

# navien®

Condensing **98%**  
Tankless Gas Water Heater



**KD navien®**

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Condensing **98%** Tankless Gas Water Heater



*The Ultimate in Energy Efficiency  
with Hi-Tech Comfort!*

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# Navien Condensing Tankless Water Heater

## Why Navien?

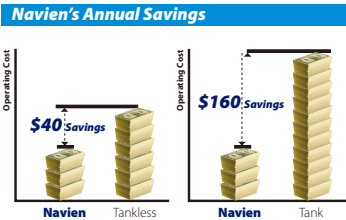


With Navien Condensing 98%, you get the best of both worlds: the **Best Value** and “**Ultra Condensing Efficiency**,” which offers substantial savings and contributes to a green-friendly environment. Plus, the installation and venting processes are easy, cost effective, and Navien's products are simply the best in quality and performance.

### Ultra Condensing Efficiency

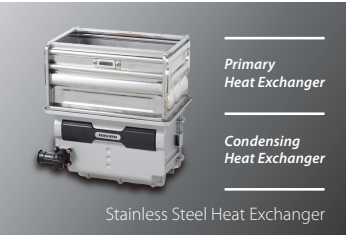
Navien's condensing efficiency boasts the industry's highest rating of 98% efficiency. Customers can take advantage of the low annual operating costs and receive the best value and payback, compared with conventional tankless or tank-type water heaters.

\* Based on DOE operating cost and AGA Sept/07 Natural gas price.



### Extended Lifecycle

Navien utilizes dual stainless steel heat exchangers, providing a longer life-expectancy and more resistance to erosion than copper heat exchangers used in other water heaters. Navien's stainless steel heat exchangers operate with relatively low water temperatures, minimizing damage from hard water conditions and maintains a high efficiency level.



### Inexpensive PVC Venting Solution

The high efficiency of Navien's Condensing Tankless Water Heater results in lower exhaust temperatures, allowing for the use of 3" Sch 40 PVC venting.

- PVC venting offers a significant cost savings when compared with other venting materials.
- PVC venting venting is lightweight and easily slides together, reducing installation time and making it easy to run a 100 feet of venting. \* Each elbow deduct 5' off of venting length

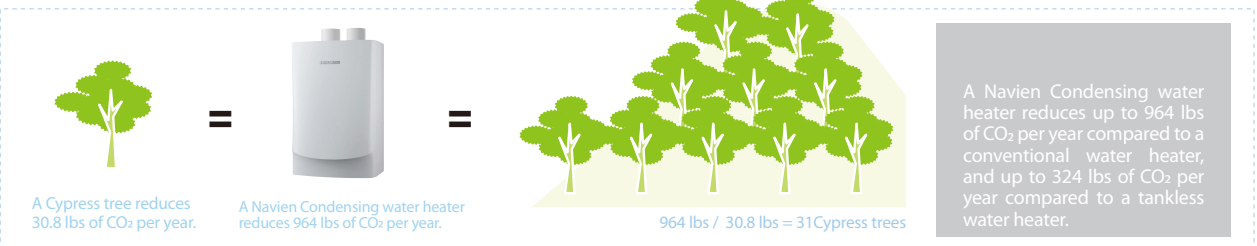
### Navien Technology is Eco Friendly

- Navien's condensing technology uses less gas than conventional water heaters, resulting in lower CO emissions.
- The Eco Pre-mixed Burner dramatically reduces NOx emission levels, making it the lowest emission levels in the industry.



Eco Pre-mixed Burner

Each Navien Unit Installed Equates to 31 Cypress Trees.





Optional Circulation Pump and Mini Buffer Tank (Model “A”)

- No minimum flow rate required with optional internal circulation mode
- Minimize hot/cold/hot stacking, the so called “Cold Water Sandwich”
- Save installation cost with optional circulation pump and buffer tank
- The Ready-Link® Cascading System can combined “A” models units and non “A” model units together to save money on installation costs and conserve water.

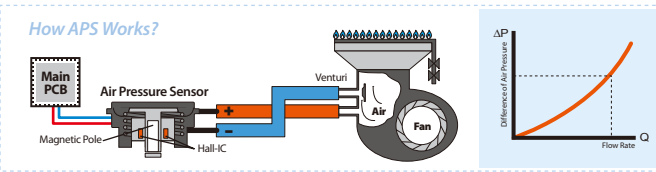
Advanced Technology

1 Enhanced Safety with Dual Microprocessors

Navien’s two microprocessors offer better control and safer operation by continuously cross monitoring each other’s performance to assure proper operation at all times. These two microprocessors not only control the burner for ideal combustion but also maintain the steady hot water temperature.

