



SERVICE PARTS MANUAL

1000-4000 MBH

Heating Boiler Models	
BFIT1000	BFIT2500
BFIT1500	BFIT3000
BFIT1500	BFIT3500
BFIT2000	BFIT4000

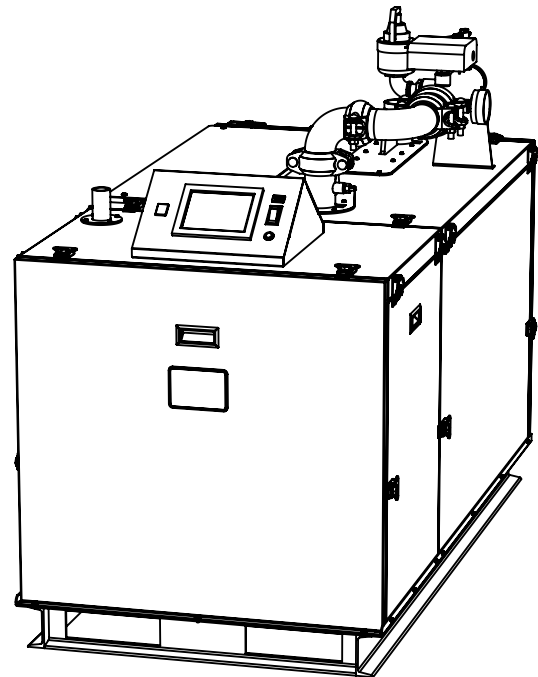
Water Heater/Hot Water Supply Boiler Models	
BFITW1000	BFITW2500
BFITW1250	BFITW3000
BFITW1500	BFITW3500
BFITW2000	BFITW4000



Intertek



Intertek



⚠ WARNING

Asphyxiation Hazard. Fire Hazard. Explosion Hazard.

This boiler must be installed, serviced or repaired by a skilled and experienced service technician. Improper installation, adjustment, alteration, service or maintenance can cause severe personal injury, death, or substantial property damage. Read and understand these instructions and entire boiler manual before attempting to service boiler. Up to date boiler manual is posted on manufacturer's website.

⚠ DANGER

Explosion Hazard. Electrical Shock Hazard. Burn Hazard.

This boiler uses flammable gas, high voltage electricity, moving parts, and very hot water under high pressure. Assure that all gas and electric power supplies are off and that water temperature is cool before attempting any disassembly or service. Do not rely solely on temperature/pressure gauge to make this determination.

NOTICE: The replacement parts noted in this manual are for a standard appliance. Different features or components may have been supplied based on the requests of the customer. Consult factory for repair parts on non-standard controls and components. Service Parts can be ordered through your local representative

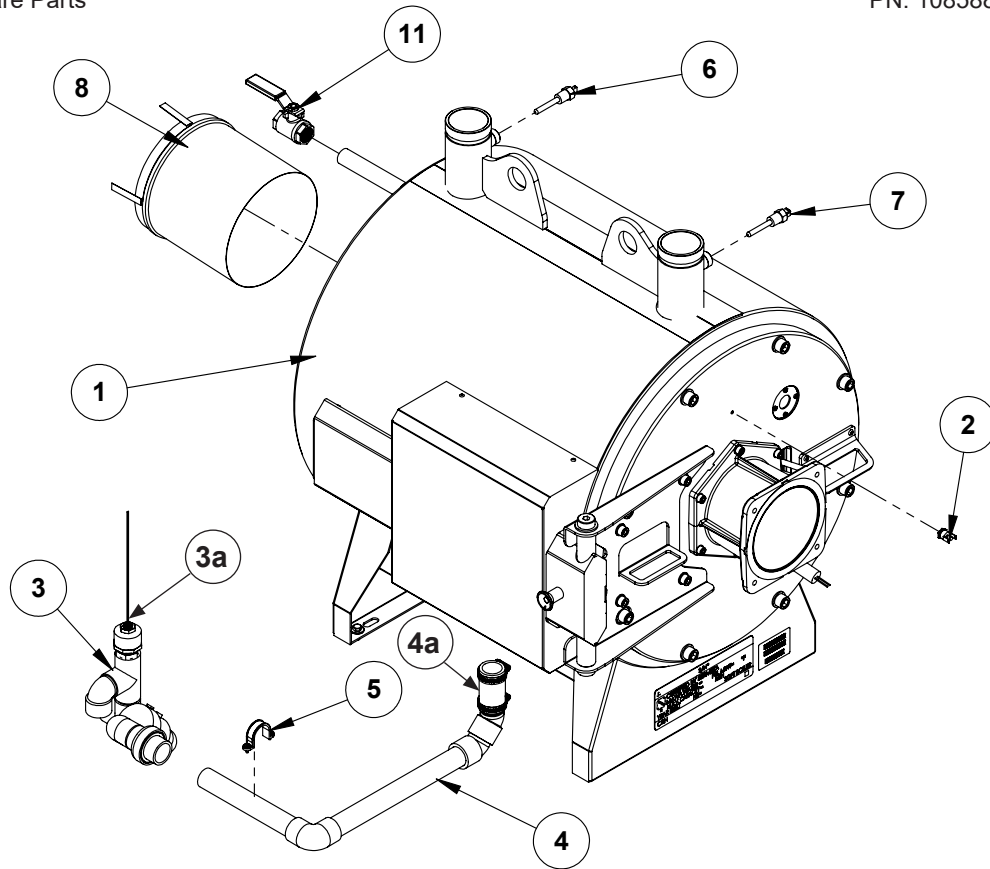
Parts can be ordered through your local representative.

