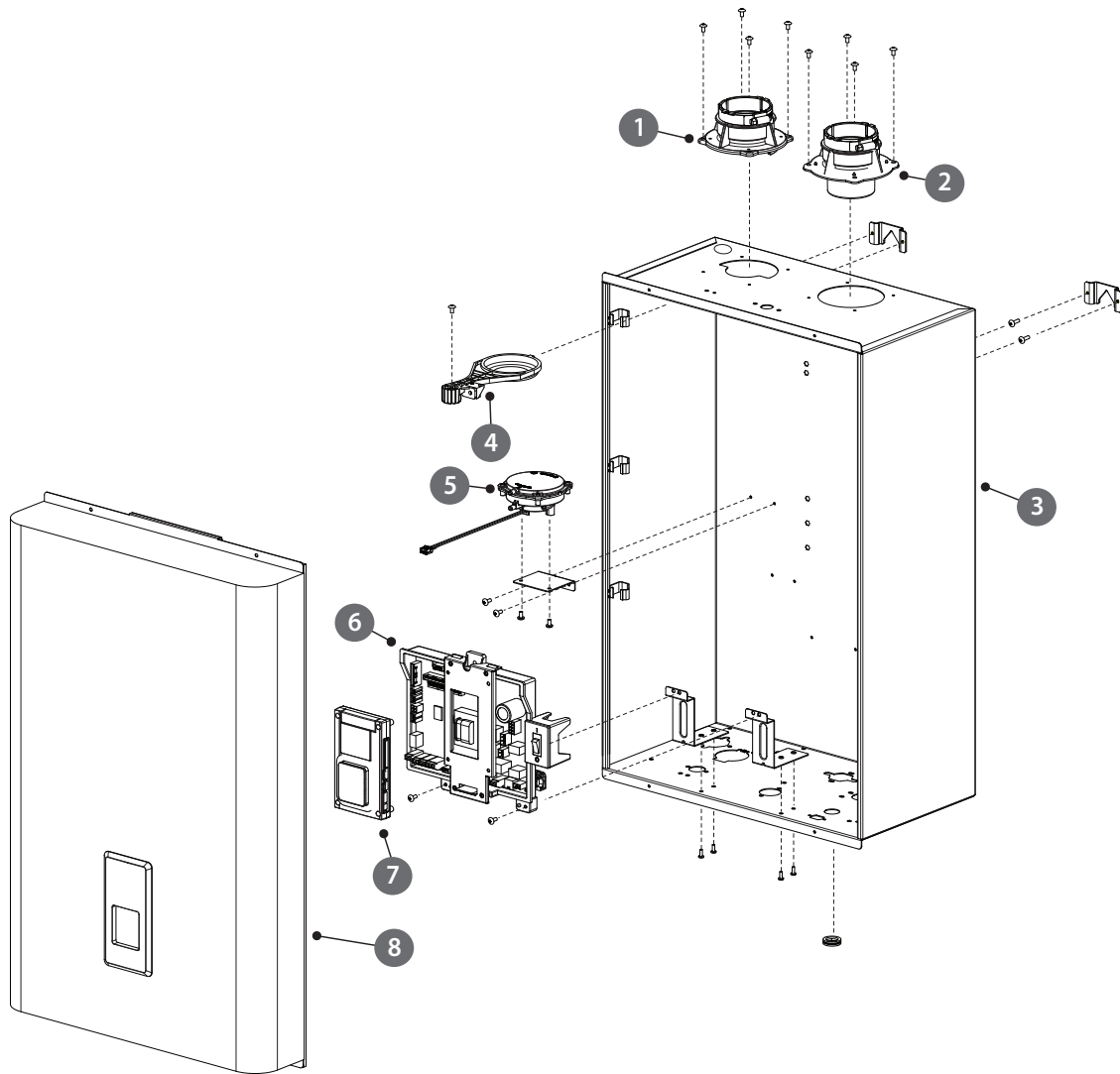


NCB PARTS MANUAL

