NAVIEN Condensing Combi Boiler

User's Information Manual

Getting Service

If your boiler requires service, you have several options for getting service:

- Contact an official Technical Assistance Service (TAS) or go to the website: www.kdnavien.co.kr. For warranty service, always contact an official Technical Assistance Service (TAS) first.
- Contact the technician or professional who installed your boiler.
- Contact a licensed professional for the affected system (for example, a plumber or electrician).

When contacting an official Technical Assistance Service (TAS), please have the following information available:

- Model number
- Serial number
- Date purchased
- Installation location and type
- Error code, if any appears on the front panel display.

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NAVIEN Condensing Combi Boiler

User's Information Manual

Model

NCB-24LSWE
NCB-28LSWE
NCB-34LSWE
NCB-40LSWE

Keep this manual near this boiler for future reference whenever maintenance or service is required.

WARNING

If the information in these instructions is not followed exactly, a fire or explosion may result, causing property damage, personal injury or death.

- **Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.**
- **WHAT TO DO IF YOU SMELL GAS**
  - Do not try to light any appliance.
  - Do not touch any electrical switch; do not use any phone in your building.
  - Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
  - If you cannot reach your gas supplier, call the fire department.
- **Installation and service must be performed by a qualified installer, service agency or the gas supplier.**

benchmark COLLECTIVE MARK
THE MARK OF QUALITY FOR THE INSTALLATION, COMMISSIONING AND SERVICING OF DOMESTIC HEATING AND HOT WATER SYSTEMS

KD NAVIEN

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1. Safety Information

The following safety symbols are used in this manual. Read and follow all safety instructions in this manual precisely to avoid unsafe operating conditions, fire, explosion, property damage, personal injury, or death. Keep this manual for future reference.

DANGER

Indicates an imminently hazardous situation which, if not avoided, could result in severe injury or death.

WARNING

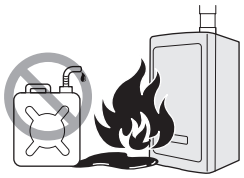
Indicates a potential hazardous situation which, if not avoided, may result in injury or death.

CAUTION

Indicates a potentially hazardous situation that, if not avoided, could result in property damage.

WARNING

If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.



A. This appliance does not have a pilot. It is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.

B. BEFORE OPERATING smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.

   WHAT TO DO IF YOU SMELL GAS
   - Do not try to light any appliance.
   - Do not touch any electric switch; do not use any phone in your building.
   - Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
   - If you cannot reach your gas supplier, call the fire department.
   - Do not return to your home until authorized by your gas supplier or the fire department.

C. Use only your hand to push in or turn the gas control knob. Never use tools. If the knob will not push in or turn by hand, don't try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion.

D. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.

DANGER

To prevent burns:

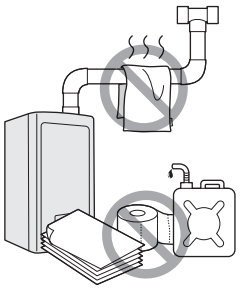
- Use the lowest operating temperature setting necessary to provide comfortably-hot water.
- If your household has children or elderly or disabled residents, consider using a lower temperature setting.
- Read all the instructions in this manual carefully before changing the temperature setting.
- Feel the water before using it on children, the elderly, or the disabled.

DANGER

This boiler's water temperature is set to 49°C at the factory for your safety and comfort. Increasing the temperature increases the risk of accidental scalding. Water temperatures at or above 52°C can cause instant scalding, severe burns, or death. Before you decide to change the temperature setting, read the following charts carefully.

Water Temperature	Time in which a young child can suffer a full thickness (3rd degree) burn
70°C	Less than 1 second
60°C	1 second
55°C	10 seconds
49°C	10 minutes
37°C	very low scald risk

WARNING



- **Shut off the gas supply if the boiler is damaged.**
  Have your installer or plumber show you the location of the gas shut off valve and demonstrate how to close the valve. If the boiler is damaged as a result of overheating, fire, flood, or any other reason, close the manual shut off valve and do not operate the boiler again until it has been inspected by a qualified technician.
- **Do not store or use gasoline or other flammable liquids near this boiler.**
  Doing so may result in fire or explosion.
- **Do not place combustibles, such as newspapers or laundry, near the boiler or venting system.**
  Doing so may result in a fire.
- **Do not place or use hair sprays, spray paints, or any other compressed gases near the boiler or venting system, including the vent termination.**
  Doing so may result in fire or explosion.
- **Do not operate the boiler with the front cover opened.**
  Doing so may result in fire or carbon monoxide (CO) poisoning, which may result in property damage, personal injury, or death.
- **Do not operate this boiler without proper venting.**
  Doing so may result in fire or carbon monoxide (CO) poisoning, which may result in property damage, personal injury, or death. Inspect the vent termination and air intake supply annually to ensure proper operation of the boiler. Turn off and discontinue use of the boiler if any of the vent pipes, vent elbows, or intake pipes are damaged in any way, separated at a joint, or show evidence of corrosion, rusting, or melting.
- **Do not touch the power cord or internal components of the boiler with wet hands.**
  Doing so may result in electric shock.
- **Do not make any electrical connections before turning off the electrical power supply at service entrance panel.**
  Doing so may result in severe personal injury or death.