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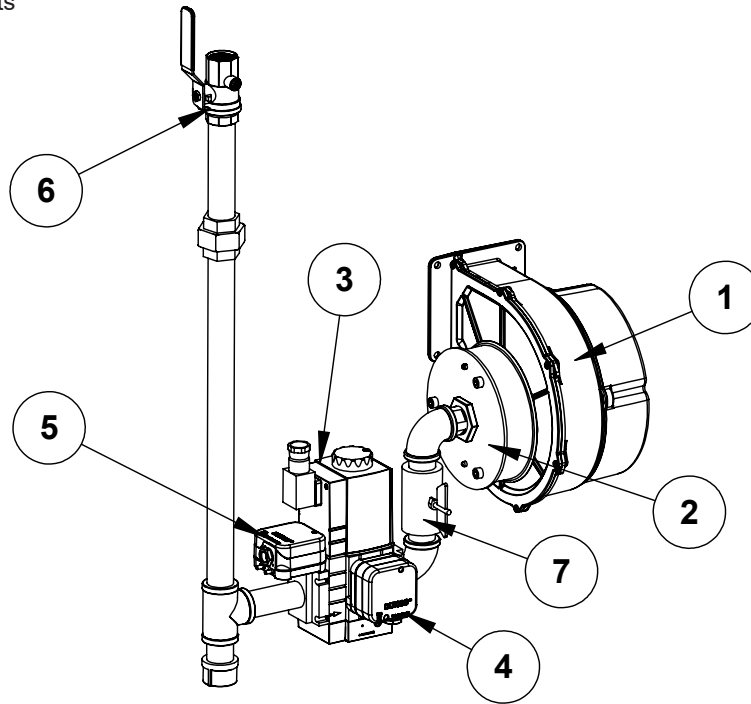
Table 1: Optional Accesories and Service Kits

Accessory/Kit	Model Sizes	Part Number
Annual maintenance kit	1000-2000	113023-01
Annual maintenance kit	2500-3000	113023-02
Annual maintenance kit	3500-4000	113023-03
Heat exchanger cleaning service kit	all	112267-01
Condensate neutralizer kit	1000	107860-06
Condensate neutralizer kit	1250-2000	107860-07
Condensate neutralizer kit	2500-4000	107860-05
Header sensor 1/2" direct immersion	all	109196-01
Remote System Water Temp Sensor with 1/2" NPT Well	all	109847-01
Outdoor Air Temperature Sensor	all (boilers only)	108681-01
Gateway, LonWorks	1000-4000	106433-02
Gateway, Protoair Wireless (Wi-Fi)	1000-4000	112316-01
EMS Signal Converter Kit	all	108596-02
High Limit w/ Manual Reset Kit:	all	106056-01
Alarm Buzzer w/ Silencing Switch:	1000-4000	109281-01
Gas Valve Proving System	1000-4000	112309-01
Motorized Isolation Valves 2"	all	112305-01
Motorized Isolation Valves 3"	all	112305-02
Motorized Isolation Valves 4"	all	107351-03
Grooved 90 elbow 2.5"	all	112306-01
Grooved 90 elbow 3"	all	112306-02
Grooved victaulic to flange adapter 2.5"	all	112307-01
Grooved victaulic to flange adapter 3"	all	112307-02