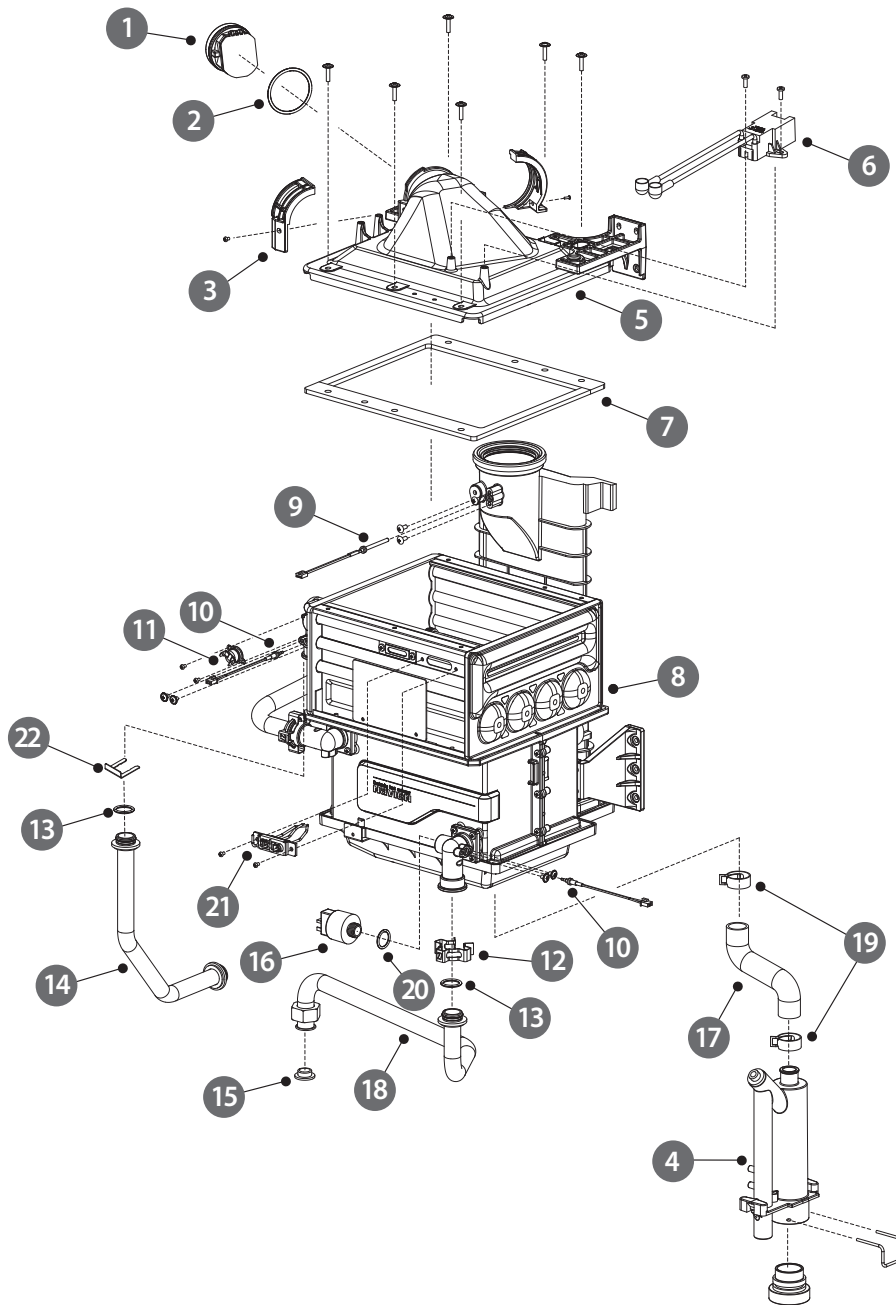
11.4 Component Assembly Diagrams and Parts Lists

