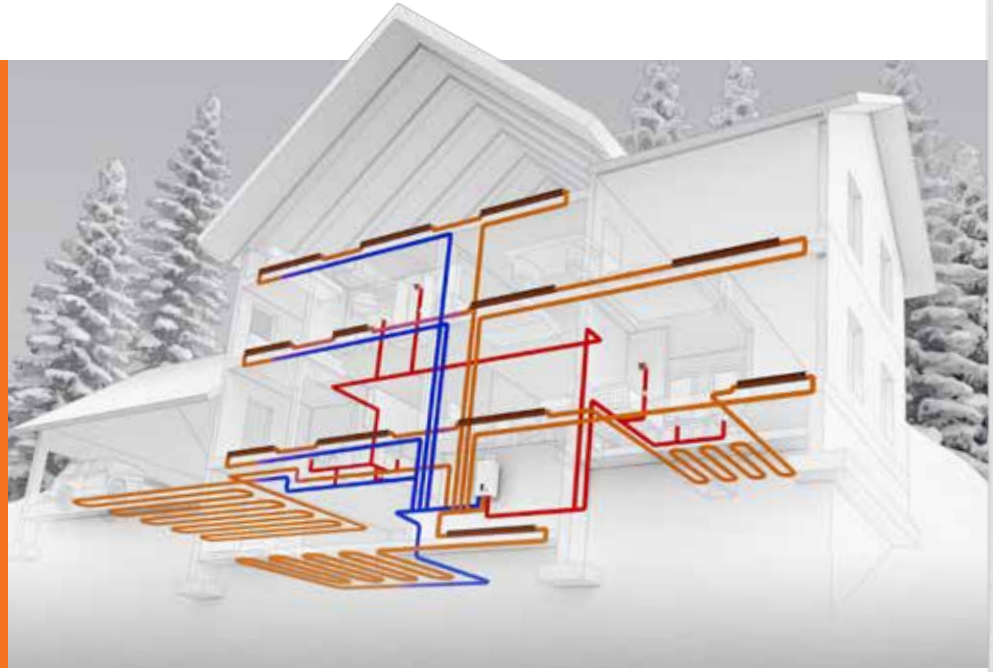
NFC-H Series

New NFC-H Condensing High Capacity Fire Tube Combi-boilers



The highest selling combi-boiler brand goes even higher with whole house heating and DHW

NaviLink® Wi-Fi remote control system... available as an add-on accessory.

THE LEADER IN CONDENSING TECHNOLOGY

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.

- PATENTED STAINLESS STEEL **HX** FOR **HEATING**
- SEPARATE HIGHER FLOW **DHW HX**
- ADVANCED **USER INTERFACE**
- TDR UP TO 15:1 HTG DHW
- NG OR LP FIELD GAS CONVERTIBLE
- **3 ZONES** VALVES or PUMPS
- 2″ VENT UP TO 65 FEET & 3″ VENT UP TO 150 FEET
- ½″ GAS CAPABILITY UP TO 24 FT
- AFUE 95.0%

THE LEADER IN CONDENSING TECHNOLOGY

Navien takes high efficiency fire tube combi technology to new heights

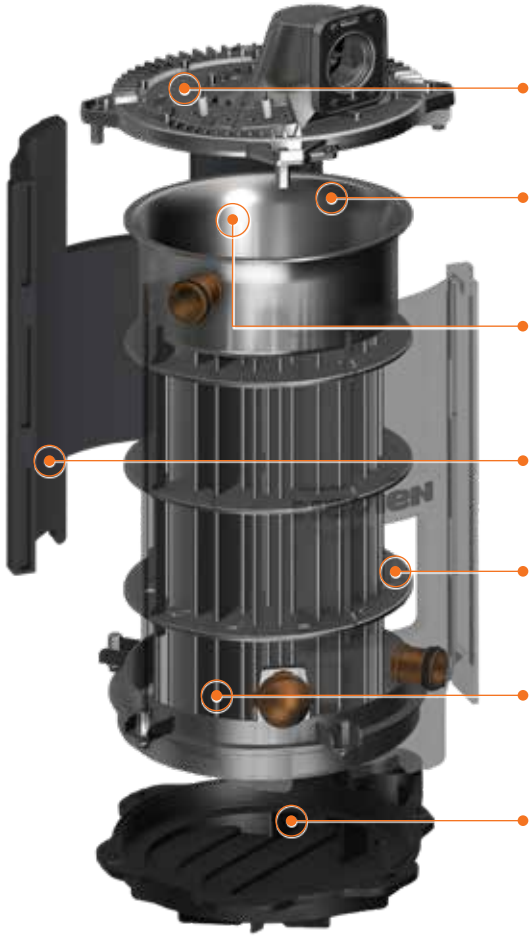
- **Highest** DHW maximum BTU/H in residential combi-boilers... 210,000 per hour
- **Highest** DHW flow rate @ 70°F rise... up to 5.4 GPM
- **Highest** residential combi DHW 15:1 TDR
- **Highest** residential combi heating TDR... up to 15:1*
- **Highest** full lineup 2" venting lengths... up to 65 feet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