**Table 2: Heat Exchanger Assembly Part Numbers**

Item No.	Descriptions	Model Size							
		1000	1250	1500	2000	2500	3000	3500	4000
1	Heat Exchanger	Contact Local Representative							
2	Thermal Fuse	112119-01							
3	Condensate Trap	112120-01 (PVC assembly with switch)							
3a	Float switch	112121-01							
4	Condensate Drain line	112085-01		112085-02	112085-01	112085-03			
4a	Condensate Flex Tube	112085-04							
5	Condensate Clamp	108629-01							
6	Inlet Temp. Sensor	112081-01							
7	Outlet Temp. Sensor	112082-01							
8	Vent Adapter (includes gasket)	112083-01		112083-02	112083-01	112083-06		112083-07	
9	Stack Temp Sensor	112084-01							
10	Blocked Vent Switch Tubing	112122-02							
11	Drain Valve	112242-02							
12	Vent Gasket (heat exchanger)	112132-02				112132-03		112132-04	
13	Vent Clamp Ring	108861-06				108861-33		108861-34	
Water Heater Part Numbers*									
1	Heat Exchanger	Contact Local Representative							
11	Drain Valve	112242-01							

* For water heater parts, replace part numbers with the corresponding part numbers above.

**Table 3: Gas Train Part Numbers**

Item No.	Descriptions	Model Size							
		1000	1250	1500	2000	2500	3000	3500	4000
1	Combustion Blower, Single Phase	112118-01		120-240V, 1ph: 112118-02			208-240V, 1ph: 112118-03	-	-
	Combustion Blower, Three Phase	-		208-240V, 3ph: 112118-03 380-480V, 3ph: 112118-04					
2	Swirl Plate Kit	112093-01		112093-02	112093-03			112093-04	
3	Gas Valve	112090-01		112090-02					
4	High Gas Pres. SW	112088-01							
5	Low Gas Pres. SW	112089-01							
6	Main Shutoff Valve	112242-04		112242-05		112242-07		112242-08	
7	Secondary Shutoff	112242-03				112242-09		112242-10	
8*	Gas Train Support	112094-01		112094-02	-	-	-	-	-
9*	Gas Valve Throttle Flange	112091-01		112091-02	-	-	-	-	-
10*	Gas Valve Inlet Flange	112092-01		112092-02	-	-	-	-	-
11*	Air Proving SW tubing	112053-01							
12*	Blower Adapter Gasket	112279-02		-	-	-	-	-	-

