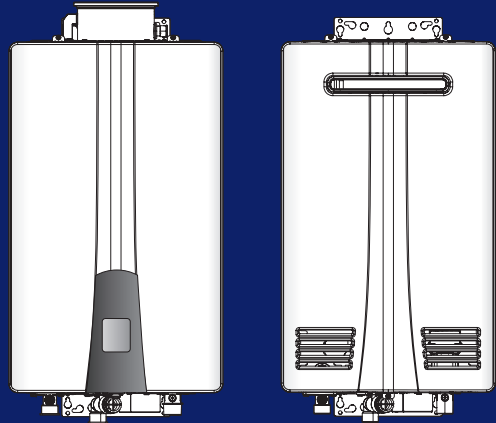


Installation & Operation Manual

NPN Non-Condensing Water Heaters

Model

- NPN-160U
- NPN-180U
- NPN-199U
- NPN-120E
- NPN-160E
- NPN-180E
- NPN-199E



* Lead Free

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

* The wetted surface of this product contacted by consumable water contains less than one quarter of one percent (0.25%) of lead by weight.



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.

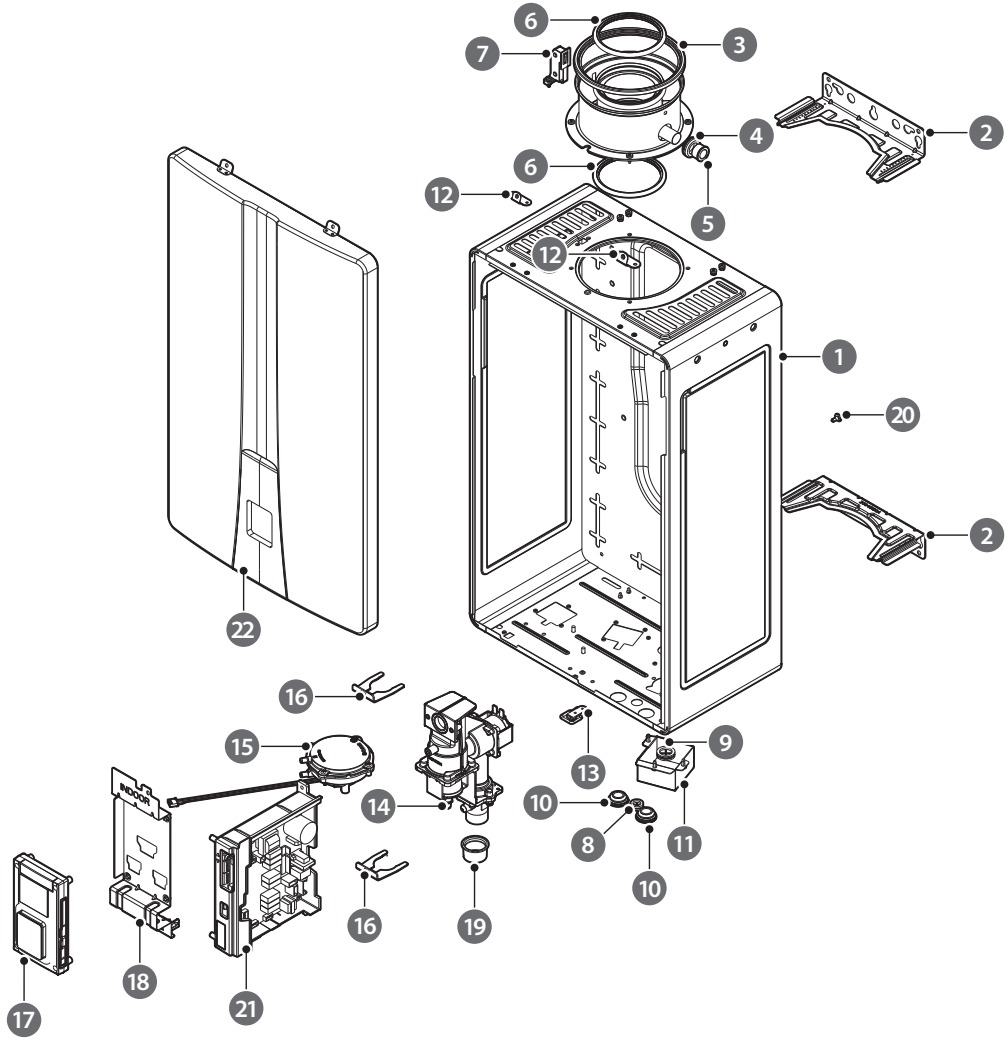
The installation must conform with local codes or, in the absence of local codes, the National Fuel Gas Code, ANSI Z223.1/NFPA 54.

