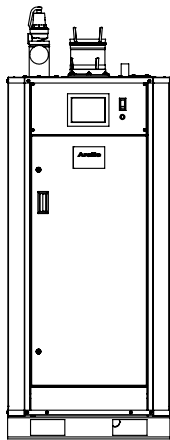


ARCTIC

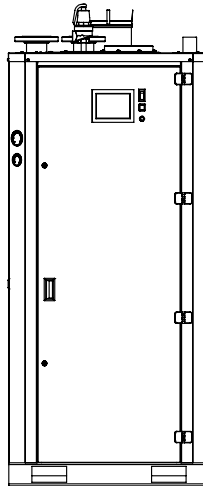
High Efficiency, Low Emission, Condensing Water Boiler

SPARE PARTS MANUAL: MODELS 1000-6000

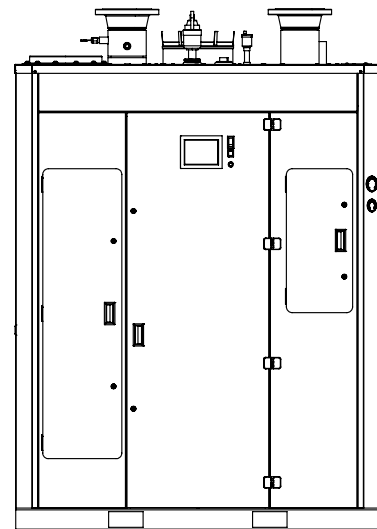
1000



1500-3000



3500-6000



For service and repair to the boiler, call your heating contractor. When seeking information on the boiler from the manufacturer, provide boiler model and serial number as shown on the rating label.

Boiler Model:	Serial Number:
Installation Date:	Type System:
Heating Contractor:	Phone/Email:
Address:	

⚠ 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

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Lancaster, PA

www.thermalsolutions.com

2

1. Optional Parts and Accessory Kits

<i>Accessory/Kit</i>	<i>Model Sizes</i>	<i>Part Number</i>
Annual Maintenance/Service Kit	1000-3000	112800-01
Annual Maintenance/Service Kit	3500-6000	112800-02
Condensate neutralizer kit	1000	107860-06
Condensate neutralizer kit	1500-2000	107860-07
Condensate neutralizer kit	2500-3000	107860-05
Condensate neutralizer kit	3500-6000	107860-04
Header sensor 1/2" direct immersion	all	109196-01
Remote System Water Temp Sensor with 1/2" NPT Well	all	109847-03
Outdoor Air Temperature Sensor	all	108681-01
Gateway, LonWorks	1000-3000	106433-02
Gateway, Protoair Wireless (Wi-Fi)	1000-3000	112316-01
Alarm Buzzer w/ Silencing Switch:	1000-3000	109281-01
Motorized Isolation Valves 3"	1000-3000	112305-02

2. 1000 Parts

2.1 Heat Exchanger

2.1.1 Heat Exchanger *(After Serial Number: B2300157)*

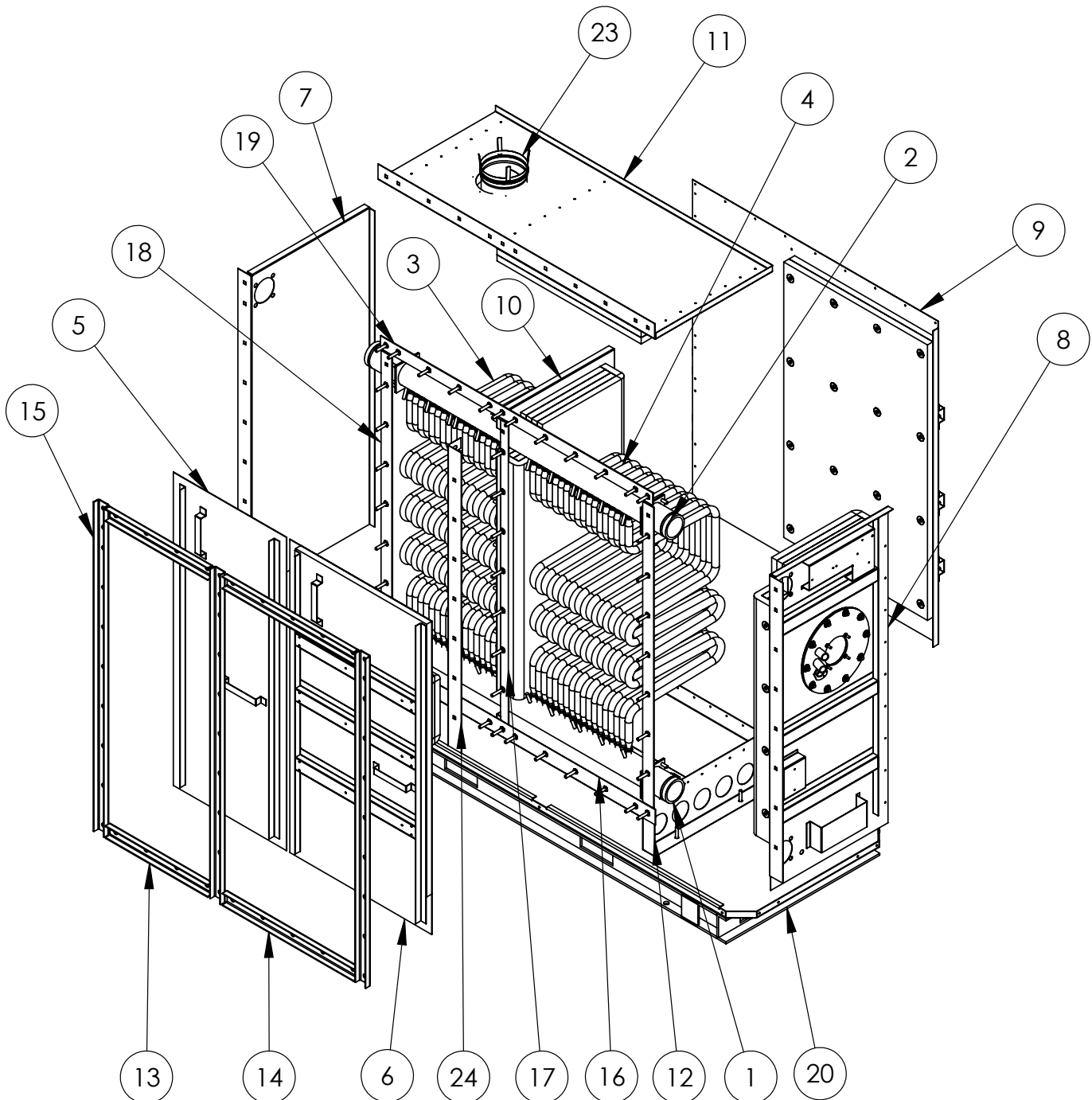


Table 1.1.1 1000 - Heat Exchanger Parts (After Serial Number: B2300157)			
<i>Item Number</i>	<i>Description</i>	<i>Quantity</i>	<i>Part Number</i>
1	Lower Header	1	105670-01
2	Upper Header	1	105669-01
3	Convection Tubes Long Return (Yellow Paint)	9	105696-01
	Convection Tubes Short Return (Black Paint)	9	105696-04
4	Furnace Tubes Long Return	9	105696-02
	Furnace Tubes Short Return	9	105696-03
5	Convection Tube Access Door	1	105276-06
6	Furnace Tube Access Door	1	105539-01
7	Flue Collector Rear Panel	1	105277-01
8	Flue Collector Front Panel	1	113443-01
9	Flue Collector Side Panel	1	105540-01
10	Flue Collector Center Panel	1	105537-01
11	Flue Collector Top Panel	1	105541-01
12	Condensate Pan	1	105260-01
13	Horizontal Convection tube Access Door Clamp	2	105263-01
14	Horizontal Furnace Tube Access Door Clamp	2	105262-01
15	Vertical Tube Access Door Clamp	3	105261-01
16	Bottom Reinforcement Plate	1	105281-01
17	Vertical Center Reinforcement Plate	1	105284-01
18	Vertical Side Reinforcement Plates	2	105283-01
19	Top Reinforcement Plate	1	105282-01
20	Boiler Base Assembly	1	T40010
21	Not Used	0	N/A
22	Not Used	0	N/A
23	E-Z Tab Stack Adapter	1	811EVC006
24	Center Panel Brace	1	105264-01
Not Shown	Black Impregnated Gasket 2-1/2" Wide (Tube Access Doors)	20.5 ft.	105668-02
Not Shown	Black Impregnated Gasket 1" Wide (Flue Collector)	37 ft.	102178-01

2.1.2 Heat Exchanger (Serial Number: B2300157 and Earlier)

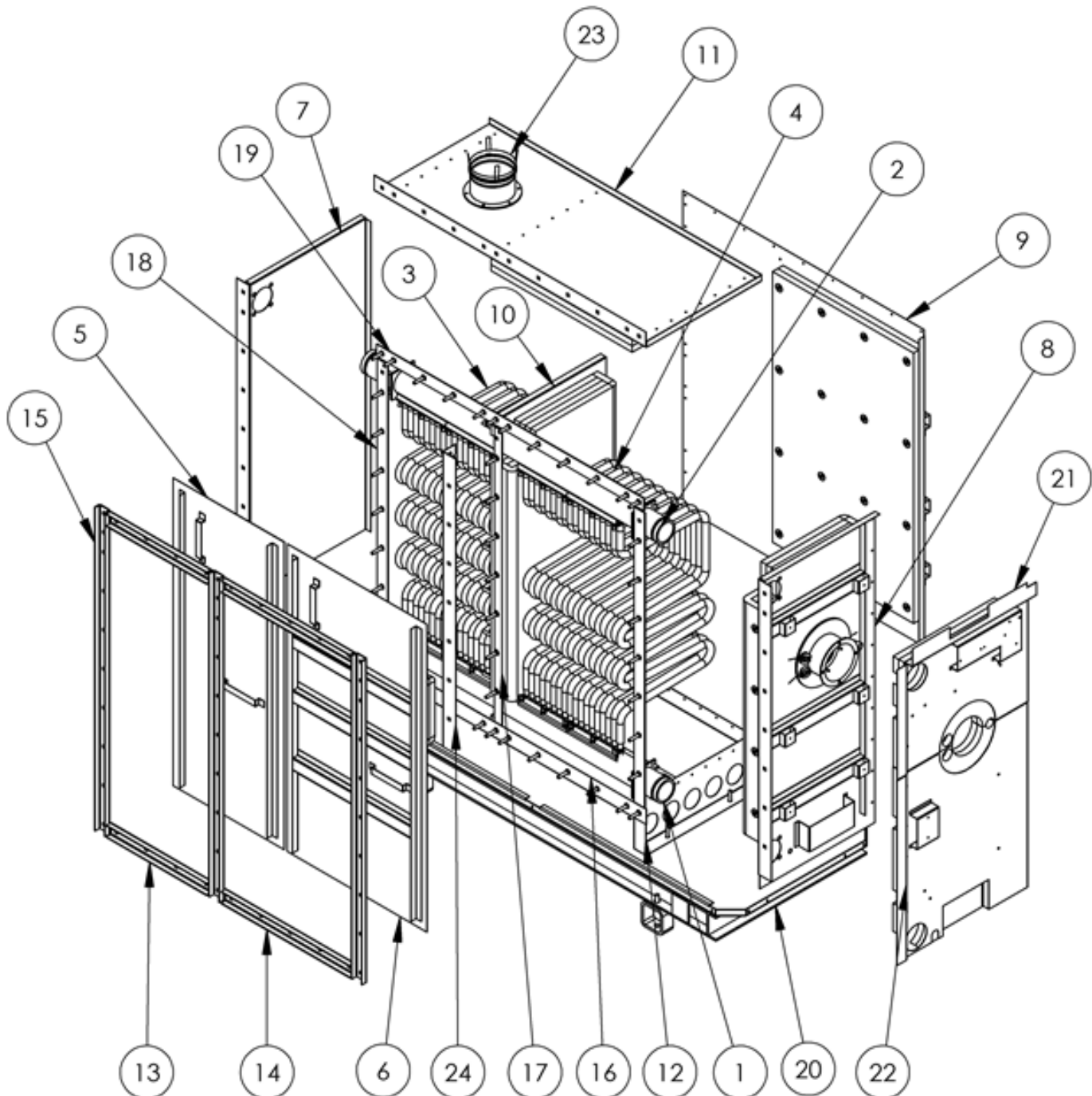


Table 1.1.2 1000 - Heat Exchanger Parts (Serial Number: B2300157 and Earlier)			
<i>Item Number</i>	<i>Description</i>	<i>Quantity</i>	<i>Part Number</i>
1	Lower Header	1	105670-01
2	Upper Header	1	105669-01
3	Convection Tubes Long Return (Yellow Paint)	9	105696-01
	Convection Tubes Short Return (Black Paint)	9	105696-04
4	Furnace Tubes Long Return	9	105696-02
	Furnace Tubes Short Return	9	105696-03
5	Convection Tube Access Door	1	105276-06
6	Furnace Tube Access Door	1	105539-01
7	Flue Collector Rear Panel	1	105277-01
8	Flue Collector Front Panel	1	105538-01
9	Flue Collector Side Panel	1	105540-01
10	Flue Collector Center Panel	1	105537-01
11	Flue Collector Top Panel	1	105541-01
12	Condensate Pan	1	105260-01
13	Horizontal Convection tube Access Door Clamp	2	105263-01
14	Horizontal Furnace Tube Access Door Clamp	2	105262-01
15	Vertical Tube Access Door Clamp	3	105261-01
16	Bottom Reinforcement Plate	1	105281-01
17	Vertical Center Reinforcement Plate	1	105284-01
18	Vertical Side Reinforcement Plates	2	105283-01
19	Top Reinforcement Plate	1	105282-01
20	Boiler Base Assembly	1	T40010
21	Top Vestibule Panel	1	105343-01
22	Bottom Vestibule Panel	1	105343-02
23	E-Z Tab Stack Adapter	1	811EVC006
24	Center Panel Brace	1	105264-01
Not Shown	Black Impregnated Gasket 2-1/2" Wide (Tube Access Doors)	20.5 ft.	105668-02
Not Shown	Black Impregnated Gasket 1" Wide (Flue Collector)	37 ft.	102178-01

2.2 Burner Assembly

2.2.1 Burner Assembly (After Serial Number: B2300157)

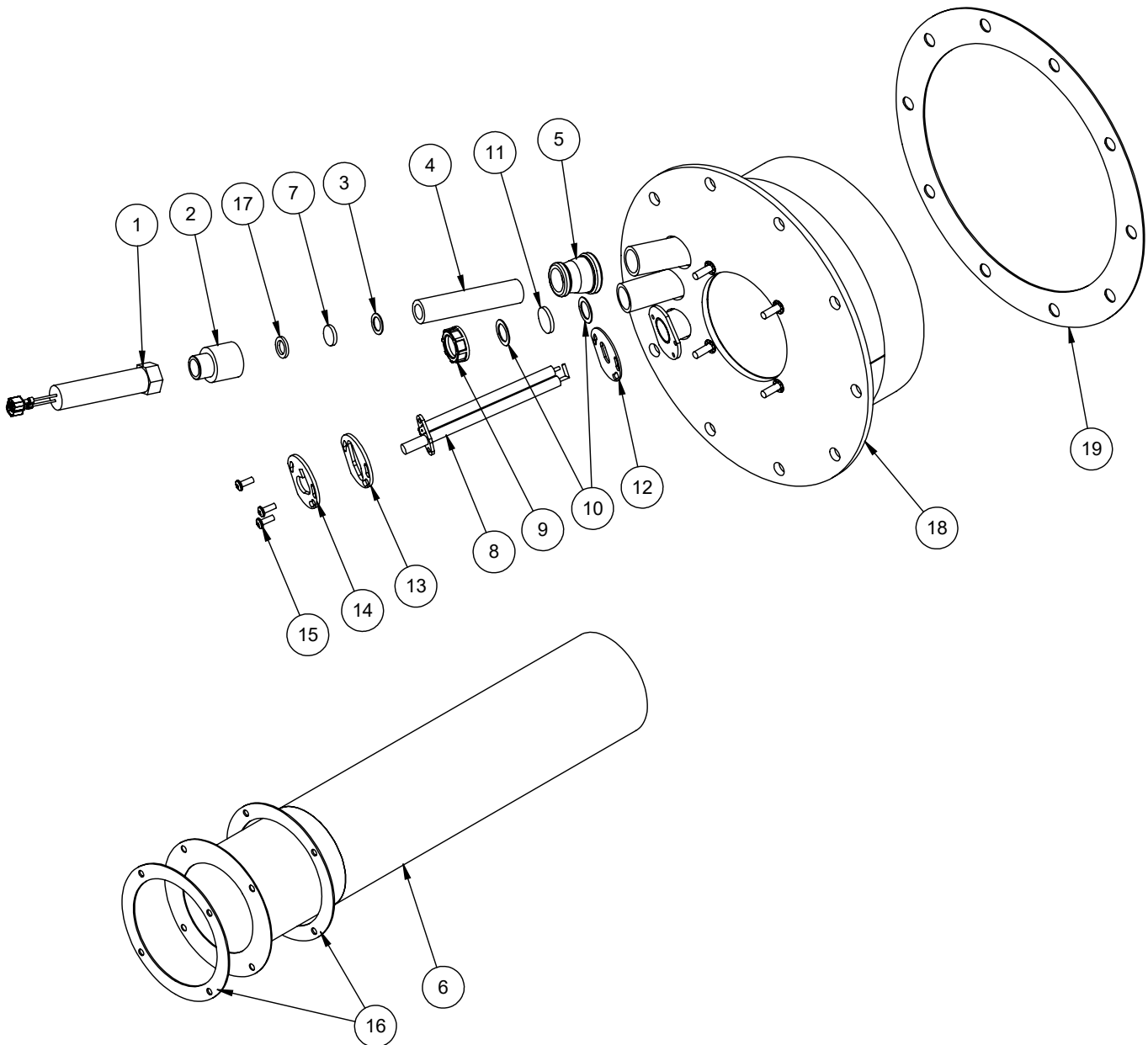


Table 1.2.1 1000 - Burner Assembly (After Serial Number: B2300157)			
<i>Item Number</i>	<i>Description</i>	<i>Quantity</i>	<i>Part Number</i>
1	Ultra-Violet (UV) Scanner	1	8026145
2	Heat Insulator	1	8026217
3	Ultra-Violet (UV) Lens Gasket (High Temp.)	1	T20073
4	Pipe Nipple	1	110571-01
5	Reducer Coupling	1	110572-01
6	Burner	1	112901-01
7	Ultra-Violet (UV) Lens	1	107031-01
8	Igniter	1	105678-01
9	Site Glass Bushing	1	T20006
10	Site Glass Gasket	2	T20005
11	Site Glass Lens	1	T20004
12	Igniter Gasket	1	T20046
13	Igniter Adapter Plate	1	T30060
14	Igniter Retainer	1	T30059
15	Machine Screw	3	108590-01
16	Burner Gasket	2	105496-01
17	Ultra-Violet (UV) Lens Gasket (Silicone)	1	110566-01
18	Burner Plug	1	T40285
19	Burner Plug Gasket	1	T20161

