
outlet hole



Cobalt Gray outer shell





50 Gallons – SENWH-HP50

SYSTEM PERFORMANCE DATA

Power supply

Normal Operational Voltage	(V, Ph, Hz)	240V, 1Ph, 60Hz
Voltage Range	(V)	208~240

Electrical

Minimum circuit ampacity	(A)	23.6A(208V)/26.8A(240V)
Max.fuse	(A)	25A(208V)/30A(240V)
Connection wiring		10AWG*3

Energy information

Normal Gallon Capacity	(Gallon)	50
Rated Gallon Capacity	(Gallon)	45
Uniform Energy Factor (UEF)		3,75
First Hour Rating (FHR)	(Gallon)	69
Water Outlet Temperature Range	(Deg.°F)	109~149
Upper Element Wattage	(W)	4500(240V)
Lower Element Wattage	(W)	4500(240V)
Compressor capacity	(W)	1500
Total Unit Wattage (input)	(W)	5500
Cold Climate Efficiency(CCE)		3,0
Recovery In G.P.H. 90° F Rise		27,5
Heat pump ambient operating range	(Deg.°F)	37~109
Element ambient operating range	(Deg.°F)	5~115
Sound	(dBA)	49,5

65 Gallons – SENWH-HP65

SYSTEM PERFORMANCE DATA

Power supply

Normal Operational Voltage	(V, Ph, Hz)	240V, 1Ph, 60Hz
Voltage Range	(V)	208~240

Electrical

Minimum circuit ampacity	(A)	23.6A(208V)/26.8A(240V)
Max.fuse	(A)	25A(208V)/30A(240V)
Connection wiring		10AWG*3

Energy information

Normal Gallon Capacity	(Gallon)	65
Rated Gallon Capacity	(Gallon)	61
Uniform Energy Factor (UEF)		3,90
First Hour Rating (FHR)	(Gallon)	80
Water Outlet Temperature Range	(Deg.°F)	109~149
Upper Element Wattage	(W)	4500(240V)
Lower Element Wattage	(W)	4500(240V)
Compressor capacity	(W)	1500
Total Unit Wattage (input)	(W)	5500
Cold Climate Efficiency(CCE)		3,0
Recovery In G.P.H. 90° F Rise		27,5
Heat pump ambient operating range	(Deg.°F)	37~109
Element ambient operating range	(Deg.°F)	5~115
Sound	(dBA)	49,5



50 Gallons SENWH-HP50

UNIT DATA

Body Height	(inch)	66,4
Body Diameter(inch)	(inch)	21,70
Body Weight	(lbs)	218
Ship Length(inch)	(inch)	28.3*27.2
Ship Height(inch)	(inch)	74,8
Ship Weight(lbs)	(lbs)	264,6
Inlet Water Connection Size	(inch)	3/4
Outlet Water Connection Size	(inch)	3/4
Drainage Hose	(inch)	3/4
Installation Clearance (Back)	(inch)	0
Installation Clearance (side)	(inch)	6
Installation Clearance (top)	(inch)	20
Refrigerant Type		R134a
Refrigerant charge	oz	18,34
Loading quantity(40HQ)	pcs	51

Certified



65 Gallons SENWH-HP65

UNIT DATA

Body Height	(inch)	65-6/7
Body Diameter(inch)	(inch)	25.7
Body Weight	(lbs)	271,39
Ship Length(inch)	(inch)	30.1*28.9
Ship Height(inch)	(inch)	75,6
Ship Weight(lbs)	(lbs)	334,2
Inlet Water Connection Size	(inch)	3/4
Outlet Water Connection Size	(inch)	3/4
Drainage Hose	(inch)	3/4
Installation Clearance (Back)	(inch)	0
Installation Clearance (side)	(inch)	6
Installation Clearance (top)	(inch)	20
Refrigerant Type		R134a
Refrigerant charge	oz	18,34
Loading quantity(40HQ)	pcs	45

Certified



A man with grey hair, wearing a blue and white plaid shirt, is smiling as he installs a red cable management rail on a wall. He is using a screwdriver to secure the rail. In the background, there is a black cable management box with several white cables plugged into it. The scene is set in a room with a grey wall and a black lampshade visible in the upper left.

