



Residential/Commercial Gas Ultra-Low NOx Tankless Water Heaters

Fully modulating, gas fired, tankless water heater with sealed combustion and power vented flue. Indoor and outdoor models available for residential applications. Supplies hot water to domestic hot water systems (directly or indirectly) can be used with water storage tanks, recirculation systems, hydronic heating systems, radiant floor heating systems, and/or combined domestic & heating applications.

FEATURES

COMPLIES WITH ULTRA-LOW NOx REGULATIONS

MAXIMUM FLOW RATES UP TO 10.0 GPM

PRIMARY HEAT EXCHANGER

- Stronger than standard copper and more resilient against erosion

INDOOR AND OUTDOOR MODELS AVAILABLE

OUTDOOR MODELS INCLUDE REMOTE CONTROL AS A STANDARD FEATURE

INDOOR MODELS INCLUDE BOTH A REMOTE CONTROL AND POWER CORD AS STANDARD FEATURES

ENERGY STAR® QUALIFIED

AVAILABLE IN NATURAL GAS

EASY-LINK UP TO 4 UNITS (510U MODELS ONLY)

- With no additional parts or accessories needed

MULTI-LINK UP TO 20 UNITS (510U MODELS ONLY)

COMPLIES WITH LEAD FREE STANDARDS

ATI-510U AND ATO-510U CAN BE USED IN BOTH RESIDENTIAL AND COMMERCIAL APPLICATIONS

SAFETY FEATURES:

- Built-in Freeze Protection
- Manual Reset Hi Limit (Up to 194°F)
- Overheat Cutoff Fuse
- Inlet and Outlet Thermistors for Constant Temperature Monitoring
- Air Fuel Ratio Rod
- Flame Sensor

VENTING AND COMBUSTION

- 4" Category III Stainless Steel
- Vertical or Horizontal Installation
- 50' Max Length, 5 Elbows max (90° elbows = 5' equivalent length)
- Power Vent
- Electronic Ignition - No Pilot Light
- 3" Combustion Air Intake (with optional kit)

OPTIONAL ACCESSORIES

- Complete Line of Stainless Steel Venting
- Recess Box (outdoor)
- Pipe Cover
- Direct Vent Conversion Kit (indoor)
- Isolation Valve Kits
- Backflow Preventor
- Concentric Termination Kits

WARRANTY

- 12-year limited warranty on heat exchanger in residential applications
- 5-year limited warranty on heat exchanger in commercial applications
- 5-year limited warranty on all parts



INDOOR MODELS
ATI-110U, ATI-310U,
ATI-510U



OUTDOOR MODELS
ATO-110U, ATO-310U,
ATO-510U



(510U models only)



**ANSI Z21.10.3
CSA 4.3**



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ULTRA-LOW NOx TANKLESS MODELS

MODEL NUMBER	FUEL TYPE	GAS CONSUMPTION INPUT		ENERGY FACTOR (EF)	INLET GAS PRESSURE			DIMENSIONS IN INCHES			VOLT	AMP	FLUE*	INTAKE (OPTIONAL)	HOT/COLD GAS CONN.	UNIT WEIGHT (LBS)
		MIN. BTU/H	MAX. BTU/H		MIN. W.C.	MAX. W.C.	MAX GPM**	HEIGHT	WIDTH	DEPTH						
ATI-110U-N	Natural	15,000	140,000	0.82	5.0	10.5	6.6	20-1/2	13-4/5	8-1/2	120	0.54	4" O.D.	3.0" O.D.	3/4" NPT	37
ATO-110U-N	Natural	15,000	140,000	0.82	5.0	10.5	6.6	20-1/2	13-4/5	8-1/2	120	0.54	4" O.D.	3.0" O.D.	3/4" NPT	37
ATI-310U-N	Natural	15,000	190,000	0.82	5.0	10.5	8.0	20-1/2	13-4/5	8-1/2	120	0.83	4" O.D.	3.0" O.D.	3/4" NPT	37
ATO-310U-N	Natural	15,000	190,000	0.82	5.0	10.5	8.0	20-1/2	13-4/5	8-1/2	120	0.83	4" O.D.	3.0" O.D.	3/4" NPT	37
ATI-510U-N	Natural	15,000	199,000	0.82	5.0	10.5	10.0	20-1/2	13-4/5	8-1/2	120	0.86	4" O.D.	3.0" O.D.	3/4" NPT	39
ATO-510U-N	Natural	15,000	199,000	0.82	5.0	10.5	10.0	20-1/2	13-4/5	8-1/2	120	0.86	4" O.D.	3.0" O.D.	3/4" NPT	39

All dimensions in inches.