CAUTION

- **Do not attempt to repair or replace any part of the boiler, unless it is specifically recommended in this manual.**
  For all other service, contact an authorized technician or licensed professional. Improper adjustments, alterations, service, or maintenance may lead to property damage, personal injury, or death and will void your warranty.
- **Do not operate the boiler if you feel something is wrong with it.**
  Doing so may result in product damage or personal injury.
- **Do not allow children to operate or access the boiler.**
  Doing so may result in product damage or personal injury.
- **Do not attempt to change the DHW water temperature while the boiler is being used.**
  Doing so may result in personal injury.
- **Do not turn on the boiler unless the water and gas supplies are fully opened.**
  Doing so may damage the boiler.
- **Do not turn on the water if the cold water supply shut-off valve is closed.**
  Doing so may damage the boiler.
- **Do not use this boiler for anything other than its intended purpose, as described in this manual.**
- **Do not remove the front cover unless the power to the boiler is turned off or disconnected.**
  Failure to do so may result in electric shock.
- **When servicing the controls, label all wires prior to disconnecting them.**
  Failure to do so may result in wiring errors, which can lead to improper or dangerous operation.
- **Do not use unapproved replacement or accessory parts.**
  Doing so may result in improper or dangerous operation and will void the manufacturer's warranty.
- **Do not place anything in or around the vent terminals, such as a clothes line, that could obstruct the air flow in or out of the boiler.**
- **This boiler has been approved for use in the USA and Canada only.**
  Using the boiler in any other country will void the manufacturer's warranty.
- **Should overheating occur or the gas supply fail to shut off, turn off the manual gas valve to the appliance.**

EC Conformity Declaration

CE 0051

Navien, hereby declares that the boiler models:

NCB-24LSWE, NCB-28LSWE, NCB-34LSWE, NCB-40LSWE

to which this declaration refers, conform to and comply with the essential requirements of the following applicable European Standards and Directives.

Gas appliances: Directive 2009/142/EC Standards EN 437 and EN 15502

Boiler Efficiency: Directives 92/42/EEC and 93/68/EEC Standards EN 15502

Low voltage: Directives 73/23/EEC and 93/68/EEC Standard EN 60335-1, EN 60335-2-30, EN 60335-2-51, EN 50165

Electro-magnetic Compatibility: Directive 2004/108/EC Standards EN 55014

Pressure Vessels: Directive 97/23/EEC

Navien, manufactures its products using a Quality Assurance system in compliance with Standard EN-ISO 9001:2000.

2. About the Boiler

2.1 Description of the Boiler

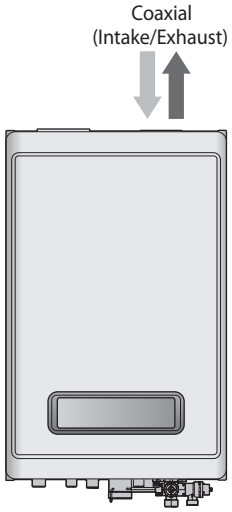
The Navien NCB LSWE boiler is available in 4 models: NCB-24LSWE, NCB-28LSWE, NCB-34LSWE and NCB-40LSWE.

The main features are as follows:

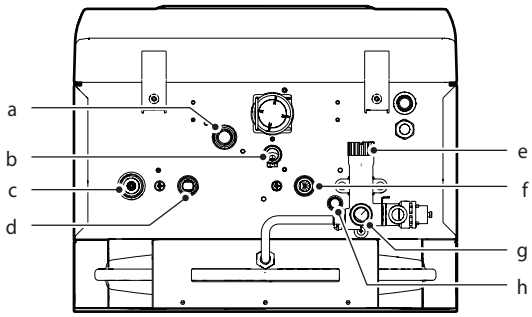
- Power Interruption: When the power is restored after a power failure, the boiler will automatically start and return to normal operation. A manual reset is not required.
- Automatic Water Fill: Should the water level in the system fall too low, a sensor will automatically activate the refill circuit.
- Freeze Protection: A sensor inside the boiler automatically detects the temperature and, if necessary, initiate a safety heating cycle to prevent internal equipment damage due to freezing temperatures.
- Short-Circuit Protection: Any short-circuit occurring in the boiler's electrical circuit immediately blows the internal glass fuses and automatically cuts off the gas supply.
- Lightning Protection: Each boiler is specially grounded, both internally and externally, to protect against lightning strikes.
- Carbon Monoxide Protection: The boiler is designed to maintain a safe air-to-gas ratio and combustion rate. This function is continuously monitored by the boiler's air ratio control module.
- Thermostat Control Failure: Should the thermostat fail to function properly, the boiler's gas supply will be shut off automatically as a safeguard.
- Auto Fan Detection: The rotation of the fan is automatically detected and controlled. Fan failure will stop the operation of the boiler.
- Boiling Prevention: Excessive temperatures will automatically stop the boiler.