*Based on NFC-250/200H.

COMPARE THESE ADVANTAGES AND SEE WHY NFC-H COMBI'S ARE THE RIGHT FIT FOR SMALL AND LARGE HOMES

Patented stainless steel fire tube heat exchanger

Navien's advanced patented stainless steel heat exchanger design is ASME-Certified, "H" Stamped, and reduces high stress point weld failures common on other combi-boilers. This compact, in-house designed and manufactured heat exchanger uses the latest automated laser welding technology to deliver superior product quality.



Low profile burner design is easy to remove, improving serviceability. It also reduces overall heat exchanger height

One-piece combustion chamber minimizes welding point areas prone to corrosion

Innovative heat exchanger design allows water to fill the entire heat exchanger eliminating extra insulation at the top of the combustion chamber and improves durability

EPP insulation used on the heat exchanger exterior reduces heat loss and increases efficiency

New heat exchanger diaphragm design optimizes water flow and performance

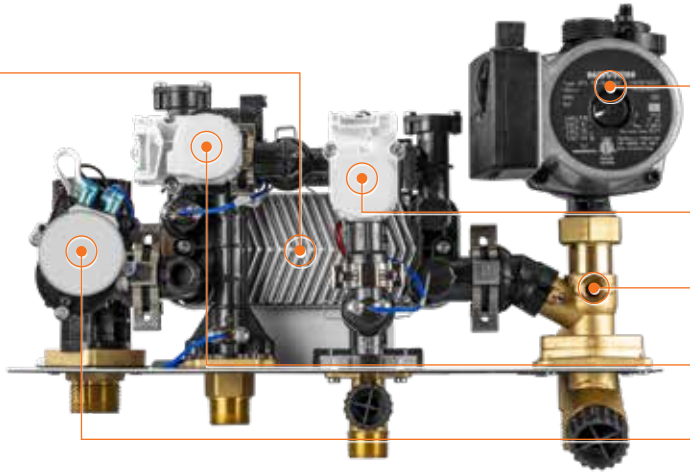
Turbulators inside the tubes increase structural strength and create a cyclone effect of flue gases maximizing heat transfer rate and efficiency

Non-metallic drain pan prevents corrosion caused by acidic condensate

Built-in DHW module now with advanced performance

Navien's new innovative domestic hot water heat exchanger now generates even more hot water, giving customers the ability to run up to 3 showers and a dishwasher, all at the same time with up to 5.4 gallons per minute at a 67°F temperature rise.

Separate stainless steel flat plate heat exchanger for DHW creates one of the highest flow rates for combi-boilers in the industry. Up to 5.6 GPM @ 67°F temperature rise.