2.2.2 Burner Assembly (Serial Number: B2300157 and Earlier)

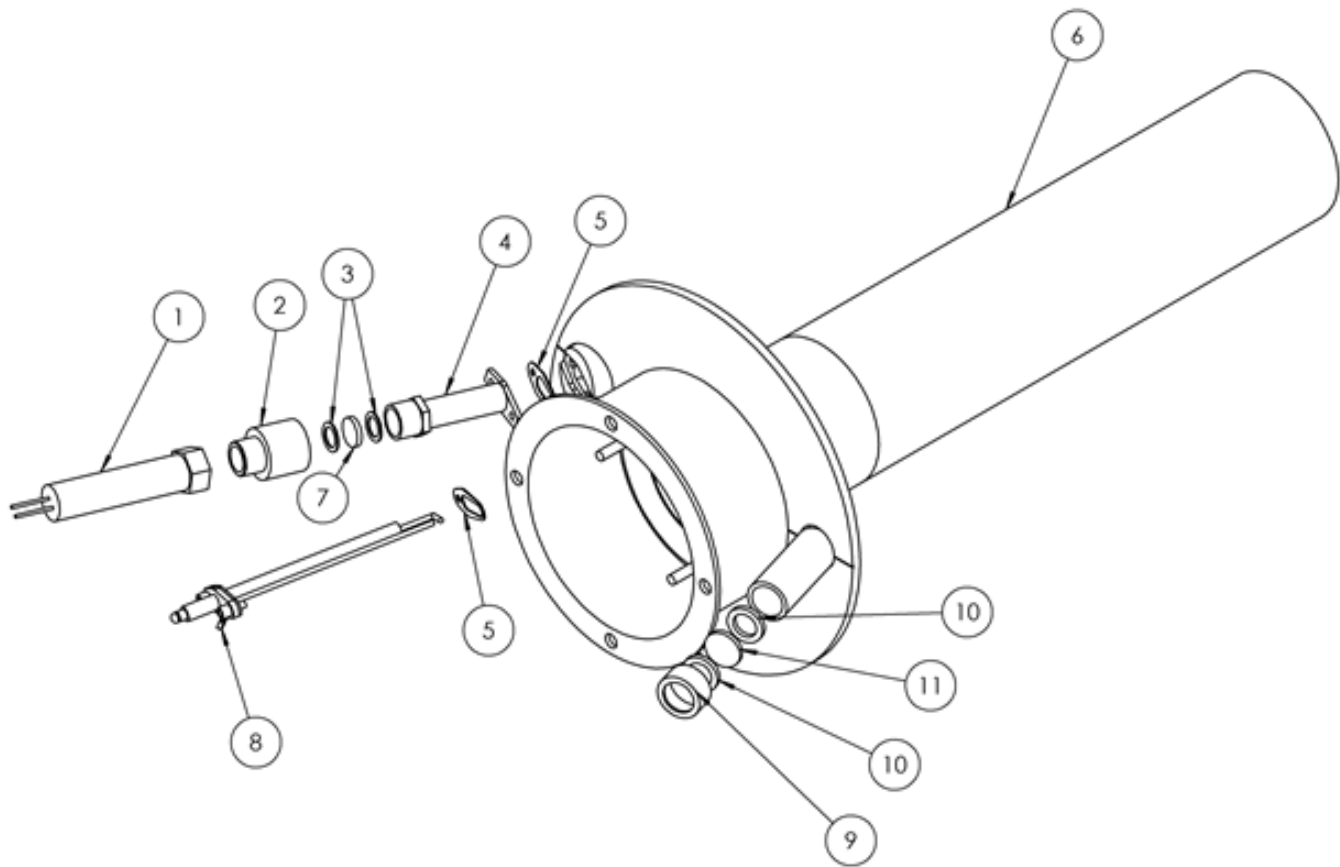


Table 1.2.2 1000 - Burner Assembly (Serial Number: B2300157 and Earlier)

Item Number	Description	Quantity	Part Number
1	Ultra-Violet (UV) Scanner	1	106684-01
2	Heat Insulator	1	8026217
3	Ultra-Violet (UV) Lens Gasket - See Note	2	T20073
4	Ultra-Violet (UV) Scanner Bracket	1	106685-01
5	Igniter/Scanner Gasket	1	105246-02
6	Burner	1	112901-01
7	Ultra-Violet (UV) Lens	1	107032-01
8	Igniter	1	105678-01
9	Site Glass Bushing	1	105657-01
10	Site Glass Gasket	2	105490-01
11	Site Glass Lens	1	105656-01

Note: Lens Gaskets

Parts for replacing the Lens Gaskets have changed (Item Number 3).

Use one each of the following:
T20073 and 110566-01

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2.3 Gas Train and Upper Vestibule Controls

2.3.1 Gas Train and Upper Vestibule Controls - Dungs (After Serial Number: B2300157)

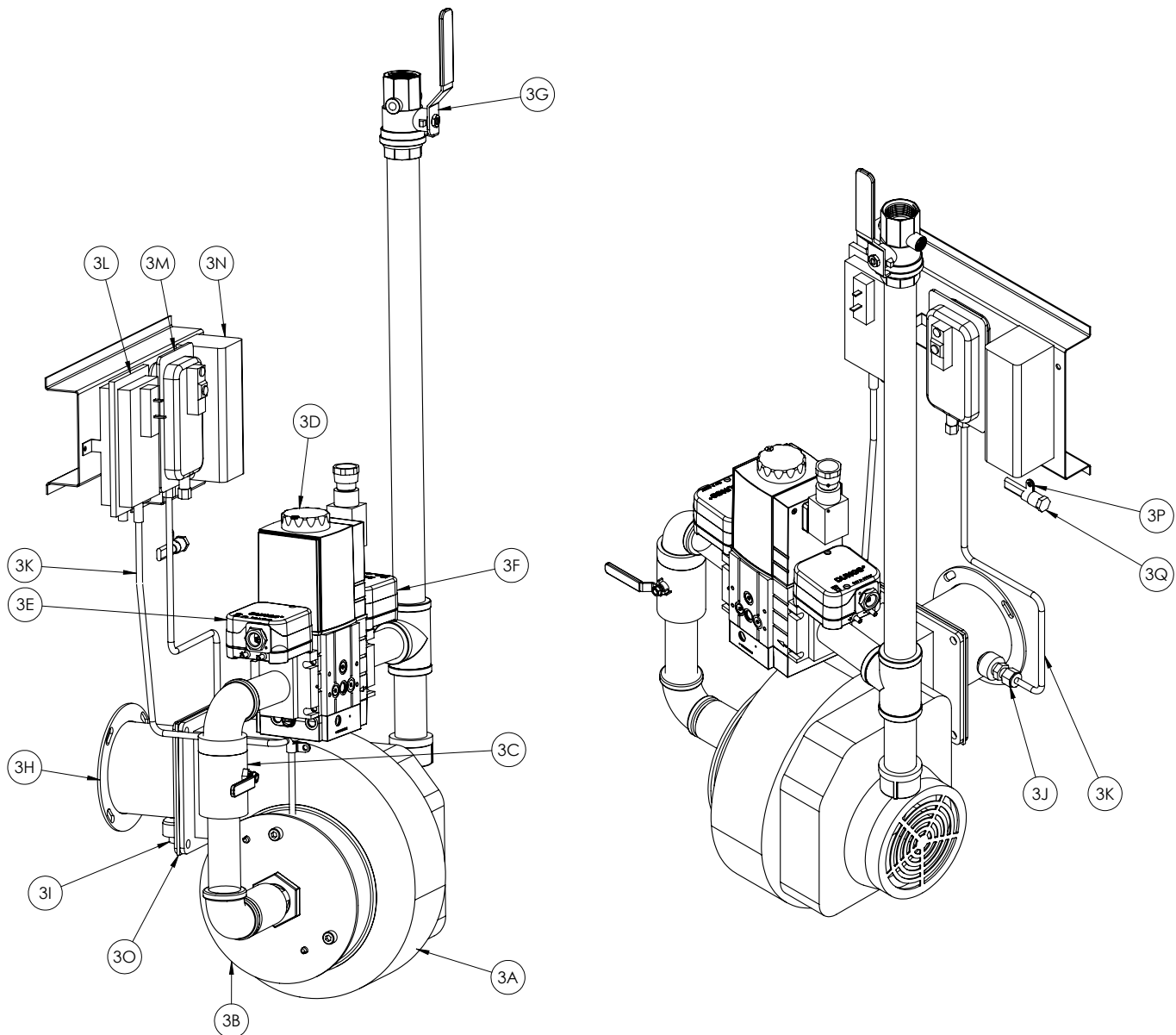


Table 1.3.2 1000 - Gas Train and Upper Vestibule Controls (Dungs) (After Serial Number: B2300157)			
<i>Item Number</i>	<i>Description</i>	<i>Quantity</i>	<i>Part Number</i>
3A	Blower	1	103222-01
3B	Swirl Plate	1	105327-01
3C	Manual Shut-Off Ball Valve	1	105325-01
3D	Main Gas Valve	1	105330-01
3E	High Gas Pressure Switch	1	105328-01
3F	Low Gas Pressure Switch	1	105329-01
3G	Ball Valve, 1-1/8" Tapping	1	105324-01
3H	Blower Adapter	1	105259-01
3I	1/4"NPT Plug	1	806603599
3J	1/4"NPTx1/4" Tube Compression Fitting	1	822658
3K	Pressure Switch Tubing	3 ft.	92465560
3L	Minimum Air Pressure Switch (Combustion Air)	1	106239-01
3M	Maximum Air Pressure Switch (Blocked Vent)	1	105691-01
3N	Auto-Reset High Limit	1	80160626
3O	Blower Gasket	1	105488-01
3P	Thermal Fuse Clamp	1	106364-01
3Q	Thermal Fuse	1	113282-01

2.3.2 Gas Train and Upper Vestibule Controls - *Dungs* (Serial Number: B2300157 and Earlier)

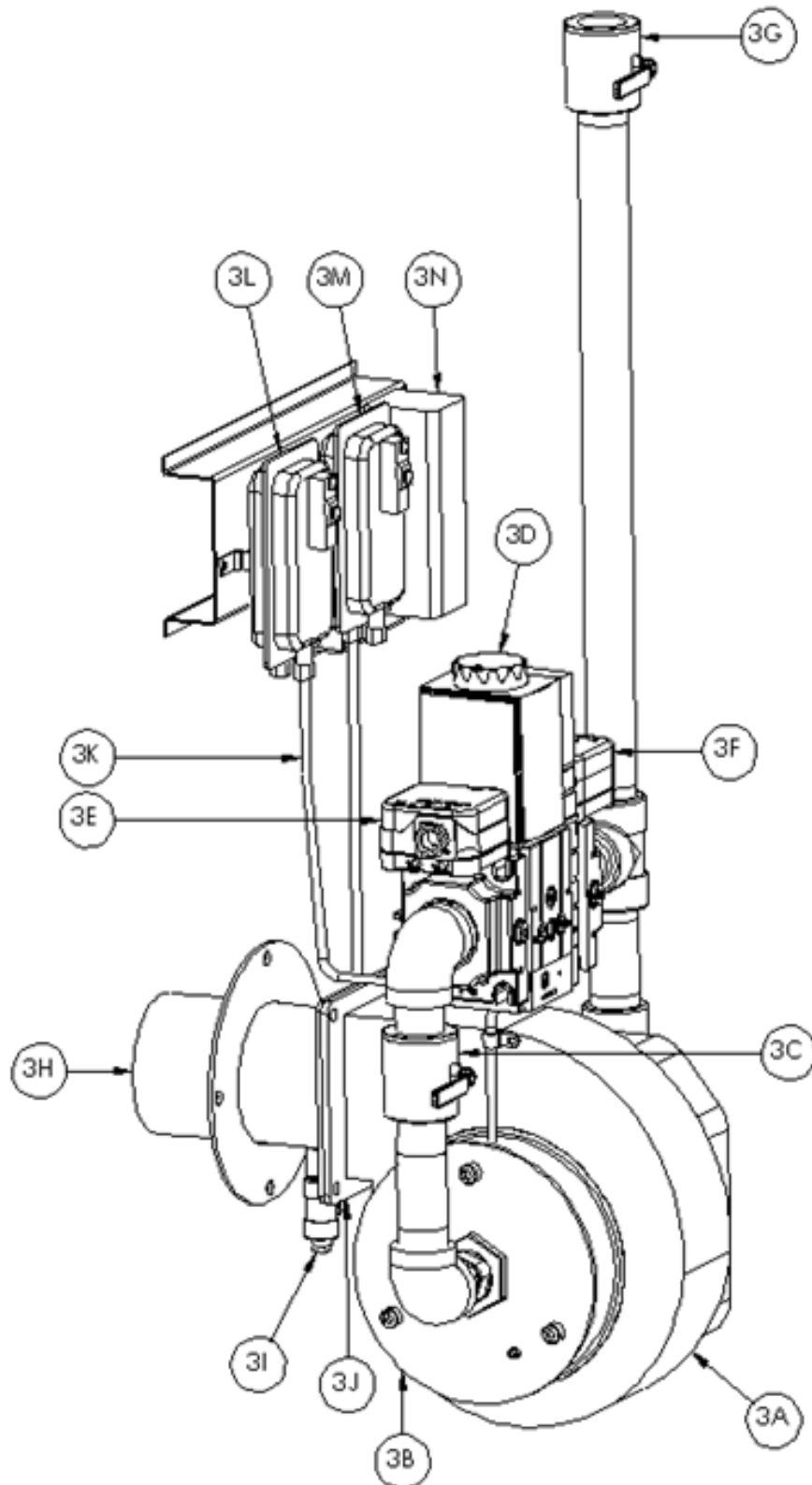


Table 1.3.3 1000 - Gas Train and Upper Vestibule Controls (Serial Number: B2300157 and Earlier)			
<i>Item Number</i>	<i>Description</i>	<i>Quantity</i>	<i>Part Number</i>
3A	Blower	1	103222-01
3B	Swirl Plate	1	105327-01
3C	Manual Shut-Off Ball Valve	1	105325-01
3D	Main Gas Valve	1	105330-01
3E	High Gas Pressure Switch	1	105328-01
3F	Low Gas Pressure Switch	1	105329-01
3G	Ball Valve, 1-1/8" Tapping	1	105324-01
3H	Blower Adapter	1	105259-01
3I	1/4"NPT Plug	2	806603599
3J	1/4"NPTx1/4" Tube Compression Fitting	2	822658
3K	Pressure Switch Tubing	3 ft.	92465560
3L	Minimum Air Pressure Switch (Combustion Air)	1	106239-01
3M	Maximum Air Pressure Switch (Blocked Vent)	1	105691-01
3N	Auto-Reset High Limit	1	80160626

2.4 Jacket

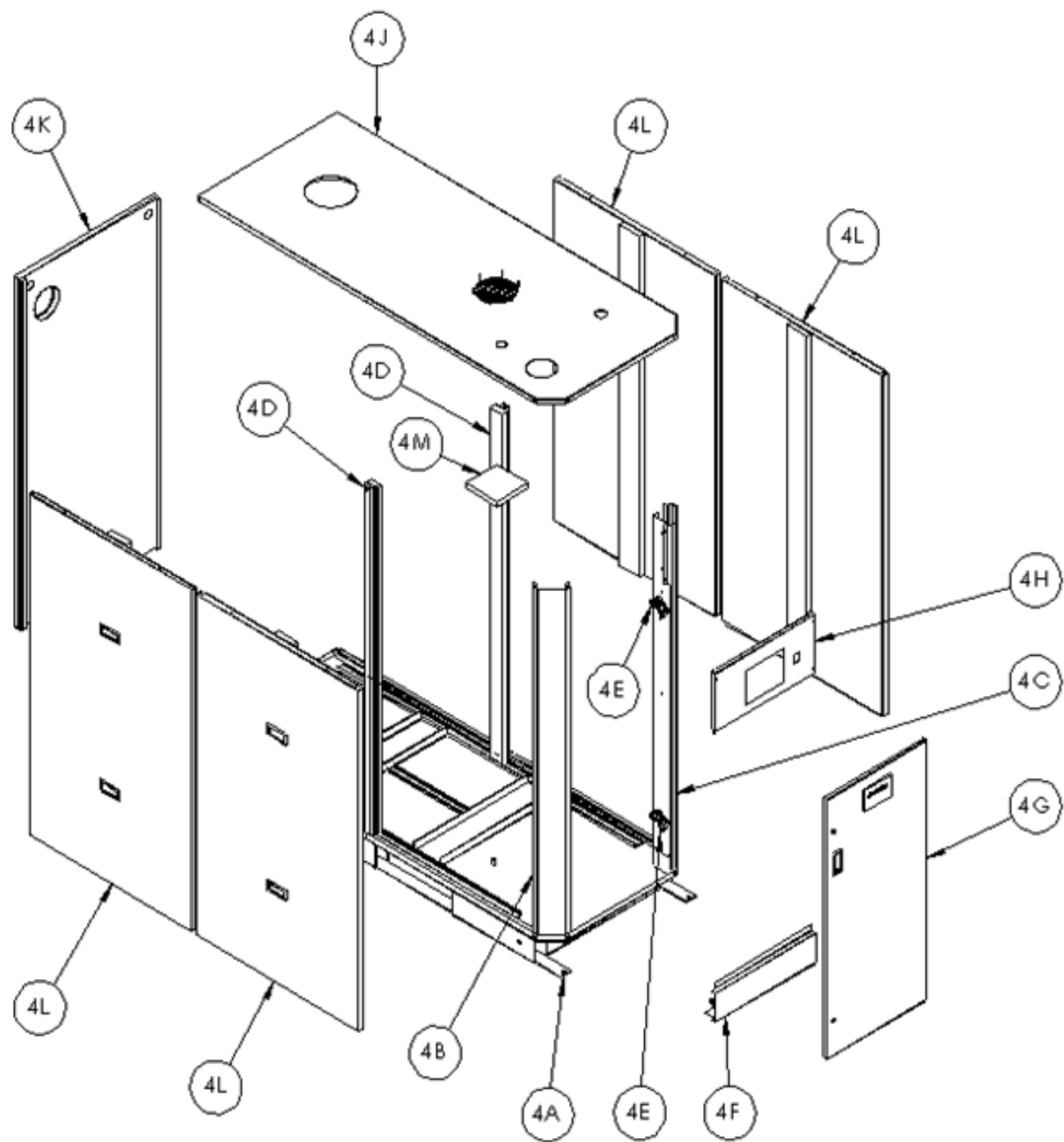


Table 1.4 1000 - Jacket			
<i>Item Number</i>	<i>Description</i>	<i>Quantity</i>	<i>Part Number</i>
4A	Base	1	105124-01
4B	Front Left Corner	1	105172-01
4C	Front Right Corner	1	105172-04
4D	Center Rail	1	105176-01
4E	Hinges	2	105714-01
4F	Front Lower Panel	1	105177-01
4G	Front Door	1	105170-04
4H	Front Upper Panel	1	105169-01
4J	Top Panel	1	105174-04
4K	Rear Panel	1	105173-02
4L	Side Door	1	105178-02
4M	Air Intake Filter	1	811SOL0020
Not Shown	Black Strip Gasket	67.5 ft.	105476-01