2.2 Parts of the Boiler

Front View



Bottom View



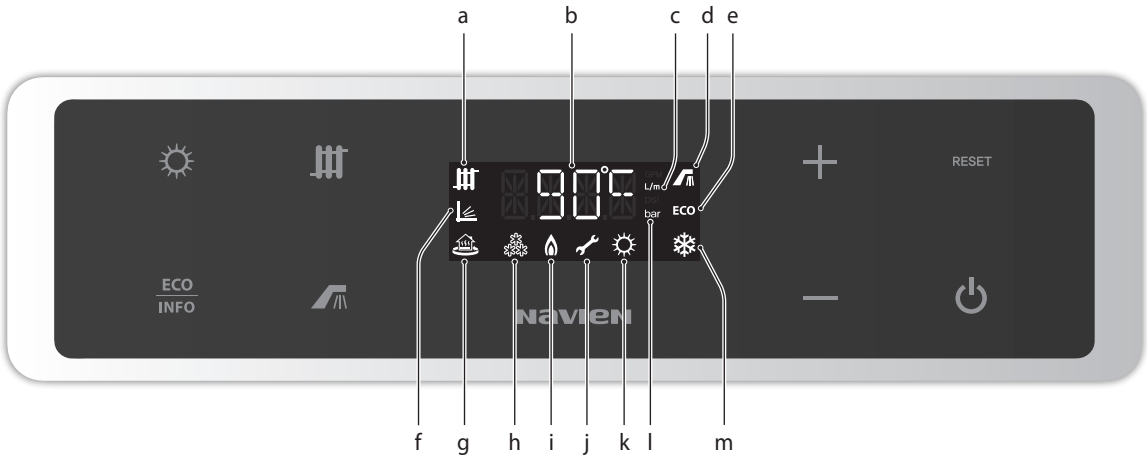
#	Description
a	Gas connection
b	Condensate water outlet
c	Space heating supply connection
d	DHW hot water outlet connection
e	Return adaptor filter
f	Cold water inlet connection
g	Space heating return connection
h	Pump drain plug

2.3 The Front Panel

The front panel allows you to adjust the temperature and view the operating status or error codes. Remove the protective sheet from the front panel before using it.

2.3.1 Icons and Digital Display

The icons and digital display on the front panel provide important information required for the boiler's operation. Refer to the following table for detailed information.



a **Space heating mode**

Indicates space heating mode operation.

b **Digital display**

c **L/m**

Indicates water flow in litres per minute.

d **DHW mode**

Indicates DHW mode operation.

e **ECO mode**

Indicates quick DHW operation.

f **Outdoor Reset**

Indicates outdoor reset operation.

g **Return water control**

Indicates return water control status.

h **Freeze Protection**

Indicates freeze protection operation.

i **Combusting**

Indicates burner operation.

j **Error**

A code will appear on the display.

k 

Summer Mode

Indicates only DHW is operating.

m 

Winter Mode

Indicates DHW and heating operation.

l bar **Bar**

Indicates water pressure in bar.

2.3.2 Buttons

Using the buttons on the front panel, you can turn on or off the boiler, monitor the current operation status, and set the values required for the boiler's operation, such as space heating and DHW supply temperatures. Refer to the following table for detailed information.

p **Summer/Winter button**

Changes the mode between summer and winter.

q **Space heating button**

Space heating temperature setting is available.

r **Up button**

Increases the temperature.

s **Reset button**

Resets the boiler (If an error occurs).

t **ECO button**

Changes the mode to ECO mode.

u **DHW button**

DHW temperature setting is available.

v **Down button**

Decreases the temperature.

w **Power button**

Turns the boiler on or off.

4. Maintaining the Boiler

4.1 Cleaning the Boiler

> **CAUTION**
>
> Make sure the boiler is turned off and the power supply is disconnected before cleaning the boiler. The boiler may remain hot for several minutes after it is turned off. To prevent burns, wait until the boiler has cooled down before cleaning.

To clean the boiler, wipe the outside with a damp cloth. Use a non-acidic, non-abrasive cleaner to remove any surface stains. The front panel is moisture resistant, but it is not waterproof. Keep it as dry as possible.

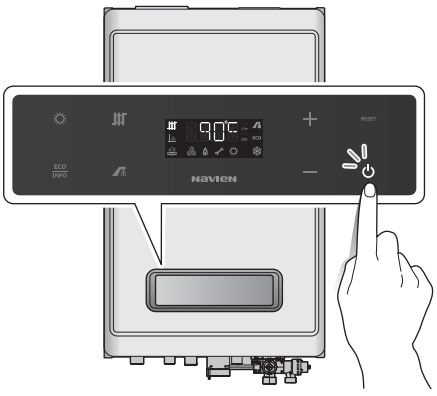
4.2 Draining the Boiler

You will need to drain either both the space heating side and domestic hot water (DHW) side, or one side only before performing maintenance tasks, such as cleaning the adaptor filter, or to prevent the boiler from freezing when it will not be used for an extended period.