11.4.1 Case Assembly



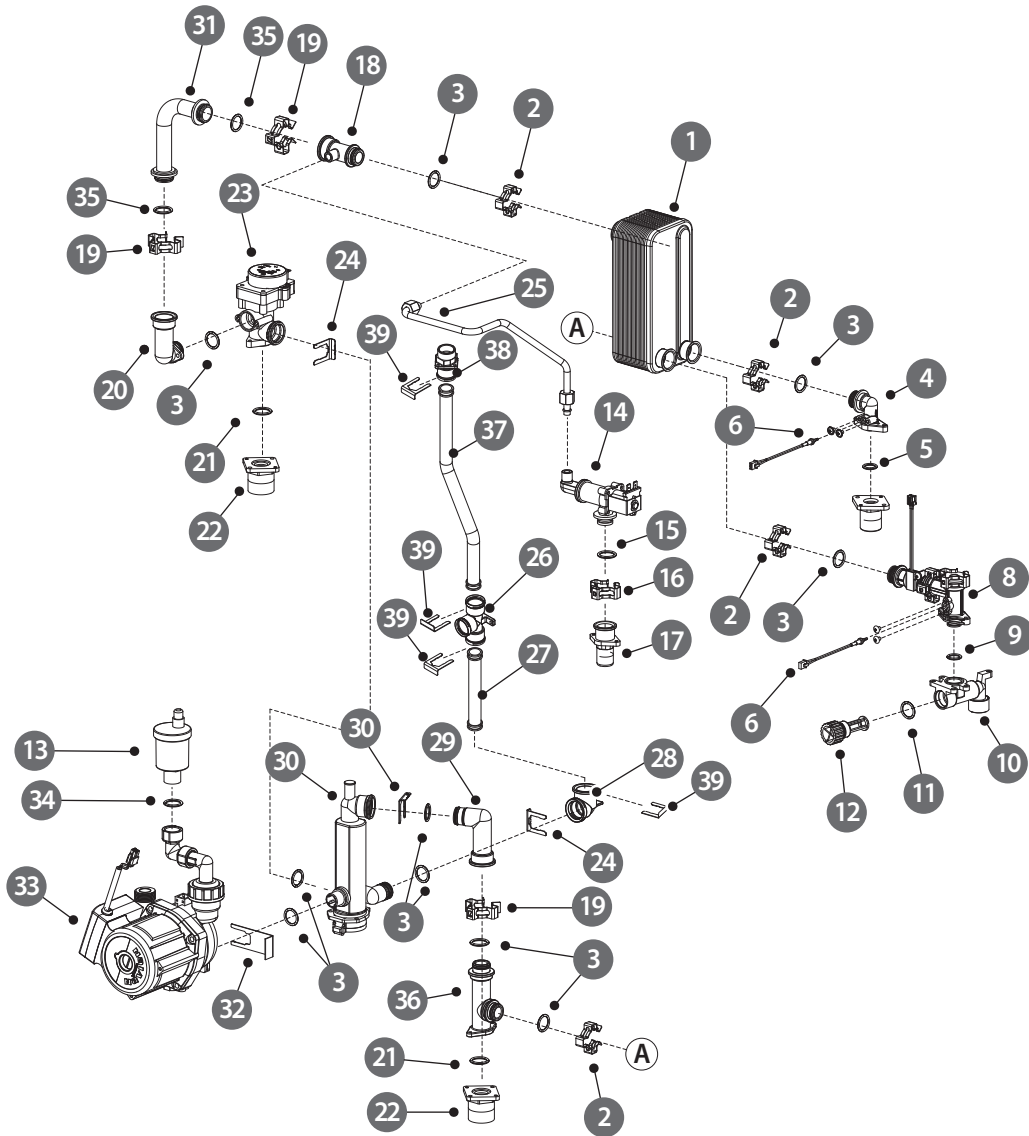
#	Description	Part #	Remark
1	Intake Air Duct Assembly	30008662B	
2	Exhaust Pipe Assembly	30008673A	
3	Case	20027375B	
4	Intake Air Filter	20007668A	
5	Air Pressure Sensor	30010346A	
6	PCB	30012262A	
7	Front Panel	30012269A	
8	Cover	30012276A	

