

# US Product Catalog



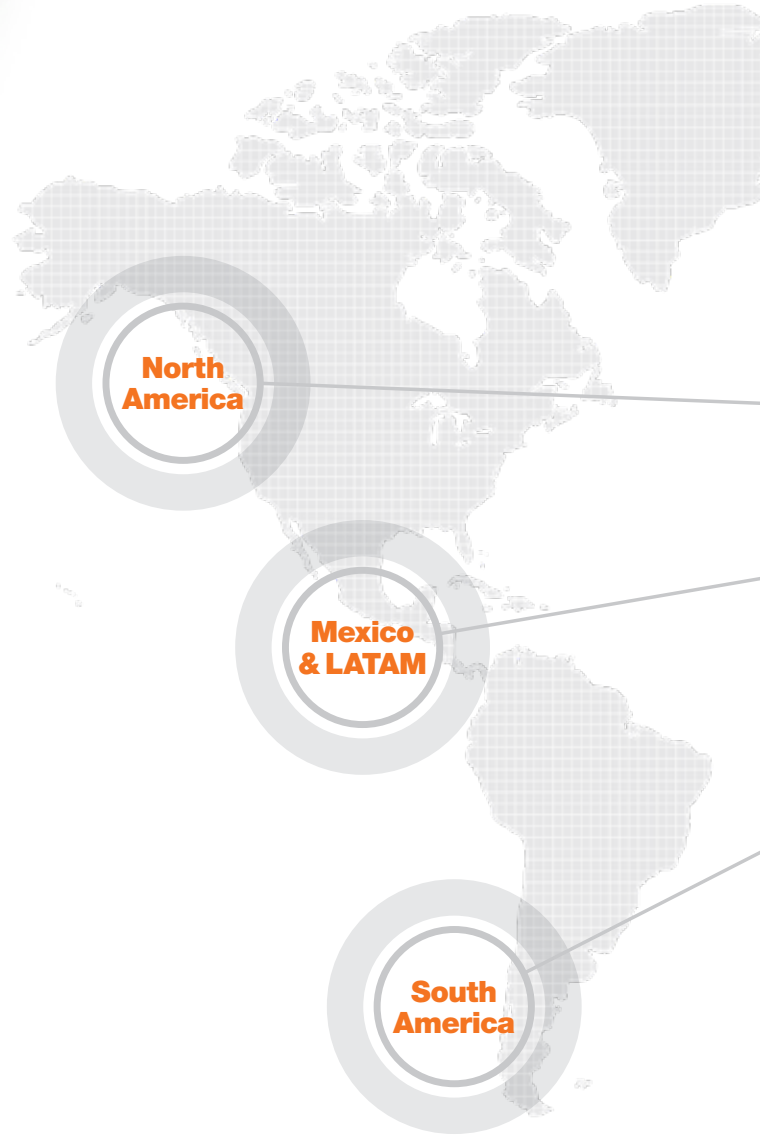
September 2021



**A WORLD LEADER IN TANKLESS WATER HEATERS, COMBI-BOILERS AND BOILERS**



Innovation,  
advanced technology  
and solutions for  
a greener world



### **Navigating, Energy and Environment**

Three words from which the company name was created.

#### **Mission**

To provide customers with the ultimate comfortable living environment through energy efficient products by using innovative technology to create a healthier environment for our future generations.

#### **Global vision**

Navien retains the largest market share for condensing gas water heaters in North America; is ranked top in technology patents; and is the largest exporter of boilers from Korea. Navien proudly exports that leadership in dependability, design, green technology, social responsibility and customer service to over 30 countries.

#### **A world leader in energy efficient technology**

Navien was an early leader in developing condensing technology for boilers and water heaters. Condensing technology maximizes energy by using heat emitted from flue gasses. As a result, energy consumption and greenhouse gases are reduced.

#### **Advanced technology for a cleaner world**

Navien's high efficiency and eco-friendly technology has reduced energy consumption by 20% and cut down the emissions of greenhouse gases. Our condensing tankless gas water heaters achieved one of the industry's highest energy factors, 0.96 UEF.







Europe

Russia

Asia

Oceania



**Solutions to control Navien products from anywhere in the world**

Navilink® Wi-Fi remote control system. This add-on accessory enables customers with smartphones and tablets to control their units remotely.

**NPE-2 Series**

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NPE-2

**NPN Series**

Pages 12-17



NPN

**NCB-H Series**

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NCB-H

**NFC-H Series**

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NFC-H

**NHB Series**

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NHB

**NFB-H Series**

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NFB-H

**NFB-C Series**

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NFB-C

# NPE-2 PREMIUM EFFICIENCY CONDENSING TANKLESS WATER HEATERS

Navien...the proven leader in condensing tankless, makes it even easier to sell, install and set up with new NPE-2 Series

## Cuts installation time in half

Thanks to using 1/2" gas pipe and 2" PVC venting, you can install a Navien tankless water heater in about half the time as competitive tankless heaters. Not to mention, Navien EZNav™ intuitive controls with setup wizard makes startup a simple and fast process.

## Fewer callbacks, longer life, faster heating

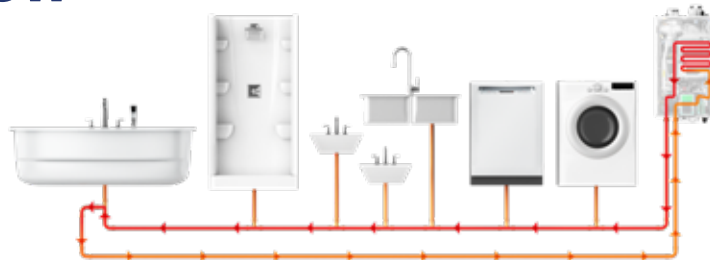
Navien was first to offer durable dual stainless steel heat exchangers.

## Saves energy, easier on the planet

Navien condensing stainless steel heat exchangers recover extra heat that would be lost in non-condensing units. Lower CO<sub>2</sub> emissions and low exhaust temperatures allows for less expensive venting materials like schedule 40 PVC.

## ComfortFlow<sup>®</sup>

### NPE-A2 built-in recirculation system



Navien's patented ComfortFlow<sup>®</sup> system is the first to include a buffer tank, recirculation pump and fine-tuned controls into a tankless water heater, resolving the cold-water sandwich effect\* and issues of minimal flow rates commonly found in other tankless water heaters.

\*The "cold-water sandwich effect" is the undesired introduction of cold water into the hot water supply line on occasions of frequent on/off operations. (Measure Guideline: Transitioning to a Tankless Water Heater, DOE, Sept. 2012.)

## Cascade up to 32 units and common vent up to 12 units

With Navien cascading technology, when a unit gets up to 80% capacity the next unit will turn on to help meet requirements. This demand ratio will continue until all 32 units are generating hot water. The Navien cascading system also balances out the workload of each unit for longer life. Building penetrations are reduced with Navien's common venting feature.



NPE-A2 Advanced



NPE-S2 Standard





# H<sub>2</sub>Air<sup>®</sup>

## NPE-A2 combination heating and DHW system

The optional H<sub>2</sub>Air<sup>®</sup> kit utilizes the NPE-A2 pump to circulate the hot water for the hydronic air handler, no need to purchase an additional circulator. Designed for retrofit and new construction, the kit includes an add-on controller to integrate space heating and DHW between any NPE-A2 series tankless water heater and a hydronic air handler.



## EZNav<sup>™</sup>

### Multi-line control with built-in intuitive software


An all-new backlit EZNav<sup>™</sup> control with setup wizard software, uses simple text and icons to make startup, operation status and troubleshooting faster and easier.



**2" PVC venting up to 75 feet.** Low exhaust gas temperatures allow use of PVC (including schedule 40 PVC), CPVC, polypropylene (rigid and flexible) and stainless steel venting saving time and costs.

• **Vent Installation Detector (VID)** for added safety.



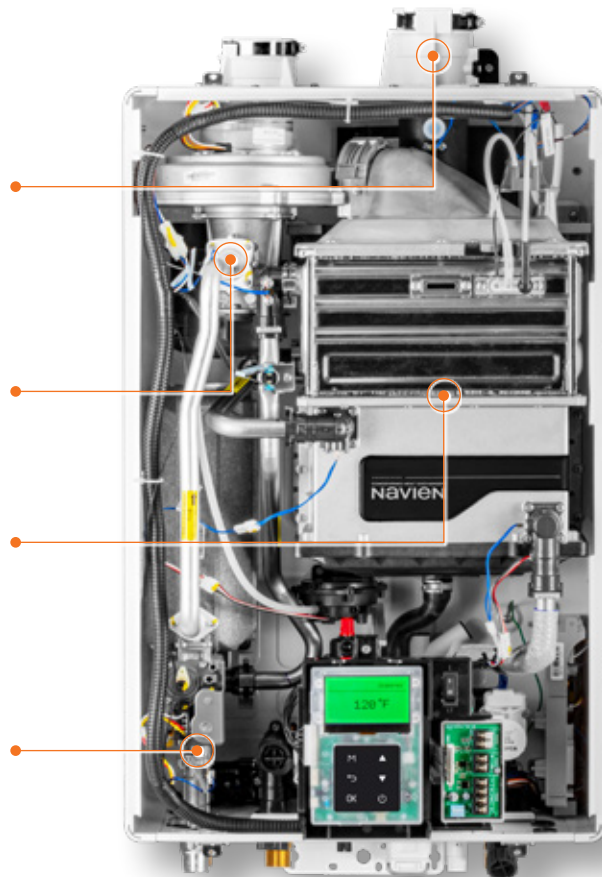
**Dual Venturi for field gas conversions.** Dual Venturi system creates better combustion control and turndown ratio. Field gas convertibility is easy with orifice conversion kits for NG high altitude (5,400–10,100 ft.) and LP (up to 10,100 ft.) included with NPE-2 tankless water heaters. 

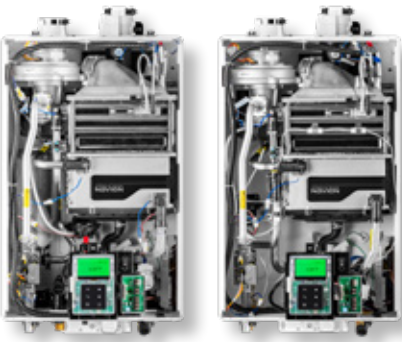


**Dual stainless steel heat exchangers** for added durability.



**1/2" gas pipe capability up to 24'** (subject to local codes). Cuts installation time, no need to install new gas lines for retrofit applications.





NPE-Advanced

NPE-Standard

# NPE-A2 Advanced NPE-S2 Standard

## NAVIEN PREMIUM EFFICIENCY CONDENSING TANKLESS WATER HEATERS



### Optional Wi-Fi remote control system

This add-on accessory will enable customers with smartphones and tablets to control temperatures remotely, access usage data and receive diagnostic notifications on all Navien NPE-A2 and NPE-S2 tankless water heaters.



### NPE-2 Series water heater accessories



**NaviLink**  
Wi-Fi control  
PBCM-AS-001



**HotButton**  
components  
**Wall plate**  
GXXX001427  
**Push button**  
GXXX001426



**H2Air**  
kit  
**AHU optimizer**  
PNBD-000001



**NaviCirc**  
recirculation valve  
**NaviCirc™**  
PFFW-SXX-001  
**NaviCirc™ kit**  
Includes 1/2" hoses and adapters  
30022965A

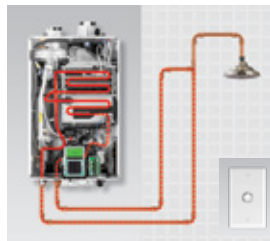


**PeakFlow®E**  
anti-scale system  
GXXX001725  
**PeakFlow®E replacement media**  
GXXX001726  
**PeakFlow® replacement media**  
GXXX001327



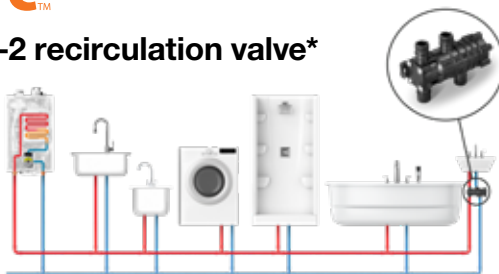
### Optional NPE-2 hot water activation system\*

At the push of a button, the HotButton® hot water system activates internal recirculation pump and gas fired burner to heat water in the supply lines to provide hot water only when needed. NPE-2 comes with a built-in HotButton controller.



### Optional NPE-2 recirculation valve\*

Designed for recirculation of domestic hot water in applications where a dedicated return line is not available.



\*External pump necessary for NPE-S2 not included.

# NPE-2 Series water heater accessories



**Remote controller NPE-2 Series**  
30022717B



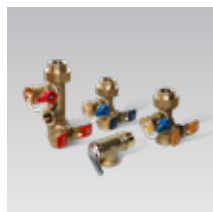
**2" and 3" wall flange and vent terminator kit**  
**2" kit**  
30010747A  
**3" kit**  
30003873B



**Plumb easy valve 3/4" with relief valve**  
30009323A



**Common vent collar kit**  
30014367B  
Includes cascade cable (GXXX000546), common vent collar damper and VID jumper cable.



**Plumb easy 3 valve set for NPE-A2**  
30022163A



**Vent cap NPE-2 Series**  
30025801A



**Plumb easy valve 3/4" with relief valve**  
(Designed to work with pipe cover)  
30012581A



**Pipe cover NPE-2 Series**  
30025812A  
**Use with isolation valves**  
30012581A

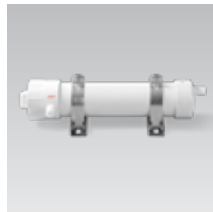


**Residential neutralizer**  
1 unit  
GXXX001322  
**Residential replacement media**  
GXXX001323

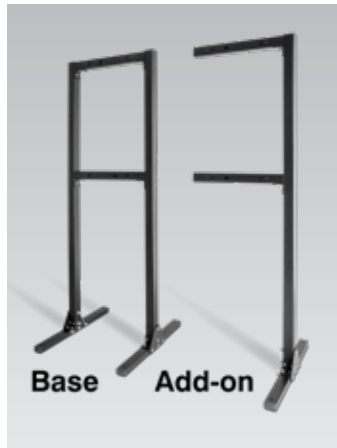


**Ready-Link® communication cable**  
GXXX000546

**External pump wire**  
GXXX001319



**Light commercial neutralizer**  
GXXX001324  
**Light commercial replacement media**  
GXXX001328



**Ready-Link® rack**  
**Base (V3)**  
GFFMKDIZUS-005  
**Add-on (V3)**  
GFFMKDIZUS-006



**Commercial neutralizer**  
GXXX001325  
**Commercial replacement media**  
GXXX001329



# NPE-2 NAVIEN READY-LINK MODULAR MANIFOLD MOUNTING SYSTEM



Now manifold mounting on a wall or rack is as simple as 1-2-3-4

- Simply no waiting for custom racks
- Simply easy to transport, assemble and install
- Simply more profitable
- Simply visit your local Navien wholesaler and pick up everything you need for your installation today



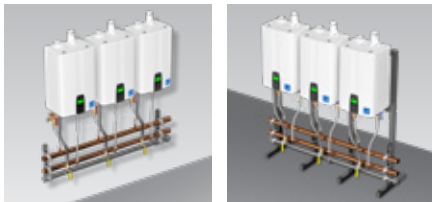
**Each kit includes the following items in varying quantities based on the kit selected:**

- 3/4" x 3/4" adapter
- 3/4" NPT ball valve
- 1-1/2" gas union
- 2" copper end cap
- 2" copper coupling
- 2-1/8" strut clamp
- Hardware kit
- 3/4" service valves with PRV
- 1-5/8" x 18" strut channel (14ga)
- 3/4" x 24" SS corrugated flex connector
- 3/4" x 30" gas flex connector
- 3/4" x 18" SS corrugated flex connector
- 1-1/2" FPT galvanized iron end cap
- 1-7/8" OD strut clamp

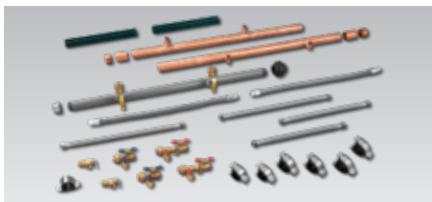
**1** Pick your Navien unit, NPE-A2 or NPE-S2