Easy installation

Redefining Comfort, One Space at a Time



Demand Response Function

Built-in Demand Response Port

The unit features an integrated CTA-2045 port located at the top, allowing seamless connection to a Universal Communication Module (UCM). Simply plug in the UCM to enable demand response functionality.

This setup allows the water heater to communicate with smart grid systems, optimizing energy usage and helping reduce electricity costs during peak demand periods.





Innovative Technology That Sets Us Apart

The Advantage of HPWH

3KW
WARM AIR
INPUT

4KW
HOT WATER
OUTPUT

High COP

Compressor (1KW power) pumps 3kW heat from outdoor air, the final output is 4kW to hot water.



Heat pump water
heaters use up to

75%
less electricity



Senville HPWH

Ambient
Warm Air

Key Components of the Senville HPWH

Cool Air
outlet

Evaporator
Double-Layer heat transfer
coil, compact size & high
capacity

Compressor
High Efficiency Rotary
Compressor, R134a
refrigerant, durable and
silence

Water Tank
Blue-Diamond Enamel
Tank with +15 years lifespan

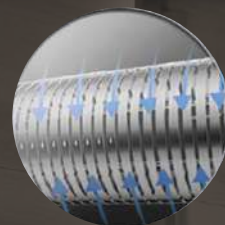
Condenser Coil
Microchannel heat
exchanger, higher heat
exchange area and higher
efficiency

Advanced Technology

High efficiency microchannel heat exchanger



Aluminum
Microchannel
Design



High-efficiency
Thermal
Grease



Patented laminar water
injection technology

Patent number: 200820097997.7



55mm
thick insulation layer

Unique Technology

Senville's Blue-Diamond Enamel Tank offers superior durability and corrosion resistance—engineered for a lifespan of 15+ years.

800k

- High impact strength
- More than 800 thousands of impact tests



- Strong corrosion resistance
- 500-hour acid resistance test (standard with 2 Mg+anodes)



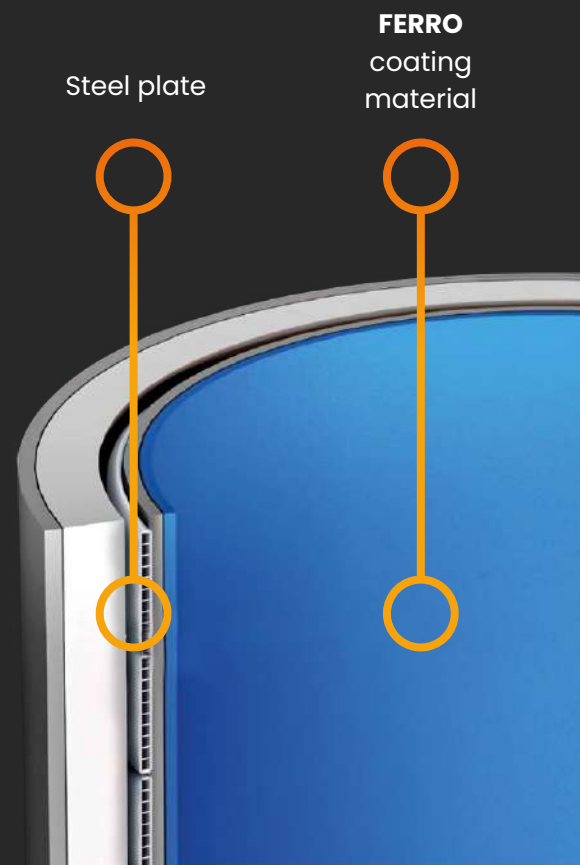
- High adsorption capacity
- Tank coating materials from international famous brand
- FERRO, adhere to the tank tightly