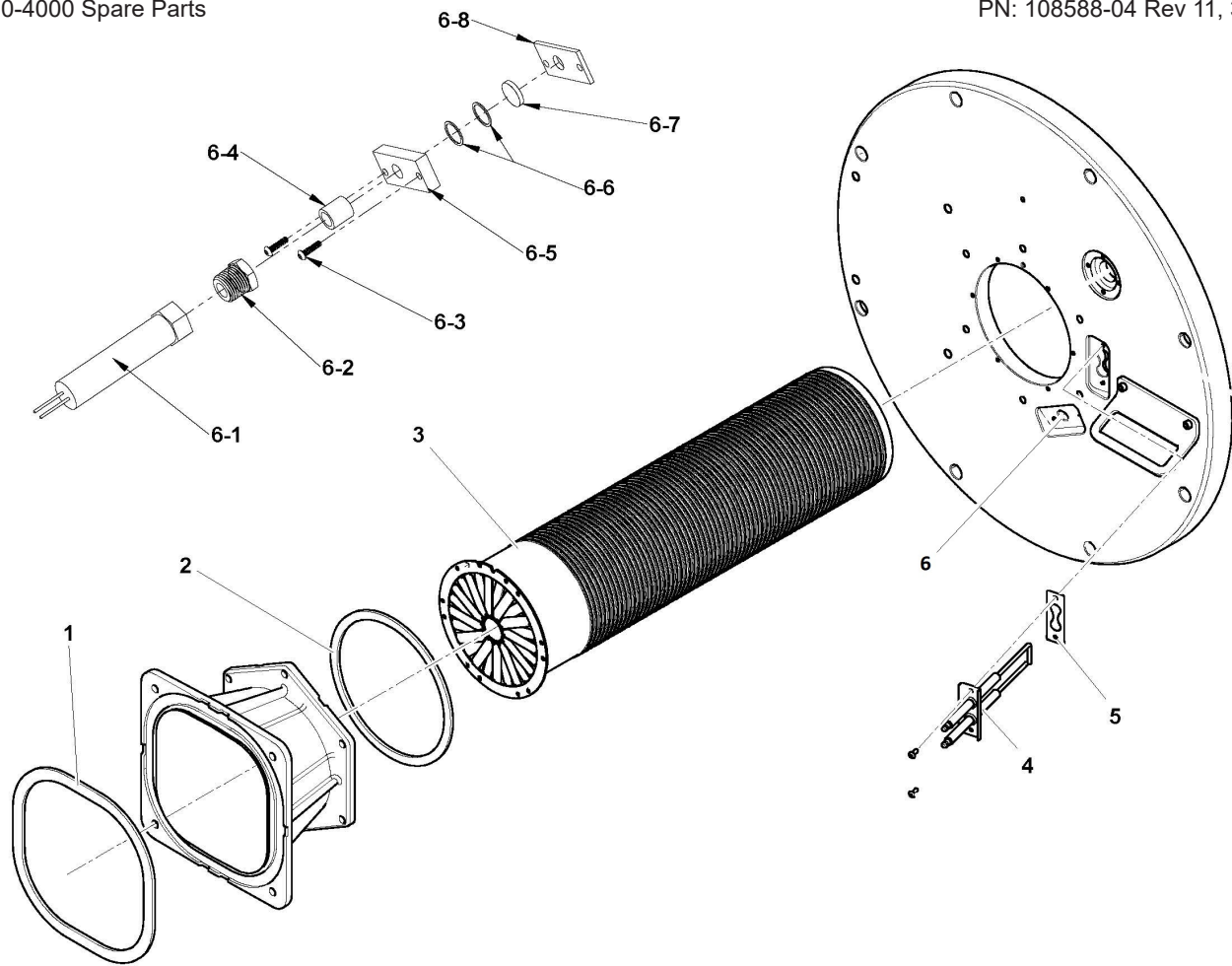
* Not shown in the drawing

Table 4: 1500 Dual Gas Part Numbers

Dual Gas 1500		
3-1	Natural Gas Valve	112090-02
3-2	Propane Gas Valve	112090-01
6-1	Natural Main Shutoff	112242-05
6-2	Propane Main Shutoff	112242-04

Note:

For sizes other than 1500, the same gas valve and shutoff valve is used for both natural and propane gas trains. Use Table 3.

**Table 5: Burner Door Assembly Part Numbers**

Item No.	Descriptions	Model Size							
		1000	1250	1500	2000	2500	3000	3500	4000
1	Blower/Fan Gasket Outlet Gasket	112279-01		112279-05					
2	Burner Gasket	113480-01				113480-02			
3	Burner with Gasket	112080-01		112080-02	112080-03	112080-04			
4	Ignition Electrode	112079-01							
6	UV Scanner Assembly	112086-01							
6-1	UV Scanner	112086-02							
7*	Observation Port Assembly	112133-01							
8*	Burner Door Insulation	112124-01				112124-02			
9*	Burner Door Gasket	112125-01				112125-02			
10*	Burner Door Rope Gasket	112126-01				112126-02			
11*	HX Divider Insulation	112127-01				112127-02			