2 Optimal and Stable Combustion with APS and GPS

**APS** (Air Pressure Sensor) maximizes combustion efficiency by sensing and controlling the air required for optimal combustion even in high-wind locations and installations with long vent runs.



**GPS** (Gas Pressure Sensor) offers stable combustion by sensing gas pressure and controlling the fan speed to maintain optimal combustion, even under a wide range of gas-pressure changes.

3 Three-phased, Pre-Mixed Burner

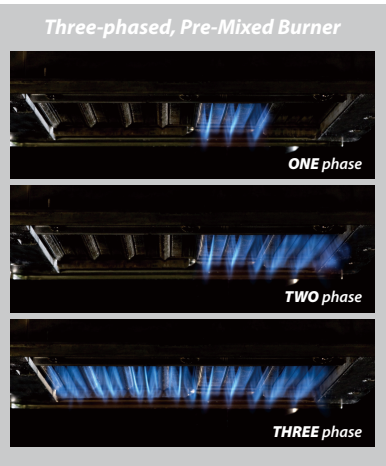
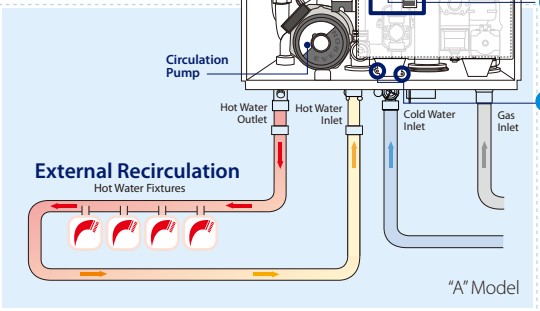
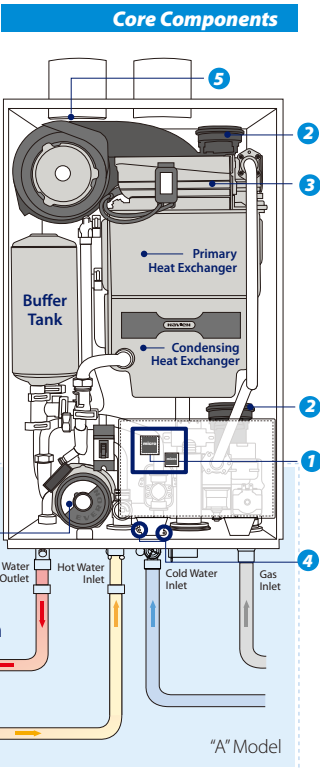
Controls flame by pre-mixing optimal ratio of gas and air before combustion, reducing emissions and enhancing heat efficiency.

4 Leak Detector

Built-in leak detector prevents damage to water heater as well as personal property.

5 Air Intake Filter

An air intake filter prevents debris from entering the system, freeing the burner from elements that would normally cause unstable combustion and reduced energy efficiency.



Space Saving Design

Navien’s condensing tankless water heater’s compact, wall mount design occupies approximately 80% less space than a traditional 50 gallon tank-type water heater\*.

Navien’s compact design adds free space that can be used to store other house hold items.

\*(Navien NR/NP 240A compared with AO Smith GVP-50, Dec 2010)



Navien’s Ready Link® Cascade System

*Navien’s Ready Link® System is the best alternative for large volumes of hot water. With its easy venting and installation, unlimited Navien Water Heaters can be set up as one system. Unlike tank-type water heaters, sudden hot-water cutoffs can be avoided.*

- **Abundant Hot Water Supply:** 16 units can be linked as one group within the system and several groups can be linked-up into one system.
- **Energy Saving:** industry’s most efficient multi-unit system with an exceptional 98% efficiency.
- **Easy Wiring Connection:** simple wiring link without complicated communication cables and controllers.
- **Easy Ventilating:** built in APS for longer vent pipe.
- **Low Maintenance Cost:** even if one unit of the system fails, the rest will operate without any problems.
- **Full Modulation System:** units activate individually as the demand for hot water increases.

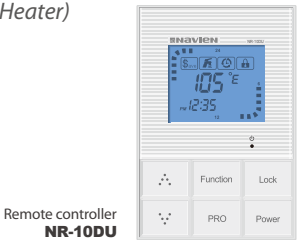


\* The design of the product may change without prior notice to improve the quality or performance.