When applicable, the installation must conform with the Manufactured Home Construction and Safety Standard, Title 24 CFR, Part 3280.

Do not install this water heater in a recreational vehicle, trailer, boat or other vehicular type unit as it will result in a Carbon Monoxide Poisoning Hazard.

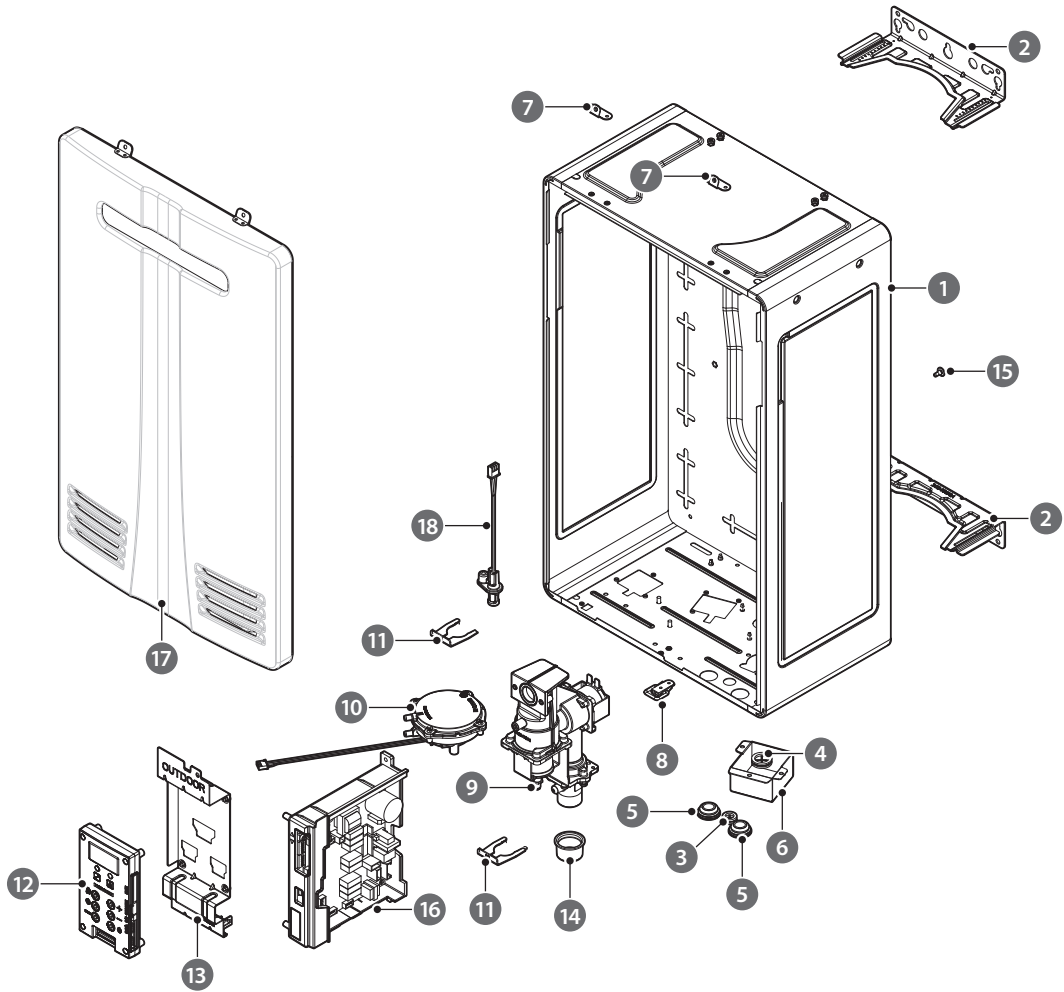
6.5 Component Assembly Diagrams and Parts Lists