BTC

- High pressure bearing strength
- Dedicated steel helps ensure the strength under pressure

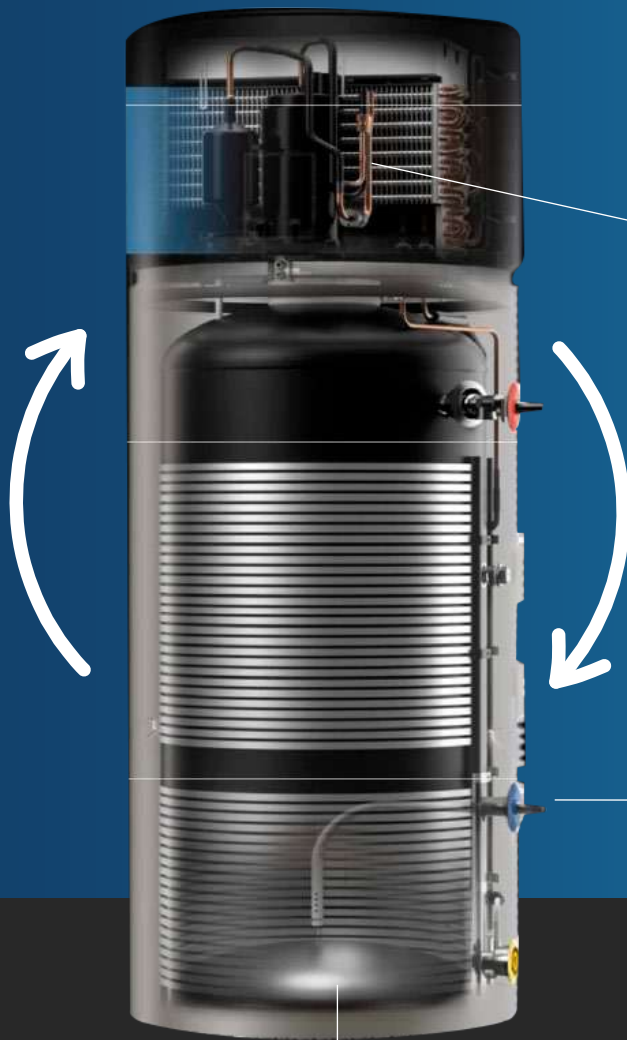


- Top manufacturing technology
- International cutting-edge enamel manufacturing process German famous EISENMAN professional production line



Leakage Detection

Leakage detection kit(Optional)



Main PCB
Leakage prevention
algorithm contained.

Leakage Detection Circuit
Located at the bottom of
the unit, detect if water
is leaking.

Shut-off valve
Automatically close the
water inlet valve when
water leakage happens.
Prevent your house from
flooding, protect your
carpet and floor.

Universal Parts

Most key components are shared between
SENWH-HP50 and SENWH-HP65.



- Compressor
- Main PCB
- Fan motor
- Display board
- Centrifugal fan
- Heating element
- Capacitor