2.5 Outlet/Supply Manifold

2.5.1 Outlet/Supply Manifold (After Serial Number: B2300157)

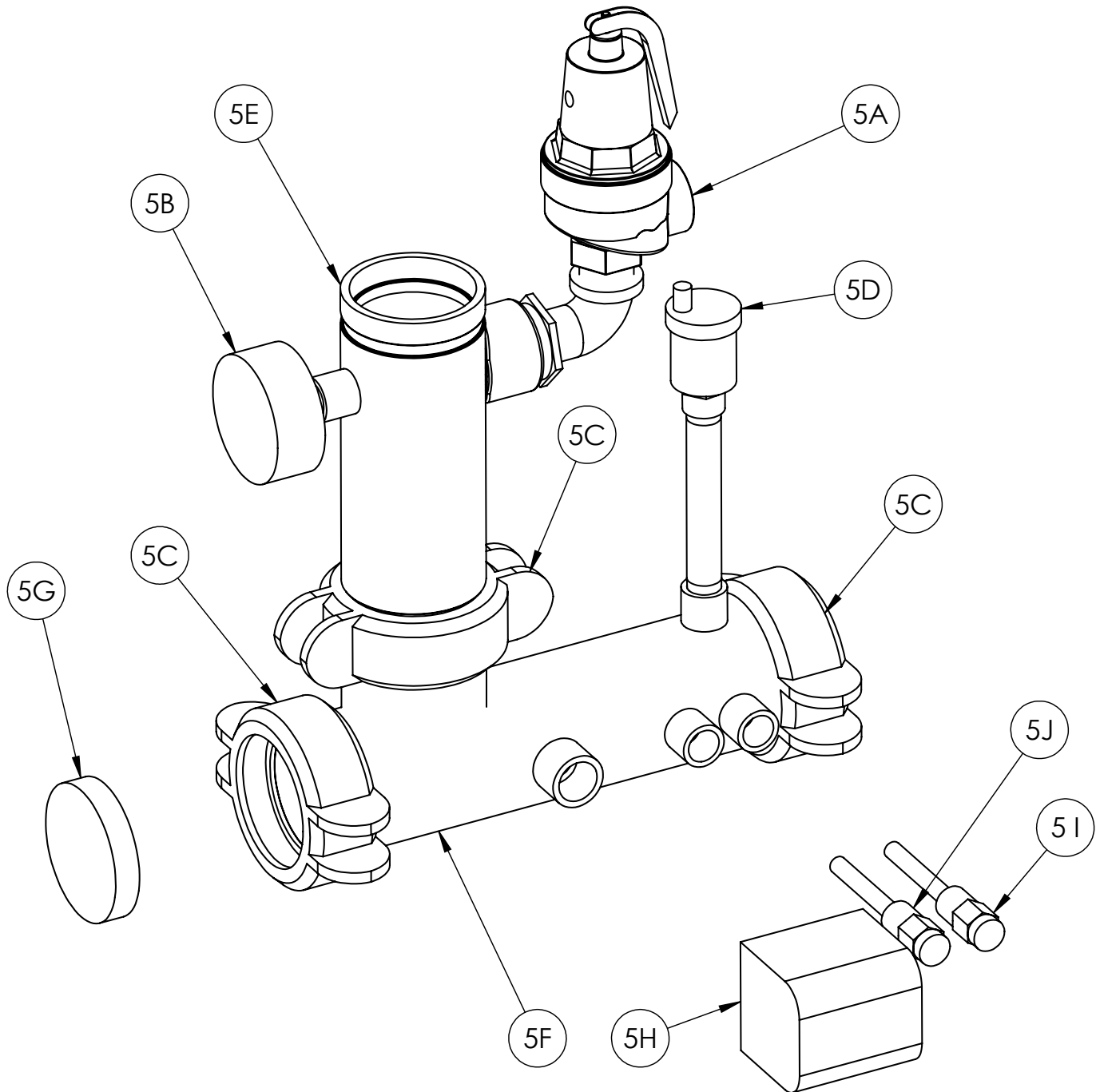


Table 1.5.1 1000 - Outlet/Supply Manifold (After Serial Number: B2300157)

Item Number	Description	Quantity	Part Number						
			Relief Valve Setting						
			30 PSI	50 PSI	60 PSI	75 PSI	100 PSI	125 PSI	150 PSI
5A	Pressure Relief Valve	1	81660338	81660359	81660375	81660374	81660377	81660373	81660378
5B	Temperature/ Pressure Gauge	1	103470-01				103470-02		103470-03
5C	3" Victaulic Coupling	3	104035-02						
5D	1/2"NPT Air Vent	1	102260-01						
5E	Upper Water Outlet/Supply Manifold	1	105381-01						
5F	Top Panel Water Outlet/Supply Manifold	1	105382-01						
5G	3" Cap	1	104035-03						
5H	LWCO Probe	1	28344.3						
5I	Immersion Well For Auto-Reset High Limit	1	105684-01						

2.5.2 Outlet/Supply Manifold (Serial Number: B2300157 and Earlier)

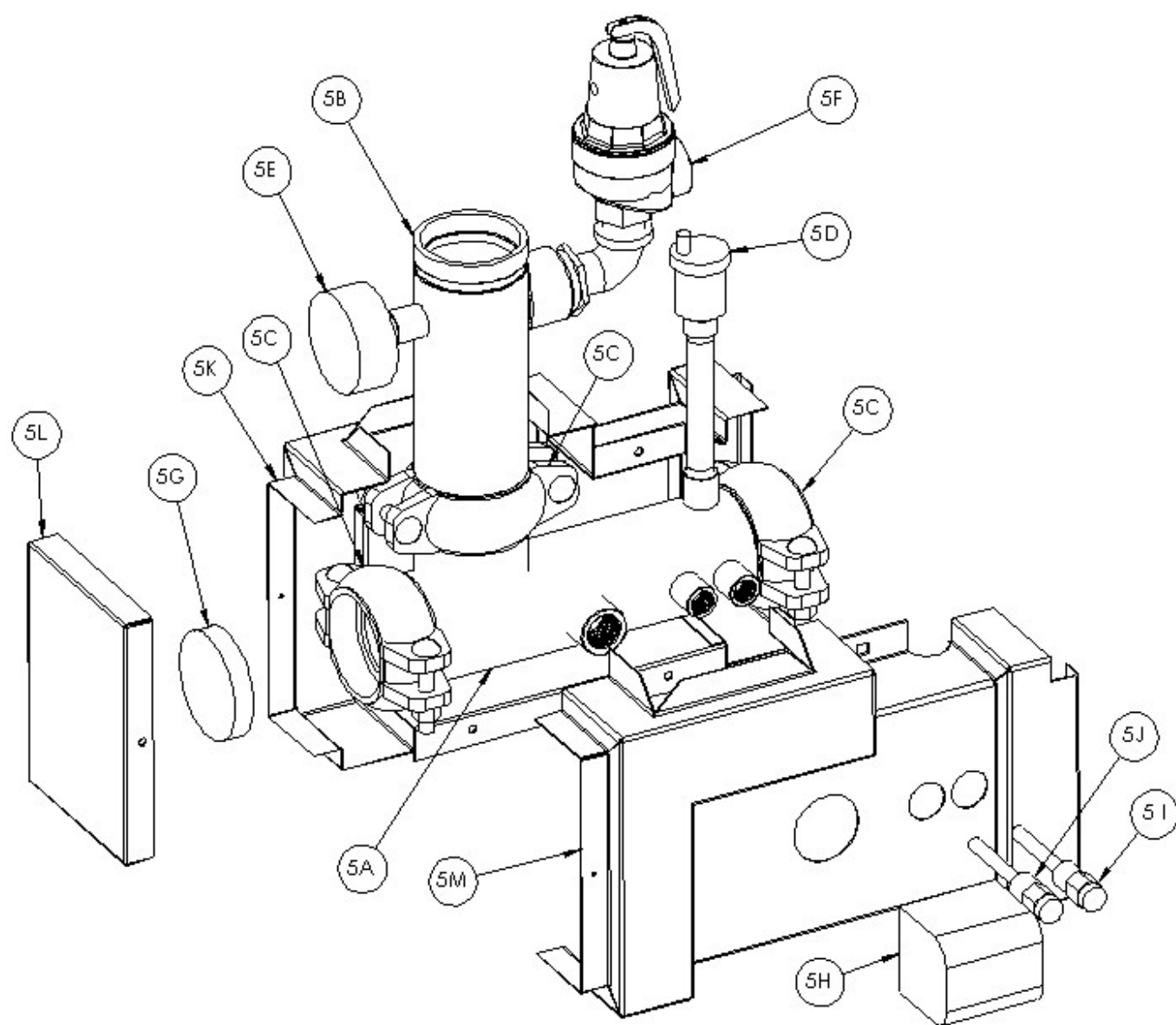


Table 1.5.2 1000 - Outlet/Supply Manifold (Serial Number: B2300157 and Earlier)									
Item Number	Description	Quantity	Part Number						
			Relief Valve Setting						
			30 PSI	50 PSI	60 PSI	75 PSI	100 PSI	125 PSI	150 PSI
5F	Pressure Relief Valve	1	81660338	81660359	81660375	81660374	81660377	81660373	81660378
5E	Temperature/ Pressure Gauge	1	103470-01			103470-02			103470-03
5C	3" Victaulic Coupling	3	104035-02						
5D	1/2"NPT Air Vent	1	102260-01						
5A	Upper Water Outlet Manifold	1	105381-01						
5B	Top Panel Water Outlet Manifold	1	105382-01						
5G	3" Cap	1	104035-03						
5H	LWCO Probe	1	80160592						
5I	Immersion Well For Auto-Reset High Limit	1	105684-01						
5J	Brass Immersion Well, Outlet Water Sensor (10Kohm)	1 each	105684-01 and 105686-01						
5K	Manifold Cover Left Side Assy.	1	105480-02						
5L	Manifold Cover Cap Assy.	1	105480-03						
5M	Manifold Cover Right Side Assy.	1	105480-01						

2.6 Miscellaneous External Components

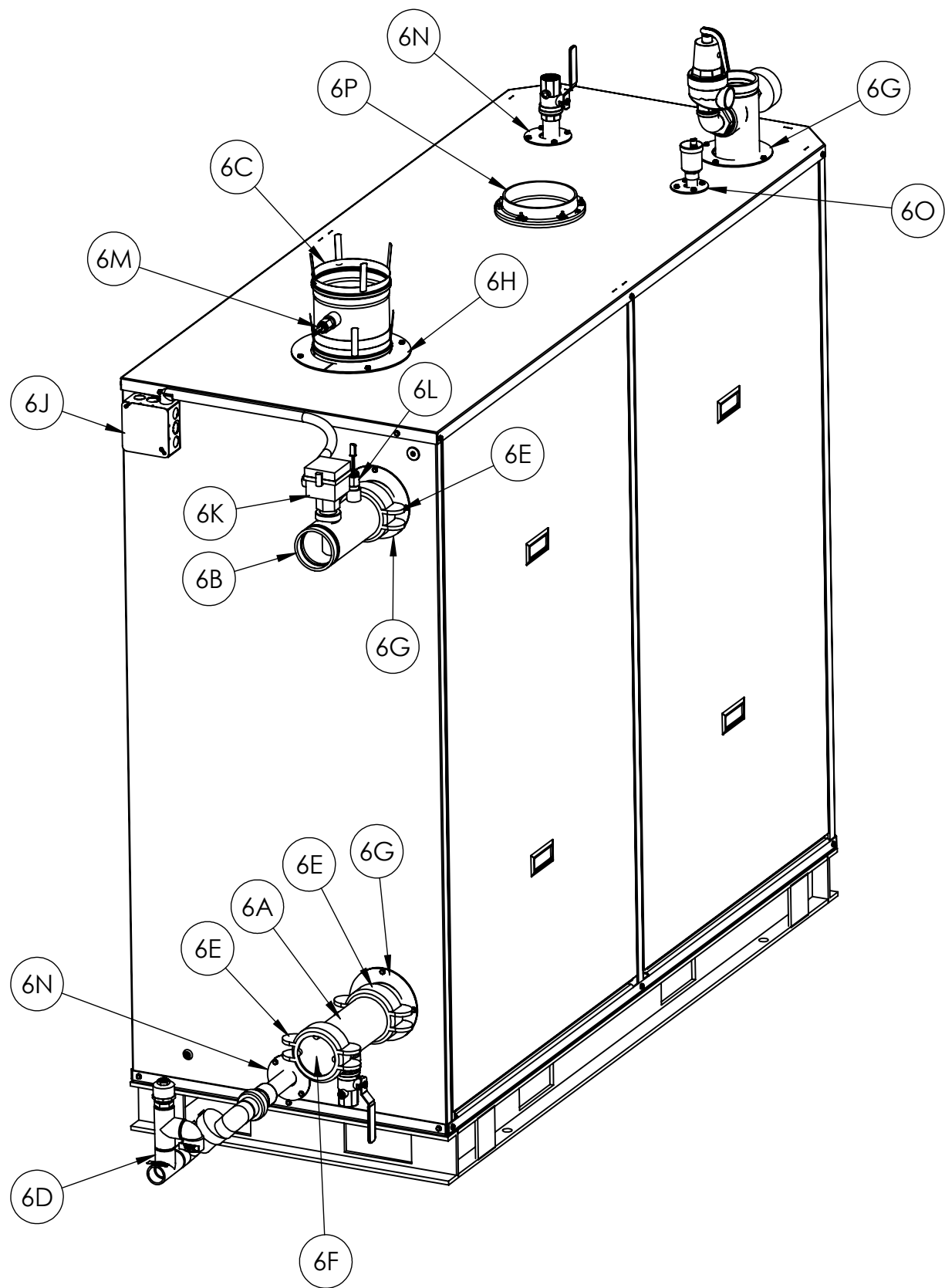


Table 1.6 1000 - Miscellaneous External Components			
<i>Item Number</i>	<i>Description</i>	<i>Quantity</i>	<i>Part Number</i>
6A	Lower Rear Manifold	1	105384-01
6B	Water Inlet/Return Manifold 3" Victaulic	1	105383-01
6C	Exhaust Stack	1	105697-01
6D	Condensate Trap	1	See Note Below
6E	3" Victaulic Coupling	3	104035-02
6F	3" Cap	1	104035-03
6G	Water Inlet/Return and Outlet/Supply Manifold Trim Ring and Gasket	3 each	105211-02 and 8205644
6H	Vent Outlet Trim Ring and Gasket	1 each	105211-01 and 105486-01
6J	J-Box and J-Box Cover	1 each	8136056 and 8136027
6K	Water Flow Switch	1	105687-01
6L	Brass Immersion Well, Inlet/Return Temperature Sensor 10Kohm	1 each	105684-01 and 105685-01
6M	St Steel Immersion Well, Stack Temperature Sensor	1 each	105683-01 and 105686-01
6N	1" Pipe Trim Ring and Gasket	2 each	105211-04 and 8205652
6O	Air Vent Trim Ring and Gasket	1 each	105211-05 and 105693-01
6P	Air Intake Ring and Gasket	1 each	81156106 and 82056106

Note:

On Older Boilers, Item Number "6D" is a trap only. If the boiler is equipped with this type of trap and the Blocked Condensate Float Switch goes bad, the replacement is a redesigned Blocked Condensate Trap/Drain Assembly with switch, now located at the rear of the boiler. The Conversion Kit number is: T40354-K.

Newer boilers will have the Trap/Drain Assembly as shown.

See "2.7.2 Controls (Serial Number: B2300157 and Earlier)", lower right picture, for the location of the obsolete blocked condensate switch.

2.7 Controls

2.7.1 Controls (After Serial Number: B2300157)

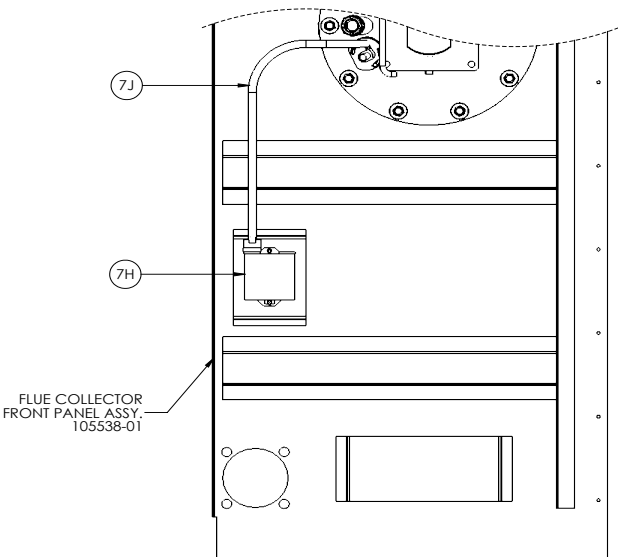
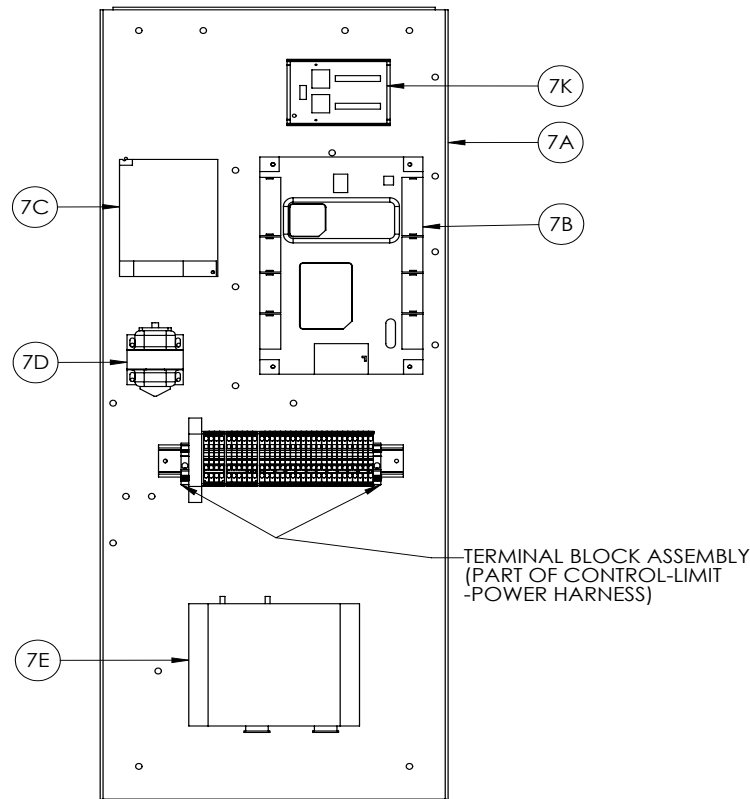
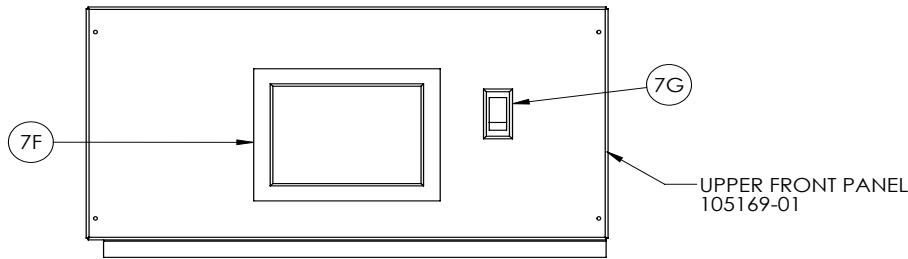