6.5.1 Case Assembly (NPN-160U/180U/199U)



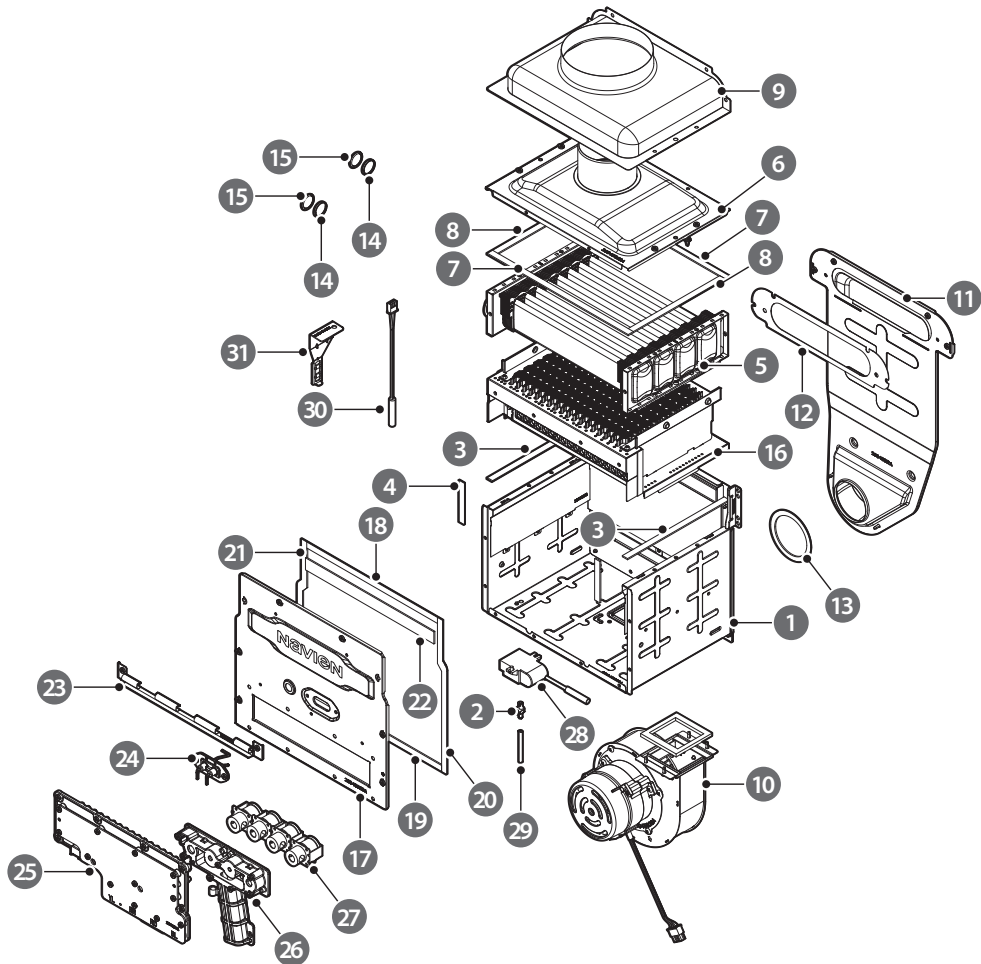
#	Description	Service Part #	Part #	Remark
1	Case		20047110*	160U
			20045902*	180U/199U
2	Case Bracket		20048190*	
3	Intake Gasket	30022669A	20046639*	
4	Condensate Drain Gasket	30022669A	20046641*	
5	Condensate Drain Cap		20046642*	
6	Exhaust Gasket	30022669A	20046640*	
7	Exhaust Switch	30022669A	30024038*	
8	Rubber Ring		20006973*	
9			20025127*	
10			20029318*	
11	Junction Box		20046065*	
12	Front Cover Bracket		20024042*	
13	External Base Toggle Latch		20007514*	
14	Gas Control Valve	30022125A	30022700*	
15	Air Pressure Sensor	30010238B	30010238*	
16	Pipe Clip	20045992A	20045992*	
17	Front Panel	30022766A	30008333*	
18	Front Panel Bracket		20045993*	
19	Pipe Cap		20012835*	
20	Rubber Seal Plug		20036041*	
21	PCB	30022789C	30022789*	
22	External Cover	30025041A	30022670*	

6.5.2 Case Assembly (NPN-120E/160E/180E/199E)



#	Description	Service Part #	Part #	Remark
1	Case		20047112*	120E/160E
			20046059*	180E/199E
2	Case Bracket		20048190*	
3	Rubber Ring		20006973*	
4			20025127*	
5			20029318*	
6	Junction Box		20046065*	
7	Front Cover Bracket		20024042*	
8	External Base Toggle Latch		20007514*	
9	Gas Control Valve	30022125A	30022700*	
10	Air Pressure Sensor	30010238B	30010238*	
11	Pipe Clip	20045992A	20045992*	
12	Front Panel	30022765B	30022765*	
13	Front Panel Bracket		20045994*	
14	Pipe Cap		20012835*	
15	Rubber Seal Plug		20036041*	
16	PCB	30022789C	30022789*	
17	External Cover	30025042A	30022752*	
18	Anti-Freeze Sensor Assembly		30024489*	