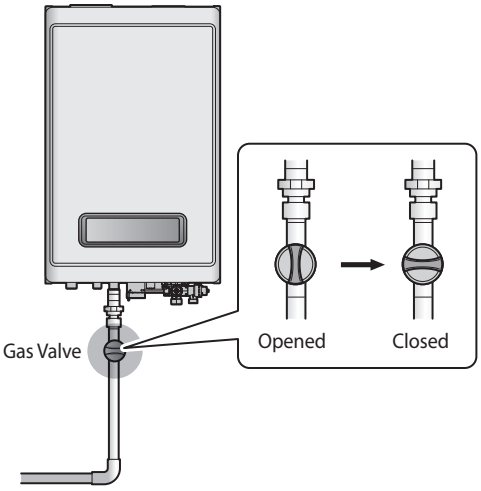
Refer to the "2.2 Parts of the Boiler" on page 6 for details about part locations.

To drain the boiler:

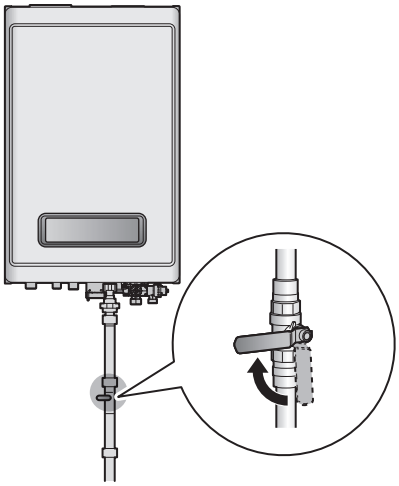
1. Place a bucket under the boiler, to collect the residual water inside the boiler.
2. Press the Power button on the front panel to turn off the boiler.



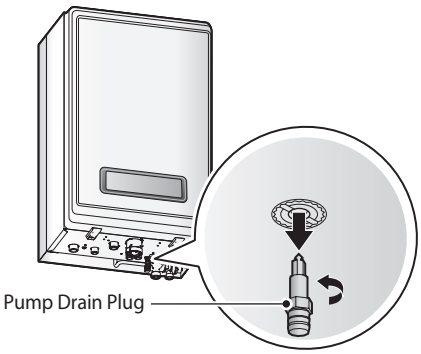
3. Disconnect the power supply to the boiler.
4. Close the gas valve.



5. Close the water supply valve on the inlet to the boiler. If there is no valve, turn off the water supply at the water main.



6. Close off any heating zones that do not require draining and open a purge valve to drain the space heating side. Open all domestic hot water taps completely to drain the water heating side. The water that remains in the plumbing lines will drain out.

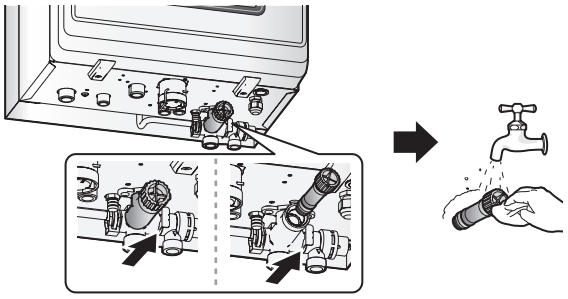


7. Open the pump drain plug.
8. Allow the residual water to drain from the boiler.
9. When the water is completely drained, reinsert the return adaptor filter and close the pump drain plug.
10. To refill the boiler follow the steps of "Draining the Boiler" in reverse.

4.3 Cleaning the Return Adaptor Filter

To clean the filter:

1. Drain the the boiler. Refer to "4.2 Draining the Boiler" on page 10.
2. Remove the filter and rinse it with clean running water (cold). If necessary, scrub it clean with a brush.



3. Reinsert and tighten the filter.
4. Fill the boiler and check for proper operation.

4.4 Protecting the Boiler from Freezing

CAUTION

Damage due to freezing is not covered by the Navien limited warranty.

The boiler is designed for indoor installation only.

If the boiler is connected to a circuit that could freeze, the circuit pipes must be suitably insulated. All pipes installed outdoors must be insulated according to applicable legislation.

The boiler electronic control includes an freeze protection function that prevents the boiler from freezing in very cold weather. It remains on standby and takes priority over all other boiler functions while the boiler is connected to the electrical mains and gas supply, i.e. it remains enabled even when the boiler is in standby position.

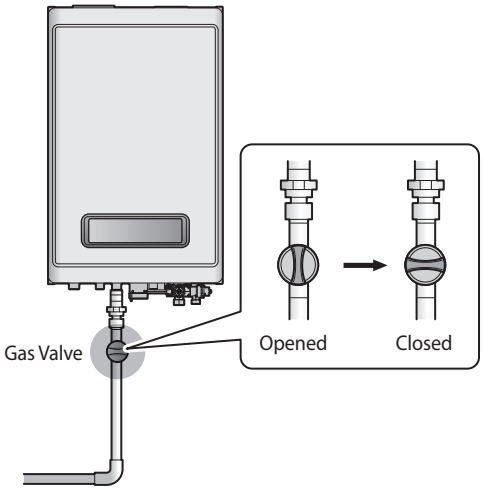
To ensure that the boiler does not freeze, follow these guidelines:

- **Do not unplug the power supply cord,** except for routine maintenance. The boiler has a freeze protection function that requires electricity. The freeze protection function will operate regardless of whether or not the power is turned on or off, as long as the electric supply is still connected.
- **Do not close the gas valve,** except for routine maintenance, as this will limit additional freeze protection.
- **If the boiler will not be used for an extended period, drain the boiler.**

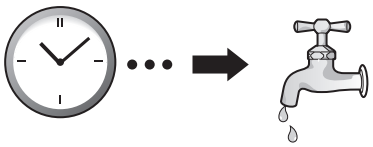
  If the power or gas supplies must be disconnected for an extended period, drain the boiler. Freezing damage may occur if there is water remained in the boiler in cold weather.