Table 1.7.1 1000 - Controls <i>(After Serial Number: B2300157)</i>			
<i>Item Number</i>	<i>Description</i>	<i>Quantity</i>	<i>Part Number</i>
7A	Control Panel	1	105171-01
7B	Concert Boiler Control	1	112856-01
7C	24VDC Transformer	1	105680-01
7D	120/24V Step-down Transformer	1	801600502
7E	Low Water Cut-Off	1	28344.3
7F	Display	1	113347-01
7G	On/Off Switch	1	105658-01
7H	Ignition Transformer	1	80160208
7J	Ignition Cable	1	105218-01
Not Shown	Control-Limit-Power Harness	1	105660-01
Not Shown	Communication-Sensing Harness	1	105661-01
Not Shown	Line-Flow Harness	1	105662-01
Not Shown	Display Power Harness	1	105663-01
Not Shown	Display Comm 2/3 Cable	1	T40141

2.7.2 Controls (Serial Number: B2300157 and Earlier)

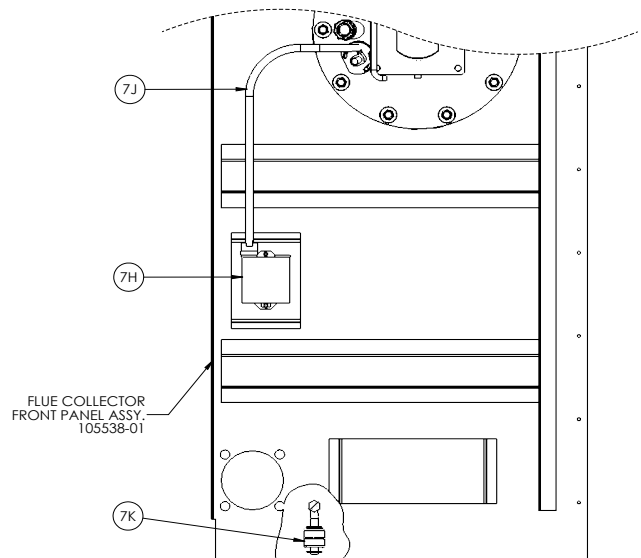
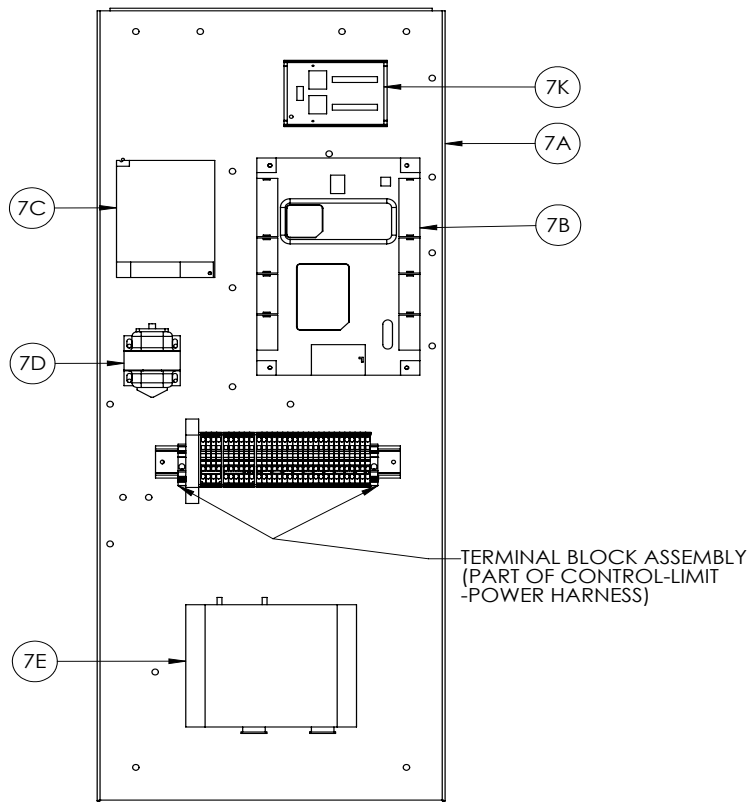
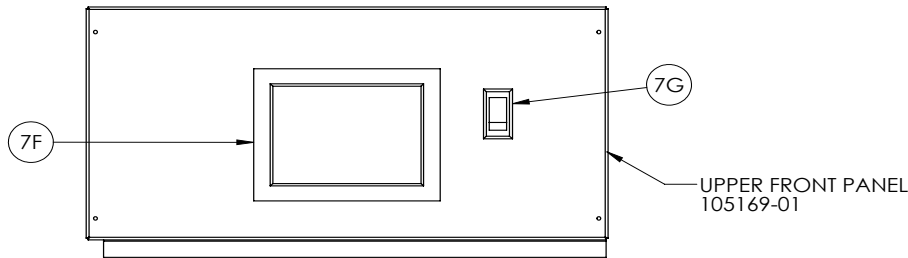


Table 1.7.2 1000 - Controls <i>(Serial Number: B2300157 and Earlier)</i>			
<i>Item Number</i>	<i>Description</i>	<i>Quantity</i>	<i>Part Number</i>
7A	Control Panel	1	105171-01
7B	Concert Boiler Control	1	112856-01
7C	24VDC Transformer	1	105680-01
7D	120/24V Step-down Transformer	1	801600502
7E	Low Water Cut-Off Reset Box	1	80160591
7F	Display	1	113347-01
7G	On/Off Switch	1	105658-01
7H	Ignition Transformer	1	80160208
7J	Ignition Cable	1	105218-01
7K	Blocked Condensate Switch	1	See Note Below
Not Shown	Control-Limit-Power Harness	1	105660-01
Not Shown	Communication-Sensing Harness	1	105661-01
Not Shown	Line-Flow Harness	1	105662-01
Not Shown	Display Power Harness	1	105663-01

Note:

On older boilers the Item Number "7K", the Blocked Condensate Float Switch is no longer available. The switch has been replaced with a Blocked Condensate Trap/Drain Assembly with Switch will be located at the rear of the boiler. A Conversion Kit must be purchased to replace Item Number "7K". The kit number is: T40354-K.

3. 1500 to 3000 Parts

3.1 Heat Exchanger

3.1.1 Heat Exchanger - Main Assembly

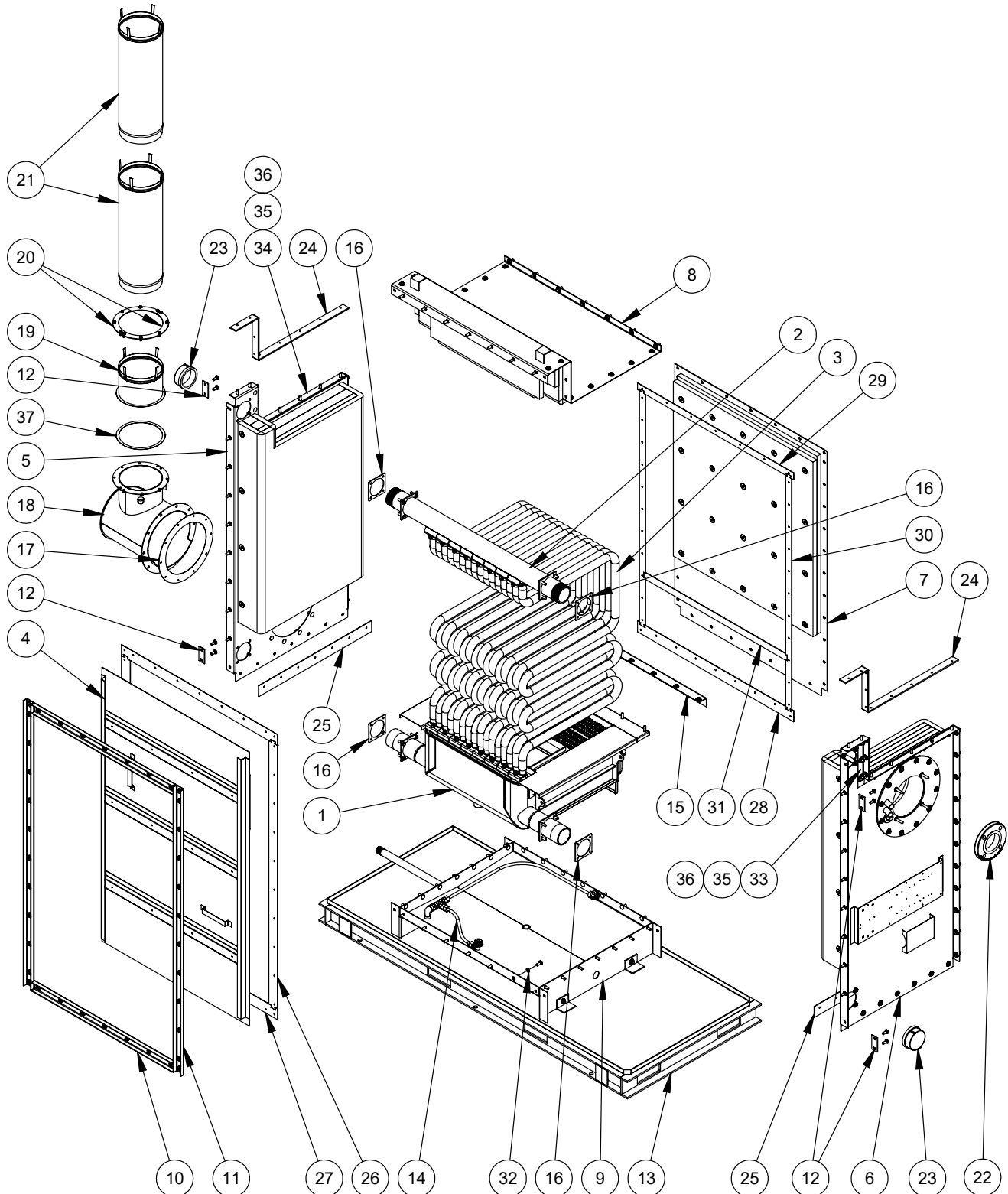


Table 2.1.1 1500-3000 Heat Exchanger Assembly					
<i>Item Number</i>	<i>Description</i>	1500-2000		2500-3000	
		<i>Quantity</i>	<i>Part Number</i>	<i>Quantity</i>	<i>Part Number</i>
1	Heat Exchanger	1	T20013	1	T20017
2	Upper Header	1	P40237	1	T40033
3	Furnace Tubes Long Return	8	T30030	12	T30030
	Furnace Tubes Short Return	8	T30031	12	T30031
4	Furnace Tube Access Door	1	P40231	1	T40030
5	Flue Collector Rear Panel	1	P40230	1	P40230
	Flue Collector Rear Panel (Reverse Construction)		T40188		T40188
6	Flue Collector Front Panel	1	P40227	1	P40227
	Flue Collector Front Panel (Reverse Construction)		T40187		T40187
7	Flue Collector Side Panel	1	T40013	1	T40037
8	Flue Collector Top Panel	1	P40228	1	T40035
9	Condensate Pan	1	P40224	1	T40034
	Condensate Pan (Reverse Construction)		T40184		T40191
10	Horizontal Furnace Tube Access Door Clamp	2	P30260.37	2	P30260.49
11	Vert. Furnace Tube Access Door Clamp	2	P30260.65	2	P30260.65
12	Flue Collector Flange Connector	4	P30271	4	P30271
13	Boiler Base Assembly	1	T40028	1	T40032
14	Heat Exchanger Drain Assembly (See Table 2.1.2)	1	T40136	1	T40137
15	Heat Exchanger Rear Flange	1	T30051	1	T30052
16	Upper Header / Heat Exchanger Gasket	4	P30254	4	P30254
17	Stack Adapter to Flue Collector Gasket	1	T20090	1	T20090
18	Stack Adapter	1	T40012	1	T40038
19	Double Flange Stack Adapter	1	T20105	1	T20106
20	Double Flange Stack Adapter Retainer	2	T30282	2	T30283
21	Saf-T Vent EZ Seal Single Wall Gas Vent	2	111882-01	2	111882-02
22	3" x 150 lb. Threaded Pipe Flange	1	104045-01	1	104045-01
23	3" Pipe Cap	2	806603589	2	806603589
24	Flue Collector Top Panel Gasket	2	T20237	2	T20237
25	Flue Collector Front & Rear Panel Bottom Gasket	2	T20225	2	T20225
26	Furnace Tube Access Door Vert. Gasket	2	T20227	2	T20227
27	Furnace Tube Access Door Horz. Gasket	2	T20224	2	T20228
28	Flue Collector Side Panel Bottom Gasket	1	T20226	1	T20229
29	Flue Collector Side Panel Top Gasket	1	T20233	1	T20230
30	Flue Collector Side Panel Vertical Gasket	2	T20231	2	T20231

Table 2.1.1 1500-3000 Heat Exchanger Assembly - Continued

<i>Item Number</i>	<i>Description</i>	1500-2000		2500-3000	
		<i>Quantity</i>	<i>Part Number</i>	<i>Quantity</i>	<i>Part Number</i>
31	Heat Exchanger Rear Flange Gasket	1	T20234	1	T20232
32	Sealing Washer	28	T20052	32	T20052
33	Front Flue Collector Top Flange	1	P30247	1	P30247
	Front Flue Collector Top Flange (Reverse Construction)		P30253		P30253
34	Rear Flue Collector Top Flange	1	P30253	1	P30253
	Rear Flue Collector Top Flange (Reverse Construction)		P30247		P30247
35	Flue Collector Top Flange Vertical Gasket	2	T20242	2	T20242
36	Flue Collector Top Flange Horizontal Gasket	2	T20241	2	T20241
37	Low Temperature Sealant (Between Stack Adapter & Double Flange Stack Adapter)	N/A	107650-01	N/A	107650-01
Not shown	Flue collector gasket kit	1	110441-01	1	110441-02

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3.1.2 Heat Exchanger - Drain Assembly

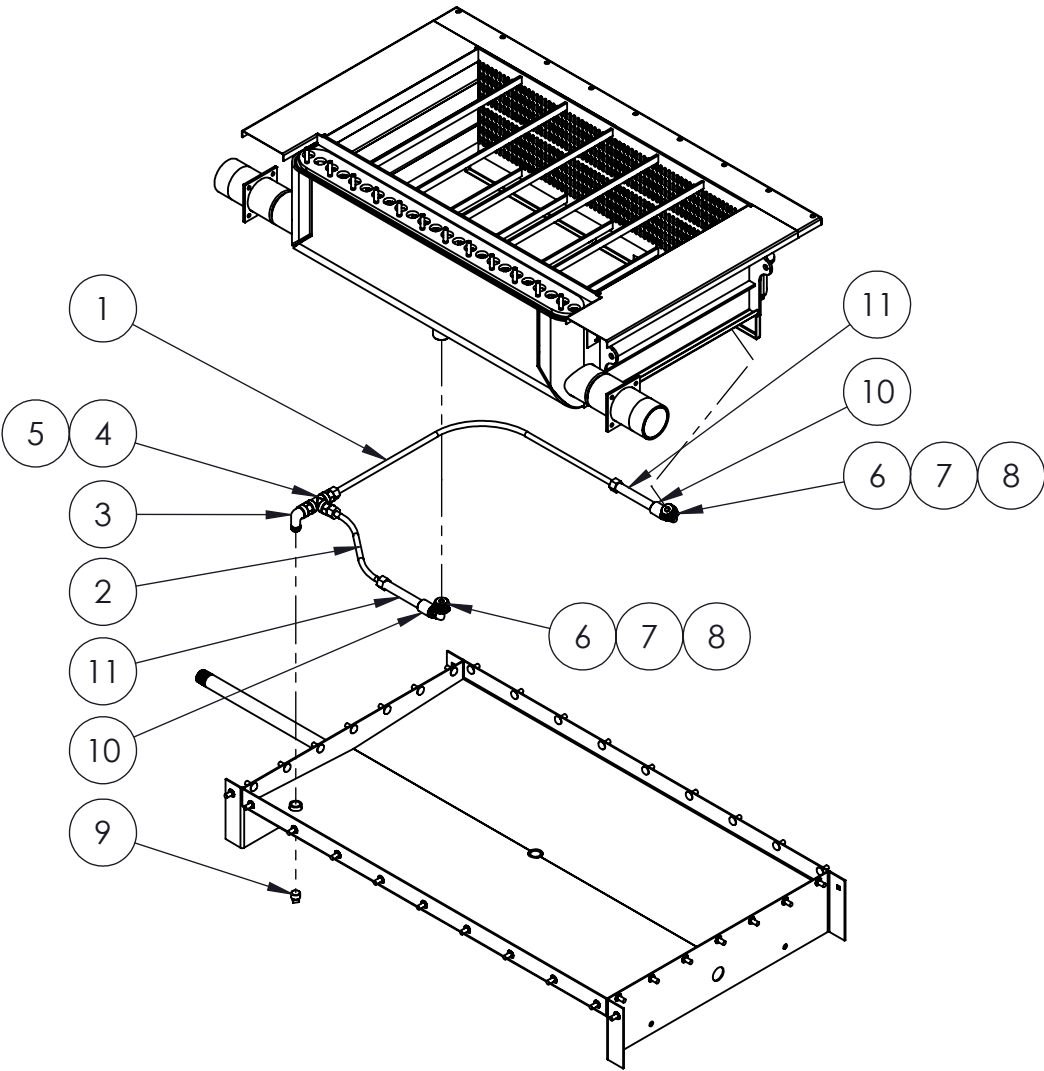


Table 2.1.2 1500-3000 Heat Exchanger Drain Assembly					
<i>Item Number</i>	<i>Description</i>	1500-2000		2500-3000	
		<i>Quantity</i>	<i>Part Number</i>	<i>Quantity</i>	<i>Part Number</i>
1	1/2" FIPS Drain Hose x 36" Long, S.S.	1	113190-01	1	113190-02
2	1/2" FIPS Drain Hose x 12" Long, S.S.	1		1	
3	1/2" NPT Street Elbow, S.S.	1		1	
4	1/2" NPT Tee, S.S.	1		1	
5	1/2" NPT Hex Nipple, S.S.	3		3	
6	1" NPT x 1/4" NPT Hex Bushing, S.S.	2		2	
7	1/4" NPT Street Elbow, S.S.	2		2	
8	1/2" NPT x 1/4" NPT Reducer Hex Nipple, S.S.	2		2	
10	1/2" NPT Full Coupling, S.S.	0	N/A	2	106530-01
11	1/2" NPT x 6" Long Nipple, S.S.	0	N/A	2	
9	1/2" NPT Plug	1	106530-01	1	106530-01