11.4.2 Burner Assembly



#	Description	Part #	Remark
1	Damper	30008825A	
2	O-Ring (G50)	20003019A	
3	Fan Bracket	20022095A	
4	Siphon	30012280A	
5	Burner Chamber Ass'y	30010353A	NCB-180
		30008440A	NCB-210/240
6	Ignition Transformer	30010455A	
7	Burner Packing	20021677A	NCB-180
		20021672A	NCB-210/240
8	Heat Exchanger Ass'y	30012322A	NCB-180
		30012321A	NCB-210
		30012317A	NCB-240
9	Thermistor (Exhaust)	30009478A	
10	Thermistor (Water)	30008366A	
11	High Limit Switch	30002558A	
12	Fastner	20007859A	
13	O-Ring (P19)	20017211A	
14	Heat Exchanger Outlet Pipe	30014734A	NCB-180
		30014735A	NCB-210/240
15	Packing (Circulation Pump)	20027617A	
16	LWCO (Pressure Sensor)	20007924A	
17	Siphon Hose	20027671A	
18	Return Pipe	30011903A	NCB-180
		30011927A	NCB-210/240
19	Siphon Fastner	20007833A	
20	LWCO Packing	20006873A	
21	Ignitor	30012226A	
22	Fastener	20033662A	