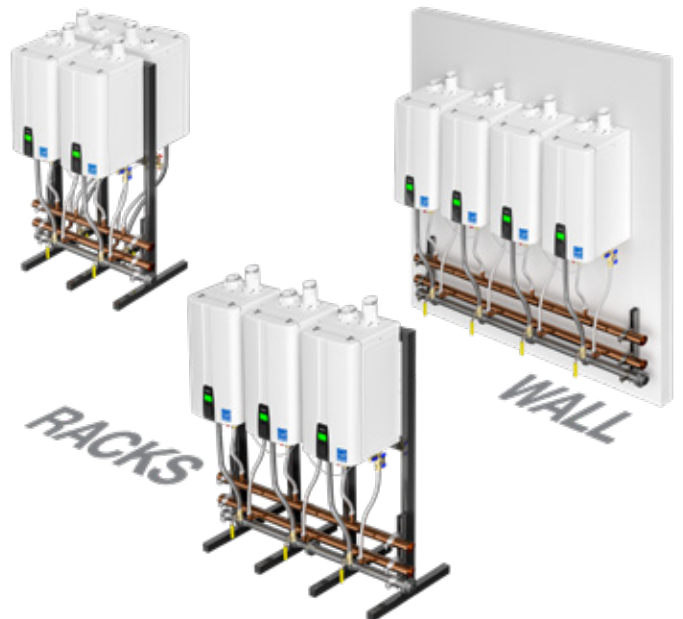
**2** Pick your location, wall or rack
































**3** Pick your matching manifold kit(s)



**4** Pick your intake/exhaust venting configuration



# Ready-Link<sup>®</sup> manifold configurations

2 Unit Side-by-Side Manifold  <b>2</b>	4 and 3 Unit Side-by-Side Manifold  <b>7</b>	3 and 3 Unit Side-by-Side Manifold (bank 1) + 3 and 3 Unit Side-by-Side Manifold (bank 2)  <b>12</b>
2 Unit Back-to-Back Manifold  <b>2</b>	4 and 4 Unit Back-to-Back Manifold  <b>7</b>	4 and 2 Unit Back-to-Back Manifold (bank 1) + 4 and 2 Unit Back-to-Back Manifold (bank 2)  <b>12</b>
3 Unit Side-by-Side Manifold  <b>3</b>	4 and 4 Unit Side-by-Side Manifold  <b>8</b>	4 and 4 Unit Side-by-Side Manifold (bank 1) + 3 and 2 Unit Side-by-Side Manifold (bank 2)  <b>13</b>
4 Unit Back-to-Back Manifold  <b>3</b>	4 and 4 Unit Back-to-Back Manifold  <b>8</b>	4 and 4 Unit Back-to-Back Manifold (bank 1) + 4 and 2 Unit Back-to-Back Manifold (bank 2)  <b>13</b>
4 Unit Side-by-Side Manifold  <b>4</b>	3 and 2 Unit Side-by-Side Manifold (bank 1) + 4 Unit Side-by-Side Manifold (bank 2)  <b>9</b>	4 and 3 Unit Side-by-Side Manifold (bank 1) + 4 and 3 Unit Side-by-Side Manifold (bank 2)  <b>14</b>
4 Unit Back-to-Back Manifold  <b>4</b>	4 and 2 Unit Back-to-Back Manifold (bank 1) + 3 Unit Side-by-Side Manifold (bank 2)  <b>9</b>	4 and 4 Unit Back-to-Back Manifold (bank 1) + 4 and 2 Unit Back-to-Back Manifold (bank 2)  <b>14</b>
3 and 2 Unit Side-by-Side Manifold  <b>5</b>	3 and 2 Unit Side-by-Side Manifold (bank 1) + 3 and 2 Unit Side-by-Side Manifold (bank 2)  <b>10</b>	4 and 4 Unit Side-by-Side Manifold (bank 1) + 4 and 3 Unit Side-by-Side Manifold (bank 2)  <b>15</b>
4 and 2 Unit Back-to-Back Manifold  <b>5</b>	4 and 4 Unit Back-to-Back Manifold (bank 1) + 2 Unit Back-to-Back Manifold (bank 2)  <b>10</b>	4 and 4 Unit Back-to-Back Manifold (bank 1) + 4 and 4 Unit Back-to-Back Manifold (bank 2)  <b>15</b>
4 and 2 Unit Side-by-Side Manifold  <b>6</b>	4 and 3 Unit Side-by-Side Manifold (bank 1) + 4 Unit Side-by-Side Manifold (bank 2)  <b>11</b>	4 and 4 Unit Side-by-Side Manifold (bank 1) + 4 and 4 Unit Side-by-Side Manifold (bank 2)  <b>16</b>
4 and 2 Unit Back-to-Back Manifold  <b>6</b>	4 and 4 unit Back-to-Back Manifold (bank 1) + 4 Unit Back-to-Back Manifold (bank 2)  <b>11</b>	4 and 4 Unit Back-to-Back Manifold (bank 1) + 4 and 4 Unit Back-to-Back Manifold (bank 2)  <b>16</b>

**NOTE:** When adding additional manifolds, field adjustment of the main piping may be necessary in order to properly connect the provided flex connectors to the water heaters. Other configurations are possible. Rack not required for wall mount. Ready-Link<sup>®</sup> Rack Base and Add-on Components sold separately.



NPE-Advanced

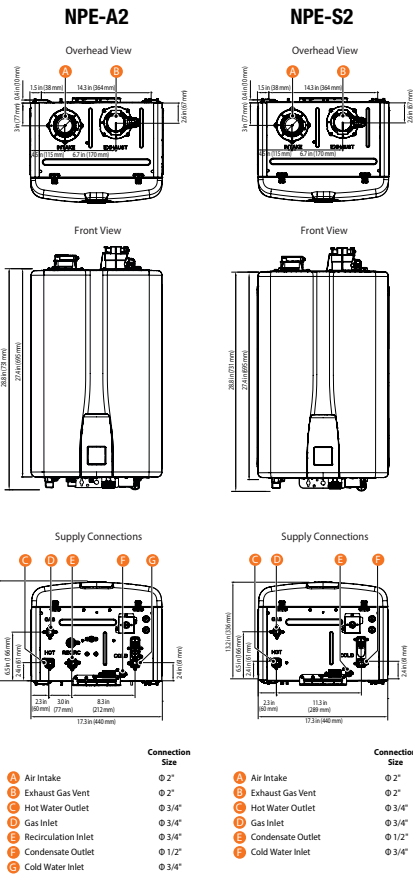


NPE-Standard

# NPE-A2 Advanced NPE-S2 Standard

NAVIEN PREMIUM EFFICIENCY  
CONDENSING TANKLESS  
WATER HEATERS

## Dimensions



## Specifications

Item	NPE-150S2	NPE-180A2	NPE-180S2	NPE-210A2	NPE-210S2	NPE-240A2	NPE-240S2
Heat capacity (input)	Natural gas 18,000–120,000 BTU/H	10,000–150,000 BTU/H		12,000–180,000 BTU/H		13,300–199,900 BTU/H	
Energy factor	UEF (for NG & LP) 0.93	0.95	0.96	0.95	0.96	0.95	0.96
Flow rate (DHW)	35°F (19°C) temp rise	6.8 GPM (26 L/m)	8.4 GPM (32 L/m)	10.1 GPM (38 L/m)		11.2 GPM (42 L/m)	
	45°F (25°C) temp rise	5.3 GPM (20 L/m)	6.5 GPM (25 L/m)	7.8 GPM (30 L/m)		8.7 GPM (33 L/m)	
	67°F (36°C) temp rise	3.4 GPM (13 L/m)	4.3 GPM (16 L/m)	4.4 GPM (17 L/m)	5.1 GPM (19 L/m)	5.3 GPM (20 L/m)	5.6 GPM (21 L/m) 5.8 GPM (22 L/m)
Dimensions	17.3" (W) x 27.4" (H) x 13.2" (D)						
Weight	62 lbs (28 kg)	73 lbs (33 kg)	68 lbs (31 kg)	77 lbs (35 kg)	73 lbs (33 kg)	77 lbs (35 kg)	73 lbs (33 kg)
Installation type	Indoor or outdoor wall-hung						
Venting type	Forced draft direct-vent						
Ignition	Electronic ignition						
Water pressure	15–150 PSI						
Natural gas supply pressure (from source)	3.5" WC–10.5" WC						
Propane gas supply pressure (from source)	8" WC–13" WC						
Natural gas manifold pressure (min-max)	-0.04" WC– -0.40" WC	-0.03" WC– -0.55" WC		-0.03" WC– -0.76" WC		-0.03" WC– -0.96" WC	
Propane gas manifold pressure (min-max)	-0.03" WC– -0.40" WC	-0.02" WC– -0.55" WC		-0.02" WC– -0.76" WC		-0.02" WC– -0.96" WC	
Minimum flow rate	0.5 GPM (1.9 L/m), < 0.01 GPM (0.04 L/m) option for "A2" models*						
Connection sizes	Cold water inlet	3/4" NPT					
	Hot water outlet	3/4" NPT					
	Gas inlet	3/4" NPT					
Power supply	Main supply	120V AC, 60 Hz					
	Maximum power consumption	200 W (max 2 A), 350 W (max 4 A) with external pump connected					
Materials	Casing	Cold rolled carbon steel					
	Heat exchangers	Primary heat exchanger: stainless steel Secondary heat exchanger: stainless steel					
Venting	Exhaust	2" or 3" PVC, CPVC, approved polypropylene and stainless steel 2" or 3" special gas vent type BH (Class II, A/B/C)					
	Intake	2" or 3" PVC, CPVC, approved polypropylene and stainless steel 2" or 3" special gas vent type BH (Class II, A/B/C)					
	Vent clearances	0" to combustibles					
High elevations	10,100 feet for both NG or LP gas. Please refer to Installation Manual for additional details and instructions.						
Safety devices	Flame rod, APS, ignition operation detector, water temperature high limit switch, exhaust temperature high limit sensor, power surge fuse, burner high limit fuse, Vent Installation Detector (VID)						

\*Available for NPE-A2 models configured in an optional ComfortFlow® recirculation mode. Energy consumption will increase when the system is configured for recirculation.

Navien reserves the right to change specifications at any time without prior notice. Please refer to [www.Navieninc.com](http://www.Navieninc.com) to verify you have the most current information.



## Navien certification summary (Note: all NPE-2 models are field convertible from NG to LP gas)

Model	Product Approvals					Efficiency Ratings*			Annual Energy Consumption* (Residential)		
	CSA	NSF (Standard 5)	Low Lead (<0.25%)	SCAQMD 1146.2 (NOx, <20ppm)	AHRI Number	Energy Star	Uniform Energy Factor (UEF)	Max GPM (L/m) (67°F Rise)	Natural Gas (Therms/Year)	Propane (Gallons/Year)	Estimated Operating Cost**
NPE-180A2-NG	Yes	Yes	Yes	Yes	206368357	Yes	0.95	4.3 (16)	179		\$195
NPE-180A2-LP	Yes	Yes	Yes	Yes	206368357	Yes	0.95	4.3 (16)		196	\$472
NPE-210A2-NG	Yes	Yes	Yes	Yes	206368358	Yes	0.95	5.1 (19)	179		\$195
NPE-210A2-LP	Yes	Yes	Yes	Yes	206368358	Yes	0.95	5.1 (19)		196	\$472
NPE-240A2-NG	Yes	Yes	Yes	Yes	206368359	Yes	0.95	5.6 (21)	179		\$195
NPE-240A2-LP	Yes	Yes	Yes	Yes	206368359	Yes	0.95	5.6 (21)		196	\$472
NPE-150S2-NG	Yes	Yes	Yes	Yes	206423843	Yes	0.93	3.4 (13)	120		\$131
NPE-150S2-LP	Yes	Yes	Yes	Yes	206423843	Yes	0.93	3.4 (13)		131	\$316
NPE-180S2-NG	Yes	Yes	Yes	Yes	206368360	Yes	0.96	4.4 (17)	177		\$193
NPE-180S2-LP	Yes	Yes	Yes	Yes	206368360	Yes	0.96	4.4 (17)		194	\$468
NPE-210S2-NG	Yes	Yes	Yes	Yes	206368361	Yes	0.96	5.3 (20)	177		\$193
NPE-210S2-LP	Yes	Yes	Yes	Yes	206368361	Yes	0.96	5.3 (20)		194	\$468
NPE-240S2-NG	Yes	Yes	Yes	Yes	206368362	Yes	0.96	5.8 (22)	177		\$193
NPE-240S2-LP	Yes	Yes	Yes	Yes	206368362	Yes	0.96	5.8 (22)		194	\$468

\*Based on U.S. Department of Energy (DOE) test procedures.

\*\*Based on a national average natural gas cost of \$1.09/therm, propane cost of \$2.41/gallon.



### Temperature rise (maximum output)

Temp Rise °F (°C)	NPE-150S2 GPM (L/m)	NPE-180A2/S2 GPM (L/m)	NPE-210A2/S2 GPM (L/m)	NPE-240A2/S2 GPM (L/m)
35 (19)	6.8 (26)	8.4 (32)	10.1 (38)	11.2 (42)
40 (22)	5.9 (22)	7.4 (28)	8.8 (33)	9.8 (37)
45 (25)	5.3 (20)	6.5 (25)	7.8 (30)	8.7 (33)
50 (28)	4.8 (18)	5.9 (22)	7.1 (27)	7.8 (30)
55 (31)	4.3 (16)	5.3 (20)	6.4 (24)	7.1 (27)
60 (33)	4.0 (15)	4.9 (19)	5.9 (22)	6.5 (25)
65 (36)	3.7 (14)	4.5 (17)	5.4 (20)	6.0 (23)
70 (39)	3.4 (13)	4.2 (16)	5.0 (19)	5.6 (21)
75 (43)	3.2 (12)	3.9 (15)	4.7 (18)	5.2 (20)
80 (44)	3.0 (11)	3.7 (14)	4.4 (17)	4.9 (19)
85 (47)	2.8 (11)	3.5 (13)	4.2 (16)	4.6 (17)
90 (50)	2.6 (10)	3.3 (12)	3.9 (15)	4.4 (17)
100 (56)	2.4 (9)	2.9 (11)	3.5 (13)	3.9 (15)
110 (61)	2.2 (8)	2.7 (10)	3.2 (12)	3.6 (14)
120 (67)	2.0 (8)	2.5 (9)	2.9 (11)	3.3 (12)
130 (72)	1.8 (7)	2.3 (9)	2.7 (10)	3.0 (11)
140 (78)	1.7 (6)	2.1 (8)	2.5 (9)	2.8 (11)

### DHW capacity

Models	Natural Gas (BTU/H)	Propane Gas (BTU/H)
NPE-150S2	18,000–120,000	18,000–120,000
NPE-180A2/S2	10,000–150,000	10,000–150,000
NPE-210A2/S2	12,000–180,000	12,000–180,000
NPE-240A2/S2	13,300–199,900	13,300–199,900

### Operating cost

Navien tankless	179 therms	\$195*
Other tankless	209 therms	\$228*
Standard tank	269 therms	\$293*

\*Based on Energy Guide cost estimates using \$1.09 per therm of natural gas. Cost is in US dollars.

### Warranty

Application		Labor	Parts	Heat Exchanger
Residential	Standard or controlled recirculation <sup>2</sup>	1 year	5 years	15 years
	Uncontrolled recirculation <sup>3</sup>	1 year	3 years	5 years
Commercial or Combi <sup>1</sup>	Standard or controlled recirculation <sup>2</sup>	1 year	5 years	8 years
	Uncontrolled recirculation <sup>3</sup>	1 year	3 years	3 years

<sup>1</sup> Combi refers to a combination potable water and space heating application. Water heaters cannot be used in space heating only applications.  
<sup>2</sup> Controlled-Recirculation: Recirculation through the water heater is controlled by either the water heater or an external aquastat.  
<sup>3</sup> Uncontrolled-Recirculation: External pumps configured to circulate continuously through the water heater are subject to the uncontrolled recirculation warranty terms. An aquastat is the minimum pump control requirement for DHW or storage tank recirculation in order to maintain the full controlled recirculation warranty.  
 For complete details please refer to the full warranty at Navieninc.com.

### U.S. Green Building Council LEED points\*

Water Heater	Location	Recirculation
1.5 Points	2 Points	3 Points

### Lower HERS Home Index Score\*

\*Please consult your Energy/LEED consultant.



# NPN NAVIEN PREMIUM NON-CONDENSING TANKLESS WATER HEATERS

No one has put more ingenuity into non-condensing tankless than Navien

## The NPN Series brings you endless hot water, innovations and energy savings

Navien's NPN series is the first and only non-condensing tankless water heater series that offers a durable stainless-steel heat exchanger and a patented stainless steel burner design, all with Navien's dedication to advanced engineering, elegant design and exceptional product quality, support and strong warranties.

- Choice of universal indoor/outdoor or outdoor only operation
- For residential/commercial use and cascade capable
- NaviVent™ concentric 3" x 5" venting
- Units available in either Natural Gas (NG) or Liquid Propane (LP) gas

**NAVITECH™**  
STAINLESS STEEL  
HX AND BURNER

**PREMIUM  
INTEGRATED  
CONTROLS**

**0.81 UEF**

**98°-140°**  
TEMP RANGE

**9.5 GPM**  
@ 35° TEMP RISE

**CASCADE** UP TO **2**  
UNITS



**NPN-Universal**  
indoor version



**NPN-Universal** with  
vent cap for outdoor use

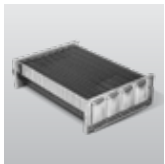


**NPN-Exterior**  
outdoor only

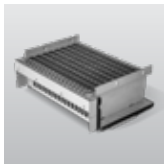




NPN



**Exclusive NaviTech™ stainless steel heat exchanger.** NPN is the first non-condensing unit with a stainless steel heat exchanger.



**Patented NaviTech™ stainless steel burner** with precision control flame technology for eco-friendly low NOx emissions comparable to condensing burners.