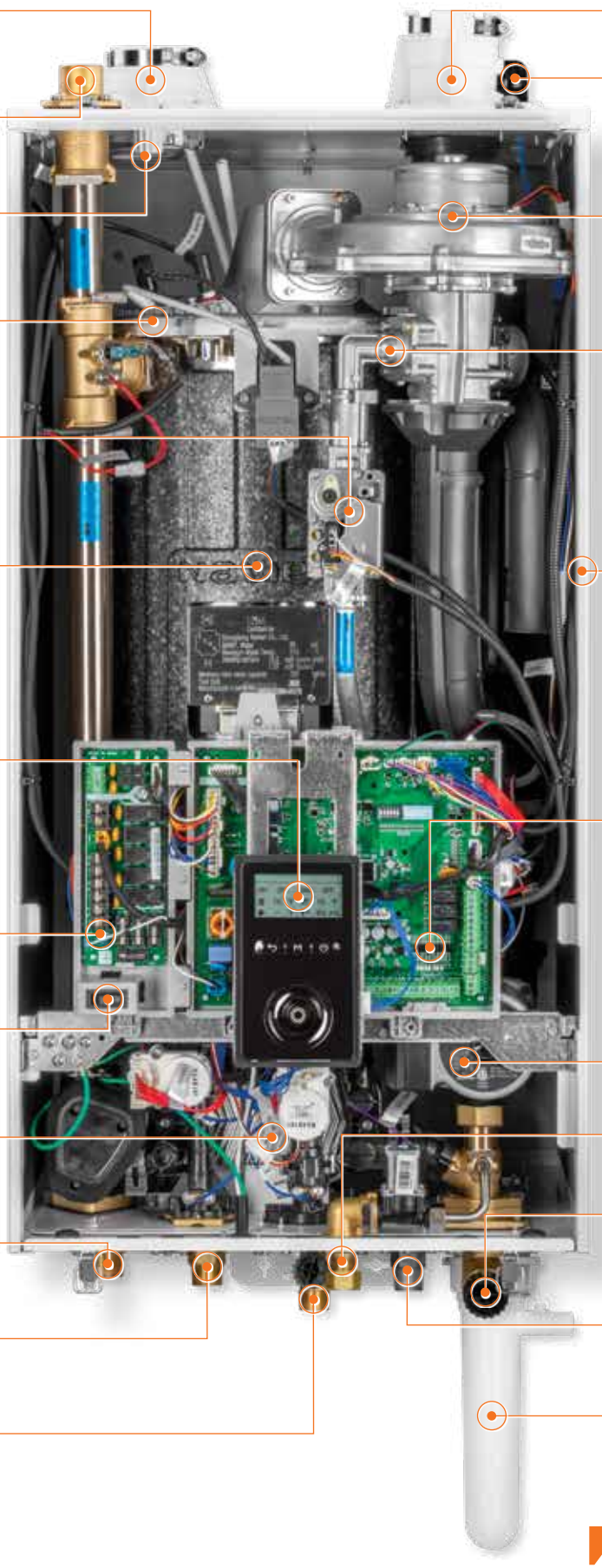
Integrated boiler pump for hydronic space heating and domestic hot water. No need for an external pump saving installation time, space and costs

New flow adjustment valve

Water feed valve

New mixing valve

New easy access 3-way valve



2" air intake venting (including schedule 40 PVC)

Pressure relief valve adapter

Inlet air filter

Fully modulating metal fiber premix burner

Negative pressure regulating gas valve

Stainless steel fire tube heat exchanger for space heating

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

High voltage terminals

On/off switch

DHW stainless steel flat plate heat exchanger

Space heating supply

DHW hot water outlet

DHW cold water inlet

2" venting up to 65' (including schedule 40 PVC)

Vent Installation Detector (VID)

Heavy duty fan and motor

Dual Venturi for field gas conversions. Orifice kit for easy field gas convertibility from NG to LP up to 10,100 ft. elevation

Powder-coated enamel metal housing

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

Integrated boiler pump

Auto feeder inlet (make-up water)

Space heating return

1/2" gas pipe capable up to 24' (subject to local code)

Condensate trap

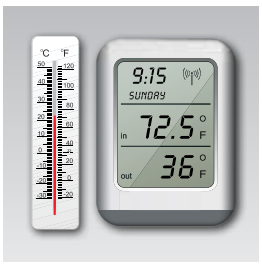
MORE REASONS TO CHOOSE NFC-H FOR THE BEST ALL-IN-ONE HOT WATER SYSTEM

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.

Space saving and light weight design

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

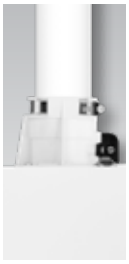


TDR up to 15:1 for heating and for DHW

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

Low noise levels

Installations in or near media rooms, recreation rooms or any living areas of the house are possible with the quiet running NFC-H combi-boilers.



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).

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.

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.

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.

NFC-H combi-boiler accessories

NaviLink®

Wi-Fi control

This add-on accessory will enable customers with smartphones and tablets to control temperatures remotely, access usage data and receive diagnostic notifications on NFC-H models.