If hot water will not flow and you suspect that the boiler is frozen, follow these steps:

1. Press the Power button on the front panel to turn off the boiler.
2. Close the gas valve.



3. Open the hot water tap that is closest to the boiler.
4. Use a hair dryer or a portable electric heater to heat up both the primary and secondary Heat Exchangers.
5. Check every few minutes to see if water is running at the open tap.



6. When the water starts flowing again, check the boiler and piping for leaks. If you detect any leaks or the boiler is not operating properly, contact an authorized technician or licensed professional.

Note This boiler requires very little maintenance, however a qualified technician should inspect the boiler at the beginning of every heating season and/or when there is a problem.

4.5 Maintenance Schedules

Owner maintenance	
Daily	• Check boiler area • Check pressure / temperature gauge
Monthly	• Check vent piping • Check condensate drain
Periodically	• Check vent termination screens
Every 6 months	• Check boiler piping (gas and water) for leaks
Non-heating season	• Shut boiler down (unless boiler used for domestic hot water)

Service technician (See the following instructions)	
Annual Start-up	General: • Address reported problems • Inspect interior; clean and vacuum if necessary • Clean condensate trap and fill with fresh water • Check for leaks (water, gas, flue, condensate) • Verify flue and air lines in good condition and sealed tight • Check system piping • Check control settings • Check ignition and flame rod (clean and reposition) • Check wiring and connections • Flame inspection (stable, uniform) • Flame signal If combustion or performance indicate need: • Clean heat exchanger • Remove and clean return adaptor filter.

WARNING

- Follow the service and maintenance procedures given throughout this manual and in component literature shipped with the boiler. Failure to perform the service and maintenance could result in damage to the boiler or system.
- Failure to follow the directions in this manual and component literature could result in severe personal injury, death, or substantial property damage.
- The boiler should be inspected annually only by a qualified service technician. In addition, the maintenance and care of the boiler must be performed to assure maximum boiler efficiency and reliability. Failure to service and maintain the boiler and system could result in equipment failure.
- Electrical shock hazard – Turn off power to the boiler before any service operation on the boiler except as noted otherwise in this instruction manual. Failure to turn off electrical power could result in electrical shock, causing severe personal injury or death.

Addressing the Reported Problems

Inspect any problems reported by the owner and correct before proceeding.

Inspecting the Installation Area

1. Verify that boiler area is free of any combustible materials, gasoline and other flammable vapors and liquids.
2. Verify that air intake area is free of any of the contaminants listed in Installation & Operation Manual. If any of these are present in the boiler intake air vicinity, they must be removed. If they cannot be removed, reinstall the air and vent lines per the Installation and Operation Manual.

Inspecting the Boiler Interior

1. Remove the front cover and inspect the interior of the boiler.
2. Vacuum any sediment from inside the boiler and components. Remove any obstructions.

Cleaning the Condensate Trap

1. Inspect the condensate drain line, condensate fittings, and condensate trap.
2. Remove any sediment in the trap.
3. Fill with fresh water until the water begins to pour out of the drain.

Checking all Piping for Leaks

Eliminate all system or boiler leaks. Continual fresh makeup water will reduce boiler life. Minerals can build up in sections, reducing heat transfer, overheating heat exchanger, and causing heat exchanger failure. Leaking water may also cause severe property damage.

1. Inspect all water and gas piping and verify to be leak free.
2. Look for signs of leaking lines and correct any problems found.

Checking the Flue Vent System and Air Piping

1. Visually inspect the entire flue gas venting system for blockage, deterioration or leakage. Repair any joints that show signs of leakage. Verify that air inlet pipe is connected and properly sealed (if installed).
2. Verify that boiler vent discharge and air intake are clean and free of obstructions.

WARNING

Failure to inspect for the above conditions and have them repaired can result in severe personal injury or death.

Checking the Water System

1. Verify all system components are correctly installed and operational.
2. Check the cold fill pressure for the system. Verify it is correct (must be a minimum of 0.8 bar).
3. Watch the system pressure as the boiler heats up (during testing) to ensure pressure does not rise too high.

Note

- If the system contains glycol, test for proper concentration as recommended by manufacturer.
- Excessive pressure rise indicates expansion tank sizing or performance problem.

4. Inspect automatic air vents and air separators. Remove air vent caps and briefly press push valve to flush vent.
5. Replace caps. Make sure vents do not leak. Replace any leaking vents.

Inspecting the Ignition and Flame Detector Electrodes

1. Remove the ignition and flame detector electrodes from the boiler heat exchanger.
2. Remove any deposits accumulated on the ignition/flame detector electrode. If the electrodes cannot be cleaned satisfactorily, replace with new ones.
3. Replace ignition/flame detector electrode, making sure gasket is in good condition and correctly positioned.