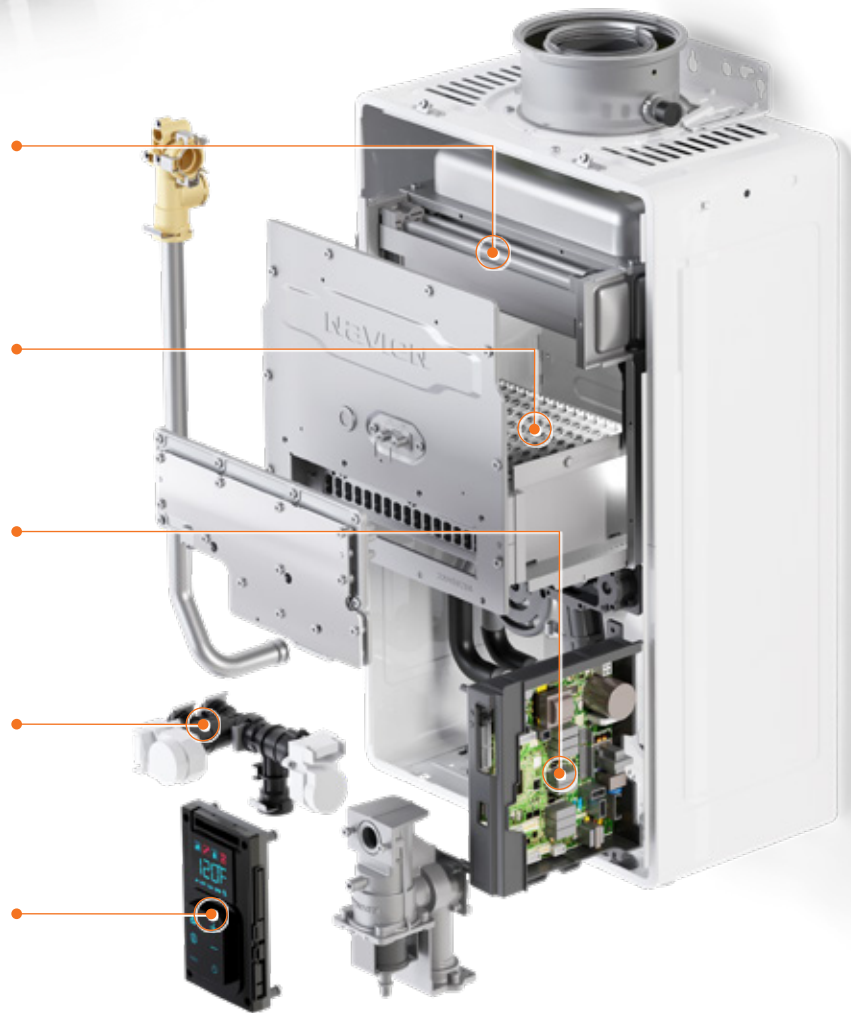
**Circuitry with built-in recirculation control and software.** No need to add separate controller saving installation time and money.



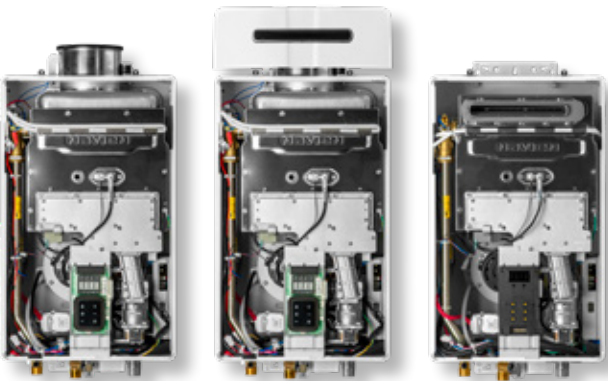
**Built-in Water Adjustment Valve (WAV) and mixing valve** controls flow to maintain setpoint and stabilizes temperature during flow changes.



**NPN Series integrated control panel** allows you to adjust water temperature, operation status and troubleshooting.







**NPN-Universal**  
indoor version

**NPN-Universal**  
with vent cap  
for outdoor use

**NPN-Exterior**  
outdoor only

# NPN-Universal NPN-Exterior

## NAVIEN PREMIUM NON-CONDENSING TANKLESS WATER HEATERS

### NPN water heater accessories



**NaviLink®**  
**Wi-Fi control**  
PBCM-AS-001  
**Expansion cable**  
GXXX001659



**PeakFlowE**  
**anti-scale system**  
GXXX001725  
**PeakFlowE™ media**  
GXXX001726  
**PeakFlow™ media**  
GXXX001327



**Ready-Link®**  
**communication cable**  
GXXX000546

**External pump wire**  
GXXX001319



**H2Air.**  
**kit**  
**AHU optimizer**  
PNBD-000001



**Remote controller**  
Optional for  
NPN-U models  
30022717B



**Outdoor  
vent cap kit**  
(NPN-U only)  
30023991A



**HotButton®**  
**control kit**  
PZZZ-00046  
**Wall plate**  
GXXX001427  
**Push button**  
GXXX001426



**Plumb easy  
valve 3/4" with  
relief valve**  
30009323A



**Pipe cover  
NPN Series**  
30024017A



**Ready-Link®**  
**rack**  
**Base (V3)**  
GFFMKDIZUS-005  
**Add-on (V3)**  
GFFMKDIZUS-006

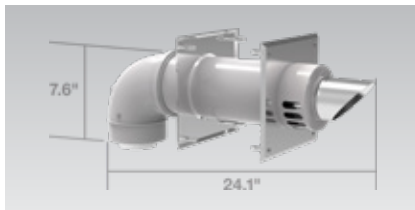


**Recess box**  
NPN-E only  
lock not included  
30023550A

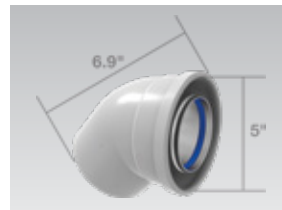




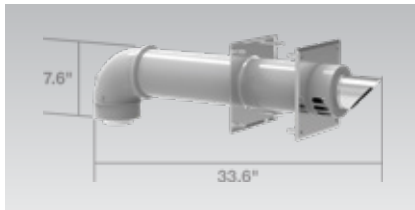
## 3" x 5" concentric venting accessories



**Sidewall standard termination kit**  
11.5" (292mm)  
GXXX001891



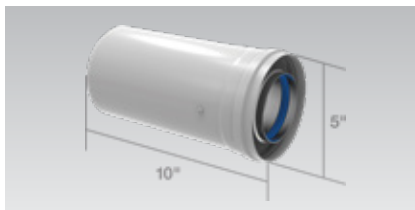
**Elbow**  
80-125 mm 45°  
GXXX001894



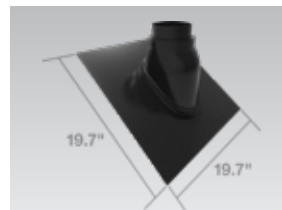
**Sidewall long termination kit**  
21" (533mm)  
GXXX001892



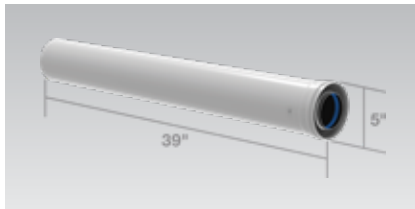
**Elbow**  
80-125 mm 90°  
GXXX001895



**Vent pipe extension**  
10" (254mm)  
GXXX001896



**Adjustable roof flashing**  
GXXX001901



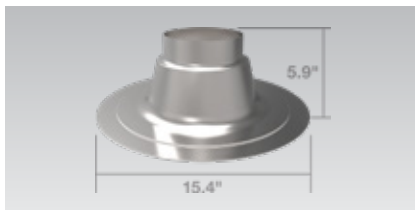
**Vent pipe dxextension**  
39" (991mm)  
GXXX001897



**Concentric roof termination**  
13" (330mm) – GXXX001893



**Metal wall strap**  
GXXX001902



**Flat roof flashing**  
GXXX001900



**Condensate trap kit**  
GXXX001952



**NPN-Universal**  
indoor version

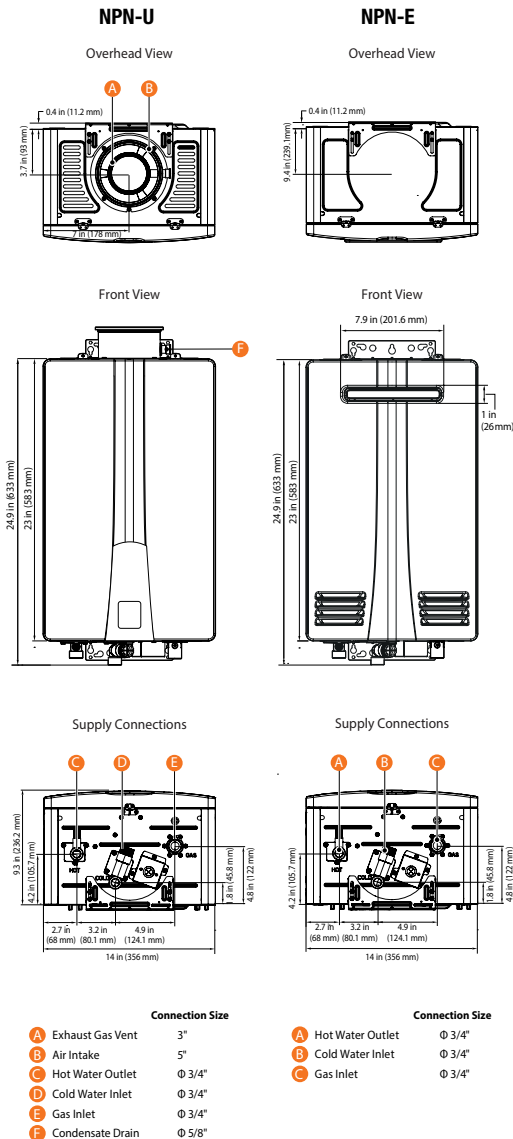
**NPN-Universal**  
with vent cap  
for outdoor use

**NPN-Exterior**  
outdoor only

# NPN-Universal NPN-Exterior

## NAVIEN PREMIUM NON-CONDENSING TANKLESS WATER HEATERS

### Dimensions



### Specifications

Item	NPN-Universal Model			NPN-Exterior Model		
	NPN-160U	NPN-180U	NPN-199U	NPN-160E	NPN-180E	NPN-199E
Heat capacity (input) natural gas/propane gas	10,700–160,000 (BTU/H)	10,700–180,000 (BTU/H)	10,700–199,900 (BTU/H)	10,700–160,000 (BTU/H)	10,700–180,000 (BTU/H)	10,700–199,900 (BTU/H)
Efficiency rating for NG & LP	0.81 UEF					
Flow rate (DHW)	35°F (18°C) temp rise	7.6 GPM (29 L/m)	8.5 GPM (32 L/m)	9.5 GPM (36 L/m)	7.6 GPM (29 L/m)	8.5 GPM (32 L/m)
	45°F (23°C) temp rise	5.9 GPM (22 L/m)	6.6 GPM (25 L/m)	7.4 GPM (28 L/m)	5.9 GPM (22 L/m)	6.6 GPM (25 L/m)
	67°F (36°C) temp rise	4.0 GPM (15 L/m)	4.6 GPM (17 L/m)	5.1 GPM (19 L/m)	4.0 GPM (15 L/m)	4.6 GPM (17 L/m)
Dimensions	14.0" W x 23.0" H x 9.3" D					
Weight	55 lbs (25 kg)	60 lbs (27 kg)	60 lbs (27 kg)	55 lbs (25 kg)	60 lbs (27 kg)	60 lbs (27 kg)
Installation type	Indoor wall-hung (vent kit option for outdoor)			Only outdoor wall-hung		
Venting type	Forced draft direct vent (indoor only)					
Ignition type	Electronic ignition					
Water pressure	15–150 PSI					
Natural gas supply pressure (from source)	3.5" WC–10.5" WC					
Propane gas supply pressure (from source)	8" WC–13" WC					
Natural gas manifold pressure (min-max)	2.83" WC, 0.70" WC	2.25" WC, 0.53" WC	2.81" WC, 0.53" WC	3.23" WC, 0.69" WC	2.38" WC, 0.53" WC	2.99" WC, 0.52" WC
Propane gas manifold pressure (min-max)	5.93" WC, 1.38" WC	5.28" WC, 1.31" WC	6.55" WC, 1.31" WC	6.34" WC, 1.35" WC	5.39" WC, 1.28" WC	6.61" WC, 1.28" WC
Minimum flow rate	0.5 GPM (1.9L/m)					
Connection sizes	3/4" NPT cold water inlet 3/4" NPT hot water outlet 3/4" NPT gas inlet					
Power supply	Main supply	120V AC, 60 Hz				
	Normal	90 W	88 W	120 W	90 W	88 W
	Standby	4 W				
	Anti-frost	114 W				
	External pump	< 150 W, 1.5 A				
Materials	Fuse	5.0 A				
	Casing	Cold rolled carbon steel				
Safety devices	Heat exchanger	Stainless steel				
		Flame rod, APS, ignition operation detector, water temperature high limit switch, power surge fuse				

Navien reserves the right to change specifications at any time without prior notice.

Please refer to [www.NavienInc.com](http://www.NavienInc.com) to verify you have the most current information.



## Navien certification summary

Model	Product Approvals					Efficiency Ratings*	
	CSA	NSF (Standard 5)	Low Lead (<0.25%)	Ultra Low NOx	AHRI Number	Uniform Energy Factor (UEF)	Max GPM (35°F Rise)
NPN-160U-NG	Yes	Yes	Yes	Yes	205042074	0.81	7.6
NPN-160U-LP	Yes	Yes	Yes	Yes	205042075	0.81	7.6
NPN-180U-NG	Yes	Yes	Yes	Yes	204524353	0.81	8.5
NPN-180U-LP	Yes	Yes	Yes	Yes	204524354	0.81	8.5
NPN-199U-NG	Yes	Yes	Yes	Yes	204524349	0.81	9.5
NPN-199U-LP	Yes	Yes	Yes	Yes	204524350	0.81	9.5
NPN-160E-NG	Yes	Yes	Yes	Yes	205042076	0.81	7.6
NPN-160E-LP	Yes	Yes	Yes	Yes	205042077	0.81	7.6
NPN-180E-NG	Yes	Yes	Yes	Yes	204524355	0.81	8.5
NPN-180E-LP	Yes	Yes	Yes	Yes	204524356	0.81	8.5
NPN-199E-NG	Yes	Yes	Yes	Yes	204524351	0.81	9.5
NPN-199E-LP	Yes	Yes	Yes	Yes	204524352	0.81	9.5

\*Based on U.S. Department of Energy (DOE) test procedures.



## Temperature rise (maximum output)

Temp Rise °F (°C)	NPN-160 U/E GPM (L/m)	NPN-180 U/E GPM (L/m)	NPN-199 U/E GPM (L/m)
<b>30 (17)</b>	8.9 (34)	10.0 (38)	11.1 (42)
<b>35 (19)</b>	7.6 (29)	8.5 (32)	9.5 (36)
<b>40 (22)</b>	6.6 (25)	7.5 (28)	8.3 (31)
<b>45 (25)</b>	5.9 (22)	6.6 (25)	7.4 (28)
<b>50 (28)</b>	5.3 (20)	6.0 (23)	6.6 (25)
<b>55 (31)</b>	4.8 (18)	5.4 (20)	6.0 (23)
<b>60 (33)</b>	4.4 (17)	5.0 (19)	5.5 (21)
<b>65 (36)</b>	4.1 (16)	4.6 (17)	5.1 (19)
<b>70 (39)</b>	3.8 (14)	4.3 (16)	4.7 (18)
<b>75 (43)</b>	3.5 (13)	4.0 (15)	4.4 (17)
<b>80 (44)</b>	3.3 (12)	3.7 (14)	4.1 (16)
<b>85 (47)</b>	3.1 (12)	3.5 (13)	3.9 (15)
<b>90 (50)</b>	3.0 (11)	3.3 (12)	3.7 (14)
<b>100 (56)*</b>	2.7 (10)	3.0 (11)	3.3 (12)

\*Max temperature setting is 140°F (60°C).

## DHW capacity

Models	Natural Gas/Propane Gas (BTU/H)
NPN-160 U/E series	10,700–160,000
NPN-180 U/E series	10,700–180,000
NPN-199 U/E series	10,700–199,900

## Warranty

Application	Labor	Parts	Heat Exchanger	
Residential	Standard	1 year	5 years	15 years
	Uncontrolled Recirculation <sup>2</sup>	1 year	3 years	5 years
Commercial or Combi <sup>1</sup>	Standard	1 year	5 years	5 years
	Uncontrolled Recirculation <sup>2</sup>	1 year	3 years	3 years

<sup>1</sup> Combi refers to a combination potable water and space heating application. Water heaters cannot be used in space heating only applications.

<sup>2</sup> Uncontrolled-Recirculation: External pumps configured to circulate continuously through the water heater are subject to the uncontrolled recirculation warranty terms. An aquastat is the minimum pump control requirement for DHW or storage tank recirculation in order to maintain the full controlled recirculation warranty.

For complete details please refer to the full warranty at NavienInc.com.

# NCB-H NAVIEN HIGH CAPACITY WATER TUBE CONDENSING COMBI-BOILERS

Aim high with Navien...  
High efficiency, High output,  
all in one compact combi

- **Highest** DHW maximum BTUs in residential combi-boilers... up to 210,000 per hour
- **Highest** DHW flow rate @ 70°F rise... up to 5.4 GPM
- **Highest** number of BTU sizes for the North American residential combi-boiler market
- **Highest** residential combi DHW TDR...15:1
- **Highest** residential combi heating TDR...up to 11:1\*
- **Highest** number of built-in zone controls for valves or pumps... up to three
- **Highest** full lineup with 2" venting lengths... up to 65 feet
- **Highest** number of cascade capable units with NPE-2 tankless water heaters... up to 15
- **High altitude certification**... up to 10,100 feet (NG or LP)
- **Lowest minimum fire BTU** for residential combi-boilers... as low as 10,700

\*Based on NCB-250/150H.



NCB-H Series

**New built-in DHW module now with higher performance.** Navien's NCB-H can generate enough hot water to run up to 3 showers and a dishwasher at the same time.

DHW module is easily accessible behind circuitry/control panel.