PBCM-AS-001

HotButton®

DHW activation

At the push of a button, the HotButton® hot water system activates the DHW heat exchanger to heat water in the supply lines to provide hot water only when it's needed.

PZZZ-00046

NaviClean™

Magnetic filtration system

Removes higher levels of iron oxides, sludge and debris with powerful magnetic filter.

GXXX001727

PeakFlow®E

Anti-scale system

GXXX001725

PeakFlow® E replacement media

GXXX001726

PeakFlow® replacement media

GXXX001327

SmartZone+™

Pump controller

Allows control from 4 to 6 zone pumps and expansion of built-in NFC-H zoning.

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

30022965A

Combi-boiler primary manifold kit

This package includes new stainless steel manifold, system-matched isolation valves and PRV-air vent adapter.

30026576A

Common vent collar kit

Required for common venting the NFC-H with NPE tankless water heaters.

30014367B

Includes common vent collar damper, VID jumper cable and cascade cable. (GXXX000546)

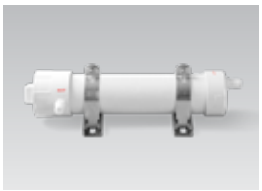
Commercial neutralizer

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

Light commercial condensate neutralizer for up to 6 units (1 NFC-H and up to 5 NPE's).

GXXX001324

Lt. commercial replacement media

GXXX001328

Residential neutralizer kit

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

GXXX001322

Residential replacement media

GXXX001323

Cascade cable

Up to 15 NPE-A/S tankless water heaters.

GXXX000546

Universal temperature sensor

Designed to sense supply, return or tank water temperature. Works with all NFC-H series combi-boilers.

GXXX001769

Ready-Link® rack base (V3) and add-on rack(s)

Base (V3)

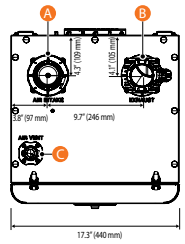
GFFMKDIZUS-005

Add-on (V3)

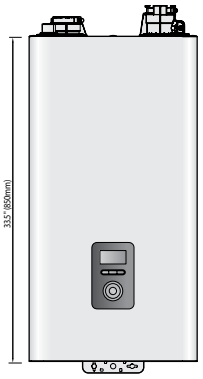
GFFMKDIZUS-006

Dimensions

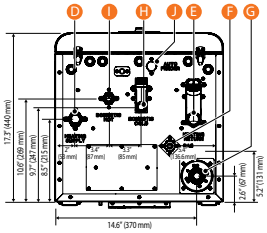
Overhead View



Front View



Supply Connections



	Connection Size
A Air Intake	Φ 2"
B Exhaust Gas Vent	Φ 2"
C PRV-Air Vent Connection	Φ 3/4"
D Heating Supply	Φ 1"
E Heating Return	Φ 1"
F Gas Connection	Φ 3/4"
G Condensate Outlet	Φ 1/2"
H Cold Water Inlet (DHW)	Φ 3/4"
I Hot Water Outlet (DHW)	Φ 3/4"
J Auto Feeder Inlet (Make-up Water)	Φ 1/2"

Ratings & specifications

Navien Combination Condensing Boiler Space Heating Ratings (AHRI CERTIFIED)						Other Space Heating Specifications		
Model Number[1]	Heating Input (BTU/H)		Heating Capacity[2] (BTU/H)	Net AHR Rating Water[3] (BTU/H)	AFUE[2] %	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	95.0			

[1] Ratings are the same for natural gas models converted to propane use.
[2] Based on U.S. Department of Energy (DOE) test procedures.
[3] 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 45°F (25°C) Temp Rise GPM (L/m)	DHW Supply Connection Size	
	Min	Max				Supply	Return
NFC-250/175H	13,300	210,000	15–150	0.5 (1.9)	7.9 (30.0)	3/4" NPT	3/4" NPT
NFC-250/200H							

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)	

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

NFC-250/175H and NFC-250/200H Series	
Temp. Rise °F (°C)	Flow Rate GPM (L/m)[1]
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)

[1] Max GPM based on installation conditions.

Heating input ranges

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 setting ranges

Item		Temperature Setting 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.

Navien Inc., 20 Goodyear, Irvine, CA 92618 800-519-8794 Navieninc.com

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THE LEADER IN CONDENSING TECHNOLOGY

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