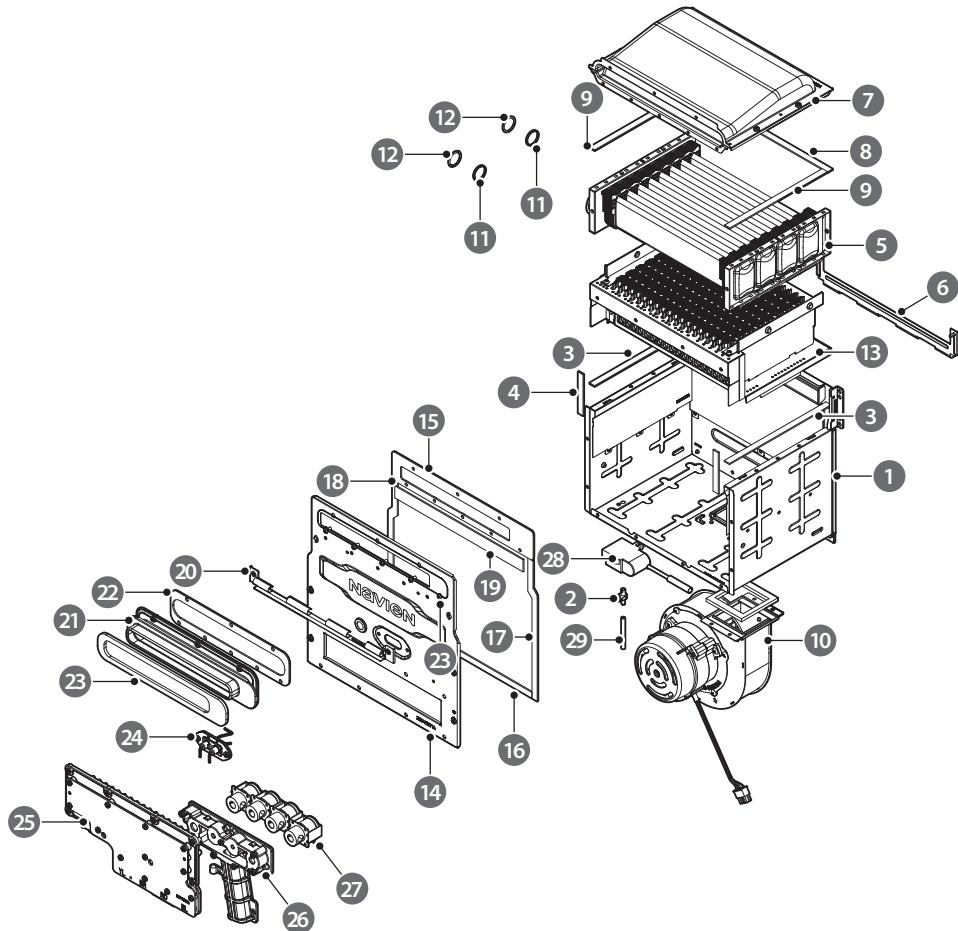
6.5.3 Burner Assembly (NPN-160U/180U/199U)



#	Description	Service Part #	Part #	Remark
1	Chamber Case	30023298A	30023298*	160U
		30023299A	30023299*	180U/199U
2	Pressure Test Nipple		20048333*	
3	Gasket	20047192A	20047192*	
			20048027*	
5	Heat Exchanger	30022984A	30022984*	160U
		30022701A	30022701*	180U/199U
6	Exhaust Duct	30022893A	30022893*	160U
		30022676A	30022676*	180U/199U
7	Gasket	20046291A	20046291*	160U
		20045926A	20045926*	180U/199U
8		20045927A	20045927*	