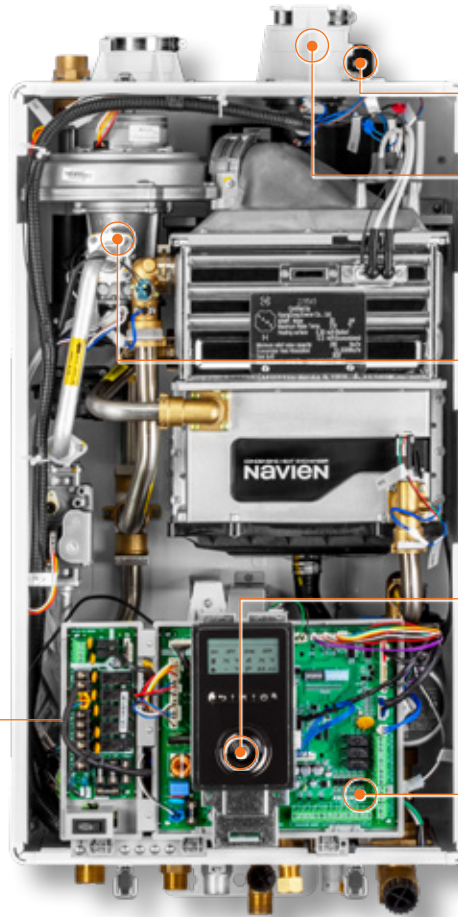
Integrated boiler pump.

Flow adjustment valve.

DHW stainless steel heat exchanger. Up to 5.4 GPM @ 70°F temp. rise. The highest flow rate in the industry.

Mixing valve.

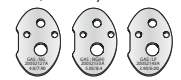
3-way valve.



**Vent Installation Detection (VID).**

**2" PVC venting up to 65 feet** including economical schedule 40 PVC.

**Dual Venturi and field gas convertibility.** Dual Venturi system creates better combustion control and turndown ratio. Field gas convertibility is easy with orifice conversion kits for NG high altitude (5,400–10,100 ft.) and LP (up to 10,100 ft.) included with NCB-H series combi-boilers.



**Advanced user interface with Setup Wizard.** Navien's new backlit control panel is simple and intuitive to use with its plain text display and an innovative click wheel that improves usability for all information input.

**Built-in control for 3-zone pumps or 3-zone valves.** Connections are powered, not just dry contact relays. The supplied power by PCB board is 120VAC for zone pumps and 24VAC for zone valves.

A WORLD LEADER IN TANKLESS WATER HEATERS, COMBI-BOILERS AND BOILERS



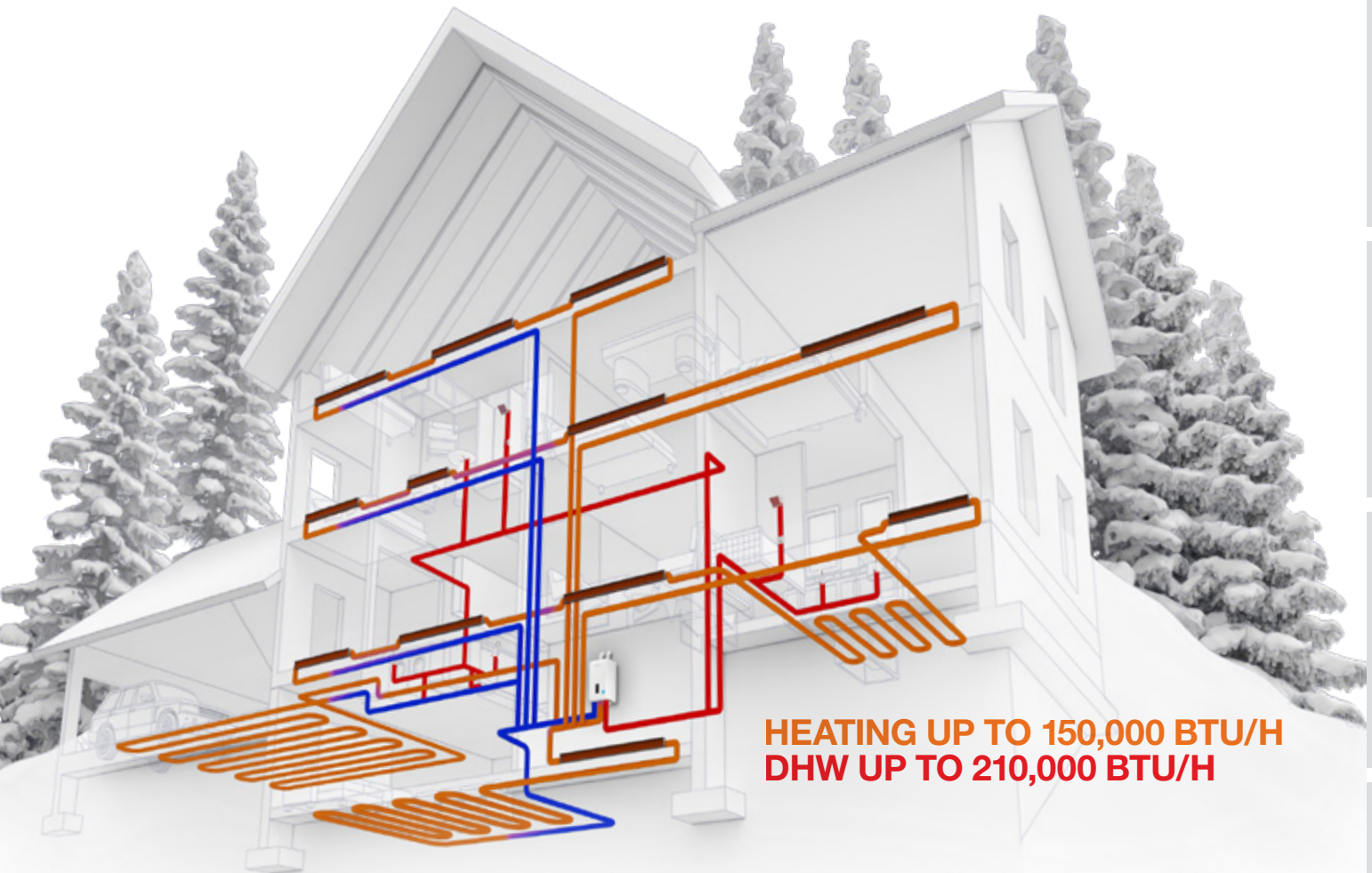
**High efficiency stainless steel burner.** Navien designed and built, fully modulating metal fiber premix burner system.

**Dual stainless steel heat exchangers for heating.** Stainless steel heat exchangers offer durability and added condensing performance.

**Separate SS flat plate heat exchanger for DHW.** DHW heat exchanger delivers up to 5.4 GPM at 70°F temperature rise, the highest flow rate in the industry.



NCB-H



**HEATING UP TO 150,000 BTU/H**  
**DHW UP TO 210,000 BTU/H**







NCB-H

# NCB-H Series

## NAVIEN HIGH CAPACITY WATER TUBE CONDENSING COMBI-BOILERS



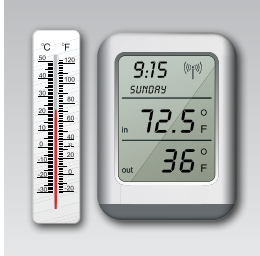
Compare these advantages and see why NCB-H is the right fit for any size family



**Dual inputs of up to 150,000 BTU/H for heating and 210,000 BTU/H for DHW**  
Satisfies all the space heating and domestic hot water requirements of most typical large homes.



**2" PVC venting and 1/2" gas pipe capability**  
Save time and effort in retrofit application with 2" PVC venting up to 65' or up to 150' with 3" venting. 1/2" gas lines for up to 24' also speeds up installations.



**TDR 15:1 for DHW and up to 11:1 for heating**  
The sophisticated gas flow control system provides a high turndown ratio, reducing energy waste and excessive boiler cycling and enhances temperature control for DHW.



**Easy access to DHW module and valves**  
All components of DHW module including water feed valve, flow adjustment valve, mixing valve and cartridge-style 3-way valve are right behind circuit board for easy serviceability.



**Space saving and lightweight design**  
Navien's sleek wall-hung combi-boilers occupy 80% less space than traditional floor standing boilers and tank water heaters.



**Expanded DHW capability**  
For increased domestic hot water flow demand, the NCB-H can be cascaded with up to 15 NPE-2 units.



**Quiet running**  
Navien products are engineered to operate at comfortably low noise levels.



**5 NCB-H models for any size home**  
Available in NCB-190/060H, NCB-190/080H, NCB-240/110H, NCB-240/130H, NCB-250/150H, giving you multiple options to match any size house, apartment, condo...big or small.

# NCB-H Series combi-boiler accessories



**NaviLink®**  
**Wi-Fi control**  
 PBCM-AS-001  
**Expansion cable**  
 GXXX001659



**Common vent collar kit**  
 30014367B  
 Includes cascade cable (GXXX000546), common vent collar damper and VID jumper cable.



**HotButton®**  
**components**  
**Wall plate**  
 GXXX001427  
**Push button**  
 GXXX001426



**SmartZone+®**  
**pump controller**  
 2 Zones: PFMZ-02P-001  
 3 Zones: PFMZ-03P-001  
 4 Zones: PFMZ-04P-001  
 6 Zones: PFMZ-06P-001



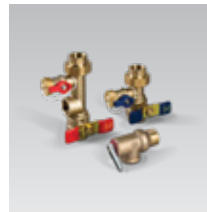
**NaviCirc®**  
**recirculation valve**  
**NaviCirc™**  
 PFFW-SXX-001  
**NaviCirc™ kit**  
 Includes 1/2" hoses and adapters  
 30022965A



**Combi-boiler primary manifold kit for NCB-H and NFC-H**  
 This package includes new stainless steel manifold, isolation valves with gaskets, PRV/air vent/LWCO adapter tree, air vent, threaded connection adapter with clip and LWCO plug.  
 30026576A



**NaviClean®**  
**magnetic filtration system**  
 Removes higher levels of iron oxides, sludge and debris with powerful magnetic filter.  
 GXXX001727



**Plumb easy valve 3/4" with relief valve**  
 30009323A



**PeakFlow-E®**  
**anti-scale system**  
 GXXX001725  
**PeakFlowE™ media**  
 GXXX001726  
**PeakFlow™ media**  
 GXXX001327



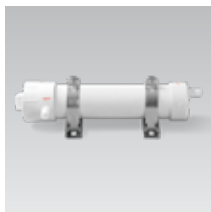
**Ready-Link®**  
**communication cable**  
 GXXX000546



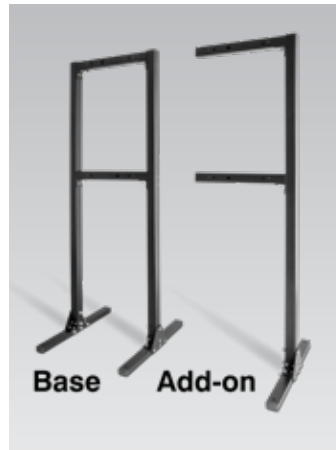
**Residential neutralizer**  
 1 unit  
 GXXX001322  
**Residential replacement media**  
 GXXX001323



**Universal temperature sensor**  
 GXXX001769



**Light commercial neutralizer**  
 GXXX001324  
**Light commercial replacement media**  
 GXXX001328



**Ready-Link®**  
**rack**  
**Base (V3)**  
 GFFMKDIZUS-005  
**Add-on (V3)**  
 GFFMKDIZUS-006

NCB-H



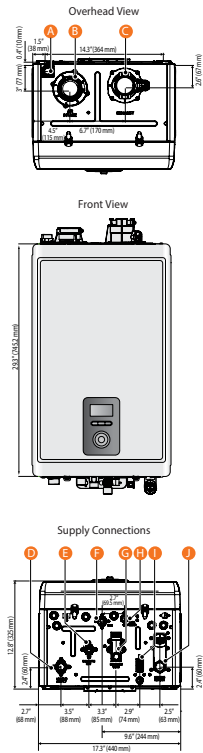
NCB-H

# NCB-H Series

## NAVIEN HIGH CAPACITY WATER TUBE CONDENSING COMBI-BOILERS



### Dimensions



- Connection Size**
- A Pressure Relief Valve Adapter  $\varnothing$  3/4"
  - B Air Intake  $\varnothing$  2"
  - C Exhaust  $\varnothing$  2"
  - D Heating Supply  $\varnothing$  1"
  - E DHW Hot Water Outlet  $\varnothing$  3/4"
  - F Gas Supply Inlet  $\varnothing$  3/4"
  - G DHW Cold Water Inlet  $\varnothing$  3/4"
  - H Auto Feeder Inlet (Make-up Water)  $\varnothing$  1/2"
  - I Condensate Outlet  $\varnothing$  1/2"
  - J Heating Return  $\varnothing$  1"

### Specifications

Item	Specifications		
	NCB-190/060H NCB-190/080H	NCB-240/110H NCB-240/130H	NCB-250/150H
Dimensions	17.3" W x 29.3" H x 12.8" D		
Boiler weight	Empty	87 lbs (40 kg)	96 lbs (44 kg)
	With water	93 lbs (42 kg)	102 lbs (46 kg)
Installation type	Indoor wall-hung		
Venting type	Forced draft direct vent		
Ignition	Electronic ignition		
Natural gas supply pressure (from source)	3.5" to 10.5" WC		
Propane gas supply pressure (from source)	8.0" to 13.5" WC		
Natural gas manifold pressure	-0.01" WC to -0.31" WC	-0.06" WC to -0.24" WC	-0.06" WC to -0.26" WC
Propane gas manifold pressure	-0.04" WC to -0.33" WC	-0.06" WC to -0.26" WC	-0.06" WC to -0.28" WC
Gas connection size	3/4" NPT		
Power supply	Main supply	120V AC, 60Hz	
	Maximum power consumption	Up to 15 amperes	
Materials	Casing	Cold-rolled carbon steel	
	Heat exchangers	Stainless steel	
Venting	Exhaust	2" or 3" PVC, CPVC, approved polypropylene 2" or 3" special gas vent type BH (Class III, A/B/C) 2" or 3" stainless steel	
	Intake	2" or 3" PVC, CPVC, polypropylene 2" or 3" special gas vent type BH (Class III, A/B/C) 2" or 3" stainless steel	
	Vent clearance	0" to combustibles	
Safety devices	Flame Rod, APS, Ignition operation detector, water temperature high limit switch, exhaust temperature high limit sensor, water pressure sensor, burner high limit fuse, vent installation detector		

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DHW Temp Rise °F (°C)	DHW Flow Rates GPM (L/m)		
	NCB-190/060H NCB-190/080H	NCB-240/110H NCB-240/130H	NCB-250/150H
35 (19)	8.2 (31.1)	10.4 (39.5)	10.8 (40.9)
40 (22)	7.2 (27.3)	9.0 (34.1)	9.5 (35.8)
45 (25)	6.4 (24.2)	7.9 (30.0)	8.4 (31.8)
50 (28)	5.8 (21.8)	7.2 (27.3)	7.6 (28.6)
55 (31)	5.2 (19.8)	6.6 (25.0)	6.9 (26.0)
60 (33)	4.8 (18.2)	6.0 (22.7)	6.3 (23.8)
67 (37)	4.3 (16.3)	5.4 (20.4)	5.6 (21.4)
70 (39)	4.1 (15.6)	5.1 (19.3)	5.4 (20.4)
77 (43)	3.7 (14.2)	4.7 (17.8)	4.9 (18.6)
80 (44)	3.6 (13.6)	4.5 (17.0)	4.7 (17.9)
85 (47)	3.4 (12.8)	4.2 (15.9)	4.4 (16.8)
90 (50)	3.2 (12.1)	4.0 (15.1)	4.2 (15.9)
100 (56)	2.9 (10.9)	3.6 (13.6)	3.8 (14.3)

Model Transition	
Discontinued NCB-E	New NCB-H
<b>NCB-150E</b> DHW: 12,000–120,000 BTU/H HTG: 60,000 BTU/H	<b>NCB-190/060H</b> DHW: 10,700–160,000 BTU/H HTG: 60,000 BTU/H
<b>NCB-180E</b> DHW: 14,000–150,000 BTU/H HTG: 80,000 BTU/H	<b>NCB-190/080H</b> DHW: 10,700–160,000 BTU/H HTG: 80,000 BTU/H
<b>NCB-210E</b> DHW: 18,000–180,000 BTU/H HTG: 100,000 BTU/H	<b>NCB-240/110H</b> DHW: 13,300–199,900 BTU/H HTG: 110,000 BTU/H
<b>NCB-240E</b> DHW: 18,000–199,900 BTU/H HTG: 120,000 BTU/H	<b>NCB-240/130H</b> DHW: 13,300–199,900 BTU/H HTG: 130,000 BTU/H
	<b>AN INDUSTRY FIRST</b>
	<b>NCB-250/150H</b> DHW: 14,000–210,000 BTU/H HTG: 150,000 BTU/H





## Ratings

Model Number <sup>1</sup>	Navien Condensing Boiler Space Heating Ratings 				Other Specifications		
	Heating Input (BTU/H)		Heating Capacity <sup>2</sup> (BTU/H)	Net AHRI Rating Water <sup>3</sup> (BTU/H)	AFUE <sup>2</sup> (%)	Water Pressure	Water Connection Size (Supply, Return)
	Min	Max					
NCB-190/060H	11,000	60,000	56,000	49,000	95.0	12-30 psi	1" NPT
NCB-190/080H	11,000	80,000	74,000	64,000			
NCB-240/110H	13,000	110,000	102,000	89,000			
NCB-240/130H	13,000	130,000	120,000	104,000			
NCB-250/150H	14,000	150,000	138,000	120,000			

<sup>1</sup> Ratings are the same for natural gas models converted to propane use.