3.2 Burner Assembly

3.2.1 Standard Turndown Burner Assembly

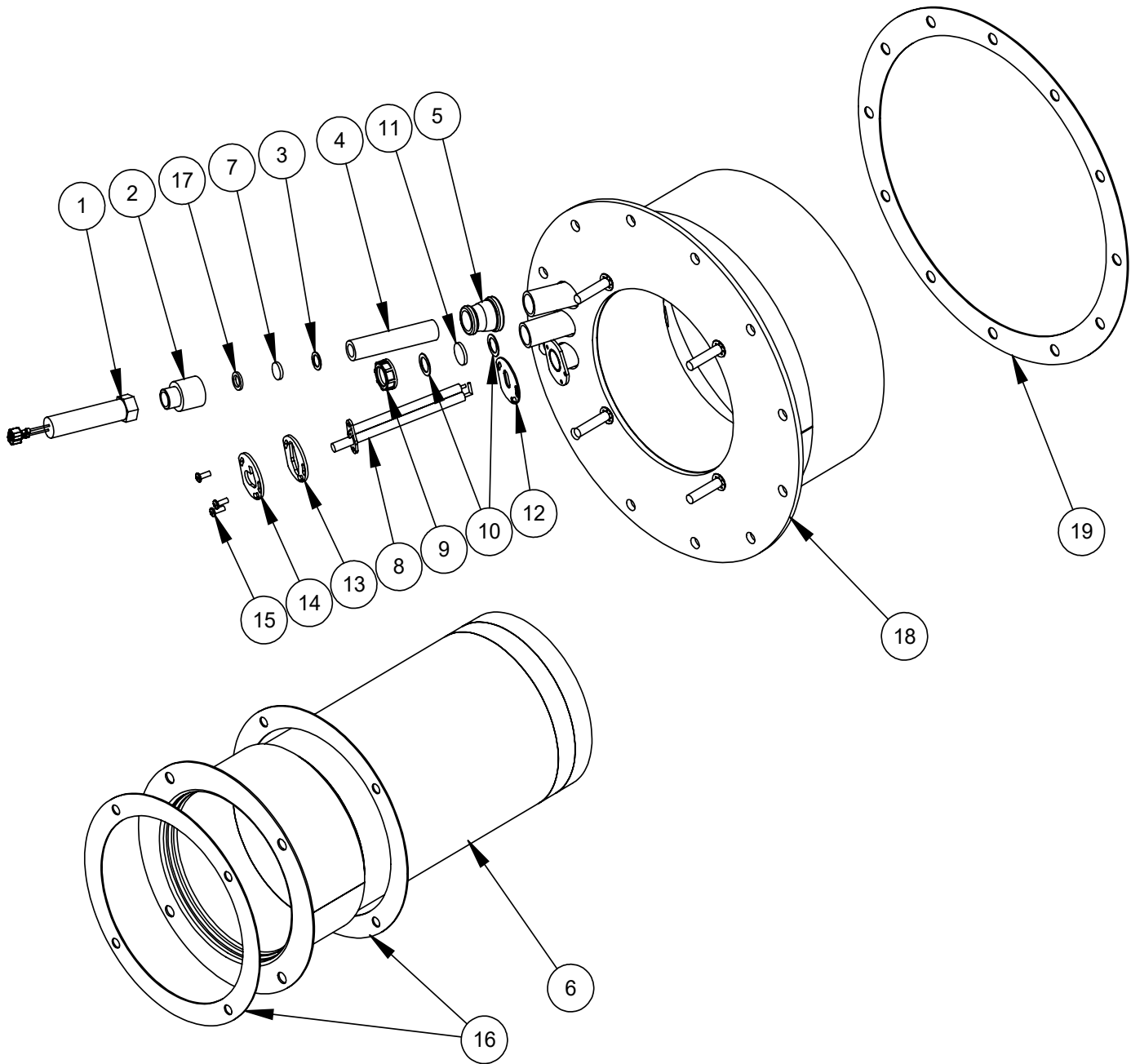


Table 2.2.1 1500-3000 Burner Assembly			
<i>Item Number</i>	<i>Description</i>	<i>Quantity</i>	<i>Part Number</i>
1	Ultra-Violet (UV) Scanner	1	8026145
2	Heat Insulator	1	8026217
3	Ultra-Violet (UV) Lens Gasket (High Temp.)	1	T20073
4	Pipe Nipple	1	110571-01
5	Reducer Coupling	1	110572-01
6	1500 Burner	1	112901-02
	2000 Burner		112901-03
	2500 Burner		112901-04
	3000 Burner		112901-05
7	Ultra-Violet (UV) Lens	1	107031-01
8	Igniter	1	105678-01
9	Site Glass Bushing	1	T20006
10	Site Glass Gasket	2	T20005
11	Site Glass Lens	1	T20004
12	Igniter Gasket	1	T20046
13	Igniter Adapter Plate	1	T30060
14	Igniter Retainer	1	T30059
15	Machine Screw	3	80860869
16	Burner Gasket	2	P20243
17	Ultra-Violet (UV) Lens Gasket (Silicone)	1	110566-01
18	Burner Plug	1	T40214
	Burner Plug (Reverse Construction)		T40232
19	Burner Plug Gasket	1	T20091

*** Lens Gaskets** - Lens Gaskets on the older boilers have been replaced. Use the ones now listed in this table.

3.3 Gas Train and Front Flue Collector Controls

3.3.1 Front Gas Train and Flue Collector Controls - Dungs

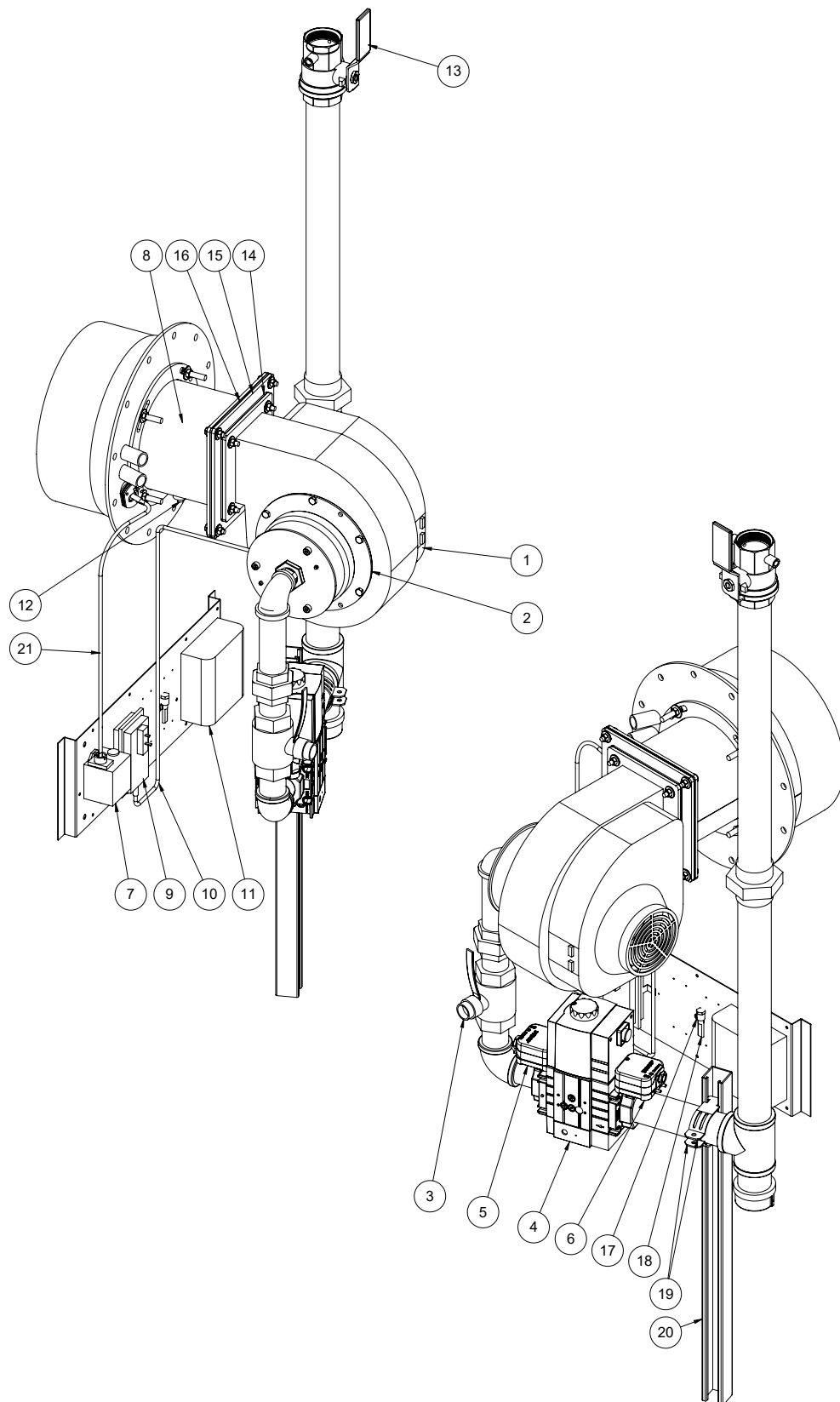


Table 2.3.2 1500 to 3000 - Gas Train and Front Flue Collector Controls (Dungs)

Item Number	Description	Voltage / Phase	1500		2000		2500-3000	
			Qty.	Part Number	Qty.	Part Number	Qty.	Part Number
1	Blower	100-130 VAC / 1 Ph	1	T20144	1	T20145	1	T20145
		208/240 VAC / 1 Ph		T20082		P20011		P20011
		208/240 VAC / 3 Ph		N/A		P20201		P20201
		480 VAC / 3 Ph		N/A		P20197		P20197
2	Swirl Plate		1	P20288	1	107475-01	1	P20271
3	Manual Shut-Off Ball Valve		1	806603042	1	806603042	1	806603042
4	Main Gas Valve		1	107563-01	1	107563-01	1	107563-01
5	High Gas Pressure Switch		1	105328-01	1	105328-01	1	105328-01
6	Low Gas Pressure Switch		1	105329-01	1	105329-01	1	105329-01
7	Ignition Transformer		1	80160208	1	80160208	1	80160208
8	Blower Adapter		1	T40125	1	T40017	1	T40017
9	Fixed Differential Air Pressure Switch		1	106239-01	1	106239-01	1	106239-01
10	Fixed Differential Air Pressure Switch Tubing		2.92 ft	92465560	2.88 ft	92465560	2.88 ft	92465560
11	LWCO		1	28344.3	1	28344.3	1	28344.3
12	1/4" NPT Plug		1	806603599	1	806603599	1	806603599
13	Ball Valve, Two 1/8" Tappings		1	822698	1	822698	1	822698
14	Blower Gasket		1	T20088	1	P20075	1	P20075
15	Blower Adapter Plate		1	T30152	0	N/A	0	N/A
16	Blower Adapter Plate Gasket		1	T20087	0	N/A	0	N/A
17	Thermal Fuse Clamp		1	106364-01	1	106364-01	1	106364-01
18	Thermal Fuse		1	113282-01	1	113282-01	1	113282-01
19	Support Strut Clamp		2	P20070	2	P20070	2	P20070
20	Support Strut		1	P30155.28	1	P30155.28	1	P30155.28
21	Ignition Cable		1	105218-01	1	105218-01	1	105218-01

3.3.2 Rear Flue Collector Controls

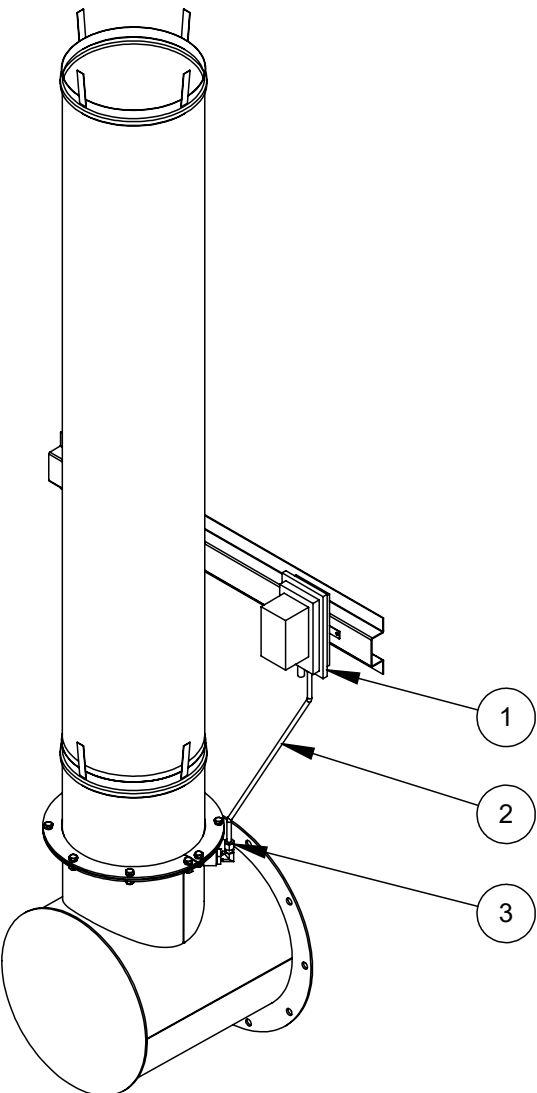
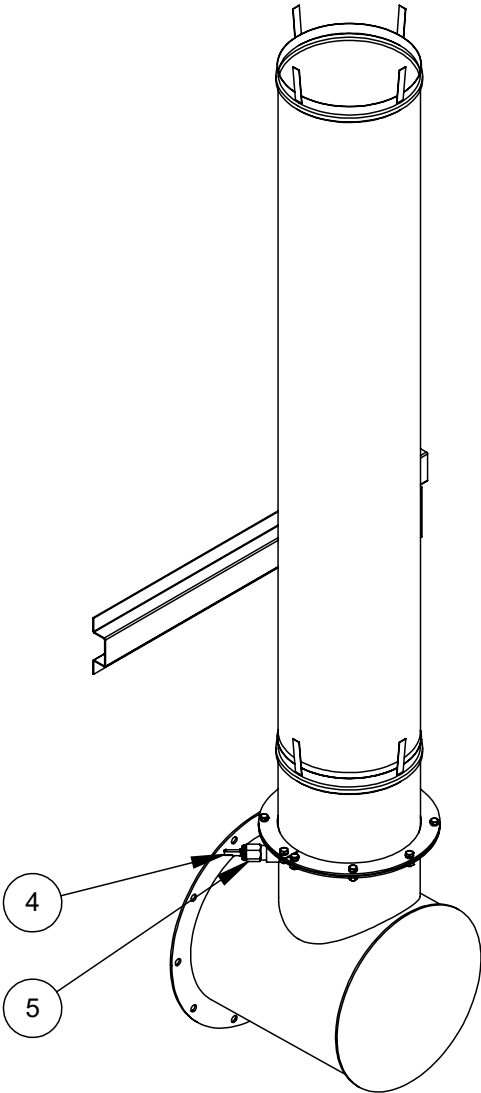


Table 2.3.5 1500-3000 Rear Flue Collector Controls			
<i>Item Number</i>	<i>Description</i>	<i>Quantity</i>	<i>Part Number</i>
1	Adjustable Differential Pressure Switch	1	22051
2	Adjustable Differential Pressure Switch Tubing to Stack	1.5 ft	92465560
3	1/4" NPT x 1/4" Tube Compression Fitting 90° Elbow	1	8236046
4	Stack Temperature Sensor	1	5:1 Turn-Down Boiler 105686-01
			High Turn-Down Boiler 105685-01
5	Stainless Steel Immersion Well	1	105683-01

3.4 Jacket

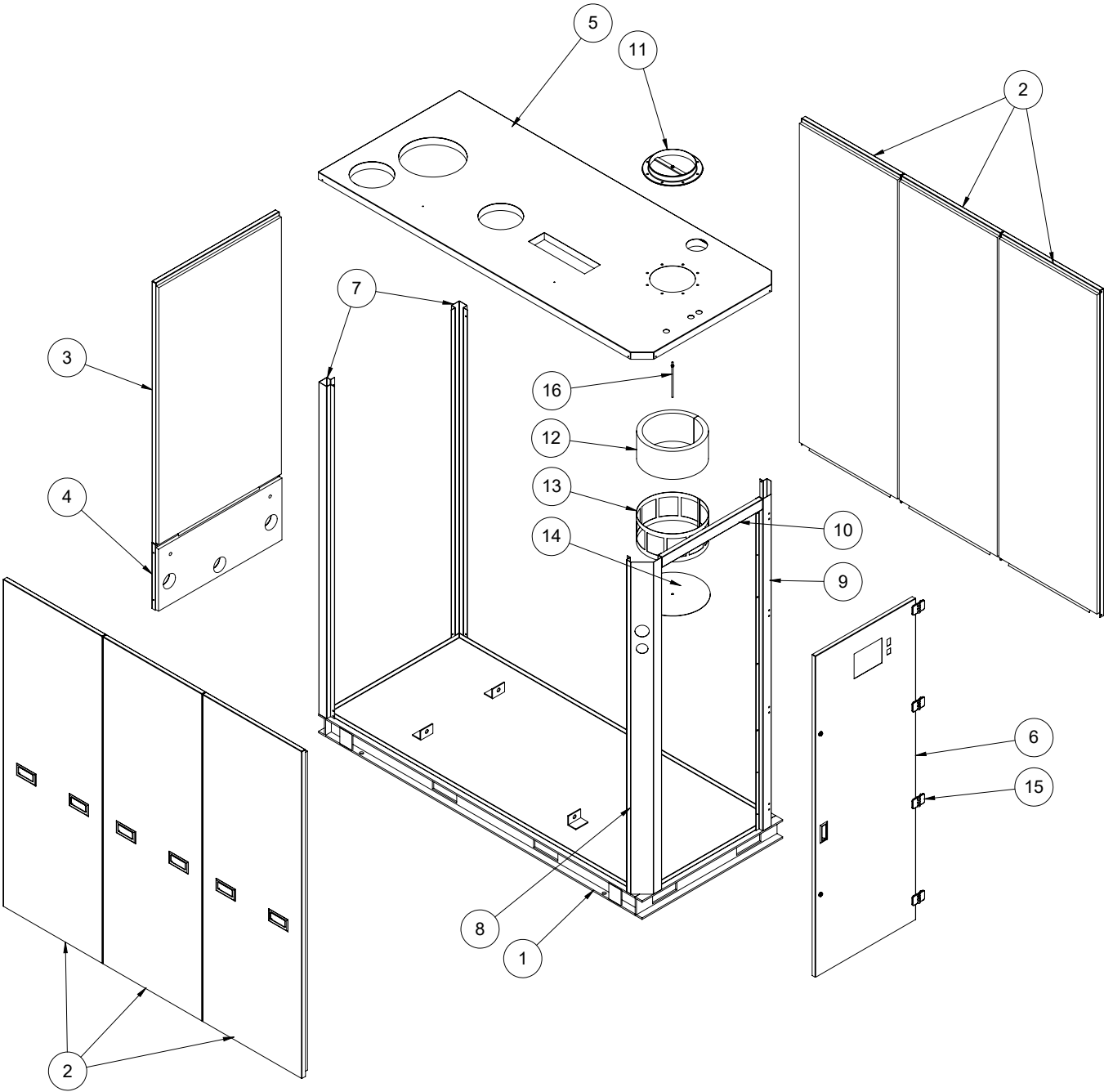


Table 2.4 1500 to 3000 - Jacket					
<i>Item Number</i>	<i>Description</i>	1500-2000		2500-3000	
		<i>Quantity</i>	<i>Part Number</i>	<i>Quantity</i>	<i>Part Number</i>
1	Base	1	T40028	1	T40032
2	Side Door	6	T40050	6	T40051.P
3	Rear Panel	1	T40052.P	1	T40052.P
4	Rear Lower Panel	1	T40243	1	T40243
5	Top Panel	1	T40244	1	T40245
6	Front Door	1	T40025	1	T40025
7	Rear Corner (Orange)	2	T30140	2	T30140
	Rear Corner (Silver)		T30140.FF		T30140.FF
8	Front Left Corner (Orange)	1	T30032	1	T30032
	Front Left Corner (Silver)		T30032.FF		T30032.FF
9	Front Right Corner (Orange)	1	T30033	1	T30033
	Front Right Corner (Silver)		T30033.FF		T30033.FF
10	Front Door Top Bar (Orange)	1	T30035	1	T30035
	Front Door Top Bar (Silver)		T30035.FF		T30035.FF
11	Air Intake Angle Ring	1	T40072	1	T40073
12	Air Intake Filter	1	T30167	1	T30167
13	Air Intake Filter Retainer	1	T30166	1	T30166
14	Air Intake Filter Cover	1	T30168	1	T30168
15	Hinges	4	P20044	4	P20044
16	Air Intake Filter Mount Stud	1	T30178	1	T30178