Checking the Ignition Ground Wiring

1. Check that the ground wire is in good condition and securely attached to the boiler casing.
2. Check ground continuity of wiring using continuity meter.
3. Replace ground wires if ground continuity is not satisfactory.

Checking all Boiler Wiring

Inspect all boiler wiring, making sure wires are in good condition and securely attached.

Checking the Control Settings

Check settings of external limit controls (if any) and adjust if necessary.

Performing Start-up and Checks

1. Start boiler and make sure that the boiler is operating properly.
2. Verify cold fill pressure is correct and that operating pressure does not go too high.

Check the Burner Flame

1. Inspect flame through observation window.
2. If the flame is unsatisfactory at either high fire or low fire, check for obstructions in the venting.

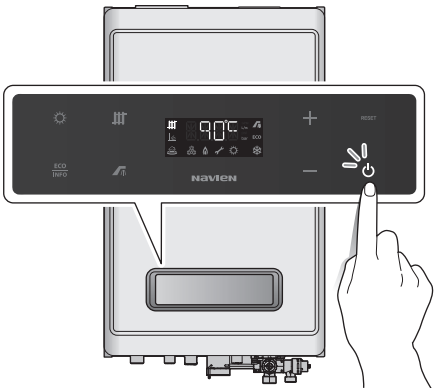
Review with the Owner

1. Review the User's Information Manual with the owner.
2. Emphasize the need to perform the maintenance schedule.
3. Remind the owner of the need to call a licensed contractor should the boiler or system exhibit any unusual behavior.
4. Remind the owner to follow the proper shutdown procedure and to schedule an annual start-up at the beginning of the next heating season.

3. Operating the Boiler

3.1 Turning the Boiler On or Off

To turn the boiler on or off, press the Power button.



When the power is on, the water temperature of the space heating supply will appear on the front panel display.

Note

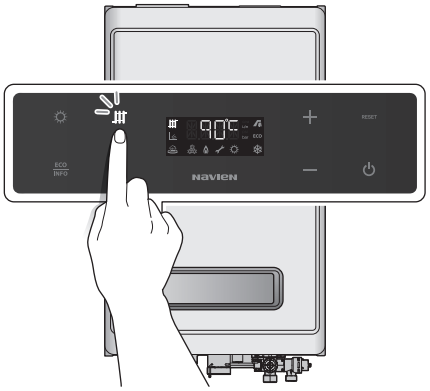
- When displaying the water temperature of the space heating supply, the space heating icon turns on.

3.2 Adjusting the Temperature

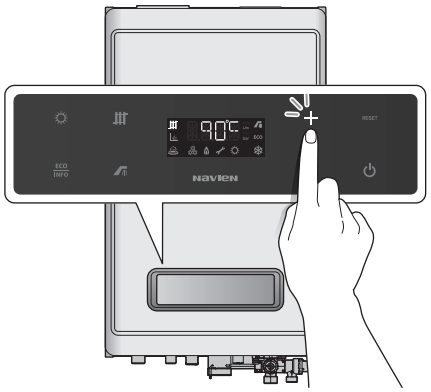
3.2.1 Adjusting the Space Heating Temperature

To adjust the space heating temperature:

1. Press the Space heating button. The space heating temperature will flash.



2. Press the + (Up) or – (Down) buttons until the desired temperature appears on the display.



You can adjust the temperature while the display is flashing. If no buttons are pressed for 5 seconds or if the ECO button is pressed, the current temperature setting will be stored automatically.

Note

- Take note of the original heating temperature in case you want to restore it to the default.
- The default space heating temperature range is 40°C to 90°C.
- The boiler will retain your settings during a power outage.

3.2.2 Adjusting the DHW Temperature

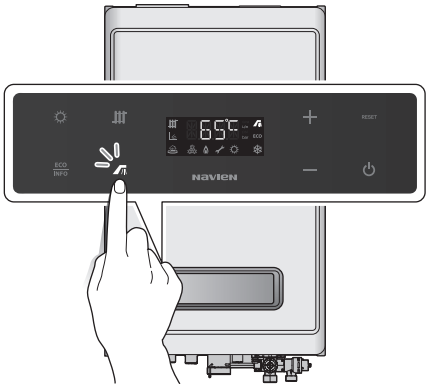
WARNING

Before adjusting the water temperature, carefully read "To prevent burns:" on page 4. Water above 52°C can cause instant scalding, severe burns, or death.

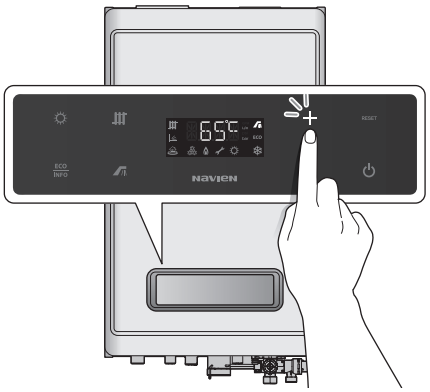
To adjust the water temperature:

1. Make sure that all hot water taps are closed, and ensure that the internal circulator and any external circulating pumps are off.