*Not shown in drawing

Table 6: Electronics and Controls Part Numbers

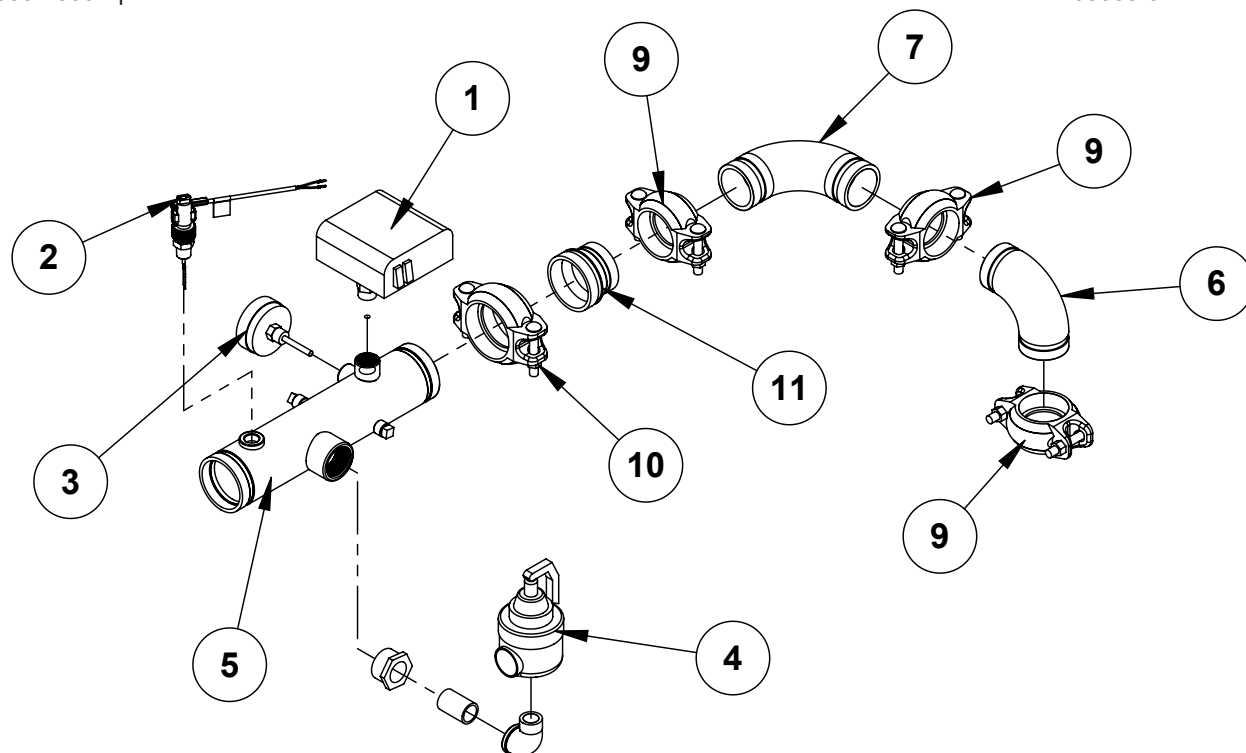
Item No.	Descriptions	AMP Model Size							
		1000	1250	1500	2000	2500	3000	3500	4000
1	Main Boiler Control	112078-10				112078-11			
2	Display	112077-02							
3	On/Off switch	112244-03							
4	Power Supply, 24VDC (Display)	112110-03							
5	24 VAC Transformer	112110-01							
6	Line Voltage PCB-01	112111-01							
7	Field Device PCB-02	112112-01							
8	Limits PCB-03	112113-01							
9	Sensors PCB-04	112114-01							
10	EMS PCB-05	112115-01							
11	Comm. PCB-06	112116-01							
12	Ignition Transformer	111998-01							
13	Ignition Cable Assy.	112117-15							
14	Air Proving SW	112052-03				112052-04			
15	Blocked Vent SW	112087-01							
16	Blocked Vent SW Line	112122-02							
17	Line Voltage Transformer	112110-04 (208-480V only)							
18	Condensate Float SW	112121-01							
19	Fuse Kits	1 ph: 112109-01, 208-240V 3 ph: 112109-02, 480V 3 ph: 112109-03							