3.5 Inlet/Return and Outlet/Supply Manifold

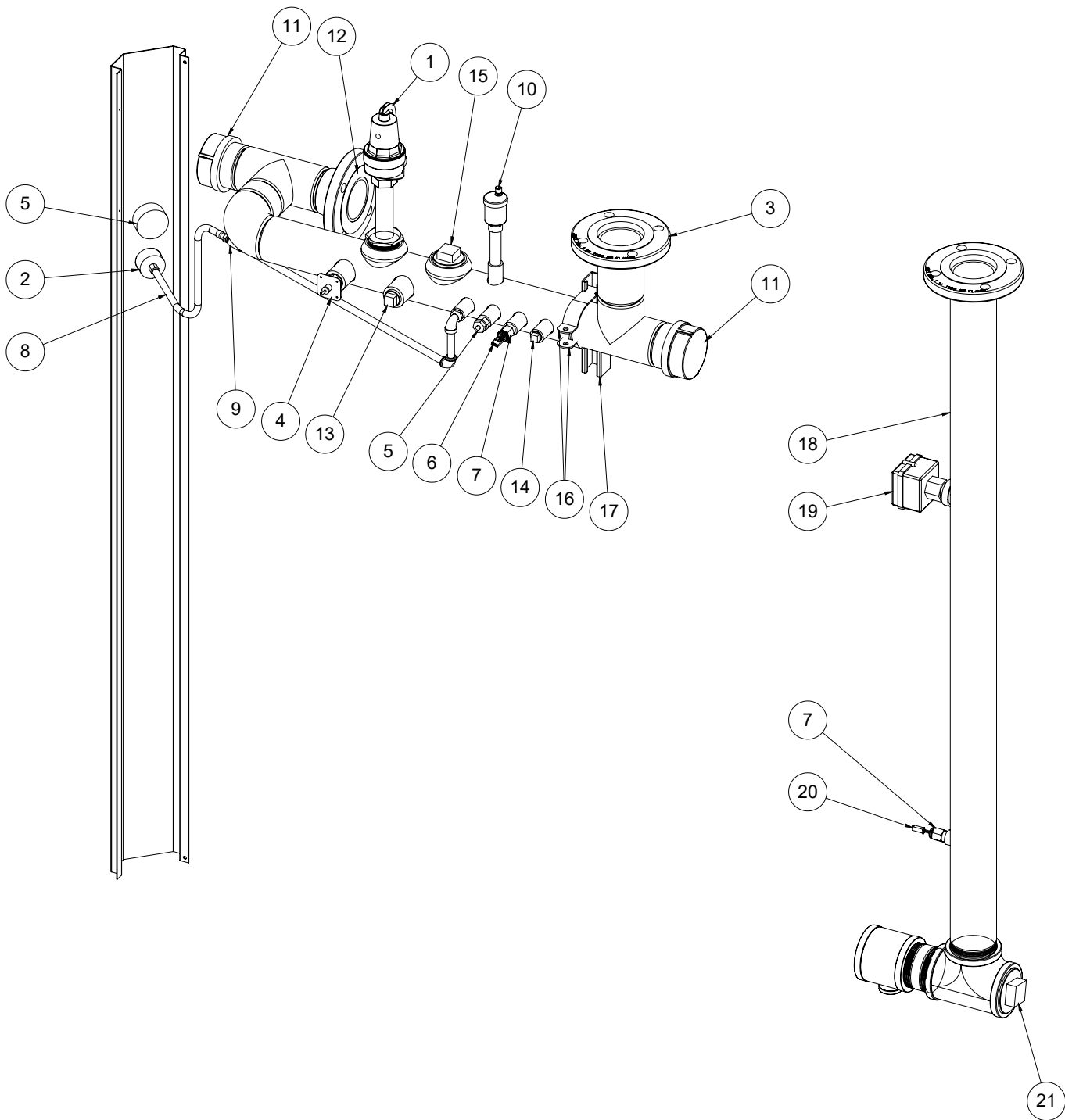
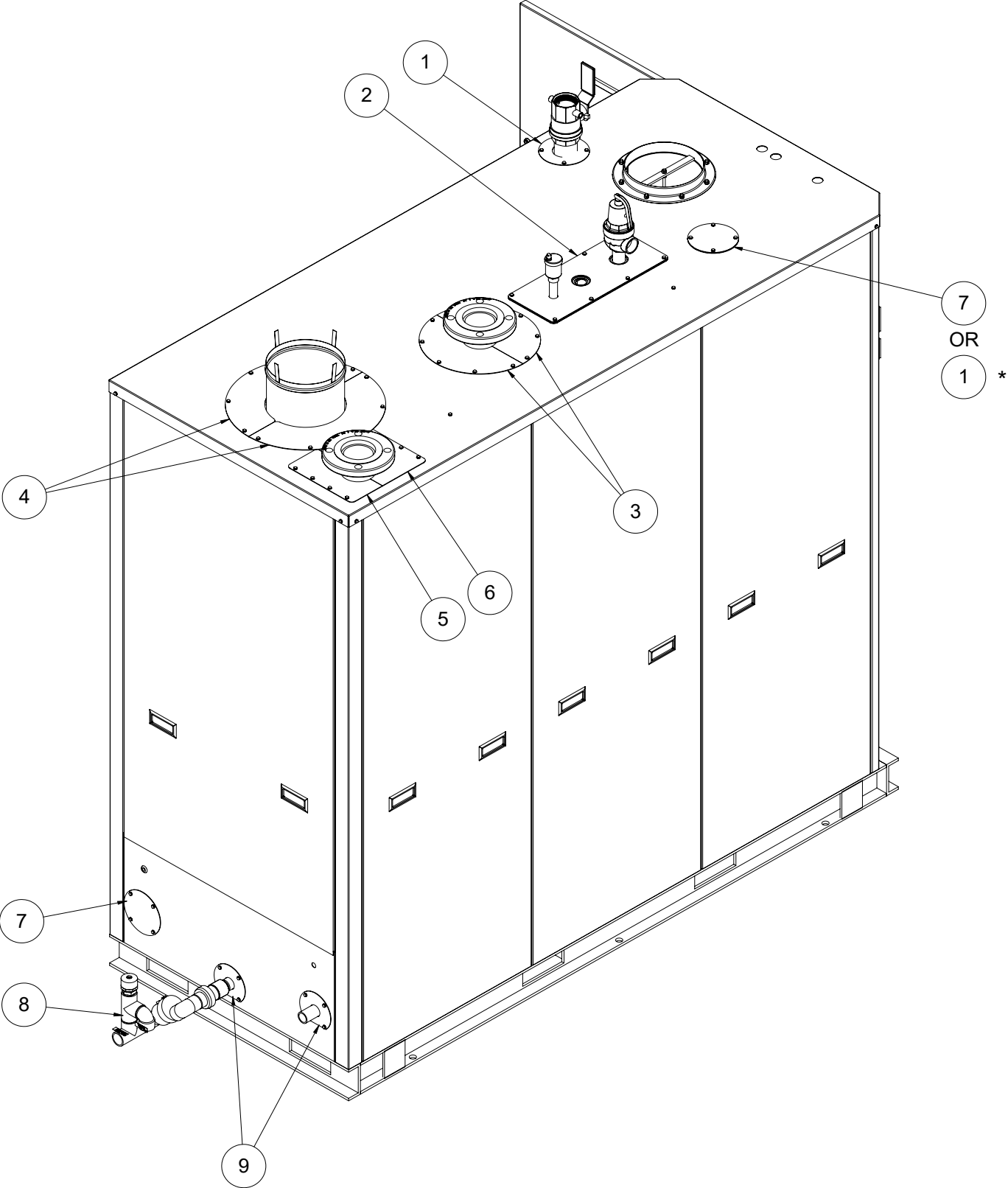


Table 2.5 1500-3000 - Inlet/Return Manifold and Outlet/Supply

Item Number	Description		Quantity	Part Number						
				Relief Valve Setting						
				30 PSI	50 PSI	60 PSI	75 PSI	100 PSI	125 PSI	150 PSI
1	1500 Relief Valve		1	81660338	81660362	81660375	81660374	81660377	81660373	81660378
	2000 Relief Valve		1	81660334	81660362	81660376	81660374	81660377	81660373	81660378
	2500 Relief Valve		1	81660334	81660357	81660376	81660389	81660377	81660373	81660378
	3000 Relief Valve		1	81660335	81660357	81660379	81660389	81660381	81660373	81660378
2	Pressure Gauge		1	107187-01		107187-02			107187-03	
3	Upper Water Outlet Manifold		1	P40133						
4	LWCO Probe		1	28344.3						
5	Temperature Gauge and Probe		1	P20287						
6	Outlet Water Sensor (10Kohm)	5:1 Turn-Down Boiler	1	105686-01						
		High Turn-Down Boiler		105685-01						
7	Brass Immersion Well		2	105684-01						
8	1/4" Braided Hose		1	P20110						
9	Ball Valve		1	822758						
10	1/2" NPT Air Vent		1	102260-01						
11	3" Pipe Cap		2	806603589						
12	3" Pipe Flange Gasket		1	29196						
13	1" Pipe Plug		1	806603501						
14	1/2" Pipe Plug		1	806603507						
15	2" Pipe Plug		1	806603511						
16	Support Strut Clamp		2	P20070						
17	Support Strut		1	P30155.8						
18	Lower Water Inlet Manifold		1	P40239						
19	Water Flow Switch		1	105687-01						
20	Inlet Temperature Sensor (10 Kohm)		1	105685-01						
21	3" Pipe Plug		1	806603514						

3.6 Miscellaneous External Components



** Dual fuel only.*

Table 2.6: 1500-3000 - Miscellaneous External Components						
Item Number	Description		1500-2000		2500-3000	
			Quantity	Part Number	Quantity	Part Number
1	2" Pipe Trim Ring	Single Fuel Boiler	1	P30299.P	1	P30299.P
2	Air Vent & 3/4" Relief Valve Trim Plate		1	T20081.P	1	T20081.P
	Air Vent & 1" Relief Valve Trim Plate			T20080.P		T20080.P
	Air Vent & 1-1/4" Relief Valve Trim Plate			T20032.P		T20032.P
	Air Vent & 1-1/2" Relief Valve Trim Plate			T20031.P		T20031.P
3	Outlet Trim Ring		2	P30292.P	2	P30292.P
4	Stack Trim Ring		2	T20019.P	2	T20018.P
5	Inlet Rear Trim Plate		1	P30311.P	1	P30311.P
6	Inlet Front Trim Plate		1	P30293.P	1	P30293.P
7	Drain Pipe/Gas Train Hole Cover	Single Fuel Boiler	2	T20138	2	T20138
8	Condensate Trap Assembly		1	108266-01	1	108266-01
9	1" Pipe Trim Ring		2	T20040.P	2	T20040.P

Note:

1) On older boilers if Item Number "8" is different than shown, it is an obsolete version of the Condensate Trap Assembly with the Blocked Condensate Switch being located in the front of the boiler (*similar to what is shown in "4.7.2 Pre-Concert Controls", item 23*). Both have been replaced with a Blocked Condensate Trap/Drain Assembly with Switch, located at the rear of the boiler. A Conversion Kit must be purchased to replace either or both of these items. The kit number is: T40354-K.

2) Some boilers already have the Condensate Trap/Drain Assembly *with Switch* at the back of the boiler that is different than pictured. It has been replaced with part number: 108266-01.

3.7 Controls

3.7.1 Standard Controls

3.7.1.1 Control Panels

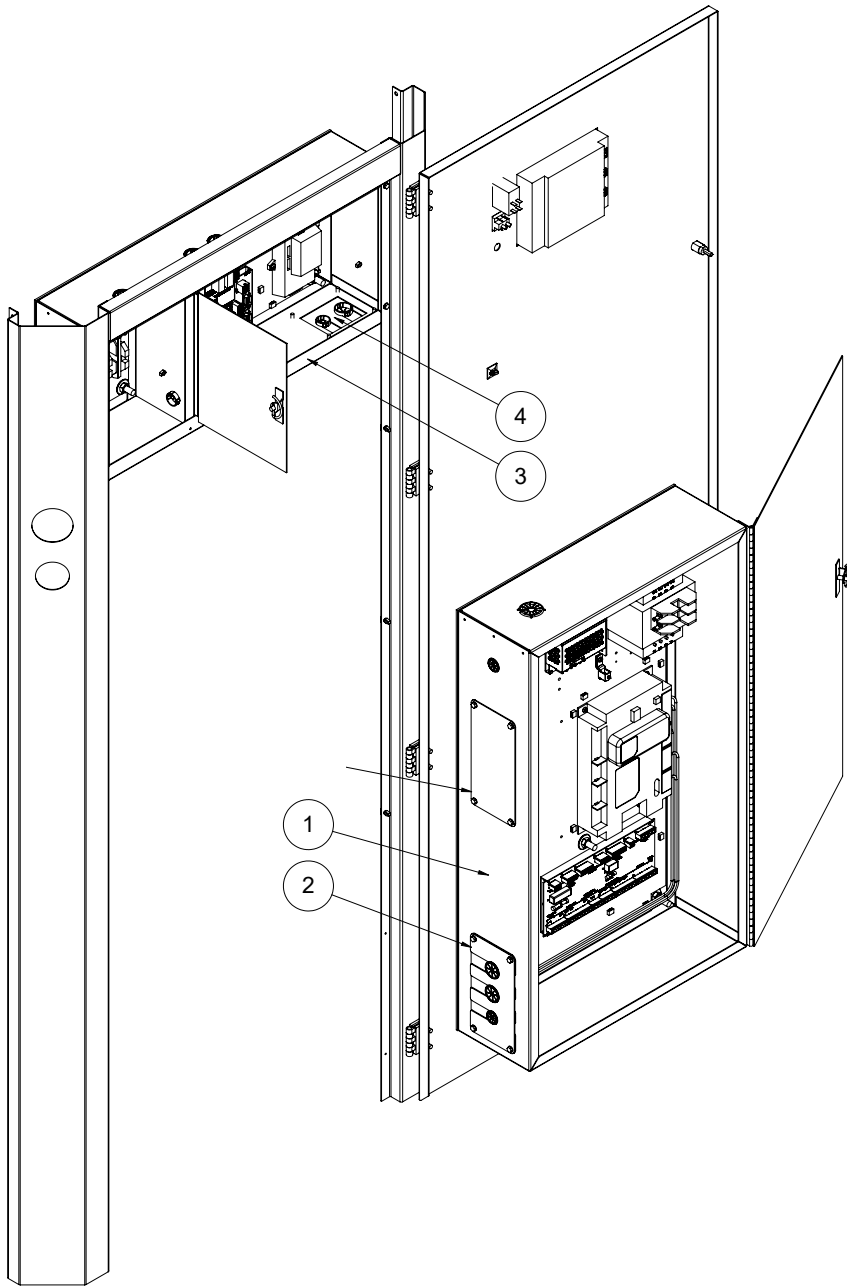


Table 2.7.1.1 1500-3000 - Standard Controls			
Item Number	Description	Quantity	Part Number
1	Control Panel	1	T40054
2	Control Panel Knockouts Trim Plate	2	T30187
3	PCB Control Panel	1	T40056
4	PCB Control Panel Knockouts Trim Plate	2	T30188

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3.7.1.2 Control Panel Components