2. Press the DHW button. The DHW temperature will flash.



3. Press + (Up) or – (Down) buttons until the desired temperature appears on the display.



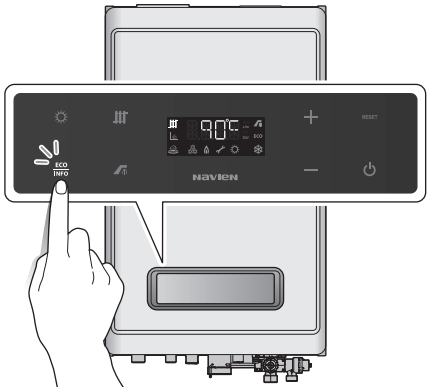
You can adjust the temperature while the display is flashing. If no buttons are pressed for 5 seconds or if the ECO button is pressed, the current temperature setting will be stored automatically.

Note

- Take note of the original water temperature in case you want to restore it to the default.
- The default space heating temperature range is 30°C to 65°C.
- The boiler will retain your settings during a power outage.

3.3 Viewing Basic Information

To view information about the boiler, press the ECO button for 2 seconds.



Press the + or – buttons to switch between the information types.

Display	Description
	Space heating supply water temperature (°C)
	Space heating return water temperature (°C)
	Domestic hot water outlet temperature (°C)
	Cold water inlet temperature (°C)
	Domestic Hot Water (DHW) flow rate in LPM
	Outdoor air temperature (°C) (with optional Outdoor Temperature Sensor only)

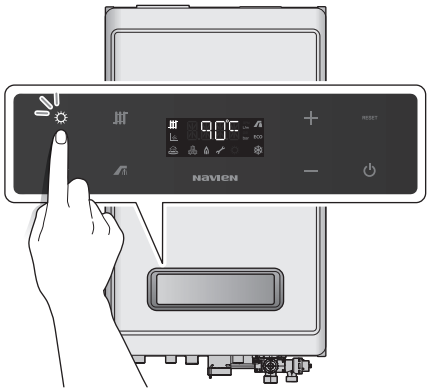
Display	Description
	Outdoor reset curve -: Not in use. 1: Finned tube baseboard 2: FAN coil 3: Cast iron baseboard 4: Low mass radiant 5: High mass radiant 6: Radiator 7: Custom (set by installer)
	Boost interval time (set by installer)
	Space heating water pressure in bar

To exit the Information mode, press the Reset button.

3.4 Setting Summer and Winter Mode

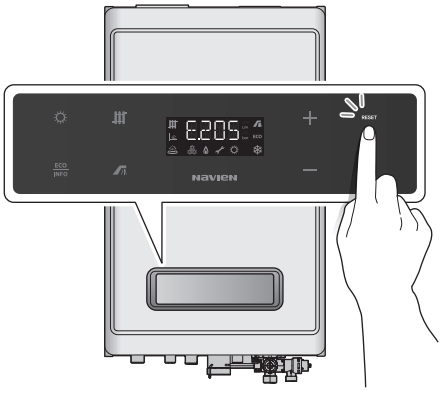
In warm weather, space heating is unnecessary. By using Summer mode you can turn off the space heating and use DHW only. If you want to use space heating and DHW, change the mode to Winter mode.

To change the mode between the Summer and Winter mode, press the Summer/Winter button.



3.5 Resetting the Boiler

If an error message appears, you can try resetting the boiler to resolve the problem. To reset the boiler, press the Reset button.



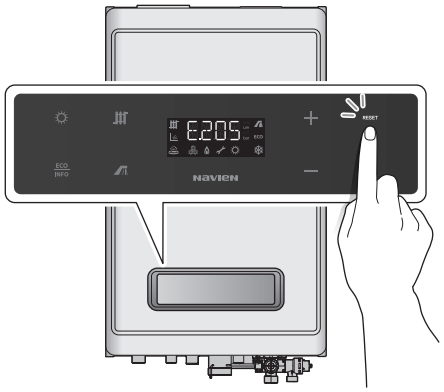
If resetting the boiler does not solve the problem, refer to the Troubleshooting section of this manual or contact a Technical Assistance Service.

5. Troubleshooting

5.1 Solving Basic Problems

If you experience a problem with the boiler, refer to the following chart for possible remedies. Error codes that appear on the front panel display are explained in the following section.

For minor problems, resetting the boiler may resolve the issue. To reset the boiler, press the Reset button on the front panel.



If resetting the boiler and attempting the remedies suggested below do not resolve the problem, contact an autorised technician, a licensed professional, or a Technical Assistance Service for service instructions.