<sup>2</sup> Based on U.S. Department of Energy (DOE) test procedures.

<sup>3</sup> The net AHRI water ratings shown are based on a piping and pickup allowance of 1.15.

Consult Navien before selecting a boiler for installations having unusual piping and pickup requirements, such as intermittent system operation, extensive piping systems, etc.



Navien Condensing Boiler Domestic Hot Water Ratings			Other Domestic Hot Water Specifications				
Model Number	Input Ratings (BTU/H)		Water Pressure PSI	Minimum Flow Rate GPM (L/m)	Flow Rate 77°F (43°C) Temp Rise GPM (L/m)	DHW Connection Size	
	Min	Max				Inlet	Outlet
NCB-190/060H	10,700	160,000	15–150	0.5 (1.9)	3.7 (14.2)	3/4" NPT	3/4" NPT
NCB-190/080H							
NCB-240/110H							
NCB-240/130H	13,300	199,900			4.7 (17.8)		
NCB-250/150H					14,000		

## Navien certification summary

	Model				
	NCB-190/060H	NCB-190/080H	NCB-240/110H	NCB-240/130H	NCB-250/150H
	<b>Product Approvals</b>				
<b>CSA</b>	Yes	Yes	Yes	Yes	Yes
<b>SCAQMD 1146.2</b> (NOx, <20 ppm)	Yes	Yes	Yes	Yes	Yes
<b>Low Lead</b> (<0.25%, DHW only)	Yes	Yes	Yes	Yes	Yes
<b>ASME</b>	Yes "H" stamp	Yes "H" stamp	Yes "H" stamp	Yes "H" stamp	Yes "H" stamp
<b>AHRI Number</b>	205661696	205661697	205400817	205400818	205400819
<b>Energy Star</b>	Yes	Yes	Yes	Yes	Yes
	<b>Space Heating Ratings</b>				
<b>AFUE, %</b>	95.0	95.0	95.0	95.0	95.0
<b>Heating Capacity, BTU/H</b>	56,000	74,000	102,000	120,000	138,000

## Input

Model	Heating (BTU/H)	DHW (BTU/H)
NCB-190/060H	11,000–60,000	10,700–160,000
NCB-190/080H	11,000–80,000	
NCB-240/110H	13,000–110,000	13,300–199,900
NCB-240/130H	13,000–130,000	
NCB-250/150H	14,000–150,000	14,000–210,000

## Temperature range settings

Item	Temperature Range °F (°C)	Remarks
Space Heating	Supply 77–185 (25–85)	Actual supply and return temperatures vary depending on the selected outdoor reset curve.
	Return 68–158 (20–70)	
DHW	86–140 (30–60)	

## Warranty

Type	Residential Single Family Use Only
Heat exchanger	10 year
Parts*	5 year
Labor	1 year

\*Includes DHW flat plate HX.

## Applications

Air Handler	Closed Loop Hydronic Heating Systems
For NCB-H technical drawings of specific installations and requirements please visit <a href="http://Navieninc.com">Navieninc.com</a>	

# NFC-H NAVIEN FIRE TUBE CONDENSING HIGH CAPACITY COMBI-BOILERS

## Highest heating and DHW performance ever built into one compact combi-boiler

Navien innovation, durability and proven fire tube technology has done it again. The new NFC-H has more heating and DHW capacities for today's larger progressive homes. Navien continues to reinvent smarter ways to bring high efficiency home comfort to your customers. Also, Navien continues to make installation and set-up easier for contractors.

- **Highest** DHW maximum BTUs in residential combi-boilers... 210,000 per hour
- **Highest** DHW flow rate @ 70°F rise...up to 5.4 GPM
- **Highest** residential combi DHW 15:1 TDR
- **Highest** residential combi heating TDR...up to 15:1\*
- **Highest** full lineup 2" venting lengths...up to 65 feet
- **Highest** number of built-in zone pump or zone valve connections: 3
- **Highest** number of cascade capable units with NPE-2 tankless water heaters...up to 15
- **High altitude certification**...up to 10,100 feet (NG or LP)

\*Based on NFC-250/200H.

PATENTED  
SS FIRE TUBE  
HX FOR HEATING

SEPARATE  
HIGH FLOW  
SS DHW HX

ADVANCED  
USER INTERFACE

TDR UP TO  
15:1 HTG  
DHW

NG or LP or NG HIGH  
ALTITUDE  
FIELD GAS CONVERTIBLE

3 ZONES  
VALVES or PUMPS

2" VENT UP TO  
65 FEET & 1/2" GAS  
UP TO 24 FEET

AFUE  
95.0%



NFC-H Series

## Patented stainless steel fire tube heat exchanger

Navien's innovative heat exchanger design is ASME-Certified, "H" Stamped, and reduces high stress point weld failures common on other combi-boilers.

**Low profile burner** removes easily and improves serviceability.

**Innovative heat exchanger design** allows water to fill to the top eliminating extra combustion chamber insulation.

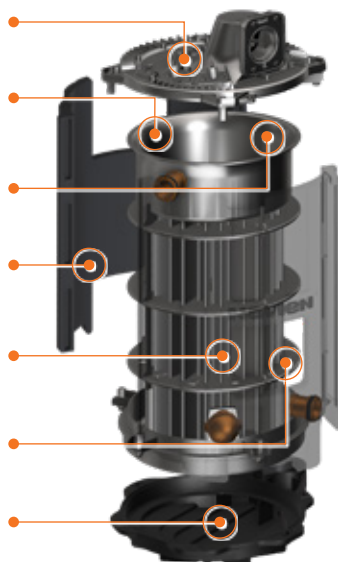
**One-piece combustion chamber** minimizes the number of weld points prone to corrosion.

**EPP exterior insulation** reduces heat loss and increases efficiency.

**Turbulators inside the tubes** increase structural strength and creates a gas cyclone effect maximizing heat transfer efficiency.

**New diaphragm design** optimizes water flow and improves performance.

**Non-metallic drain pan** prevents corrosion caused by acidic condensate, unlike competitor's metal pans.



## Built-in DHW module with higher performance

Navien's innovative DHW heat exchanger generates enough hot water to run up to 3 showers and a dishwasher, all at the same time.

**Integrated boiler pump** for hydronic space heating and DHW. No need for an external pump saving installation time, space and costs.

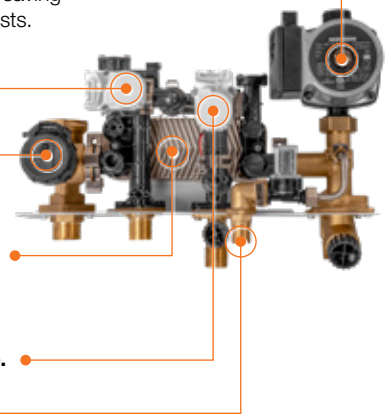
**NEW mixing valve.**

**NEW easy access 3-way valve.**

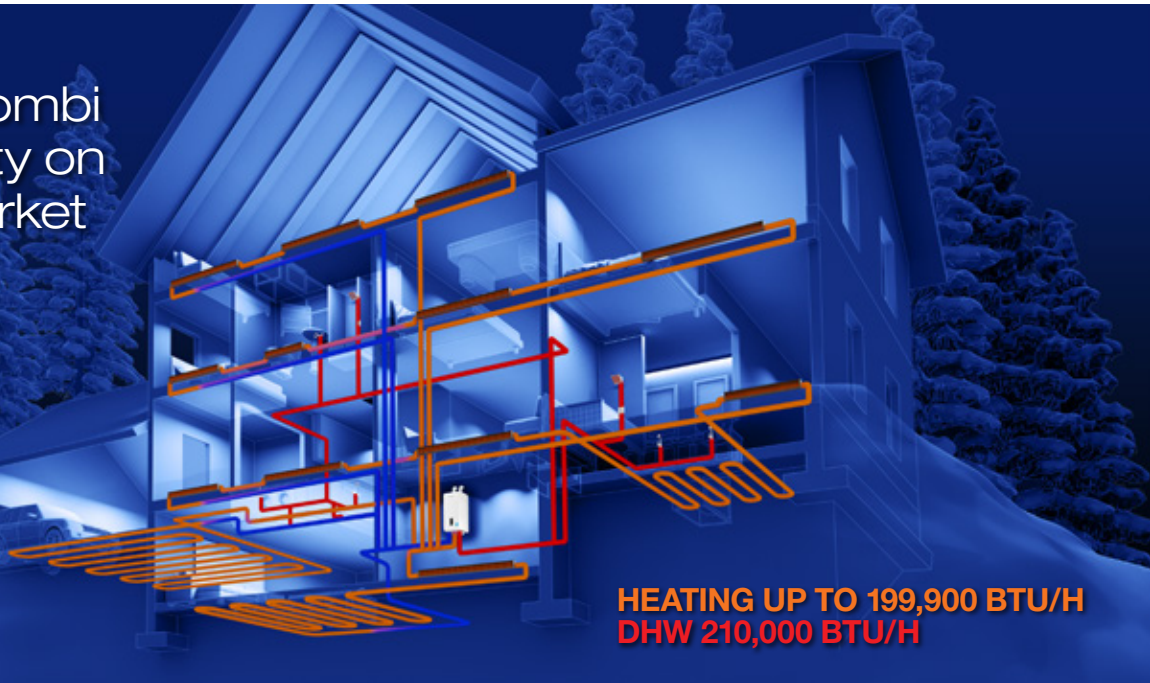
**DHW stainless steel flat plate heat exchanger** 5.6 GPM @ 67°F temperature rise. One of the highest flow rates in the industry.

**NEW flow adjustment valve.**

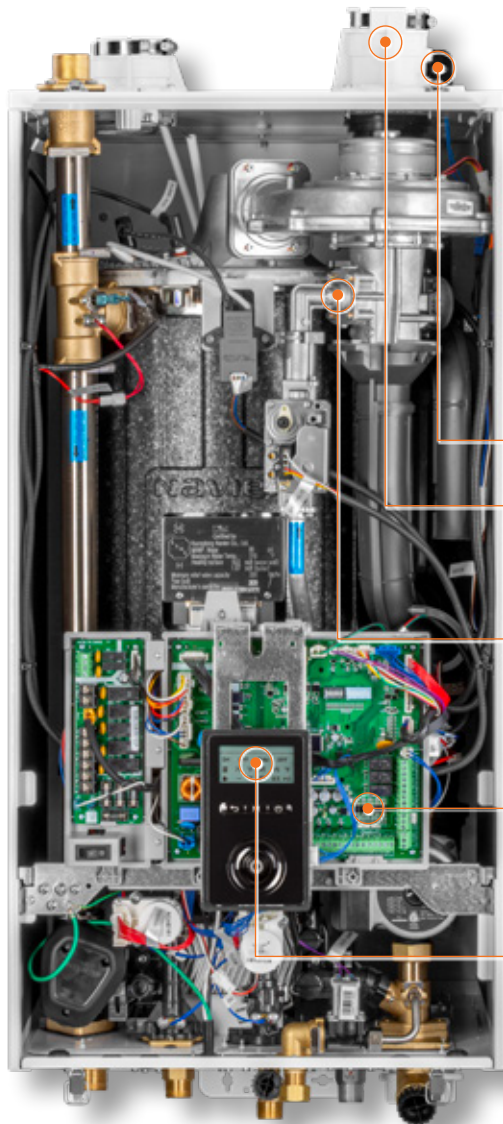
**Water feed valve.**



Best combi capacity on the market



**HEATING UP TO 199,900 BTU/H**  
**DHW 210,000 BTU/H**



- **Vent Installation Detector (VID).**
- **2" venting up to 65'** (including schedule 40 PVC).

**Dual Venturi and field gas convertibility.** Dual Venturi system creates better combustion control and turndown ratio. Field gas convertibility is easy with orifice conversion kits for NG high altitude (5,400–10,100 ft.) and LP (up to 10,100 ft.) included with NFC-H series combi-boilers.



- **Built-in control for 3-zone pumps or 3-zone valves.** Connections are powered, not just dry contact relays. The supplied power by PCB board is 120VAC for zone pumps and 24VAC for zone valves.

- **Advanced user interface control with setup wizard.** Navien's new backlit control panel is simple and intuitive to use with its plain text display and an innovative click wheel that improves usability for all information input.



**NFC-H**





NFC-H

# NFC-H Series

## NAVIEN HIGH CAPACITY FIRE TUBE CONDENSING COMBI-BOILERS

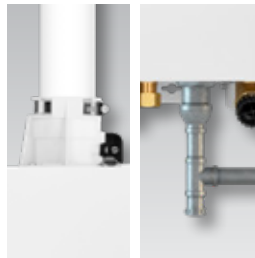


Compare these advantages and see why NCB-H combis are the right fit for any size family



### Dual inputs of 210,000 BTU/H for DHW and up to 199,900 BTU/H for heating

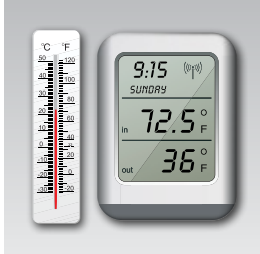
Satisfies all the space heating and domestic hot water requirements of most typical large homes.



### 2" PVC venting and 1/2" gas pipe capability

Save time and effort in retrofit application with 2" PVC venting up to 65' or up to 150' with 3" venting. 1/2" gas lines for up to 24' also speeds up installations.

**Safety vent sensor**  
Vent Installation Detector (VID).



### TDR up to 15:1 for heating and for DHW

The sophisticated gas flow control system provides a high turndown ratio, reducing energy waste and excessive boiler cycling and enhances temperature control for DHW.



### Space saving and lightweight design

Navien's sleek wall-hung combi-boilers occupy 80% less space than traditional floor standing boilers and tank water heaters.



### Quiet running

Navien products are engineered to operate at comfortably low noise levels.



### Expanded DHW capability

For increased domestic hot water flow demand, the NFC-H can be cascaded with up to 15 NPE-2 tankless water heaters.

# NFC-H Series combi-boiler accessories



**NaviLink®**  
**Wi-Fi control**  
 PBCM-AS-001  
**Expansion cable**  
 GXXX001659



**SmartZone+**  
**pump controller**  
 2 Zones: PFMZ-02P-001  
 3 Zones: PFMZ-03P-001  
 4 Zones: PFMZ-04P-001  
 6 Zones: PFMZ-06P-001



**HotButton®**  
**components**  
**Wall plate**  
 GXXX001427  
**Push button**  
 GXXX001426



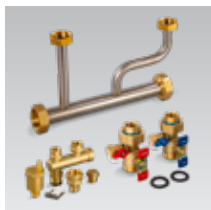
**NaviCirc®**  
**recirculation valve**  
**NaviCirc™**  
 PFFW-SXX-001  
**NaviCirc™ kit**  
 Includes 1/2" hoses and adapters  
 30022965A



**PeakFlow-E**  
**anti-scale system**  
 GXXX001725  
**PeakFlowE™ media**  
 GXXX001726  
**PeakFlow™ media**  
 GXXX001327



**NaviClean®**  
**magnetic filtration system**  
 Removes higher levels of iron oxides, sludge and debris with powerful magnetic filter.  
 GXXX001727



**Combi-boiler primary manifold kit for NFC-H and NCB-H**  
 This package includes new stainless steel manifold, isolation valves with gaskets, PRV/air vent/LWCO adapter tree, air vent, threaded connection adapter with clip and LWCO plug.  
 30026576A



**Common vent collar kit**  
 30014367B  
 Includes cascade cable (GXXX000546), common vent collar damper and VID jumper cable.