15-150 psi water pressure. 40 psi or above recommended for maximum flow.

* Category III required

**Current numbers based on factory testing, 0.4 GPM required for continuous fire after initial ignition.

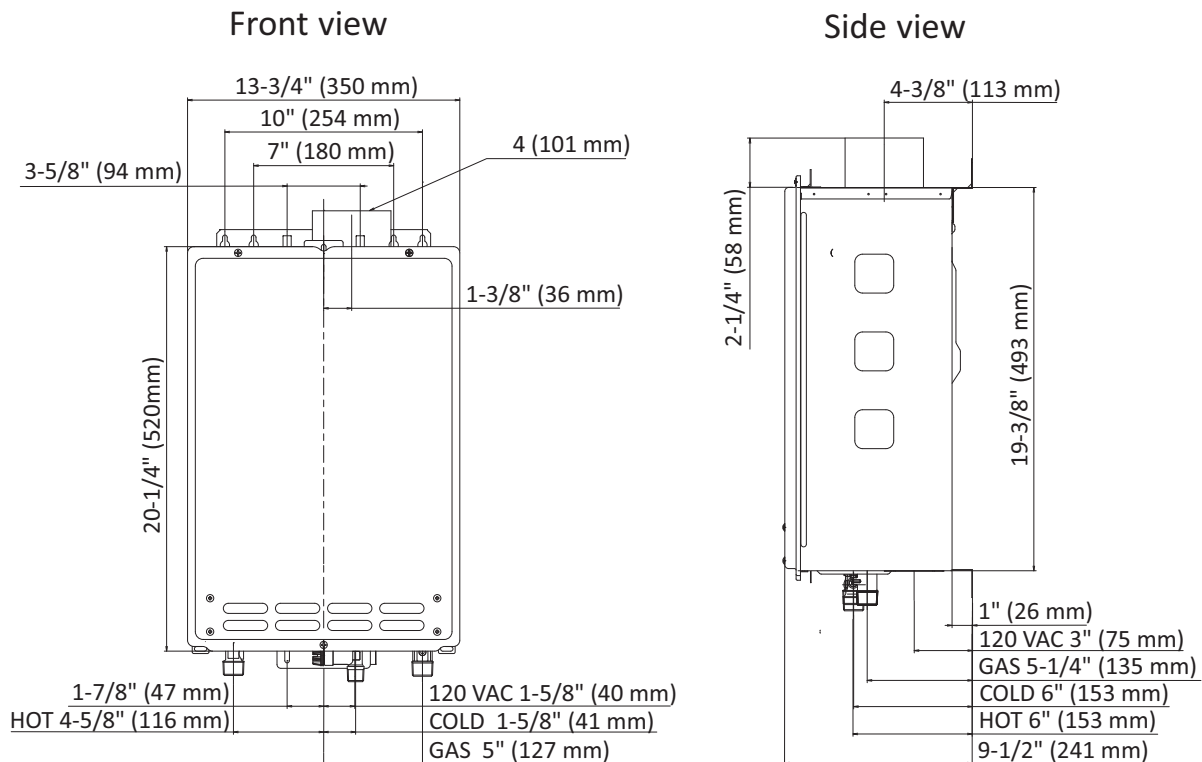
Pressure only relief valve required (Min. 200,000 BTUs, 150 PSI). Min 50 PSI or above recommended for maximum flow.

Complies with Ultra-Low NOx regulations (SCAQMD Rule 1146.2) effective January 1, 2012.

Freeze protection draws 1.1 AMP

Indoor models are certified from sea level to 8,000 ft. elevations.