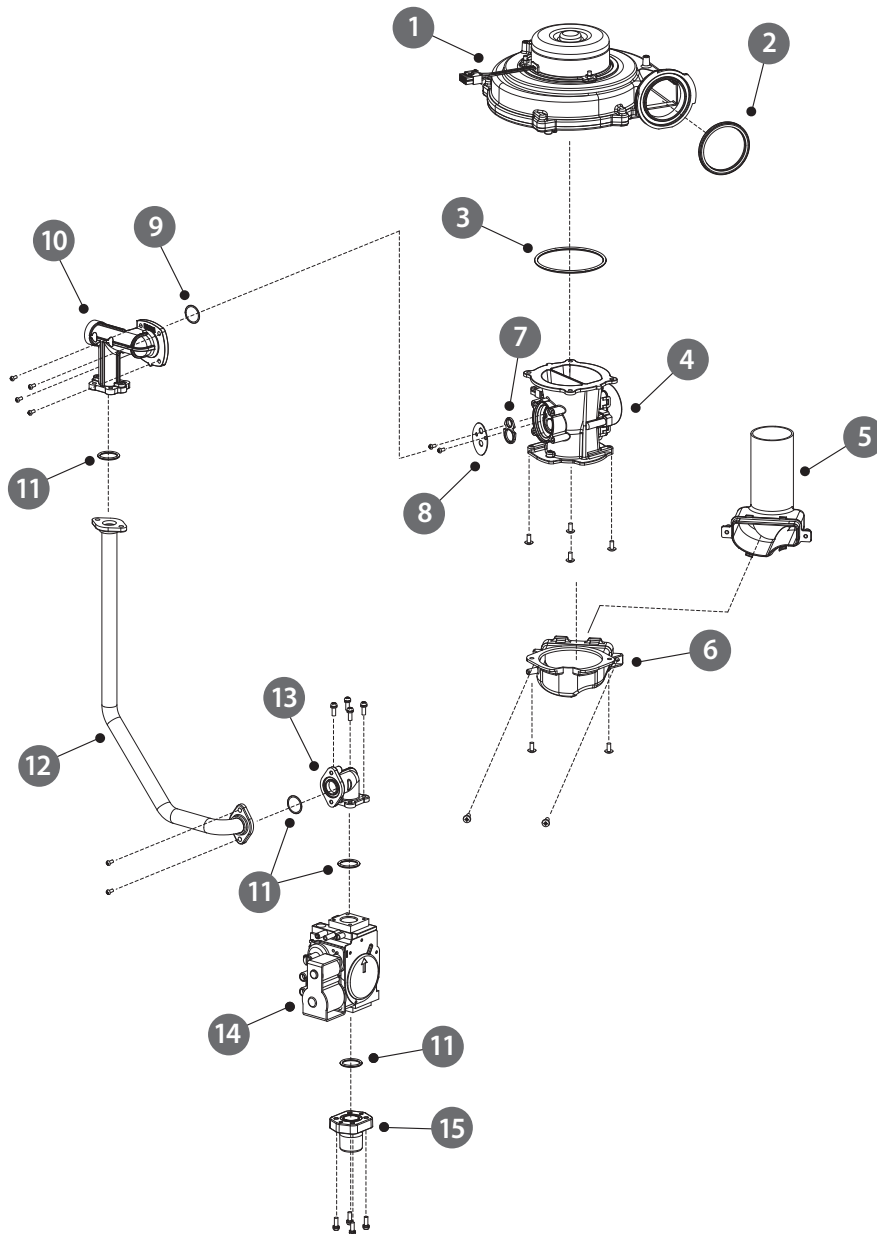
11.4.3 Waterway Assembly



#	Description	Part #	Remark
1	DHW Heat Exchanger	30008181A	NCB-180
		30005017A	NCB-210/240
2	Thermistor	30008366A	
3	O-Ring (P18)	20006954A	
4	DHW Outlet Elbow	30012328A	
5	Packing	20006852A	
6	Thermistor	30008366A	

#	Description	Part #	Remark
7	DHW Outlet Adaptor	30003747A	
8	DHW Flow Sensor	30012033A	
9	O-Ring (P14)	20006952A	
10	DHW Cold Water Adapter	30010315A	NCB-180
		30010316A	NCB-210
		30010317A	NCB-240
11	O-Ring (P20)	20017212A	
12	DHW Cold Water Filter	30007878A	
13	Air Vent	30012277A	
14	Auto Fill Valve	30012241A	
15	O-Ring (P16)	20017210A	
16	Fastner	20007859A	
17	Auto Fill Valve Adapter	-	
18	3-Way Outlet Adapter B	30012332A	
19	Fastner	20017726A	
20	3-Way Outlet Adapter A	30012331A	
21	Packing	20011380A	
22	Connection Adapter	20011408A	
23	3-Way Valve	30004831B	
24	Fastner	20007733A	
25	Water Fill Pipe	30012247A	
26	Space Heating Supply Adapter A	20033691A	
27	Space Heating Supply Pipe	30014736A	
28	Space Heating Supply Adapter B	20033696A	
29	Space Heating Return Adapter A	30012329A	
30	Space Heating Strainer	30002513D	
31	3-Way Outlet Pipe	30011906A	
32	Circulation Pump Fastner	20007877A	
33	Circulation Pump	30012177A	
34	Air Vent Packing	20028337A	
35	O-Ring (Φ18.8x2.6t)	20003022A	
36	Space Heating Return Adapter B	30012330A	
37	Pressure Relief Valve Pipe	30014737A	
38	Pressure Relief Valve Adapter	20033694A	
39	Fastener	20033662A	

11.4.4 Fan (Gas) Assembly

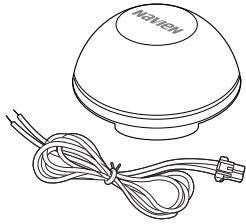


#	Description	Part #	Remark
1	Fan Assembly	30008834A	
2	Fan Packing	20022744A	
3	O-Ring (G75)	20018079A	
4	Dual Venturi	30010672A	NCB-180
		30008909A	NCB-210/240
5	Silence	20019142A	NCB-180
		20023829A	NCB-210/240
6	Silence Adapter	20023861A	NCB-180
		20019141A	NCB-210/240
7	Venturi Packing	20022660A	NCB-180
8	Gas Orifice	20024159A	NCB-180 (NG)
		20019144B	NCB-210/240 (NG)
		20024190A	NCB-180 (LP)
		20024189A	NCB-210/240 (LP)
9	O-Ring (P34)	20019090A	
10	Gas Adapter	30008431A	
11	O-Ring (P20)	20006934A	
12	Gas Pipe	30012338A	NCB-180
		30012058A	NCB-210/240
13	Gas Connector	20027149A	
14	Gas Valve	30011586A	NCB-180
		30008429A	NCB-210/240
15	Gas Inlet Adapter	20027748A	

11.5 Outdoor Temperature Sensor (Optional)

Outdoor Temperature Sensor Installation

1. Pull out the sensor body from the cap.
2. Attach the body to the wall using the screws/anchors provided with the device.
3. Run the wires into the device body through the grommet opening.
4. Connect the wires to the terminal block.
5. Attach the cap to the body.