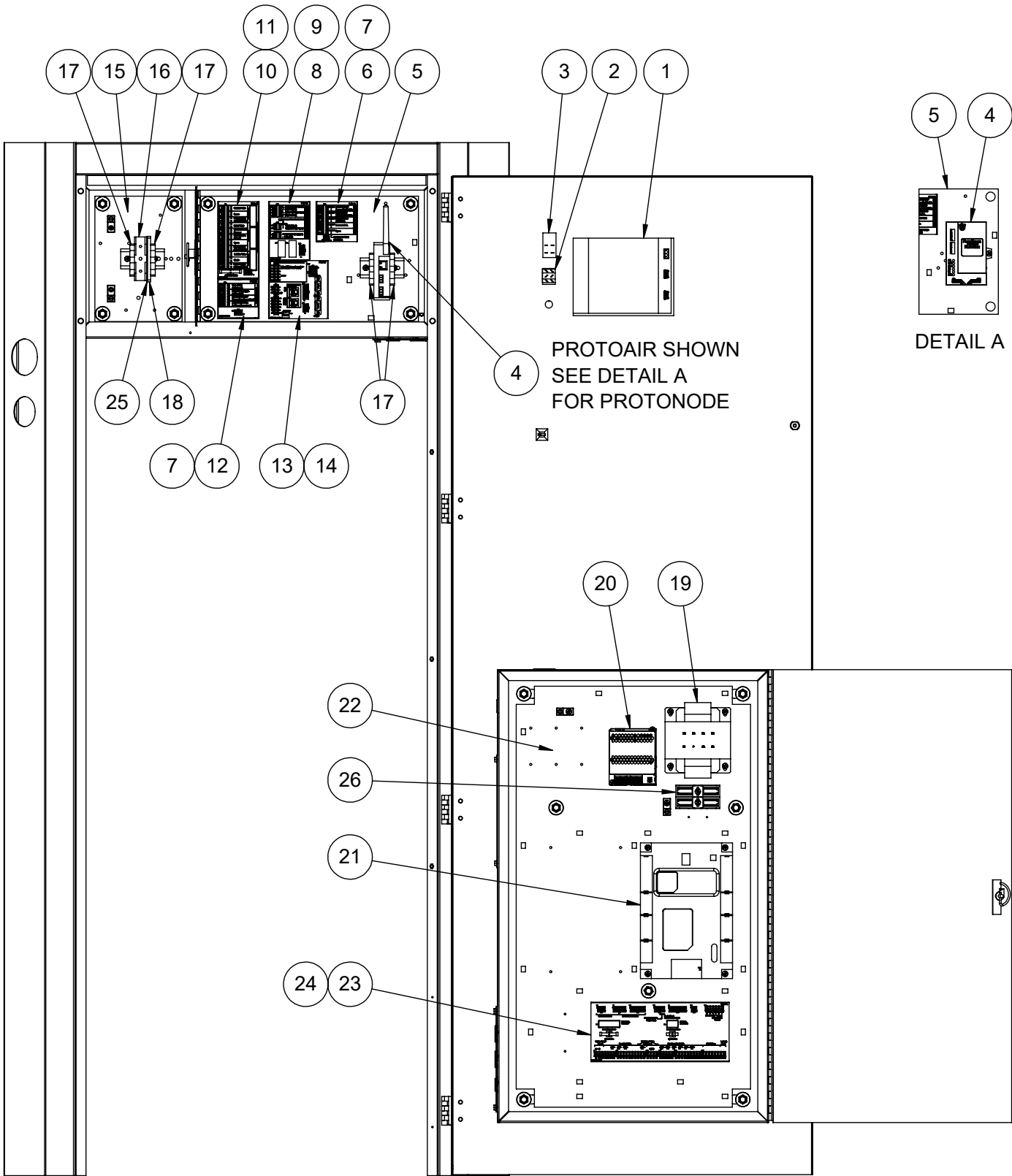


Table 2.7.1.2 1500-3000 - Standard Control Panel Components

Item Number	Description		Quantity	Part Number
1	Display		1	113347-01
2	On/Off Switch		1	105658-01
3	Reset Switch		1	P20276
4	Bacnet Communications ProtoAir (WiFi)		1	Contact factory
5	PCB Control Panel Wiring Insert		1	T30072
6	PCB-03		1	106697-01
7	Snaptrack, 2-3/4" Wide x 2-3/4" Long		2	107252-01
8	PCB-05		1	106699-01
9	Snaptrack, 2-3/4" Wide x 4" Long		1	107253-01
10	PCB-02		1	106165-01
10.1	6.3 Amp 250 Volt Fuse - 1/4" x 1-1/4" (PCB-02)		3	111387-01
11	Snaptrack, 2-3/4" Wide x 5-1/4" Long		1	107250-01
12	PCB-04		1	106698-01
13	PCB-06		1	106166-01
14	Snaptrack, 4" Wide x 4" Long		1	107254-01
15	PCB Control Panel Wiring Insert (High Voltage)		1	T30073
16	Fuse Block, 1-Pole		1	T20159
	Fuse Block, 2-Pole			P20053.2
	Fuse Block, 3-Pole			P20053
17	End Anchor	Boiler with 2 or 3-Pole Fuse Block	2	99992.62
		Boiler with 1-Pole Fuse Block	4	
18	Terminal Block, White	Boiler with 2 or 3-Pole Fuse Block	0	8136560
		Boiler with 1-Pole Fuse Block	1	
19	208-230-460V/120V Transformer		1	P20062
20	24VDC Transformer		1	105680-01
21	Concert Boiler Control		1	112856-01
22	Control Panel Wiring Insert		1	T30067
23	PCB-01		1	106164-01
23.1	6.3 Amp 250 Volt Fuse - 1/4" x 1-1/4" (PCB-01)		2	105300-01
23.2	3 Amp 250 Volt Fust - 5 mm x 20 mm (PCB-01)		2	111068-01
24	Snaptrack, 4" Wide x 9-1/2" Long		1	107249-01
25	End Plate	Boiler with 2 or 3-Pole Fuse Block	0	104743-01
		Boiler with 1-Pole Fuse Block	1	
Not Shown	Main Wiring Harness		1	T20126.13
Not Shown	Display Communication & Power Harness		1	T20126.5

4. 3500 to 6000 Parts

4.1 Heat Exchanger

4.1.1 Heat Exchanger Assembly

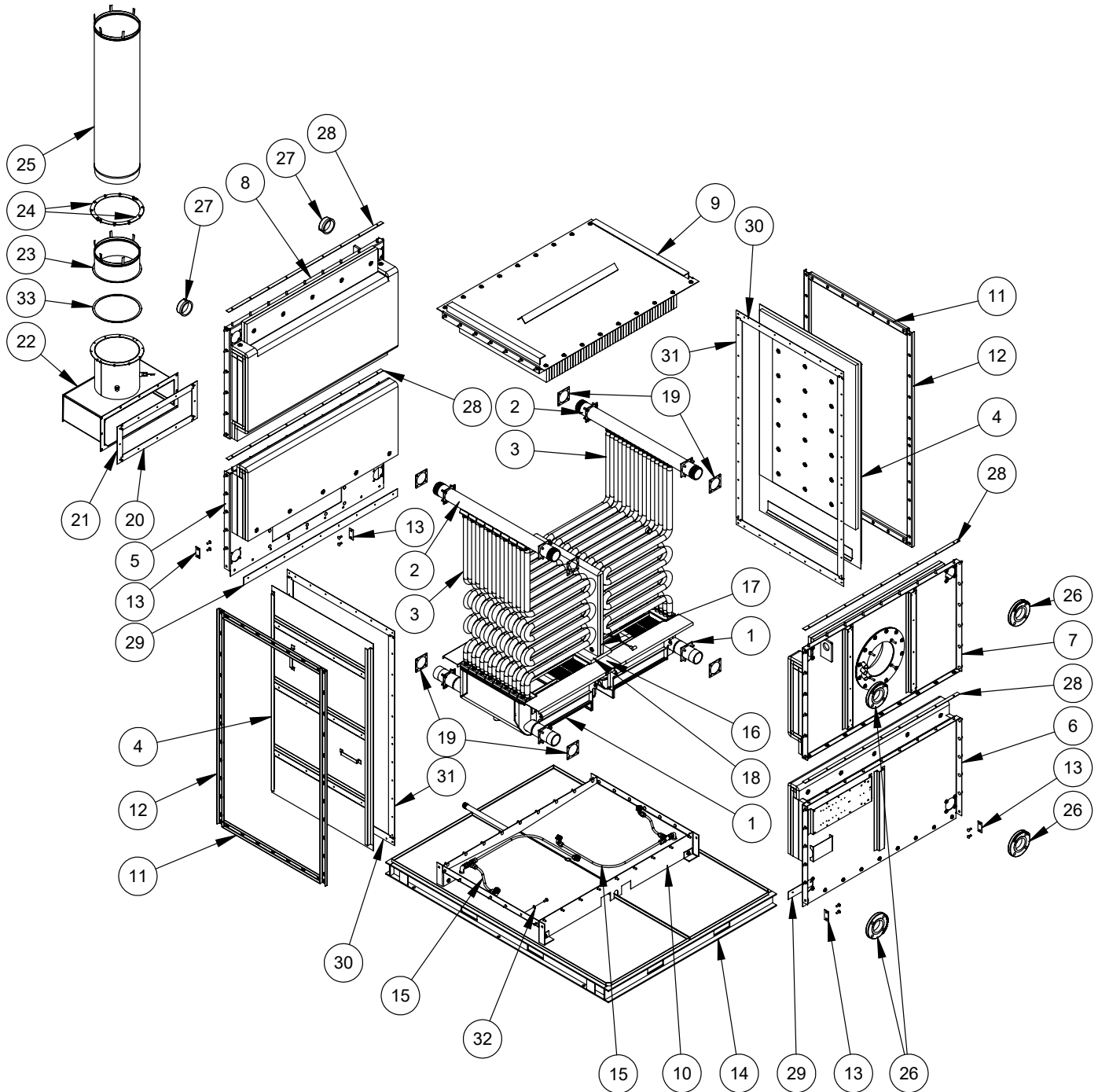


Table 3.1.1 3500-6000 Heat Exchanger Parts					
<i>Item Number</i>	<i>Description</i>	3500-4000		4500-6000	
		<i>Quantity</i>	<i>Part Number</i>	<i>Quantity</i>	<i>Part Number</i>
1	Secondary Heat Exchanger	2	T20013	2	T20017
2	Upper Header	2	P40237	2	T40033
3	Furnace Tubes Long Return	16	T30079	24	T30079
	Furnace Tubes Short Return	16	T30080	24	T30080
4	Furnace Tube Access Door	2	T40098	2	T40119
5	Flue Collector Rear Lower Panel	1	T40079	1	T40079
6	Flue Collector Front Lower Panel	1	T40077	1	T40077
7	Flue Collector Front Upper Panel	1	T40078	1	T40078
8	Flue Collector Rear Upper Panel	1	T40080	1	T40080
9	Flue Collector Top Panel	1	T40099	1	T40111
10	Condensate Pan	1	T40082	1	T40113
11	Horz. Furnace Tube Access Door Clamp	4	P30260.37	4	P30260.49
12	Vert. Furnace Tube Access Door Clamp	4	T30120	4	T30120
13	Flue Collector Flange Connector	4	P30271	4	P30271
14	Boiler Base Assembly	1	T40075	1	T40109
15	Heat Exchanger Drain Assembly (See Drawing 3.1.2)	2	T40136	2	T40137
16	Heat Exchanger Connector Plate	1	T30049	1	T30050
17	Flue Collector Center Divider	1	T40076	1	T40116
18	Flue Collector Center Divider Base Insulation	1.5 sq ft	24529	2 sq ft	24529
19	Upper Header / Heat Exchanger Gasket	8	P30254	8	P30254
20	Stack Adapter to Flue Collector Horizontal Gasket	2	T20114.H	2	T20114.H
21	Stack Adapter to Flue Collector Vertical Gasket	2	T20114.V	2	T20114.V
22	Stack Adapter	1	T40092	1	T40074
23	Double Flange Stack Adapter	1	T20107	1	T20108
24	Double Flange Stack Adapter Retainer	2	T30284	2	T30285
25	Saf-T Vent EZ Seal Single Wall Gas Vent	1	T20118	1	T20119
26	3" x 150 lb. Threaded Pipe Flange	4	104045-01	4	104045-01
27	3" Pipe Cap	2	806603589	2	806603589
28	Flue Collector Top Panel Gasket & Flue Collector Front & Rear Panel Center Gasket	4	T20223	4	T20223
29	Flue Collector Front & Rear Panel Bottom Gasket	2	T20236	2	T20236
30	Furnace Tube Access Door Horizontal Gasket	4	T20224	4	T20228
31	Furnace Tube Access Door Vertical Gasket	4	T20235	4	T20235
32	Sealing Washer	32	T20052	36	T20052
33	High Temperature Sealant (Between Stack Adapter & Double Flange Stack Adapter)	N/A	T20041	N/A	T20041

4.1.2 Heat Exchanger Drain Assembly

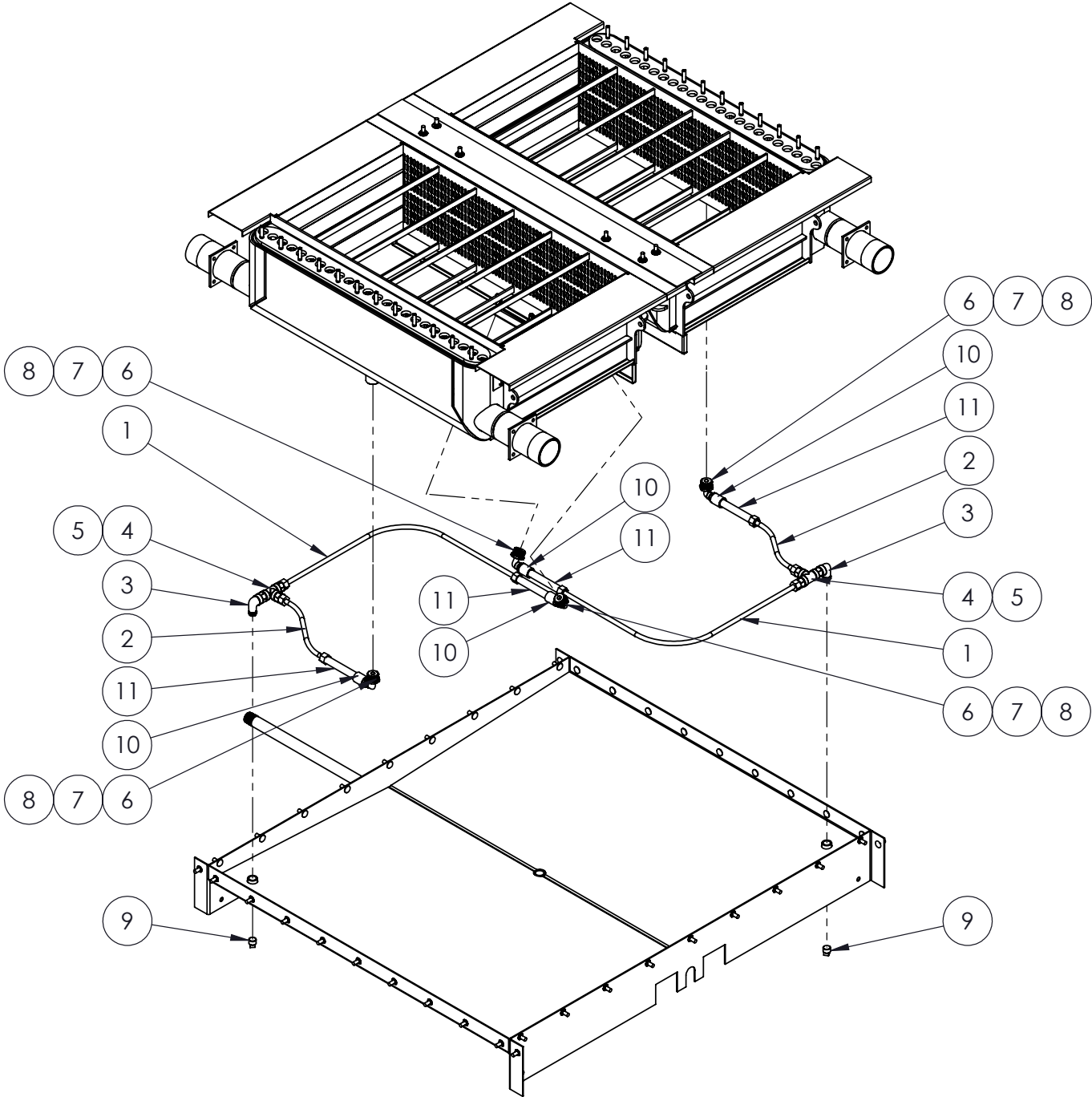


Table 3.1.2 3500-6000 Heat Exchanger Drain					
<i>Item Number</i>	<i>Description</i>	3500-4000		4500-6000	
		<i>Quantity</i>	<i>Part Number</i>	<i>Quantity</i>	<i>Part Number</i>
1	1/2" FIPS Drain Hose x 36" Long, S.S.	2	113190-01	2	113190-02
2	1/2" FIPS Drain Hose x 12" Long, S.S.	2		2	
3	1/2" NPT Street Elbow, S.S.	2		2	
4	1/2" NPT Tee, S.S.	2		2	
5	1/2" NPT Hex Nipple, S.S.	6		6	
6	1" NPT x 1/4" NPT Hex Bushing, S.S.	4		4	
7	1/4" NPT Street Elbow, S.S.	4		4	
8	1/2" NPT x 1/4" NPT Reducer Hex Nipple, S.S.	4		4	
10	1/2" NPT Full Coupling, S.S.	0	N/A	4	
11	1/2" NPT x 6" Long Nipple, S.S.	0	N/A	4	
9	1/2" NPT Plug	2	106530-01	2	106530-01