**Commercial neutralizer**  
 Commercial condensate neutralizer for up to 16 units (1 NFC-H and up to 15 NPE's).  
 GXXX001325  
**Commercial replacement media**  
 GXXX001329



**Light commercial neutralizer**  
 GXXX001324  
**Light commercial replacement media**  
 GXXX001328



**Residential neutralizer**  
 1 unit  
 GXXX001322  
**Residential replacement media**  
 GXXX001323



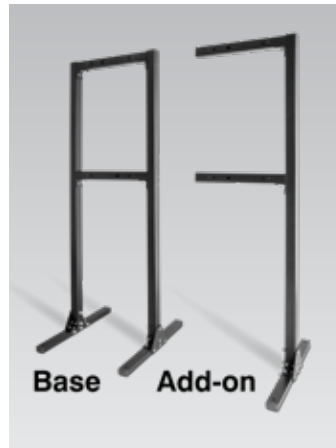
**Plumb easy valve 3/4" with relief valve**  
 30009323A



**Ready-Link®**  
**communication cable**  
 GXXX000546



**Universal temperature sensor**  
 GXXX001769



**Ready-Link®**  
**rack**  
**Base (V3)**  
 GFFMKDIZUS-005  
**Add-on (V3)**  
 GFFMKDIZUS-006



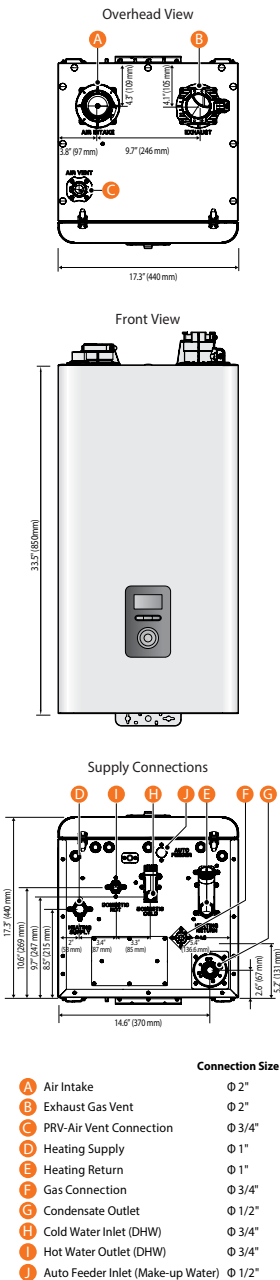
NFC-H

# NFC-H Series

## NAVIEN HIGH CAPACITY FIRE TUBE CONDENSING COMBI-BOILERS



### Dimensions



### Specifications

Item	Model	
	NFC-250/175H	NFC-250/200H
Dimensions	17.3" W x 17.3" D x 33.5" H	
Boiler weight	141 lb (64 kg)	
Boiler weight with water	170 lb (77 kg)	
Installation type	Indoor wall-hung	
Venting type	Forced draft direct vent	
Ignition	Electronic ignition	
Natural Gas supply pressure (from source)	3.5" to 10.5" WC	
Propane Gas supply pressure (from source)	8.0" to 13.5" WC	
Natural Gas manifold pressure	-0.03" to -0.92" WC	
Propane Gas manifold pressure	-0.02" to -0.77" WC	
Gas connection size	3/4" NPT	
Power supply	Main supply	120V AC, 60Hz
	Maximum power consumption	Less than 15 amperes
Materials	Casing	Cold-rolled carbon steel
	Heat exchanger	Stainless steel
Venting	Exhaust	2" or 3" PVC, CPVC, approved polypropylene 2" or 3" special gas vent type BH (Class III, A/B/C) 2" or 3" stainless steel
	Intake	2" or 3" PVC, CPVC, polypropylene 2" or 3" special gas vent type BH (Class III, A/B/C) 2" or 3" stainless steel
	Vent clearance	0" to combustibles
Safety devices	Flame rod, APS, ignition operation detector, water temperature high limit switch, exhaust temperature high limit sensor, water pressure sensor, burner high limit fuse, Vent Installation Detector (VID)	

NFC-250/175H and NFC-250/200H Series	
Temp. Rise °F (°C)	Flow Rate GPM (L/m) <sup>1</sup>
35 (19)	10.8 (40.9)
40 (22)	9.5 (35.8)
45 (25)	8.4 (31.8)
50 (28)	7.6 (28.6)
55 (31)	6.9 (26.0)
60 (33)	6.3 (23.8)
67 (37)	5.6 (21.4)
70 (39)	5.4 (20.4)
77 (43)	4.9 (18.6)
80 (44)	4.7 (17.9)
85 (47)	4.4 (16.8)
90 (50)	4.2 (15.9)
100 (56)	3.8 (14.3)


<sup>1</sup> Max GPM based on installation conditions.

Navien reserves the right to change specifications at any time without prior notice. Please refer to [www.Navieninc.com](http://www.Navieninc.com) to verify you have the most current information.





## Ratings

Model Number <sup>1</sup>	Navien Combination Condensing Boiler Space Heating Ratings 				Other Space Heating Specifications			
	Heating Input (BTU/H)		Heating Capacity <sup>2</sup> (BTU/H)	Net AHRI Rating Water <sup>3</sup> (BTU/H)	AFUE <sup>2</sup> %	Water Pressure	Water Connection Size (Supply, Return)	Water Volume
	Min	Max						
NFC-250/175H	13,300	175,000	161,000	140,000	95.0	12–80 psi	1" NPT	4.5 gallons
NFC-250/200H	13,300	199,900	183,000	159,000				

<sup>1</sup> Ratings are the same for natural gas models converted to propane use.

<sup>2</sup> Based on U.S. Department of Energy (DOE) test procedures.

<sup>3</sup> The net AHRI water ratings shown are based on a piping and pickup allowance of 1.15.

Consult Navien before selecting a boiler for installations having unusual piping and pickup requirements, such as intermittent system operation, extensive piping systems, etc.



Navien Combination Condensing Boiler Domestic Hot Water Ratings			Other Domestic Hot Water Specifications				
Model Number	Input Ratings (BTU/H)		Water Pressure PSI	Minimum Flow Rate GPM (L/m)	Flow Rate 77°F (43°C) Temp Rise GPM (L/m)	DHW Connection Size	
	Min	Max				Inlet	Outlet
NFC-250/175H	13,300	210,000	15–150	0.5 (1.9)	4.9 (18.6)	3/4" NPT	3/4" NPT
NFC-250/200H							

## Navien certification summary

	Model	
	NFC-250/175H	NFC-250/200H
	<b>Product Approvals</b>	
<b>CSA</b>	Yes	Yes
<b>SCAQMD 1146.2</b> (NO <sub>x</sub> , <20 ppm)	Yes	Yes
<b>Low Lead</b> (<0.25%, DHW only)	Yes	Yes
<b>ASME</b>	Yes "H" stamp	Yes "H" stamp
<b>AHRI Number</b>	206368824	206368825
<b>Energy Star</b>	Yes	Yes
	<b>Space Heating Ratings</b>	
<b>AFUE, %</b>	95.0	95.0
<b>Heating Capacity, BTU/H</b>	161,000	183,000

## Applications

Air Handler	Closed Loop Hydronic Heating Systems
For NFC-H technical drawings of specific installations and requirements, please visit <a href="http://Navieninc.com">Navieninc.com</a>	

## Input

Model	Heating (BTU/H)	DHW (BTU/H)
NFC-250/175H	13,300–175,000	13,300–210,000
NFC-250/200H	13,300–199,900	13,300–210,000

## Temperature Range Settings

Item	Temperature Range °F (°C)	Remarks
Space heating	Supply 77–185 (25–85)	Actual supply and return temperatures vary depending on the selected outdoor reset curve.
	Return 68–158 (20–70)	
DHW	86–140 (30–60)	

## Warranty

Type	Residential*	Commercial
Heat exchanger	10 years	5 years
Parts*	5 years	3 years
Labor	1 year	1 year

\*Applies to single family residential locations.

For complete details please refer to the full warranty at [Navieninc.com](http://Navieninc.com).



# NHB NAVIEN WATER TUBE CONDENSING HEATING BOILERS

Navien innovation in a compact high efficiency wall-hung boiler

## The NHB Series: Industry's highest TDR at up to 15:1

As the leader in condensing technology, Navien reinvented the water heating industry with the award-winning NPE tankless water heaters and the NCB-E combi-boilers. Our tradition of innovation continues with the NHB series high efficiency condensing boilers. All NHB boilers have Navien's advanced burner system, an AFUE of 95.0% and industry-leading turndown ratios up to 15:1. The NHB boiler is available in four sizes: 55,000 BTU/H, 80,000 BTU/H, 110,000 BTU/H and 150,000 BTU/H.

- Dual stainless steel heat exchangers for advanced durability
- Schedule 40, 2" PVC venting up to 60 feet
- 1/2" gas pipe up to 40 feet (subject to local codes)

- TDR **UP TO 15:1**
- AFUE **95.0%**
- 2"-3" VENTING**  
LONG DISTANCES
- NG OR LP** FIELD GAS  
CONVERTIBLE
- ADVANCED**  
BOILER CONTROL
- 1/2" GAS** CAPABILITY  
UP TO 24 FT



NHB Series

### Before



### After



Sleek wall-hung design uses up to 80% less space than other boilers.



**NHB 110 and 150: Common vent up to 8 units and cascade up to 16 units**



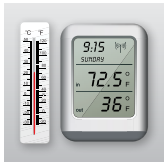
**A WORLD LEADER IN TANKLESS WATER HEATERS, COMBI-BOILERS AND BOILERS**



**2" PVC venting up to 60', 3" up to 150'.**  
 Low exhaust gas temperatures allow use of PVC (including schedule 40 PVC), CPVC, polypropylene (rigid and flexible) and stainless steel venting saving time and costs.



**The condensing technology in the stainless steel heat exchangers** of the NHB boilers saves energy, reduces greenhouse gasses.

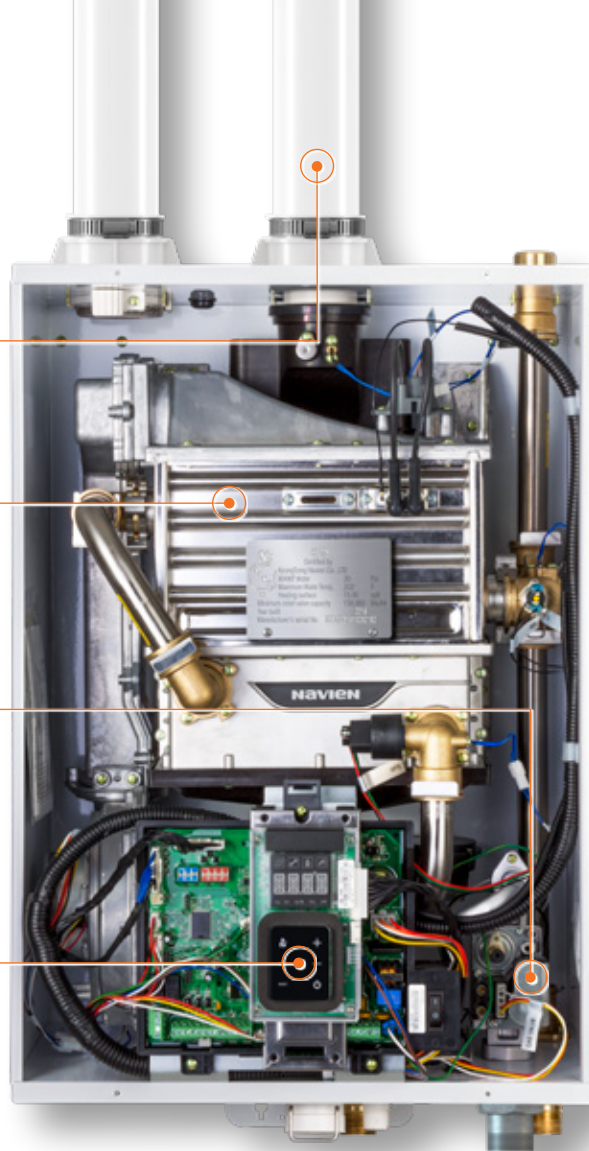


**Turndown ratio up to 15:1 on NHB.**  
 The sophisticated gas flow control system provides a high turndown ratio which reduces energy waste and excessive boiler cycling.



**NHB integrated control** provides industry leading options and features in the boiler operation parameters, including:

- Adjustable heat capacity
- Temperature boost for outdoor reset control
- Adjustable anti-cycle timer
- Freeze protection
- Pressure LWCO with manual reset
- Adjustable minimum burner time setting
- Outdoor reset and domestic hot water priority
- Adjustable outdoor temperature reset curves
- Field gas convertible



NHB

With Navien's cascading technology, when a unit gets up to capacity determined by the supply and return temperatures, the next unit will start to help meet the hydronic space heating requirements.



NHB

# NHB Series

## NAVIEN WATER TUBE CONDENSING HEATING BOILERS



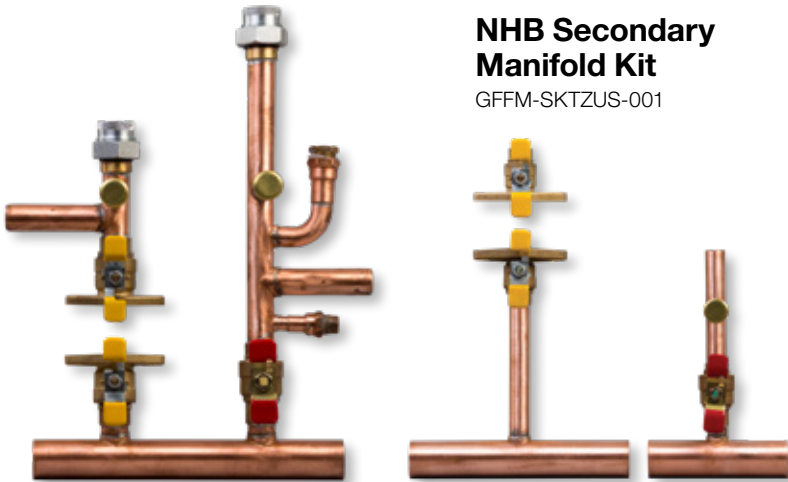
### Navien NHB boiler system matched manifold kits

#### NHB Primary Manifold Kit

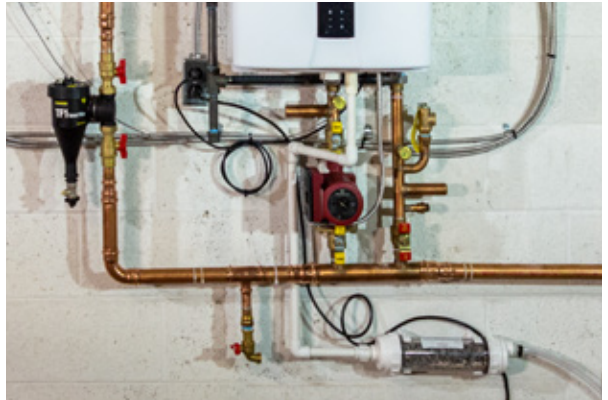
GFFM-MSOZUS-001

#### NHB Secondary Manifold Kit

GFFM-SKTZUS-001



Navien has done the piping work for you. Both primary and secondary loop manifold kits are designed to work on all NHB models for fast and clean installations. All you need to add is your own appropriately sized pump.



### Advanced filtration for hydronic heating systems

#### Optional NaviClean® magnetic boiler filter

NaviClean® is designed to work with Navien boilers and combi-boilers. Works with flow rates up to 21 GPM. It features a permanent magnet mounted inside the nylon housing.

- Powerful permanent magnet for removing higher levels of iron oxide, sludge and debris
- 360° rotation allows flexibility of installation
- Inlet and outlet ports for rapid in-line installation
- Tool-free valve connection prevents cross threading
- Large canister and full flow valves result in minimal pressure drop and unrestricted flow
- Low profile drain valve makes installation and service easier
- High performance seals provide higher protection against leaks



**In minutes, the NaviClean® filter traps the debris, and water is clear**





# NHB Series boiler accessories



**NaviLink®**  
**Wi-Fi control**  
PBCM-AS-001  
**Expansion cable**  
GXXX001659



**SmartZone+**  
**pump controller**  
2 Zones: PFMZ-02P-001  
3 Zones: PFMZ-03P-001  
4 Zones: PFMZ-04P-001  
6 Zones: PFMZ-06P-001



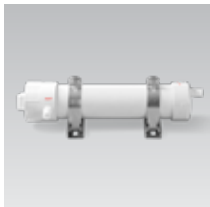
**NaviClean®**  
**magnetic filtration system**  
Removes higher levels of iron oxides, sludge and debris with powerful magnetic filter.  
GXXX001727



**Common vent collar kit**  
30014367B  
Includes cascade cable (GXXX000546), common vent collar damper and VID jumper cable.



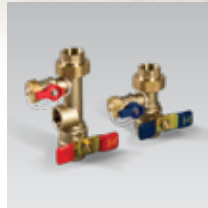
**Commercial neutralizer**  
Designed to neutralize the condensate of up to 16 NHB series units.  
GXXX001325  
**Commercial replacement media**  
GXXX001329



**Light commercial neutralizer**  
Designed to neutralize the condensate of up to 6 NHB series units.  
GXXX001324  
**Light commercial replacement media**  
GXXX001328



**Residential neutralizer**  
Residential condensate neutralizer for NHB series units designed to neutralize the condensate of one unit.  
GXXX001322  
**Residential replacement media**  
GXXX001323



**Plumb easy valve set, 1"**  
1" isolation valves without relief valve designed to work on NHB series units. Allows for easy and quick servicing of hydronic space heating systems.  
30010950A



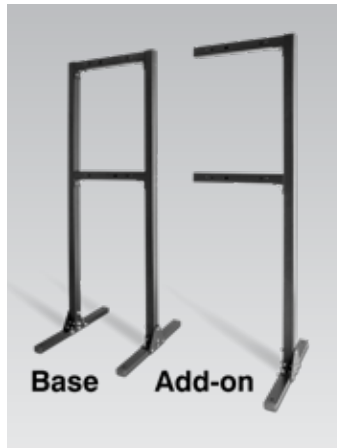
**Universal temperature sensor**  
Designed to sense supply, return or tank temperature of hydronic heating system. Works with all NHB series boilers.  
GXXX001769



**System supply & return sensors**  
Designed to sense supply and return temperature of hydronic heating system. Works with all NHB series boilers.  
(Sold in pairs.)  
GXXX001417



**Ready-Link®**  
**communication cable**  
GXXX000546



**Ready-Link®**  
**rack**  
**Base (V3)**  
GFFMKDIZUS-005  
**Add-on (V3)**  
GFFMKDIZUS-006





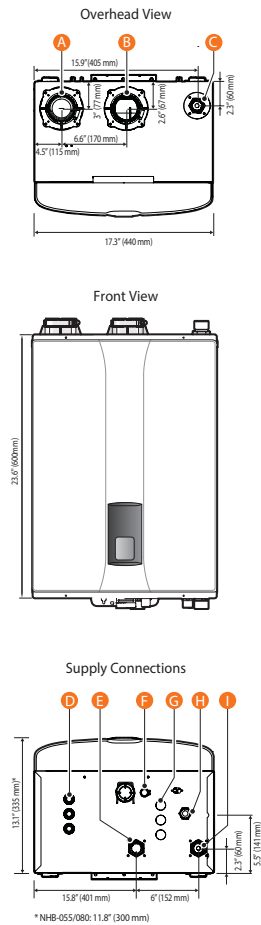
NHB

# NHB Series

## NAVIEN WATER TUBE CONDENSING HEATING BOILERS



### Dimensions



- | Connection Size        |        |
|------------------------|--------|
| A Air Intake           | Ø 2"   |
| B Exhaust Gas Vent     | Ø 2"   |
| C Air Vent Connection  | Ø 3/4" |
| D Rubber Grommet       | Ø 1"   |
| E Space Heating Return | Ø 1"   |
| F Condensate Outlet    | Ø 1/2" |
| G Knock Out Hole       | Ø 3/4" |
| H Gas Connection       | Ø 3/4" |
| I Space Heating Supply | Ø 1"   |

### Specifications

Specifications				
Item	NHB-55	NHB-80	NHB-110	NHB-150
Dimensions	24" (H) x 17" (W) x 12" (D)		24" (H) x 17" (W) x 13" (D)	
Weight	73 lbs (33 kg)		80 lbs (36 kg)	
Installation type	Indoor wall-hung			
Venting type	Forced draft direct vent			
Ignition	Electronic ignition			
Natural gas supply pressure (from source)	3.5" –10.5" WC			
Propane gas supply pressure (from source)	8.0" –13.5" WC			
Natural gas manifold pressure	-0.03" WC	-0.08" WC	-0.10" WC	-0.40" WC
Propane gas manifold pressure	-0.03" WC	-0.07" WC	-0.09" WC	-0.30" WC
Gas connection size	3/4" NPT (female)			
Power supply	Main supply	120V AC, 60Hz		
	Maximum power consumption	Less than 10A		
Materials	Casing	Cold rolled carbon steel		
	Heat exchangers	Primary and secondary heat exchangers: stainless steel		
Venting	Exhaust	2" or 3" PVC, CPVC, PP, SS (see installation manual for more details) 2" or 3" special gas vent type BH (Class III, A/B/C)		
	Intake	2" or 3" PVC, CPVC, PP, SS 2" or 3" special gas vent type BH (Class III, A/B/C)		
	Vent clearances	0" to combustibles		
Safety devices	Flame rod, aps, gas valve operation detector, ignition operation detector, water temperature high limit switch, exhaust temperature high limit sensor			

Navien reserves the right to change specifications at any time without prior notice.  
Please refer to Navieninc.com to verify you have the most current information.