Navien Outdoor Temperature Sensor Kit

Outdoor Temperature Sensor Installation Guidelines

- Avoid areas with temperature fluctuations by direct sunlight, and where the temperature may not be representative of true outdoor temperature.
- Best location to install the temperature sensor is on a North or Northeast side of a structure under eaves where the sensor is shielded from direct sunlight.
- Avoid placing sensor in close proximity of heat sources that may affect correct temperature sensing. (fans, exhausts, vents, lights)
- Avoid installing the sensor in areas where the sensor is subjected to excessive moisture.
- Use 18 gauge wiring (thermostat wiring) with no splices. (except at the unit harness connection with yellow leader wire.)
- Caution should be taken to avoid potential electromagnetic interference (EMI) by routing separately from potential sources such as line voltage wiring. When necessary, shielded cable may be used.
- Make sure wiring connections are secure before closing the cap.
- The sensor is a water resistant device.
- Any damage to the device may require the replacement of the entire component.

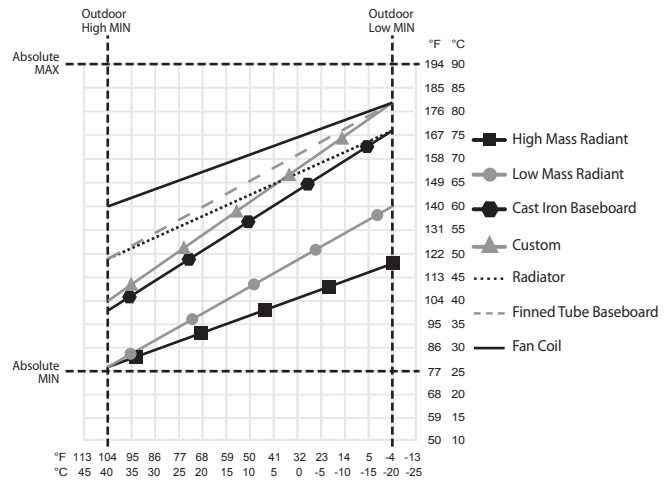
11.6 Outdoor Reset Control (Available with Optional Outdoor Temperature Sensor)

The Outdoor Reset Control feature may be used to enhance energy efficiency while maintaining optimal heating performance. With the Outdoor Reset Control, the space heating temperature setting automatically changes according to the outdoor temperature and the current space heating system application (system load).

You can configure the Outdoor Reset Control settings on the front panel by entering the Special Parameter Setting mode. Refer to "10.5 Setting the Parameters" on page 55.

Note

The Outdoor Reset Control feature requires installation of an outdoor temperature sensor, and it only works when the boiler is running in the normal operation mode. It does not work when the boiler is running in either the Minimum (MIN) or Maximum (MAX) mode, or when the boiler's front panel displays a fault.



Space Heating Temperature Setting for the Outdoor Reset Control Feature

The following tables list the default space heating temperature range by system heat load and the applicable outdoor temperature ranges.

Outdoor Temperature Sensor Installation Guidelines

Heat Load	Supply Set-point Range	Return Set-point Range
Finned Tube Baseboard (default)	120-180°F (48.5-82°C)	101-147°F (38-63.5°C)
Fan Coil	140-180°F (60-82°C)	116-147°F (46.5-63.5°C)
Cast Iron Baseboard	100-170°F (37.5-76.5°C)	86-139°F (30-59°C)
Low Mass Radiant	80-140°F (26.5-60°C)	70-116°F (21-46.5°C)
High Mass Radiant	80-120°F (26.5-48.5°C)	70-101°F (21-38°C)
Radiators	120-170°F (48.5-76.5°C)	101-139°F (38-59°C)
Custom	Supply Control (Absolute MIN/ MAX set point)	Return Control (Absolute MIN/ MAX set point)

Outdoor Temperature Range and Default Temperature Settings

Set Point	Range	Remarks
Outdoor Low Temperature	-4 to 59°F (-20 to 15°C)	Default: 14°F (-10°C)
Outdoor High Temperature	Outdoor Low Temperature Set Point + 41°F (5°C) to 104°F (40°C)	Default: 70°F (21°C)