Intelligent Remote Control **NR-10DU** (Included with every Navien Tankless Water Heater)

- Temperature adjustment in 1°F increments between 98-120°F
- Touch activated backlight function
- Easy-to-Use button type control
- Built-in recirculation timer for water and energy savings
- Key-pad lock button prevents inadvertent temperature changes
- Advanced water heater diagnosis capability and error feedback



Hot-Water Flow Chart

Model	Ground Water Temp.	35 °F	40 °F	45 °F	50 °F	55 °F	60 °F	65 °F	70 °F
NR-180		4.2 GPM	4.5 GPM	4.9 GPM	5.3 GPM	5.8 GPM	6.5 GPM	7.3 GPM	8.3 GPM
NR-210		5.0 GPM	5.4 GPM	5.8 GPM	6.3 GPM	7.0 GPM	7.8 GPM	8.7 GPM	10.0 GPM
NR-240/NP-240		5.5 GPM	5.9 GPM	6.4 GPM	7.0 GPM	7.7 GPM	8.6 GPM	9.7 GPM	11.0 GPM

• Hot Water Set Temperature: 105°F

Right Model?

Model	Ground Water Temp.	40 °F	55 °F	70 °F
NR-180		4.5 GPM	5.8 GPM	8.0 GPM
NR-210		5.4 GPM	7.0 GPM	10.0 GPM
NR-240/NP-240		5.9 GPM	7.7 GPM	11.0 GPM

- Above GPM rates and shower capabilities are based on a standard 2.5 GPM shower head and a shower temperature of 105 °F.
- The ground water temperature may change with the seasons.
- Use the winter water temperatures to make your selection.

Warranty

Item	Warranty Period	NR Series	NP Series	
		DHW use only	Residential Application	Commercial Application
Heat Exchanger		15 years	15 years	10 years
Other Parts and Components		5 years	3 years	3 years
Labor		1 year	1 year	1 year

Specifications

Navien America offers a complete line of condensing water heaters for residential, commercial and combination space heating applications.

Item		Model	NR-180A / NR-180	NR-210A / NR-210	NR-240A / NR-240 NP-240A / NP-240
Heat Capacity (Input)			Min: 15,000 Btu/hr	Min: 17,000 Btu/hr	Min: 20,000 Btu/hr
			Max: 150,000 Btu/hr	Max: 180,000 Btu/hr	Max: 199,000 Btu/hr
Thermal Efficiency			98.0%	98.0%	98.0%
Energy Factor (DOE)	Natural Gas	0.96	0.95	0.95	
	Propane Gas	0.97	0.97	0.97	
Dimensions (W x H x D )			17"× 28"× 14"	17"× 28"× 15"	17"× 28"× 15"
Weight	NR-A / NP-A	77 lbs	86 lbs	86 lbs	
	NR / NP	67 lbs	77 lbs	77 lbs	
Installation Type			Indoor /Outdoor Wall-Hung		
Venting Type			Direct Vent		
Ignition			Electronic Ignition		
Water Pressure (min-max)			15 - 150 PSI		
Gas Supply Pressure	Natural Gas	6.0"W.C. ~ 10.5"W.C.	5.0"W.C. ~ 10.5"W.C.		
(from source: min-max)	Propane Gas	9.0"W.C. ~ 13.5"W.C.	8.0"W.C. ~ 13.5"W.C.		
Minimum Flow Rate to activate Water Heater			For "A" Model 0GPM (no minimum flow rate requirement), Otherwise 0.5GPM		
Connection Sizes	Cold Water Inlet	3/4" NPT			
	Hot Water Outlet	3/4" NPT			
	Gas Inlet	3/4" NPT			
Power Supply	Main Supply	120VAC, 60Hz 200W (max 2A)			
Heat Exchangers			Primary Heat Exchanger: Stainless Steel		
			Condensing Heat Exchanger: Stainless Steel		
Venting	Exhaust (ø3")	SCH 40 3" PVC, SCH 40 2" PVC, Navien Stainless Steel or special Gas Vent Type BH Class IIA (PVC) inCanada			
(0" Clearance)	Intake (ø3")	PVC, Flex Aluminum, Flex Stainless Steel, ABS			

\* Navien America reserves the right to change specifications at anytime without prior notice.

Model Description Legend

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Model	Description
NR	Navien Regular (potable domestic hot water only) Maximum Temperature: 140°F
NP	Navien Premium (potable domestic hot water and commercial applications) Maximum Temperature: 185°F
A	With Circulation Pump and 0.5 US gallon (2 liter) Mini-Buffer Tank