Table 7: Wire Harness Part Numbers

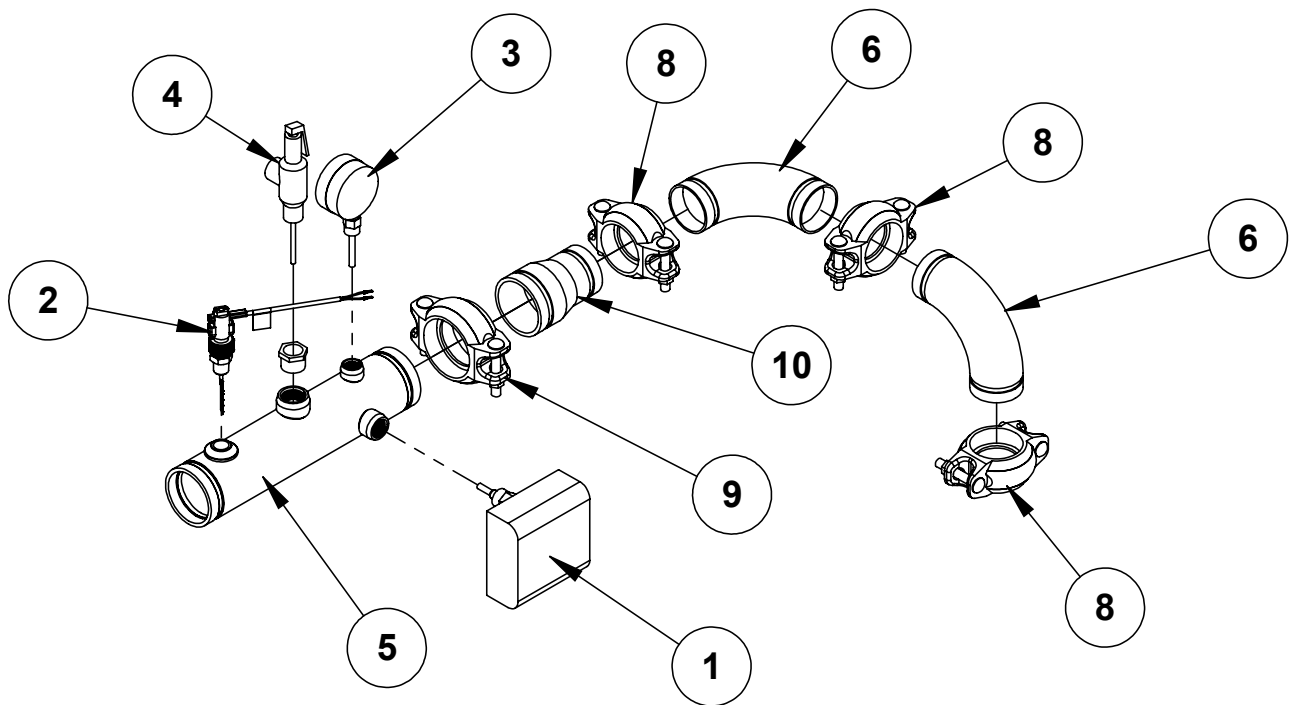
Item No.	Descriptions	Boiler Model Size							
		1000	1250	1500	2000	2500	3000	3500	4000
1	Line Voltage, Control Box	112117-03		112117-04					
2	Low Voltage, Control Box*	112117-05		112117-06					
3	Lower Control Box	112117-07		-					
4	Line Voltage, Inside Jacket	112117-08							
5	Low Voltage, Inside Jacket*	112117-09		112117-10					
6	Supply/Return sensors	112117-11							
7	LWCO and Flow Switch	112117-12							
8	Display, Low Voltage	112117-13							
9	ON/OFF SW, Line Voltage	112117-14							
10	Wire Harness Set	112117-01		112117-02					
Dual Gas									
4	Line Voltage, Inside Jacket	112117-16							
-	Gas Selection SW	112117-17							
10	Wire Harness Set	112117-18		112117-19					

For Dual Gas parts, part numbers under Dual Gas section replace the corresponding part numbers above.

*If built in 2022 or earlier, Item 2 and Item 5 need to be ordered together. Items 2 and 5 from 2022 or earlier are not compatible with harnesses after 2022.