INDOOR MODEL



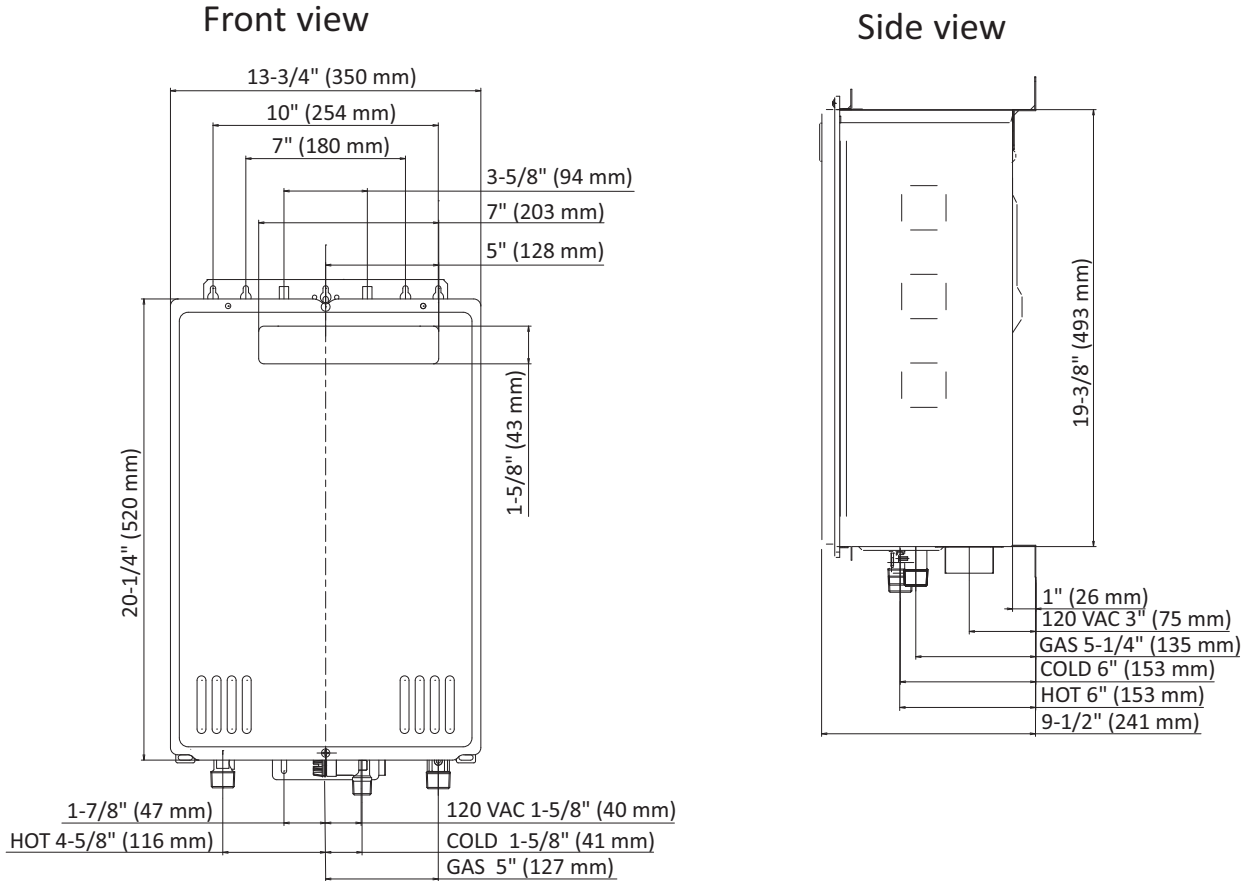
CLEARANCES: Top 12", Bottom 12", Front 24", Back 0.5", Sides 2"

For Technical Information call 1-877-737-2840. A. O. Smith Corporation reserves the right to make product changes or improvements without prior notice.



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OUTDOOR MODEL

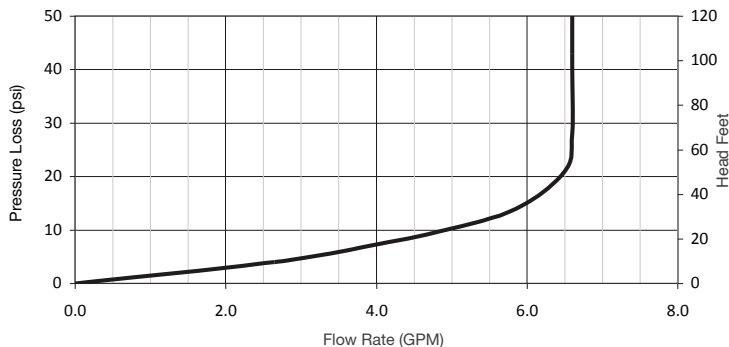


CLEARANCES: Top 36", Bottom 12", Front 24", Back 0.5", Sides 2"

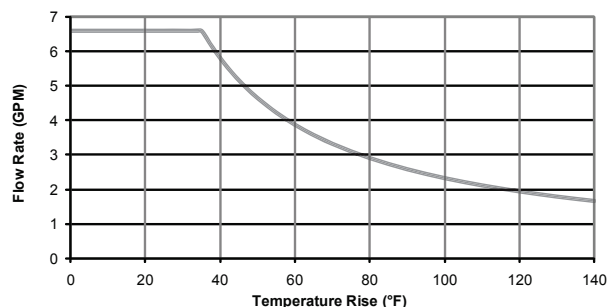


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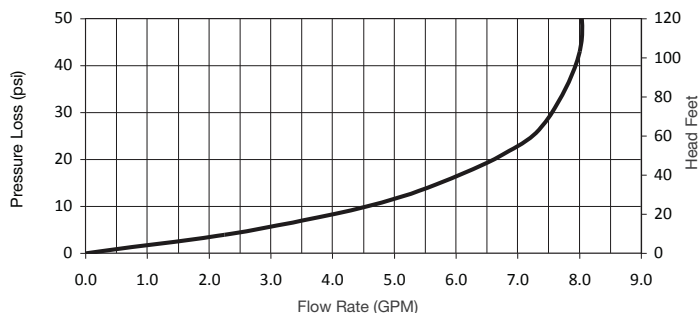
110U Indoor/Outdoor Pressure Loss