#	Description	Service Part #	Part #	Remark
9	Intake Duct Cap	20046289A	20046289*	160U
		20045920A	20045920*	180U/199U
10	Fan Assembly	30023779A	30023779*	160U
		30023778A	30023778*	180U/199U
11	Intake	30022671A	30022671*	
12	Gasket	20045914A	20045914*	
13	Intake Packing	20045915A	20045915*	
14	Heat Exchanger Back-Up Ring	20021730B	20021730*	
15	Heat Exchanger O-Ring	20017211A	20017211*	
16	NaviTech™ Stainless Steel Burner	30022896A	30022896*	160U
		30022679A	30022679*	180U/199U
17	Chamber Cover	30022897A	30022897*	160U
		30022675A	30022675*	180U/199U
18	Gasket	20046301A	20046301*	160U
		20045931A	20045931*	180U/199U
19		20046302A	20046302*	160U
		20045932A	20045932*	180U/199U
20		20045933A	20045933*	
21		20048024A	20048024*	
22		20047231A	20047231*	160U
		20048026A	20048026*	180U/199U
23	Fuse Bracket		20048291*	160U
			20048292*	180U/199U
24	Ignitor	30022787A	30022787*	
25	Gas Manifold	30022899A	20046303*	160U
		30022704A	20045981*	180U/199U
26	Gas Stage Valve Body	30022899A	20046306*	160U
		30022704A	20045978*	180U/199U
27	Gas Stage Valve		30004431*	
28	Ignitor Transformer	30027398A	30023297*	
29	Tube	20048321A	20046835*	
30	Anti-Freeze Sensor		30024100*	
31	Anti-Freeze Sensor Bracket		20048467*	