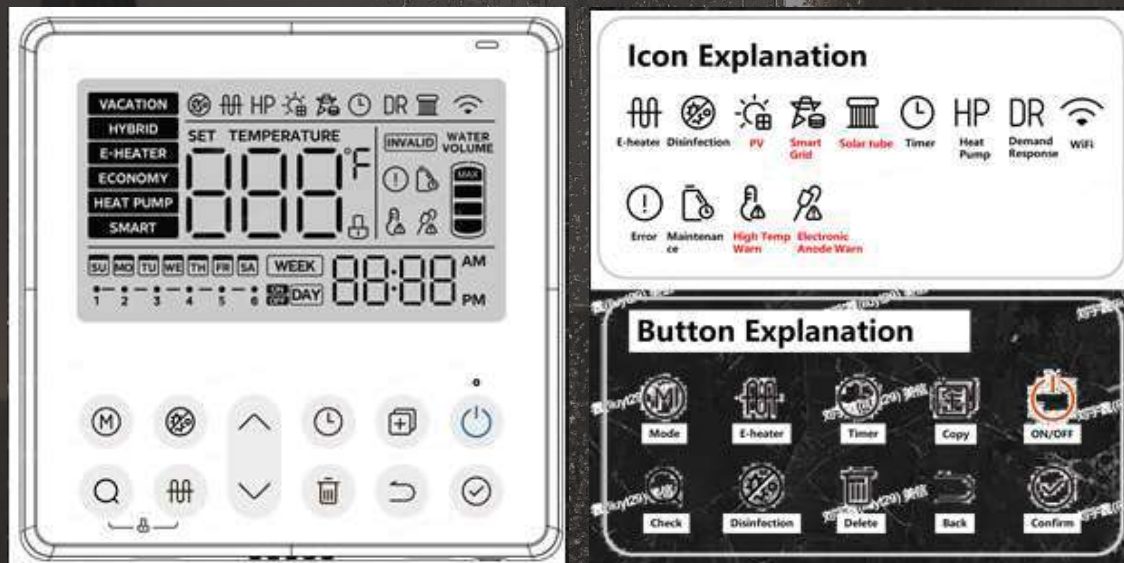
A close-up photograph of a person's hands working on a device. The person is using a screwdriver with a black handle and a yellow accent to remove a screw from a transparent, rectangular component. The component is held in the person's left hand. The background is blurred, showing a wooden workbench and some orange and black cables.

**Shared parts simplify inventory
management and streamline
after-sales service.**



Smart Performance & Enhanced Comfort

Multifunction Control Panel



- Weekly Timer
- Five modes
- Auto-run Disinfection
- Maintenance reminder
- Self Diagnosis

Five modes

Flexible operation for every lifestyle and season.



Hybrid

Combines heat pump and minimal electric element use—balancing comfort and energy savings.



High Demand

Heat pump and element work together to deliver hot water quickly during peak usage.



Electric Heating

Uses only the electric element—ideal for cold days or as a backup mode.



Vacation

Prevents freezing by maintaining safe system temperatures while you're away from home.



Heat Pump

Operates using only the heat pump for maximum energy efficiency and lower utility bills.

Self Diagnosis

Built-in System Protection



The Senville HPWH unit includes multiple layers of safety features to protect users and ensure long-term system reliability. These smart protections monitor temperature, pressure, and performance to keep operation safe and stable.

Protection Features:

1. High Temperature Cutoff – Automatically shuts off if water tank temperature exceeds 78°C.
2. High Pressure Protection – Prevents damage from system overpressure.
3. Pressure Limit Control – Break point: 3.0 MPa; reset point: 2.4 MPa.
4. Discharge Temperature Control – Protects against excessive compressor discharge heat.
5. Compressor Overcurrent Protection – Prevents overload damage.
6. Ambient Temperature Safeguard – Ensures the heat pump runs within safe environmental ranges.

Self Diagnosis

Engineering Mode

The Senville HPWH heat pump water heater includes an advanced query function for technicians—making it easy to view and monitor key operating parameters for maintenance and diagnostics.

Items	Explanation
Temp.	T5U:Water temp. of upper water tank
Temp.	T5L:Water temp. of lower water tank
Temp.	T3:evaporator inlet temp.
Temp.	T4:ambient temp.
Temp.	Tp: discharge temp.
Temp.	Th: suction temp.
Current	Operation current
Fan speed	0 off, 1 low, 2 mid, 3 high
Version	Main board software version
Version	Display panel software version
Error code	Last failure
Error code	2nd to last failure
Error code	3rd to last failure
Model code	01 EU 190L; 02 EU 300L 03 AU 190L; 04 AU 300L
--	End



**Redefining Comfort,
One Space at a Time**