Problem	Possible Cause(s)	What to do
No water comes out when the hot water tap is opened.	• Is the return adaptor filter clean? • Is an error code displayed on the front panel? • Is the boiler frozen?	• Ensure that the shut–off valves on the hot and cold pipes are open. • If an error code is displayed, refer to "5.2 Understanding Error Codes" on page 19.
The water from the hot water tap is cold or turns cold and stays cold.	• Is the hot water tap open wide enough draw at least 1.9 liters of water per minute (LPM) through the boiler? • Is an error code displayed on the front panel?	If an error code is displayed, refer to "5.2 Understanding Error Codes" on page 19.
The water from the hot water tap is not hot enough.	Is the set temperature too low?	• Check the boiler's temperature setting. Refer to "3.2 Adjusting the Temperature" on page 15. • Check for cross plumbing between the cold and hot water lines.
The water from the hot water tap is too hot.	Is the set temperature set too high?	Check the boiler's temperature setting. See "3.2 Adjusting the Temperature" on page 15.
Space heating side malfunction	Is the setting temperature too low?	Check the boiler's temperature setting. See "3.2 Adjusting the Temperature" on page 15.
	Is there power to the system, or is the system in stand by?	Make sure the power is on, and plugged into the outlet with the correct voltage. Press the Power button and raise the setting temperature. Make sure the boiler is turned on.
	Is the system running for domestic hot water (DHW)?	When the unit is heating for DHW, the heating side does not work.
	Is the filter on the heating side restricted?	Clean out filters that belong to the heating side.

5.2 Understanding Error Codes

When an error code appears on the front panel, refer to the following chart for a definition and possible remedy for the situation.

Error Code	Reason	Reset
003	Ignition failure	Manual reset
004	False flame detection	Auto reset
012	Flame loss	Manual reset
016	Heat exchanger overheat	Manual reset
030	Abnormal exhaust temperature	Manual reset
046	Abnormal operation: heat exchanger overheating sensor	Auto reset
047	Abnormal operation: exhaust thermostat	Manual reset Auto reset
060	Abnormal operation: dual venturi limit switch	Auto reset
109	Abnormal operation: fan	Manual reset
110	Exhaust blockage (Condensate blockage)	Manual reset
127	Abnormal operation: APS	Manual reset
205	Heating supply thermistor open or short circuit	Auto reset
218	Heating return thermistor open or short circuit	Alarm
302	Low water pressure	Auto reset
352	High water pressure	Auto reset
353	Abnormal operation: water pressure sensor	Auto reset
407	Abnormal operation: hot water outlet thermistor	Alarm
421	Abnormal operation: cold water inlet thermistor	Auto reset
515	Abnormal operation: relay feedback (PCB)	Manual reset
517	Abnormal operation: DIP switch setting (PCB)	Manual reset
594	Abnormal operation: EEPROM (PCB)	Alarm
615	Abnormal operation: input and memory (MCU)	Manual reset
740	Abnormal operation: outdoor temperature sensor	Auto reset
782	Abnormal operation: main panel communication	Auto reset

If the error code is not cleared by resetting the boiler functioning (see "3.5 Resetting the boiler") or if it occurs repeatedly, call the nearest official Technical Assistance Service (TAS), indicating the number of the error code appearing on the front panel.

Guarantee

Guarantee Conditions

Navien's commercial guarantee covers the correct functioning of the products manufactured by Navien, in accordance with the following conditions and time periods;

1. This commercial guarantee is valid for the following periods, as from the start-up date:
   - 2 years for electric and hydraulic elements, pumps, valves, etc.
   - 5 years for heat exchangers.
   - 5 years for domestic hot water tanks.
   - During the 2-year period following the start-up date, Navien will carry out any repairs of original flaws or defects totally free of charge.
   - After these 2 years have elapsed and until the end of the guarantee period, labour costs and call-out charges will be payable by the user.
2. The annual overhaul is not included in the terms of this guarantee.
3. The start-up and annual overhaul are to be carried out by personnel authorised by Navien.
4. The commercial guarantee will be null and void in the following cases:
   - If the annual overhaul by personnel authorised by Navien has not been carried out.
   - If the boiler has not been installed in accordance with the applicable laws and regulations for this type of appliance.
   - If the boiler has not been started up immediately after its installation, by personnel authorised by Navien.

Failures due to misuses or incorrect installation, use of non-suitable power or fuel, supply with water with physical or chemical properties causing incrustation or corrosion, incorrect handling of the appliance and, in general, for any reason beyond Navien's control, are excluded from this guarantee.

This guarantee does not affect the consumer's rights as stipulated by law.

Note: Start-up is included in the price of the boiler. The call-out charge is not included.

Suitable Use

The NCB LSWE boiler is designed with all the necessary safety systems. Unsuitable use of the appliance for a purpose it was not designed for entails risk of damage to the boiler or property, and even of injury or death to the user and other persons.

The NCB LSWE boiler is designed to generate heat for domestic hot water and to be connected to central heating systems. Any use other than the above will be considered unsuitable use of the boiler. In such cases the manufacturer/supplier shall not be liable for any damage caused, and the user will be liable for the damage. Correct use of the boiler includes reading the user and installation instructions and all applicable documents, and complying with the maintenance and inspection conditions.

Everyday Care

Clean the outside of the boiler with a damp cloth with a little detergent. DO NOT USE abrasive products to clean the boiler.

Waste Recycling and Disposal

Observe the applicable national regulations and standards concerning waste disposal.

The boiler

Neither the wall-mounted boiler or its accessories are to be disposed of with the domestic waste. Ensure the appliance and its accessories, where applicable, are suitably disposed of.

Packaging

The transport packaging will be disposed of by the specialist technician who made the installation.

Memo