6.5.4 Burner Assembly (NPN-120E/160E/180E/199E)

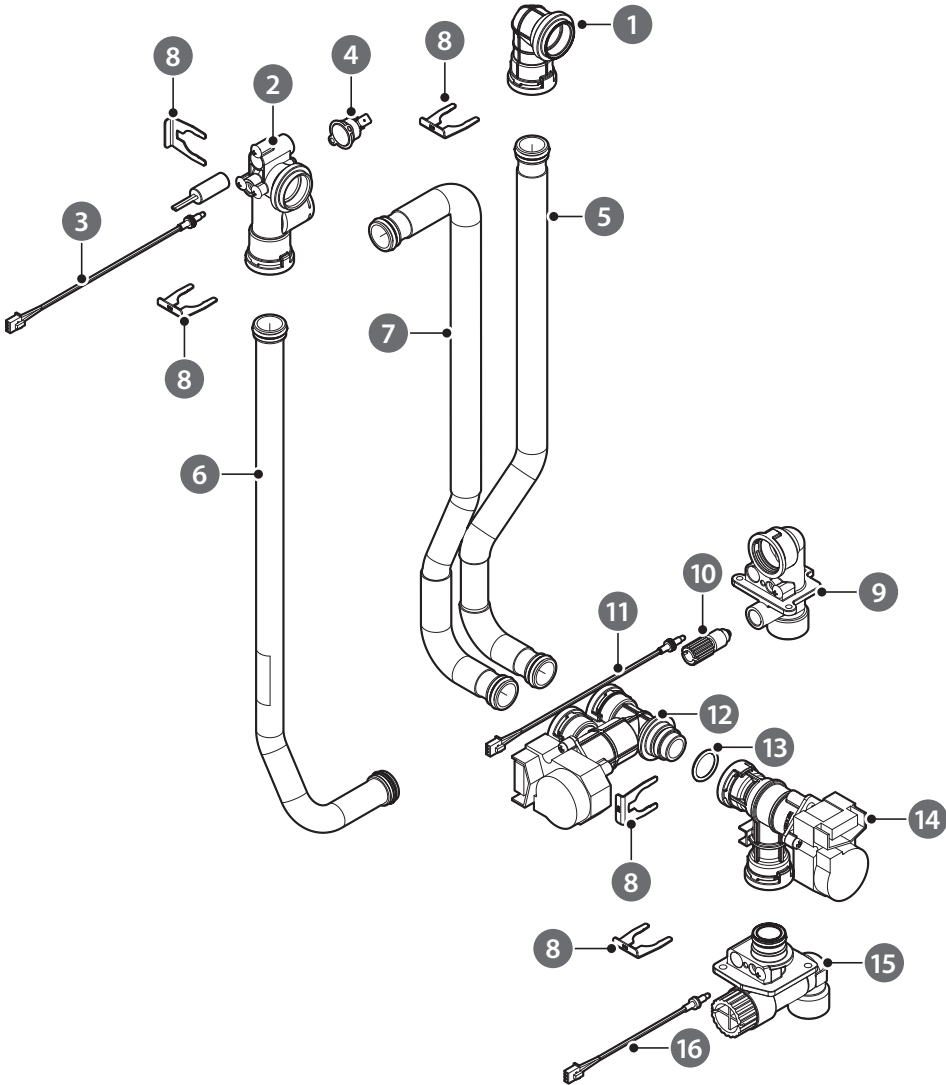


#	Description	Service Part #	Part #	Remark
1	Chamber Case	30025500A	30025500*	120E
		30023298A	30023298*	160E
		30023299A	30023299*	180E/199E
2	Pressure Test Nipple		20048333*	
3	Gasket	20047192A	20047192*	
4			20048027*	
5	Heat Exchanger	30025502A	30025502*	120E
		30022984A	30022984*	160E
		30022701A	30022701*	180E/199E
6	Fuse Bracket (Back)		20051860*	120E
			20048401*	160E
			20048402*	180E/199E

#	Description	Service Part #	Part #	Remark
7	Exhaust Duct	30025507A	30025507*	120E
		30022902A	30022902*	160E
		30022753A	30022753*	180E/199E
8	Gasket	20050745A	20050745*	120E
		20046291A	20046291*	160E
		20045926A	20045926*	180E/199E
9		20046426A	20046426*	
10	Fan Assembly	30026588A	30026588*	120E
		30022990A	30022990*	160E
		30022770A	30022770*	180E/199E
11	Heat Exchanger Back-Up Ring	20021730B	20021730*	
12	Heat Exchanger O-Ring	20017211A	20017211*	
13	NaviTech™ Stainless Steel Burner	30025505A	30025505*	120E
		30022896A	30022896*	160E
		30022679A	30022679*	180E/199E
14	Chamber Cover	30025506A	30025506*	120E
		30022903A	30022903*	160E
		30022831A	30022831*	180E/199E
15		20050740A	20050740*	120E
		20047856A	20047856*	160E
		20047857A	20047857*	180E/199E
16	Gasket	20040784A	20050784*	120E
		20046302A	20046302*	160E
		20045932A	20045932*	180E/199E
17		20048025A	20048025*	
18		20046172A	20046172*	
19		20050723A	20050723*	120E
		20047231A	20047231*	160E
		20048026A	20048026*	180E/199E
20	Fuse Bracket (Front)		20051859*	120E
			20048291*	160E
			20048292*	180E/199E
21	Exhaust	30025513A	30025514*	120E
		30022755A	30024007*	160E
		30022904A	30024009*	180E/199E
22	Exhaust Flange Gasket	20050757A	20050757*	120E
		20046071A	20046071*	160E/180E/199E

#	Description	Service Part #	Part #	Remark
23	Exhaust Packing		20050758*	120E
			20046073*	160E/180E/199E
24	Ignitor	30022787A	30022787*	
25	Gas Manifold	30025510A	20050749*	120E
		30022899A	20046303*	160E
		30022704A	20045981*	180E/199E
26	Gas Stage Valve Body	30025510A	20050748*	120E
		30022899A	20046306*	160E
		30022704A	20045978*	180E/199E
27	Gas Stage Valve		30004431*	
28	Ignition Transformer	30027398A	30023297*	
29	Tube	20048321A	20046835*	

6.5.5 Water Assembly



#	Description	Service Part #	Part #	Remark
1	Heat Exchanger Inlet Adapter	20045990A	20045990*	
2	Heat Exchanger Outlet Adapter	20045991A	20045991*	
3	Outlet Temperature Sensor	30015178A	30015178*	
4	High Limit Switch	30002577A	30002577*	
5	Inlet Pipe	30022890A	30022890*	120/160
		30022711A	30022711*	180/199
6	Outlet Pipe	30022891A	30022891*	120/160
		30022712A	30022712*	180/199
7	Mixing Pipe	30022892A	30022892*	120/160
		30022713A	30022713*	180/199
8	Pipe Clip	20045992A	20045992*	
9	Hot Water Supply Adapter		30023810*	
10	Drain Cock	30008630D	30008630*	
11	DHW Outlet Temperature Sensor	30015178A	30015178*	
12	Mixing Valve	30022124A	30022124*	
13	O-Ring	20006947A	20006947*	
14	Water Adjustment Valve	30022123A	30022123*	
15	Direct Water Intel Adapter	30022708A	30022708*	
16	DHW Outlet Temperature Sensor	30008366A	30008366*	