## Ratings

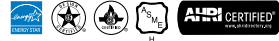
Navien Condensing Boiler Space Heating Ratings					
Model Number <sup>1</sup>	Heating Input (BTU/H)		Heating Capacity <sup>2</sup> (BTU/H)	Net AHRI Rating, Water <sup>3</sup> (BTU/H)	AFUE <sup>2</sup> , %
	Min	Max			
NHB-55	8,000	55,000	51,000	44,000	95.0
NHB-80	8,000	80,000	74,000	64,000	95.0
NHB-110	10,000	110,000	102,000	89,000	95.0
NHB-150	10,000	150,000	138,000	120,000	95.0

<sup>1</sup>Ratings are the same for Natural Gas models converted to Propane use.

<sup>2</sup>Based on U.S. Department of Energy (DOE) test procedures.

<sup>3</sup>The NET AHRI Water Ratings shown are based on a piping and pickup allowance of 1.15.

Consult Navien before selecting a boiler for installations having unusual piping and pickup requirements, such as intermittent system operation, extensive piping systems, etc.



## Navien certification summary

	Model			
	NHB-55	NHB-80	NHB-110	NHB-150
<b>Product Approvals</b>				
<b>CSA</b>	Yes	Yes	Yes	Yes
<b>SCAQMD 1146.2</b> (NOx, <20 ppm)	Yes	Yes	Yes	Yes
<b>ASME</b>	Yes "H" stamp	Yes "H" stamp	Yes "H" stamp	Yes "H" stamp
<b>AHRI Number</b>	7501495	7501496	7501497	7501498
<b>Energy Star</b>	Yes	Yes	Yes	Yes
<b>Space Heating Ratings</b>				
<b>AFUE, %</b>	95.0	95.0	95.0	95.0
<b>Heating Capacity</b> (BTU/H)	51,000	74,000	102,000	138,000

## Input

Model	Range (BTU/H)	TDR
NHB-55	8,000–55,000	7:1
NHB-80	8,000–80,000	10:1
NHB-110	10,000–110,000	11:1
NHB-150	10,000–150,000	15:1

## Warranty

Type	Residential*	Commercial
Heat Exchangers	15 year limited warranty	10 year limited warranty
Parts	5 years	3 years
Labor	1 year	1 year

\*Applies to single family residential locations.

For complete details please refer to the full warranty at NavienInc.com.





# NFB-H NAVIEN HIGH CAPACITY CONDENSING FIRE TUBE BOILERS

## Navien keeps raising the bar higher and higher in fire tube boiler innovations

We totally reinvented fire tube technology from the ground up and we continue to advance our boiler technology to a higher level with the new NFB-H boiler series.

- Patented stainless steel fire tube heat exchanger — reduces high stress point welds
- Advanced user interface with intuitive text display and Quick Dial Wheel for easy navigation
- Smart controls with Setup Wizard to simplify boiler start up
- Built-in 3 zone pumps or 3 zone valves powered connections
- Optional NaviLink® Wi-Fi remote control
- Common venting up to 8 boilers
- Cascade up to 16 boilers
- Up to 15:1 turndown ratio
- AFUE 95.0% — Energy Star certified
- Compact, light weight, wall hung design saves space over traditional floor standing boilers

PATENTED  
STAINLESS STEEL  
FIRE TUBE HX

ADVANCED  
USER INTERFACE

TDR UP TO  
15:1

3 ZONES  
VALVES or PUMPS

NG or LP FIELD GAS  
CONVERTIBLE

2" VENT UP TO  
65 FEET & 3" VENT  
UP TO  
150 FEET

AFUE  
95.0%

1/2" GAS CAPABILITY  
UP TO  
24 FT



NFB-H Series

### Patented compact stainless steel fire tube heat exchanger

Navien's advanced in-house design/built patented stainless steel heat exchanger is ASME-Certified, "H" Stamped, and reduces high stress point weld failures common on other boilers.

**Low profile burner** removes easily and improves serviceability, unlike other's bulky cylindrical burners.

**Innovative heat exchanger design** allows water to fill to the top eliminating extra combustion chamber insulation and improving durability.

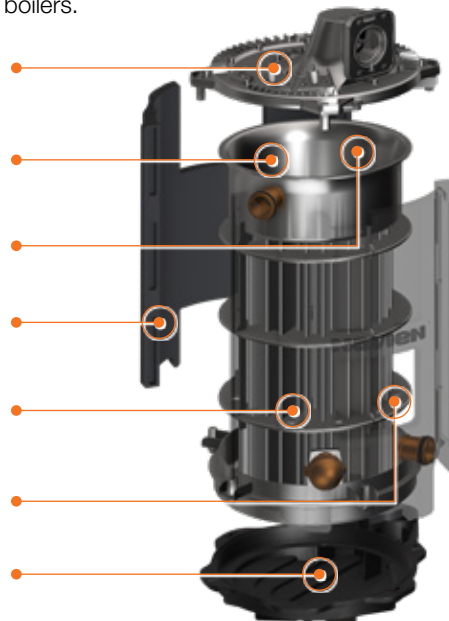
**One-piece combustion chamber** minimizes number of weld points prone to corrosion.

**EPP exterior insulation** reduces heat loss and increases efficiency.

**Turbulators inside the tubes** increase structural strength and create a cyclone effect of flue gases maximizing heat transfer and efficiency.

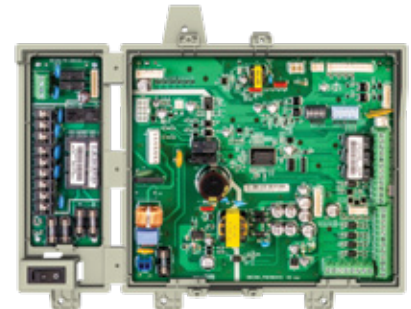
**New diaphragm design** optimizes water flow and improves performance.

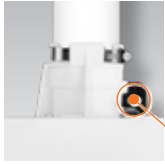
**Non-metallic drain pan** prevents corrosion caused by acidic condensate, unlike competitor's metal pans.



### Built-in control for a boiler pump, 3 zone pumps or 3 zone valves

The NFB-H boiler's PCB provides the ability to connect a boiler pump, 3 zone pumps or 3 zones valves, and to set temperatures independently in each zone (see NFB-H Installation Manual for details).





**2" PVC venting up to 65', 3" up to 150'.**

Low exhaust gas temperatures allow use of PVC (including schedule 40 PVC), CPVC, polypropylene (rigid and flexible) and stainless steel venting saving time and costs.

• **Vent Installation Detector (VID)** for added safety.



**Dual Venturi and field gas convertibility.**

Dual Venturi system creates better combustion control and turndown ratio. Field gas convertibility is easy with orifice conversion kits for NG high altitude (5,400–10,100 ft.) and LP (up to 10,100 ft.) included with NFB-H series boilers.



**Low gas pressure operation.**

Negative pressure regulating gas valve ensures maximum performance all the way down to 3.5" of water column on natural gas and 8" of water column on propane gas.



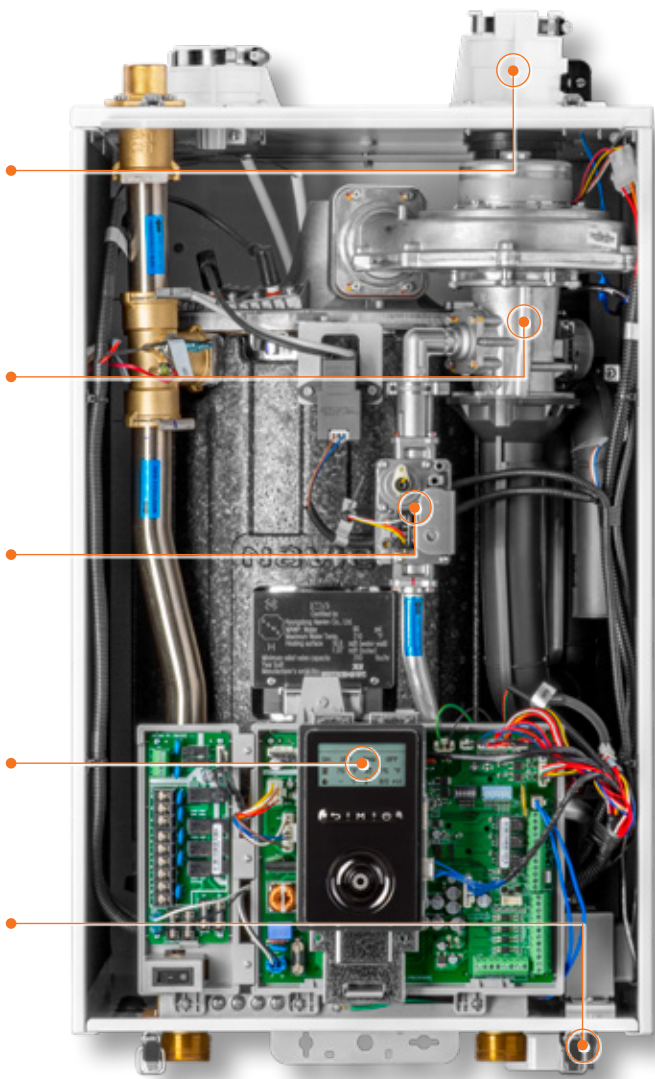
**User friendly smart control system with Setup Wizard.**

Navien's backlit control panel is simple and intuitive to use with its plain text display and an innovative click wheel that improves usability for all information input.



**Uses existing 1/2" gas piping.**

Save time and effort in retrofit applications with 1/2" gas lines for up to 24' in length. Subject to local code.



**NFB-H**



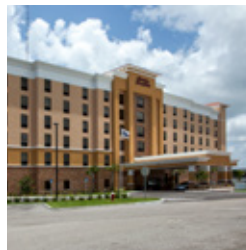
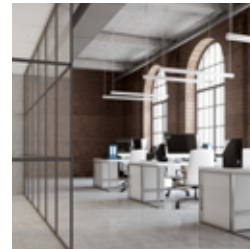
NFB-H

# NFB-H Series

## NAVIEN HIGH CAPACITY CONDENSING FIRE TUBE BOILERS

Navien NFB-H condensing boilers deliver cost effective solutions for a wide variety of applications

- Single family residences
- Multi family and condominiums
- Office and retail complexes
- Commercial buildings and warehouses
- Restaurants and lodging



### Common vent up to 8 units and cascade up to 16 units

With Navien's cascading technology, when a unit gets up to capacity determined by the supply and return temperatures, the next unit will start to help meet the hydronic space heating requirements. This boiler sequence will continue until all units are generating the needed hydronic space heat up to the maximum cascaded capacity. The Navien cascading system also balances out the workload of each unit for longer life. The NFB-H is dual certified for direct and non-direct venting applications.



Before



After



### Space saving and lighter weight design

The sleek wall-hung design uses much less space and is substantially lighter than traditional floor standing boilers, making installations a lot easier.





## NFB-H Series boiler accessories



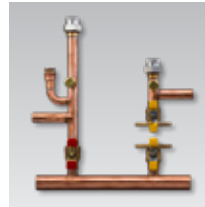
**NaviLink®**  
**Wi-Fi control**  
 PBCM-AS-001  
**Expansion cable**  
 GXXX001659



**Common vent collar kit**  
 Required for cascade/common vent installations with additional NFB-H boilers. 30014367B  
 Includes cascade cable (GXXX000546), common vent collar damper and VID jumper cable.



**SmartZone+**  
**pump controller**  
 2 Zones: PFMZ-02P-001  
 3 Zones: PFMZ-03P-001  
 4 Zones: PFMZ-04P-001  
 6 Zones: PFMZ-06P-001



**NFB-H primary manifold kit**  
 Navien's NFB-H primary manifold kits are system matched for fast installations and maximum efficiency.  
 GFFM-MSOZUS-002



**NaviClean®**  
**magnetic filtration system**  
 Removes higher levels of iron oxides, sludge and debris with powerful magnetic filter.  
 GXXX001727



**Universal temperature sensor**  
 Designed to sense supply, return or tank water temperature. Works with all NFB-H series boilers.  
 GXXX001769

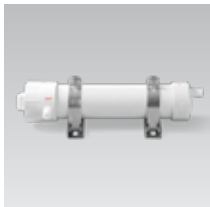


**Commercial neutralizer**  
 Designed to neutralize the condensate of up to 16 NFB-H series units.  
 GXXX001325



**Ready-Link®**  
**communication cable**  
 GXXX000546

**Commercial replacement media**  
 GXXX001329



**Light commercial neutralizer**  
 Designed to neutralize the condensate of up to 6 NFB-H series units.  
 GXXX001324



**Ready-Link®**  
**rack**  
**Base (V3)**  
 GFFMKDIZUS-005  
**Add-on (V3)**  
 GFFMKDIZUS-006

**Light commercial replacement media**  
 GXXX001328



**Residential neutralizer**  
 Residential condensate neutralizer for NFB-H series units designed to neutralize the condensate of one unit.  
 GXXX001322

**Residential replacement media**  
 GXXX001323





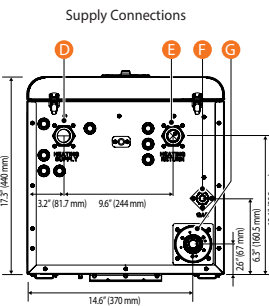
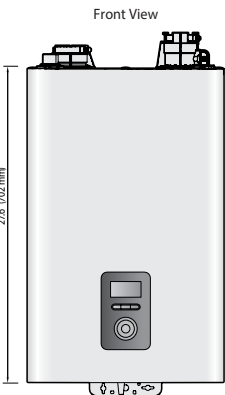
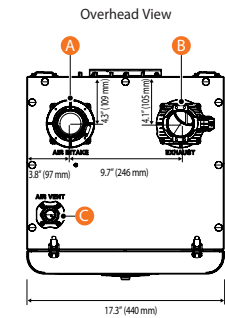
**NFB-H**

# NFB-H Series

## NAVIEN HIGH CAPACITY CONDENSING FIRE TUBE BOILERS



### Dimensions



- Connection Size**
- A Air Intake  $\varnothing$  2"
  - B Exhaust Gas Vent  $\varnothing$  2"
  - C Air Vent Connection  $\varnothing$  3/4"
  - D Heating Supply  $\varnothing$  1-1/4"
  - E Heating Return  $\varnothing$  1-1/4"
  - F Gas Connection  $\varnothing$  3/4"
  - G Condensate Outlet  $\varnothing$  1/2"

### Specifications

Item	Model	
	NFB-175H	NFB-200H
Dimensions	17.3" W x 17.3" D x 27.6" H	
Boiler weight	121 lb (55 kg)	
Boiler weight with water	148 lb (67 kg)	
Installation type	Indoor wall-hung	
Venting type	Forced draft direct vent	
Ignition	Electronic ignition	
Natural Gas supply pressure (from source)	3.5" to 10.5" WC	
Propane Gas supply pressure (from source)	8.0" to 13.0" WC	
Natural Gas manifold pressure	-0.03" to -0.70" WC	-0.03" to -0.85" WC
Propane Gas manifold pressure	-0.02" to -0.68" WC	-0.02" to -0.75" WC
Gas connection size	3/4" NPT	
Power supply	Main supply	120V AC, 60Hz
	Maximum power consumption	Less than 15 amperes
Materials	Casing	Cold-rolled carbon steel
	Heat exchanger	Stainless steel
Venting	Exhaust	2" or 3" PVC, CPVC, approved polypropylene 2" or 3" special gas vent type BH (Class III, A/B/C) 2" or 3" stainless steel
	Intake	2" or 3" PVC, CPVC, polypropylene 2" or 3" special gas vent type BH (Class III, A/B/C) 2" or 3" stainless steel
	Vent clearance	0" to combustibles
Safety devices	Flame rod, APS, ignition operation detector, water temperature high limit switch, exhaust temperature high limit sensor, water pressure sensor, Vent Installation Detector (VID)	

Navien reserves the right to change specifications at any time without prior notice. Please refer to [Navieninc.com](http://Navieninc.com) to verify you have the most current information.