**Table 8: Heating Boiler Outlet Manifold Part Numbers**

Item No.	Descriptions	Boiler Model Size							
		1000	1250	1500	2000	2500	3000	3500	4000
1	Low Water Cut-Off (LWCO)	112062-01							
2	Water Flow SW	112063-01							
3	Temp/Pres. Gauge								
	For relief valves of 30, 50, or 60 psi	113481-01							
	For relief valves of 75, 100, or 125 psi	113481-02							
	For 150 psi relief valve	113481-03							
4	Relief Valve								
	30 psi	112273-02		112273-11			112273-14		112273-15
	50 psi	112273-04		112273-12		112273-16			112273-17
	60 psi	112273-06		112273-13			112273-18		
	75 psi	112273-07			112273-19			112273-20	
	100 psi	112273-08					112273-21		
	125 psi	112273-09						112273-23	
	150 psi	112273-10							112273-24
5	Water Manifold	108374-01				108592-36			
6	Short Radius Elbow	112306-01				104037-01			
7	Long Radius Elbow	108592-45				-			
9	Coupling 1	112243-02				112243-04			
10	Coupling 2	112243-03				-			

**Table 9: Water Heater Outlet Manifold Part Numbers**

Item No.	Descriptions	Water Heater Model Size							
		1000	1250	1500	2000	2500	3000	3500	4000
1	Low Water Cut-Off	112062-01							
2	Water Flow SW	112063-01							
3	Temp/Pres. Gauge	113481-04							
4	Relief Valve	112272-01			112272-03	112272-04		112272-05	
5	Water Manifold	108374-02				108374-03			
6	Elbow	109278-01				109278-02			
8	Coupling 1	112243-02				112243-04			
9	Coupling 2	112243-03				-			
10	Concentric Reducer	108376-01				-			