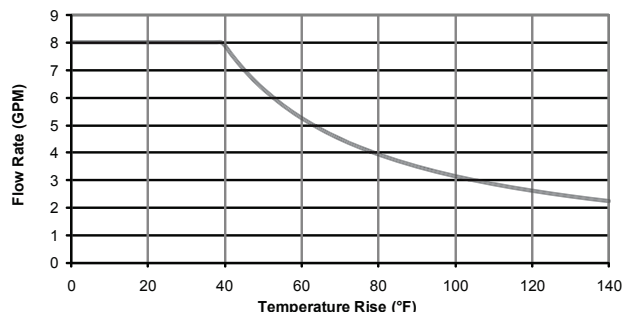
110U Comparison of Flow Rate vs. Temperature Rise



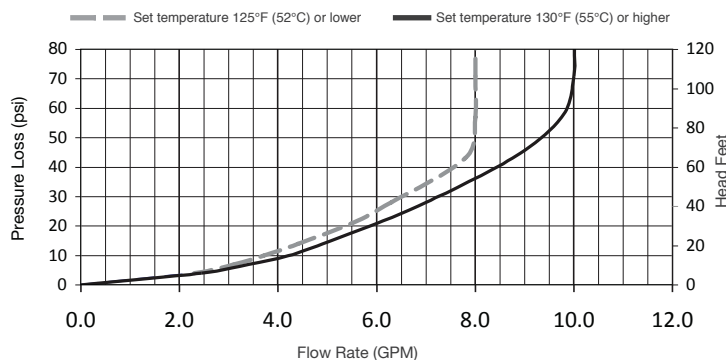
310U Indoor/Outdoor Pressure Loss



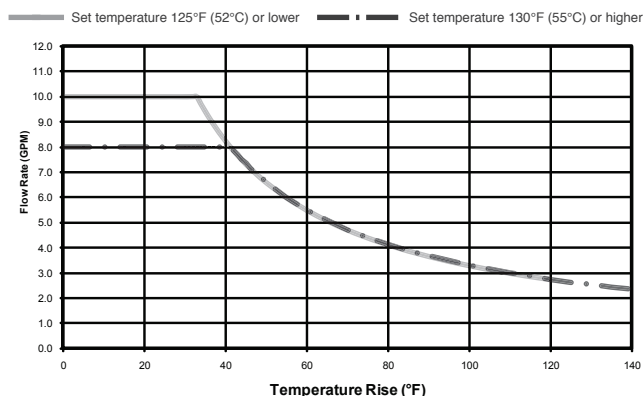
310U Comparison of Flow Rate vs. Temperature Rise



510U Indoor/Outdoor Pressure Loss



510U Comparison of Flow Rate vs. Temperature Rise



Specification

Water heater(s) shall be Model _____ as manufactured by A. O. Smith. Water heater(s) shall be a copper coil integral fin and tube construction with quick release brass or bronze waterways. Heater(s) will be factory assembled and tested.

The heater shall be vented with 4" stainless steel Category III vent pipe or Special BH type gas vent at a distance not to exceed 50' (equivalent) for 4" vent, terminating vertically or horizontally as prescribed. Intake air pipe may be of such material as ABS, PVC, galvanized B-Vent, corrugated aluminum or stainless steel, or Category III / IV stainless steel not to exceed 50' (equivalent) for 3" vent.

The heater(s) shall be controlled by an onboard solid-state printed circuit board monitoring incoming and outgoing temperatures with factory installed thermistors, sensing and controlling flow rate to set point temperature, controlling both air and gas mixture inputs to maintain thermal combustion efficiency. The heater(s) shall also consist of inline fusing, a spark ignition and sensor system, aluminized stainless steel burners, an air-fuel ratio sensor, a hi-limit temperature switch, modulating and proportional gas valves, a freeze protection sensor with ceramic heating blocks, and an overheat cutoff fuse.

The water heater(s) shall be CSA listed, exceed the energy efficiency requirements of ASHRAE 90.1b-2007, and shall comply with SCAQMD Rule 1146.2 Ultra-Low NOx Standards.

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