## Ratings

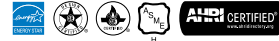
Model Number <sup>1</sup>	Navien Condensing Boiler Space Heating Ratings					Other Specifications		
	Heating Input (BTU/H)		Heating Capacity <sup>2</sup> (BTU/H)	Net AHRI Rating Water <sup>3</sup> (BTU/H)	AFUE <sup>2</sup> %	Water Pressure	Water Connection Size (Supply, Return)	Water Volume
	Min	Max						
NFB-175H	13,300	175,000	160,000	139,000	95.0	6–80 psi	1-1/4" NPT	4.5 gallons
NFB-200H	13,300	199,900	182,000	158,000	95.0			

<sup>1</sup> Ratings are the same for natural gas models converted to propane use.

<sup>2</sup> Based on U.S. Department of Energy (DOE) test procedures.

<sup>3</sup> The net AHRI water ratings shown are based on a piping and pickup allowance of 1.15.

Consult Navien before selecting a boiler for installations having unusual piping and pickup requirements, such as intermittent system operation, extensive piping systems, etc.



## Navien certification summary

	Model	
	NFB-175H	NFB-200H
	<b>Product Approvals</b>	
<b>CSA</b>	Yes	Yes
<b>SCAQMD 1146.2</b> (NO <sub>x</sub> , <20 ppm)	Yes	Yes
<b>ASME</b>	Yes "H" stamp	Yes "H" stamp
<b>AHRI Number</b>	206368828	206368829
<b>Energy Star</b>	Yes	Yes
	<b>Space Heating Ratings</b>	
<b>AFUE, %</b>	95.0	95.0
<b>Heating Capacity, BTU/H</b>	160,000	182,000

## Input

Model	Range (BTU/H)	TDR
NFB-175H	13,300–175,000	13.2:1
NFB-200H	13,300–199,900	15:1

## Warranty

Type	Residential*	Commercial
Heat exchanger	15 year limited warranty	10 years
Parts	5 years	3 years
Labor	1 year	1 year

\*Applies to single family residential locations.

For complete details please refer to the full warranty at [Navieninc.com](http://Navieninc.com).





# NFB-C NAVIEN CONDENSING COMMERCIAL FIRE TUBE BOILERS

Navien's high efficiency fire tube condensing technology makes NFB-C hard to beat and the easy choice for today's commercial boiler installs

- Robotic and automated manufacturing technology for unmatched quality control
- In-house designed and built system matched components... unlike most competitors who use the same out-sourced parts in their boilers
- Lower installation costs with our innovative engineered compact wall hung design, intuitive controls, top or bottom piping connections and flexible venting options
- Lower operating costs with the industry's leading thermal efficiency at TE 97.5%...Energy Star approved
- Best-in-class training, technical support and warranty

TE **97.5%**

FIRE TUBE STAINLESS STEEL  
HEAT EXCHANGER

TDR **UP TO 15:1**

BACNET/LONWORKS  
BMS COMMUNICATION  
CAPABLE

**160 PSI**  
ASME  
WORKING  
PRESSURE

TOP & BOTTOM  
**PIPING**

CASCADE **UP TO 32**  
UNITS



NFB-C Series

## Cascade up to 32 units and common vent up to 4 units



With Navien's cascade technology, when a unit gets up to capacity the next unit will start to help meet the hydronic heating requirements. This boiler sequence will continue until all units are generating the needed hydronic heat. The Navien cascade system also balances out the workload of each unit for longer life.

## Top and bottom piping

Easy pipe connections for floor or wall-hung installations.

**Multiple venting options.** Low exhaust gas temperatures allow use of PVC, CPVC, polypropylene (rigid and flexible) and stainless steel venting reducing installation time and costs. System can use 3" venting for up to 60', or up to 150' with 4" venting.

### Dual Venturi and field gas convertibility.

Dual Venturi system creates better combustion control and turndown ratio. Orifice for easy field gas convertibility from NG to LP. Conversion kits included with every NFB-C series boiler.



**Low gas pressure operation.** Negative pressure regulating gas valve ensures maximum performance all the way down to 3.5" of water column on natural gas and 8" of water column on propane gas.

**Advanced controls.** All system setup, operations and troubleshooting available at your fingertips with the 7" touch color display panel. Intuitive text information makes everything easier.

**Built-in hardware connects boiler pump & 3 zone pumps.** All integrated into the NFB-C circuit board. Also includes a DHW priority zone.

## Patented stainless steel fire tube HX

Navien's ASME-certified, "H" stamped stainless steel fire tube heat exchangers are in-house designed and built by the latest in robotic and automated technology, reducing high stress point weld failures common on other boilers.

**Low profile burner** removes easily and improves serviceability, unlike other's bulky cylindrical burners.

**Innovative heat exchanger design** allows water to fill to the top eliminating extra combustion chamber insulation and improving durability.

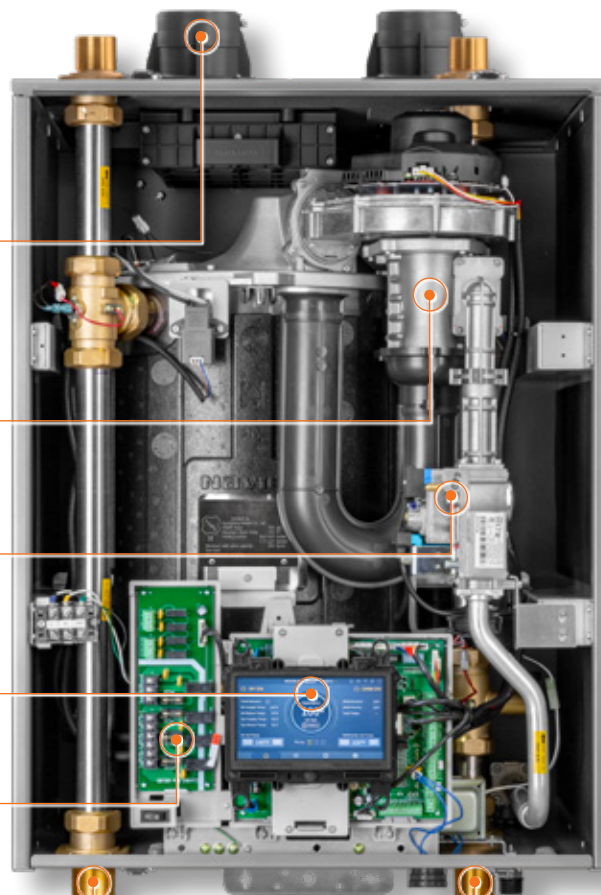
**EPP exterior insulation** reduces heat loss and increases efficiency.

**One-piece combustion chamber** minimizes number of weld points prone to corrosion.

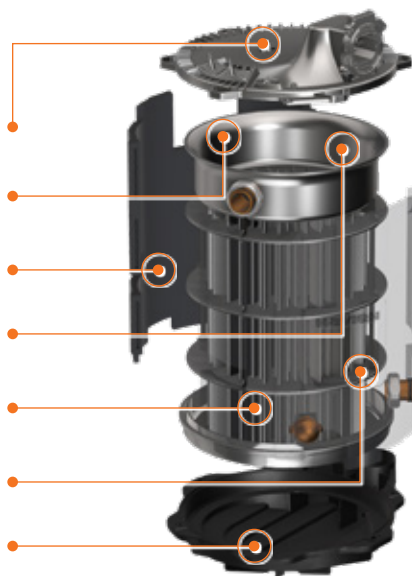
**Turbulators inside the tubes** increase structural strength and create a cyclone effect of flue gases maximizing heat transfer and efficiency.

**New diaphragm design** optimizes water flow and improves performance.

**Non-metallic drain pan** prevents corrosion caused by acidic condensate, unlike competitor's metal pans.



Top and bottom piping





# NFB-C Series

## NAVIEN CONDENSING COMMERCIAL FIRE TUBE BOILERS

NFB-C

Every Navien NFB-C boiler comes with all these extra components... right in the box



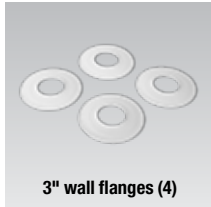
Caps with gaskets



Double nipple  
(3/4" to 3/4")



3" vent caps (2)



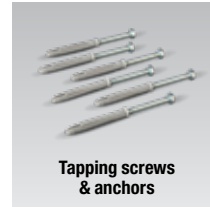
3" wall flanges (4)



Air vent



Wall mounting bracket



Tapping screws  
& anchors



50 PSI  
pressure relief valve



NG/LP conversion kits



Outdoor temp sensor  
& cable



PRV and air vent  
adapter & clip



Condensate trap



Universal temp  
sensor & clip



Air vent bushing  
(1-1/2" to 3/4")



A WORLD LEADER IN TANKLESS WATER HEATERS, COMBI-BOILERS AND BOILERS



# NFB-C Series commercial boiler accessories



**Navilink®**  
**Wi-Fi control**  
 PBCM-AS-001  
**Expansion cable**  
 GXXX001659



**SmartZone+**  
**pump controller**  
 2 Zones: PFMZ-02P-001  
 3 Zones: PFMZ-03P-001  
 4 Zones: PFMZ-04P-001  
 6 Zones: PFMZ-06P-001



**NFB-C common vent collar kit**  
 Required for cascade/  
 common vent installations.  
 30022799A  
 Includes cascade cable GXXX000546  
 and common vent collar damper.



**Pressure relief valves**  
**75 PSI**  
 GXXX001931  
**150 PSI**  
 GXXX001946



**Universal temperature sensor**  
 Designed to sense supply, return or  
 tank water temperature. Works with all  
 NFB-C series boilers.  
 GXXX001769



**Commercial neutralizer**  
 Designed to neutralize the condensate  
 of up to 16 NFB-C series units.  
 GXXX001325  
**Commercial replacement media**  
 GXXX001329



**Light commercial neutralizer**  
 Designed to neutralize the condensate  
 of up to 6 NFB-C series units.  
 GXXX001324  
**Light commercial replacement media**  
 GXXX001328



**Modbus/BACnet gateway  
 & power adaptor**  
 GXXX001932



**LonWorks gateway & power adaptor**  
 GXXX001933



**Ready-Link®**  
**communication cable**  
 GXXX000546



**Ready-Link®**  
**commercial  
 rack system**  
**Base**  
 GFFM-KDIZUS-007  
**Add-on**  
 GFFM-KDIZUS-008



NFB-C

# NFB-C Series

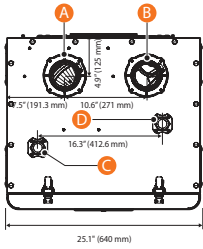
## NAVIEN CONDENSING COMMERCIAL FIRE TUBE BOILERS



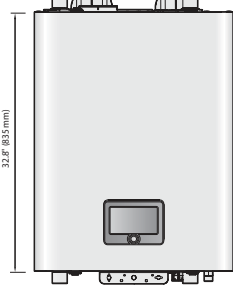
### Dimensions

NFB-301C

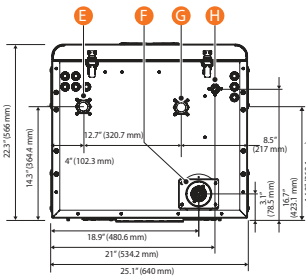
Overhead View



Front View



Supply Connections

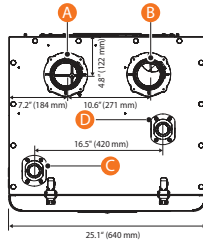


Connection Size  
NFB-301C

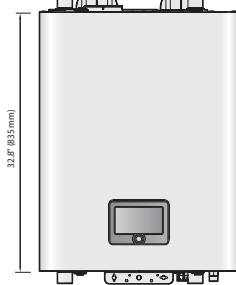
- A Air Intake  $\varnothing$  3"
- B Exhaust Gas Vent  $\varnothing$  3"
- C PRV-Air Vent Connection (Optional Heating Supply)  $\varnothing$  1-1/4"
- D Optional Heating Return  $\varnothing$  1-1/4"
- E Heating Supply  $\varnothing$  1-1/4"
- F Condensate Outlet  $\varnothing$  3/4"
- G Heating Return  $\varnothing$  1-1/4"
- H Gas Connection  $\varnothing$  3/4"

NFB-399C

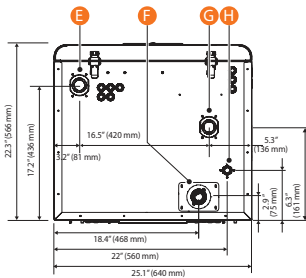
Overhead View



Front View



Supply Connections



Connection Size  
NFB-399C

- A Air Intake  $\varnothing$  3"
- B Exhaust Gas Vent  $\varnothing$  3"
- C PRV-Air Vent Connection (Optional Heating Supply)  $\varnothing$  1-1/2"
- D Optional Heating Return  $\varnothing$  1-1/2"
- E Heating Supply  $\varnothing$  1-1/2"
- F Condensate Outlet  $\varnothing$  3/4"
- G Heating Return  $\varnothing$  1-1/2"
- H Gas Connection  $\varnothing$  3/4"

### Specifications

Item	Model	
	NFB-301C	NFB-399C
Dimensions	25.1" W x 22.3" D x 32.8" H	
Boiler weight	Empty	243 lb (110 kg)
	With water	307 lb (139 kg)
Installation type	Indoor wall-hung	
Venting type	Forced draft direct vent and non-direct vent (single pipe)	
Ignition	Electronic ignition	
Natural Gas supply pressure (from source)	3.5" to 10.5" WC	
Propane Gas supply pressure (from source)	8.0" to 13.5" WC	
Natural Gas manifold pressure	-0.06" to -0.87" WC	-0.03" to -1.85" WC
Propane Gas manifold pressure	-0.01" to -0.92" WC	-0.01" to -0.90" WC
Gas connection size	3/4" NPT	
Power supply	Main supply	120V AC, 60Hz
	Maximum power consumption	Less than 12 amperes
Materials	Casing	Cold-rolled carbon steel
	Heat exchangers	Stainless steel
Venting	Exhaust	3" or 4" PVC, CPVC, PP and SS 3" or 4" special gas vent type BH (Class III, A/B/C)
	Intake	3" or 4" PVC, CPVC, PP and SS 3" or 4" special gas vent type BH (Class III, A/B/C)
	Vent clearance	0" to combustibles
Safety devices	Flame rod, APS, LWCO, water temperature high limit switch, exhaust temperature high limit sensor, water pressure sensor	

Navien reserves the right to change specifications at any time without prior notice. Please refer to [www.NavienInc.com](http://www.NavienInc.com) to verify you have the most current information.



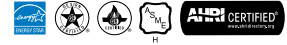
## Ratings

Navien Commercial Condensing Boiler Space Heating Ratings					Other Specifications			
Model Number <sup>1</sup>	Heating input (BTU/H)		Heating capacity <sup>2</sup> (BTU/H)	Net AHRI rating water <sup>3</sup> (BTU/H)	Thermal Efficiency <sup>2</sup> (%)	Boiler water content (gallons)	Water pressure (PSI)	Water connection size (supply, return)
	Min	Max						
NFB-301C	20,000	301,000	293,000	255,000	97.5	7.6	12-160	1-1/4 in NPT
NFB-399C	26,000	399,000	389,000	338,000	97.5	9.6		1-1/2 in NPT

<sup>1</sup> Ratings are the same for Natural Gas models converted to Propane use.

<sup>2</sup> Based on U.S. Department of Energy (DOE) test procedures.

<sup>3</sup> The NET AHRI Water Ratings shown are based on a piping and pickup allowance of 1.15. Consult Navien before selecting a boiler for installations having unusual piping and pickup requirements, such as intermittent system operation, extensive piping systems, etc.



## Navien certification summary

	Model	
	NFB-301C	NFB-399C
	<b>Product Approvals</b>	
CSA	Yes	Yes
SCAQMD 1146.2 (NOx <20 ppm)	Yes	Yes
ASME	Yes "H" stamp	Yes "H" stamp
AHRI Number	201925233	201928625
Energy Star	Yes	Yes
	<b>Space Heating Ratings</b>	
Thermal Efficiency %	97.5	97.5
Space Heating Gross Output, BTU/H	293,000	389,000

## Input

Model	Heating (BTU/H)	TDR
NFB-301C	20,000–301,000	15:1*
NFB-399C	26,000–399,000	15:1*

\*15:1 single boiler; 10:1 individual boilers when cascaded.

## Temperature setting range

Item	Temperature Setting Range	Remarks
Space Heating	Supply	Actual supply and return temperatures vary depending on the selected outdoor reset curve.
	Return	

## Warranty

Type	Residential Applications	Commercial Applications
Heat exchanger	15 years limited*	10 years
Parts	5 years	3 years
Labor	1 year	1 year

\*12 years full plus 3 years prorated.

For complete details please refer to the full warranty at [Navieninc.com](http://Navieninc.com).





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