Jacket Panels, Gaskets and Trim Rings

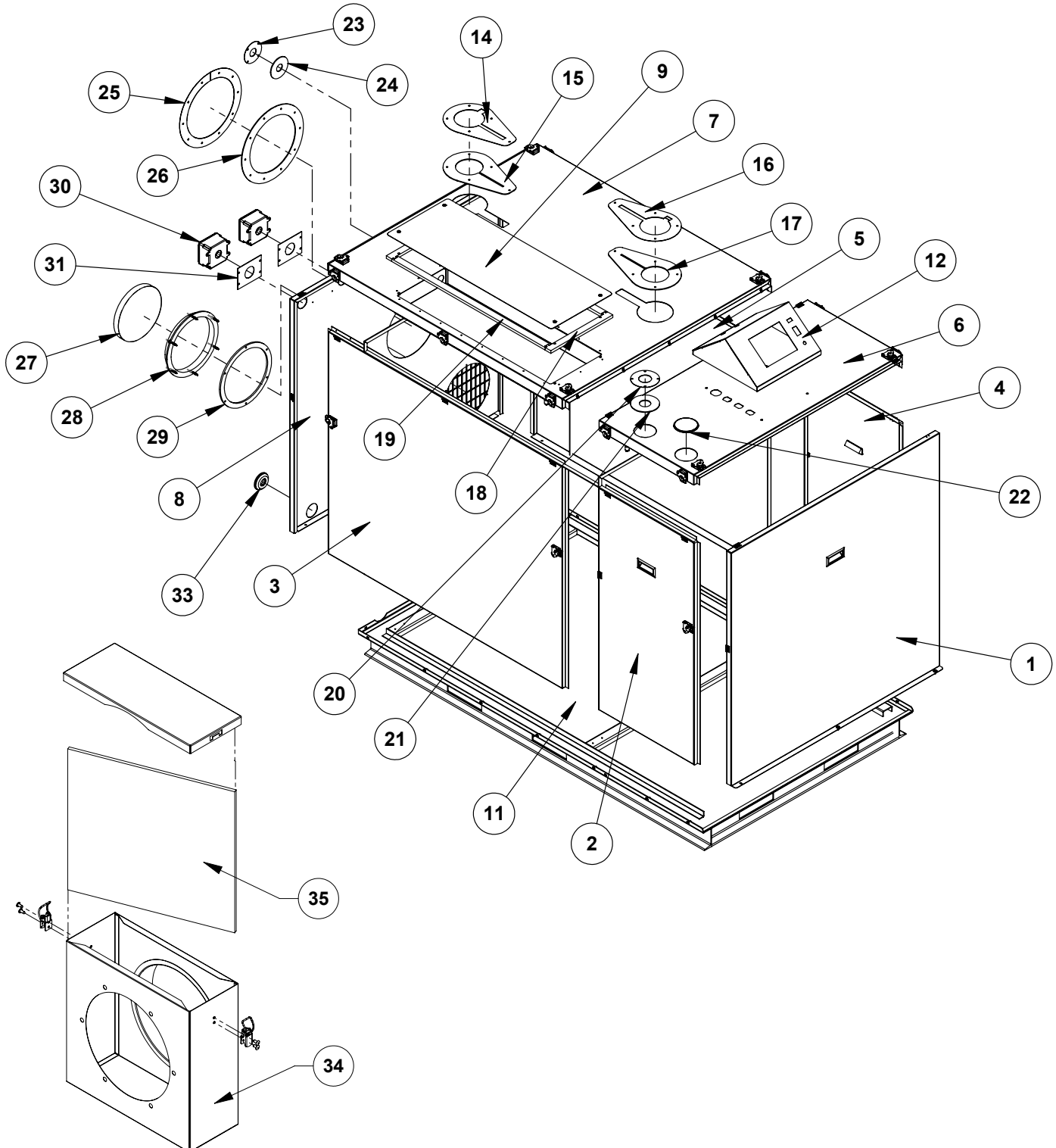


Table 10: Jacket and Gasket Part Numbers

Item No.	Descriptions	Boiler Model Size							
		1000	1250	1500	2000	2500	3000	3500	4000
1	Front Jkt. Panel (orange)	112098-07				112098-08			
	Front Jkt. Panel (gray)	112098-01				112098-09			
2	Front Left Jkt. Panel	112101-01		112101-02		112101-03		112101-04	
3	Back Left Jkt. Panel	112106-01		112105-02		112105-03		112105-04	
4	Front Right Jkt. Panel	112102-01		112102-02		112102-03		112102-04	
5	Back Right Jkt. Panel	112105-01		112105-02		112105-03		112105-04	
6	Front Top Panel	112100-01		112100-02		112100-03		112100-04	
7	Back Top Panel	112104-01		112104-02		112104-03		112104-04	
8	Back Panel	112103-01				112103-02		112103-03	
9	Control Box Cover	108253-04		108253-03					
11	Base Assembly	108235-01		108235-02		108235-03		108592-54	
12	Display Box (orange)	108259-01							
	Display Box (gray)	112096-01							
13*	Latch Assembly	112246-04							
14	Inlet Trim Plate	108241-01		108241-02		108592-24			
15	Inlet Gasket	108241-04		108241-05		108592-25			
16	Outlet Trim Plate	108241-01				108592-24			
17	Outlet Gasket	108241-04				108592-25			
18	Short Control Box gasket	108592-51							
19	Long Control Box Gasket	108592-43		108592-44					
20	Gas Inlet Trim Plate	108241-16		108241-16		108874-32		108874-24	
21	Gas Inlet Gasket	108241-15		108241-17		108874-33		108874-25	
22	Gas Inlet Plug	108874-59				108874-60			
23	Drain Trim Plate	108241-13				108241-13			
24	Drain Trim Gasket	108241-15		108241-14	108241-15				
25	Stack Trim Ring	108242-01				108592-22		108592-73	
26	Stack Trim Gasket	8205660				108592-23		108592-74	
27	Air Filter	109071-01				108592-39		108592-70	
28	Air Inlet Ring	81156108				81156109		905180	
29	Air Inlet Ring Gasket	82056108				82056109		108592-38	
30	Junction Box	108631-01							
31	Junction Box Gasket	108509-01							
32*	208V+ Junction Box	1 ph: 108267-04, 3 ph: 108267-05							
33	Condensate Grommet	820SOL0002							
34†	Air Box and Lid Assembly	112107-01				112107-02		112107-03	
35†	Washable Air Filter	112108-01				112108-01		112108-02	

*Not shown in drawing

† Items 35 and 34 replaced items 27 and 28.



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