4.2 Burner Assembly

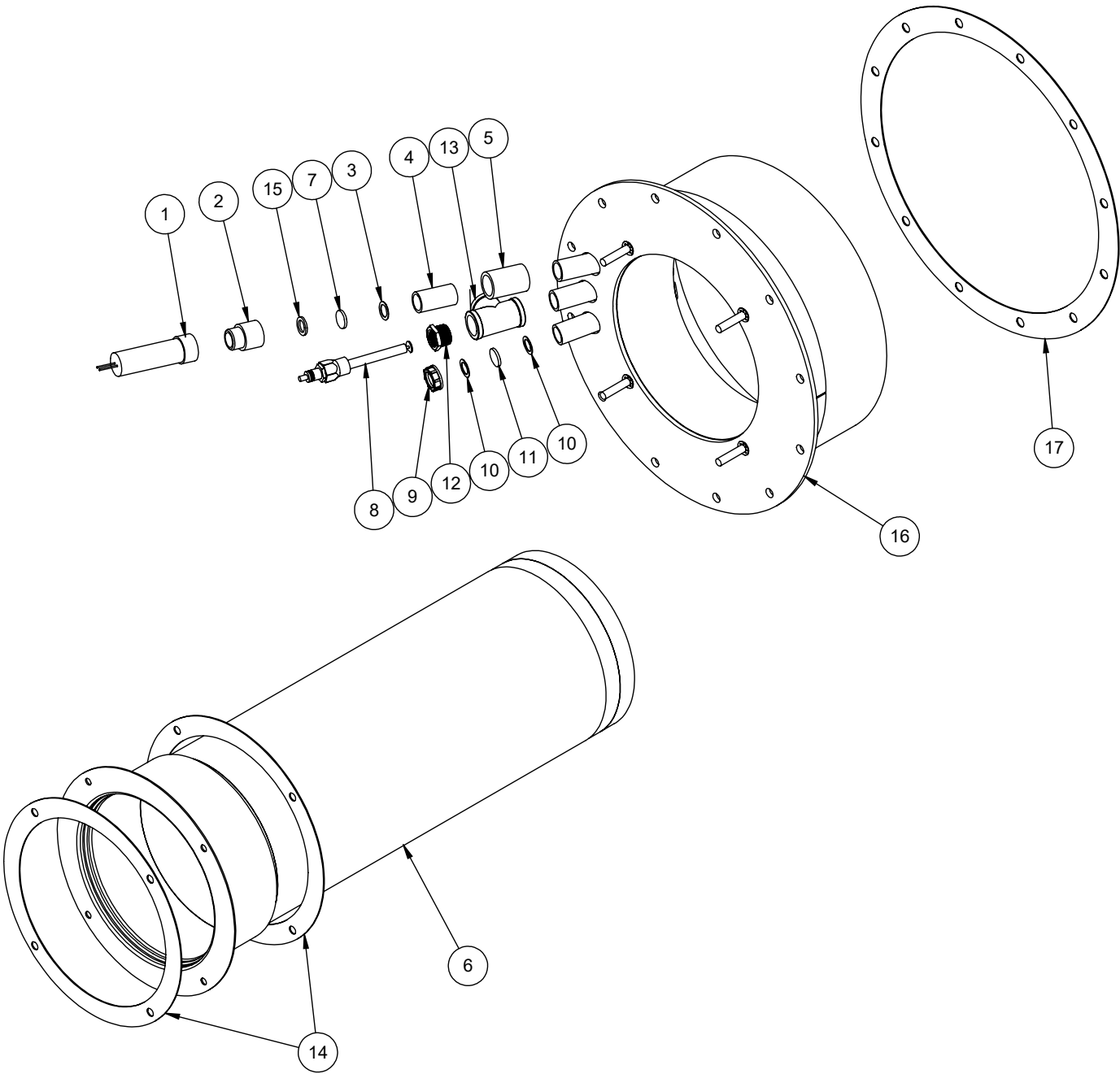


Table 3.2 3500-6000 Burner Assembly			
<i>Item Number</i>	<i>Description</i>	<i>Quantity</i>	<i>Part Number</i>
1	Ultra-Violet (UV) Scanner	1	T20153
2	Heat Insulator	1	T20034
3	Ultra-Violet (UV) Lens Gasket (High Temp.)	1	T20005
4	Pipe Nipple	1	806600404
5	Pipe Coupling	1	22632
6	3500 Burner	1	P40023
	4000 Burner		T40127
	5000 Burner		T40128
	6000 Burner		T40129
7	Ultra-Violet (UV) Lens	1	T20152
8	Igniter - See Note	1	T20255
9	Site Glass Bushing	1	T20006
10	Site Glass Gasket	2	T20005
11	Site Glass Lens	1	T20004
12	Hex Bushing	1	806600523
13	Pipe Tee	1	806601052
14	Burner Gasket	2	T20064
15	Ultra-Violet (UV) Lens Gasket (Silicone)	1	110567-01
16	Burner Plug	1	T40215
17	Burner Plug Gasket	1	T20092

4.3 Gas Train and Flue Collector Controls

4.3.1 Gas Train, Pilot and Flue Collector Controls

4.3.1.1 Left Side - Gas Train, Pilot and Flue Collector Controls

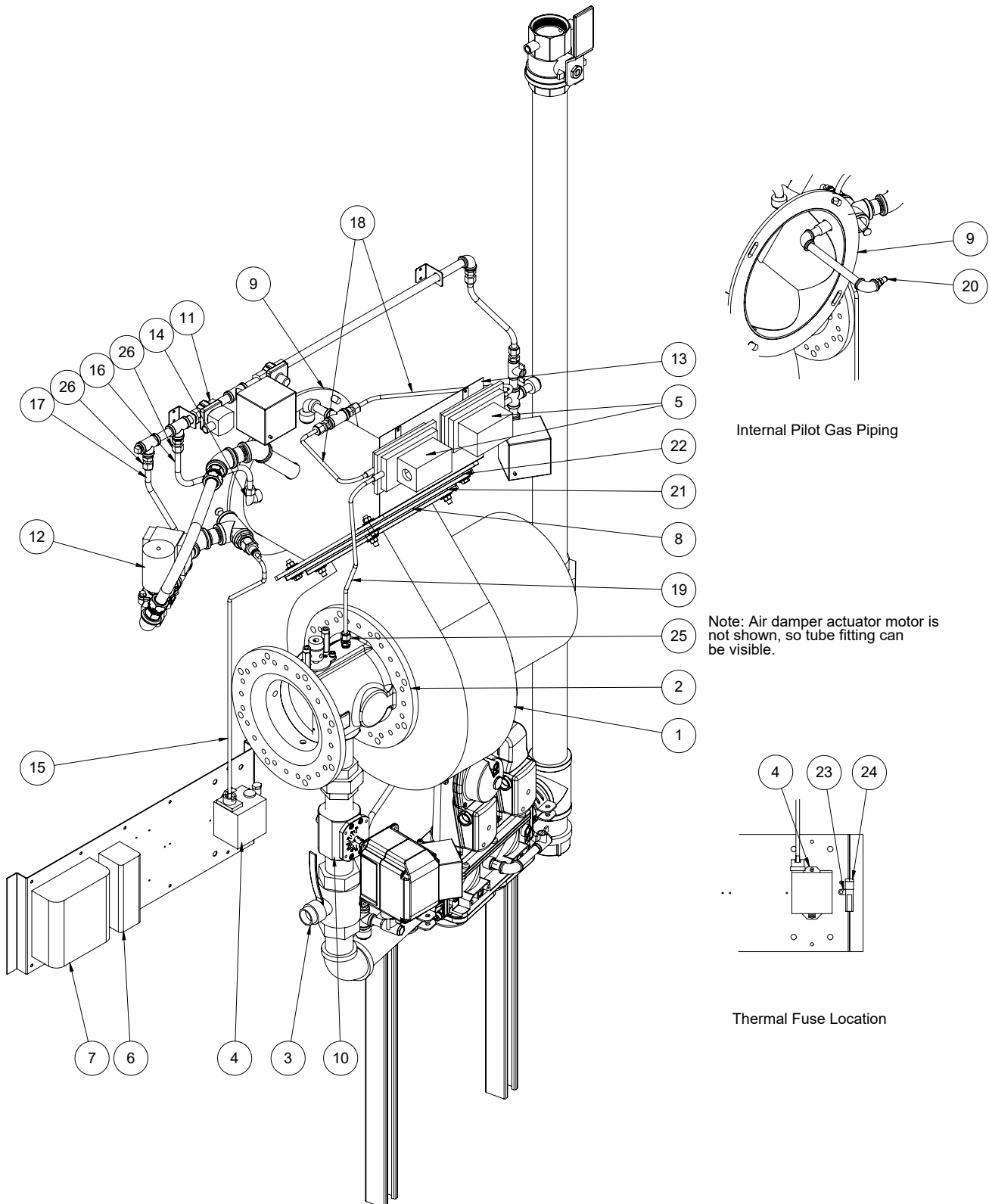


Table 3.3.1.1 3500-6000 - Left Side - Gas Train, Pilot and Front Flue Collector Controls						
<i>Item Number</i>	<i>Description</i>	<i>Voltage / Phase</i>	3500-4000		4500-6000	
			<i>Quantity</i>	<i>Part Number</i>	<i>Quantity</i>	<i>Part Number</i>
1	Blower	208-240 VAC / 3 Ph	1	T40378	1	T40390
		480 VAC / 3 Ph		T40379		T40380
2	Air Damper		1	T20162	1	T20163
3	Manual Shut-Off Ball Valve		1	806603042	1	806603016
4	Ignition Transformer		1	80160208	1	80160208
5	Adjustable Differential Pressure Switch		2	22051	2	22051
6	High Limit Aquastat with Manual Reset		1	296021.5	1	296021.5
7	LWCO		1	28344.3	1	28344.3
8	Blower Adapter Plate		1	T30181	0	N/A
9	Blower Adapter		1	T40167	1	T40095
10	Butterfly Gas Valve		1	T20220	1	P20284
11	Pilot Valve		1	822670	1	822670
12	Solenoid Valve		1	816602071	1	816602071
13	Air Switch Mount Bracket		1	T30323	1	T30323
14	1/4" NPT x 3/8" Tube Compression Fitting 90° Elbow		1	24168.1	1	24168.1
15	Ignition Cable		1	105218-01	1	105218-01
16	Pilot Gas Train Outlet Tubing to Blower Adapter		1.05 ft	92465546	1.05 ft	92465546
17	Pilot Gas Train Outlet Tubing to Igniter		.75 ft	92465546	.75 ft	92465546
18	Adjustable Differential Pressure Switch Tubing to Blower Adapter		2 @ 1.75 ft	92465560	2 @ 1.75 ft	92465560
19	Adjustable Differential Pressure Switch Tubing to Air Damper		1.75 ft	92465560	2 ft	92465560
20	Internal Pilot Gas Orifice		1	P30165	1	P30165
21	Blower Gasket		1	P20075	1	T20063-620
22	Blower Adapter Plate Gasket		1	T20124	0	N/A
23	Thermal Fuse Clamp		1	106364-01	1	106364-01
24	Thermal Fuse		1	113282-01	1	113282-01
25	1/4" NPT x 1/4" Tube Compression Fitting		3	822658	3	822658
26	1/4" NPT x 3/8" Tube Compression Fitting		6	806604544	6	806604544

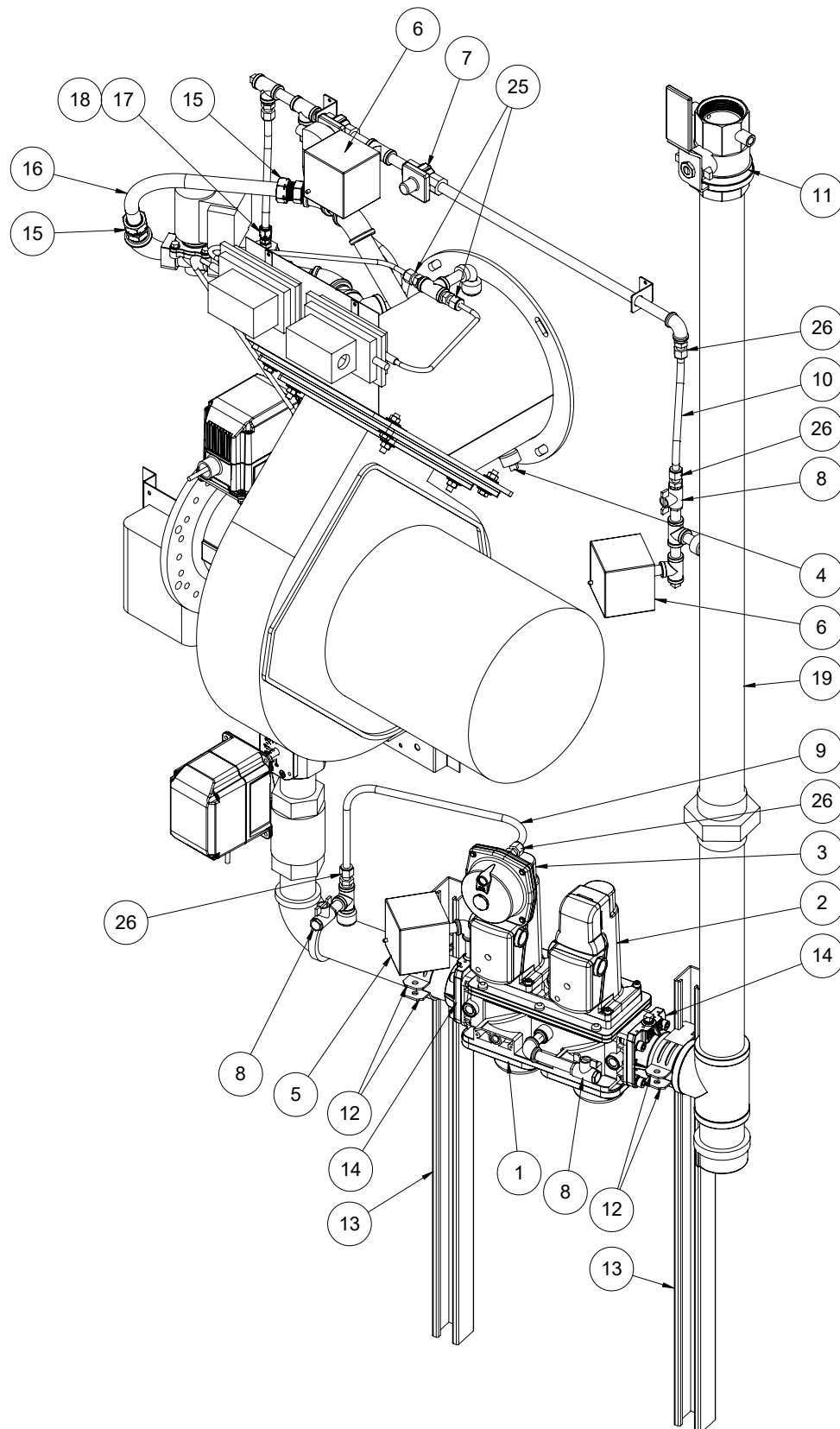
4.3.1.2 Right Side - Gas Train, Pilot and Flue Collector Controls

Table 3.3.1.2 3500-6000 - Right Side - Gas Train, Pilot and Front Flue Collector Controls

Item Number	Description	3500-4000		4500-6000	
		Quantity	Part Number	Quantity	Part Number
1	Double Body Gas Valve	1	816634051	1	816634051
2	Gas Valve Actuator with Proof of Closure Switch	1	81663407	1	81663407
3	Pressure Regulating Gas Valve Actuator	1	81663410	1	81663410
4	1/4" NPT Plug	1	806603599	1	806603599
5	High Gas Pressure Switch	1	28173.1	1	28173.1
6	Low Gas Pressure Switch	2	28170.1	2	28170.1
7	Regulator	1	8226009	1	8226009
8	Ball Valve	3	822758	3	822758
9	Gas Sensing Tubing	1.54 ft	92465546	1.67 ft	92465546
10	Pilot Gas Train Inlet Tubing	.59 ft	92465546	.59 ft	92465546
11	Ball Valve, Two 1/8" Tappings	1	822698	1	822698
12	Support Strut Clamp	4	P20070	4	P20070
13	Support Strut	2	P30155.28	2	P30155.28
14	Double Body Gas Valve Flange	2	104623-02	2	104623-02
15	3/4" NPT x 3/4" Tube Compression Fitting	2	24173	2	24173
16	Pilot Air Train Tubing	1.09 ft	P10026	1.09 ft	P10026
17	Pilot Gas Orifice Fitting	1	T30293	1	T30293
18	Pilot Gas Orifice	1	T30295	1	T30295
19	Gas Train Pipe w/ Gas Sensing Connection	1	T40302	1	T40302

Note: "4.3.1.2 Right Side - Gas Train, Pilot and Flue Collector Controls", Item Numbers 25 and 26 are included on "Table 3.3.1.2 3500-6000 - Right Side - Gas Train, Pilot and Front Flue Collector Controls".

4.3.2 Rear Flue Collector

4.3.2.1 Concert (Rear Flue Collector)

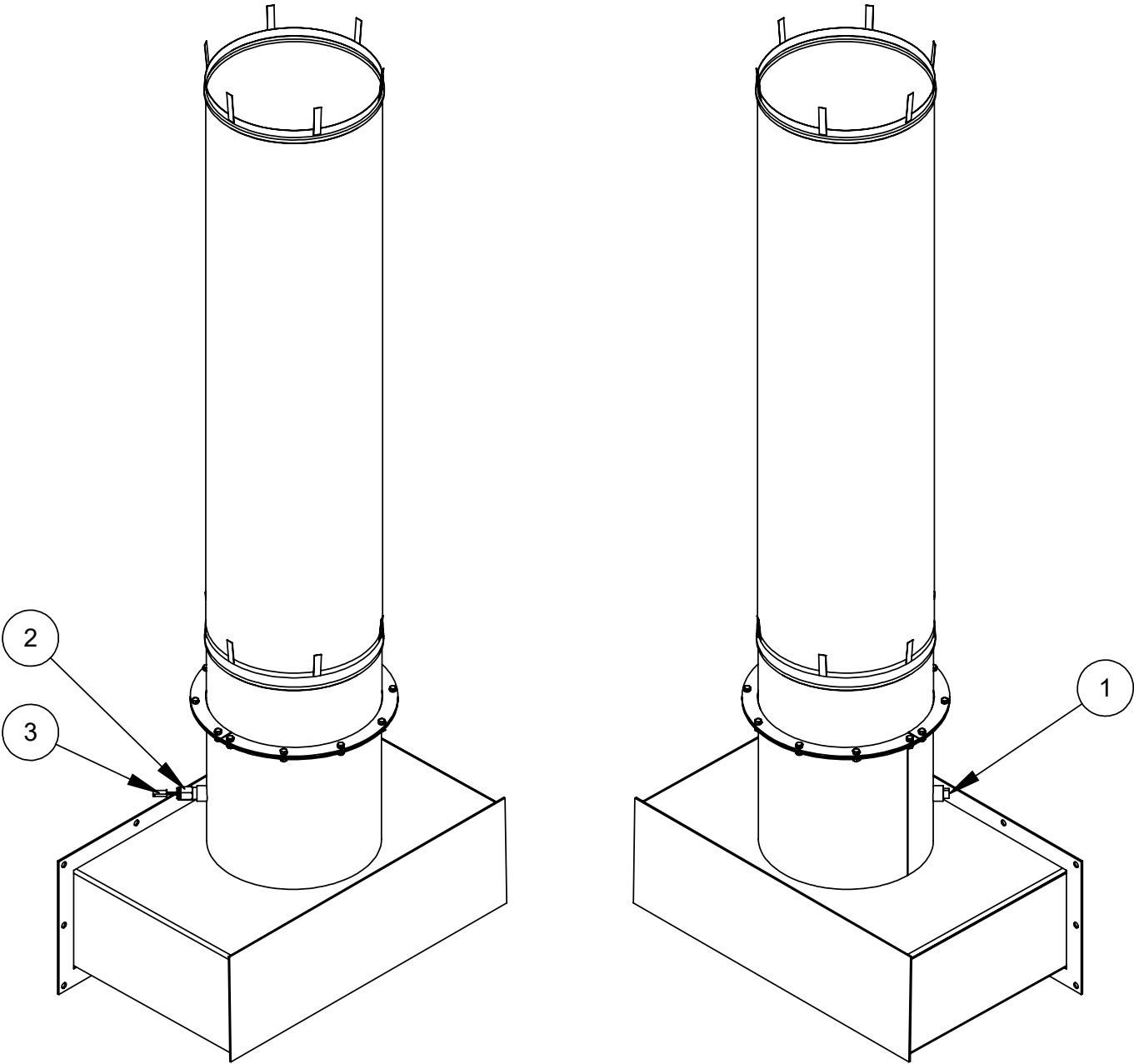


Table 3.3.3.1 3500-6000 - Concert Rear Flue Collector			
Item Number	Description	Quantity	Part Number
1	1/2" NPT Stainless Steel Pipe Plug, Square Head	1	106530-01
2	Stainless Steel Immersion Well	1	105683-01
3	Stack Temperature Sensor	1	105685-01

4.3.2.2 Pre-Concert (Rear Flue Collector)

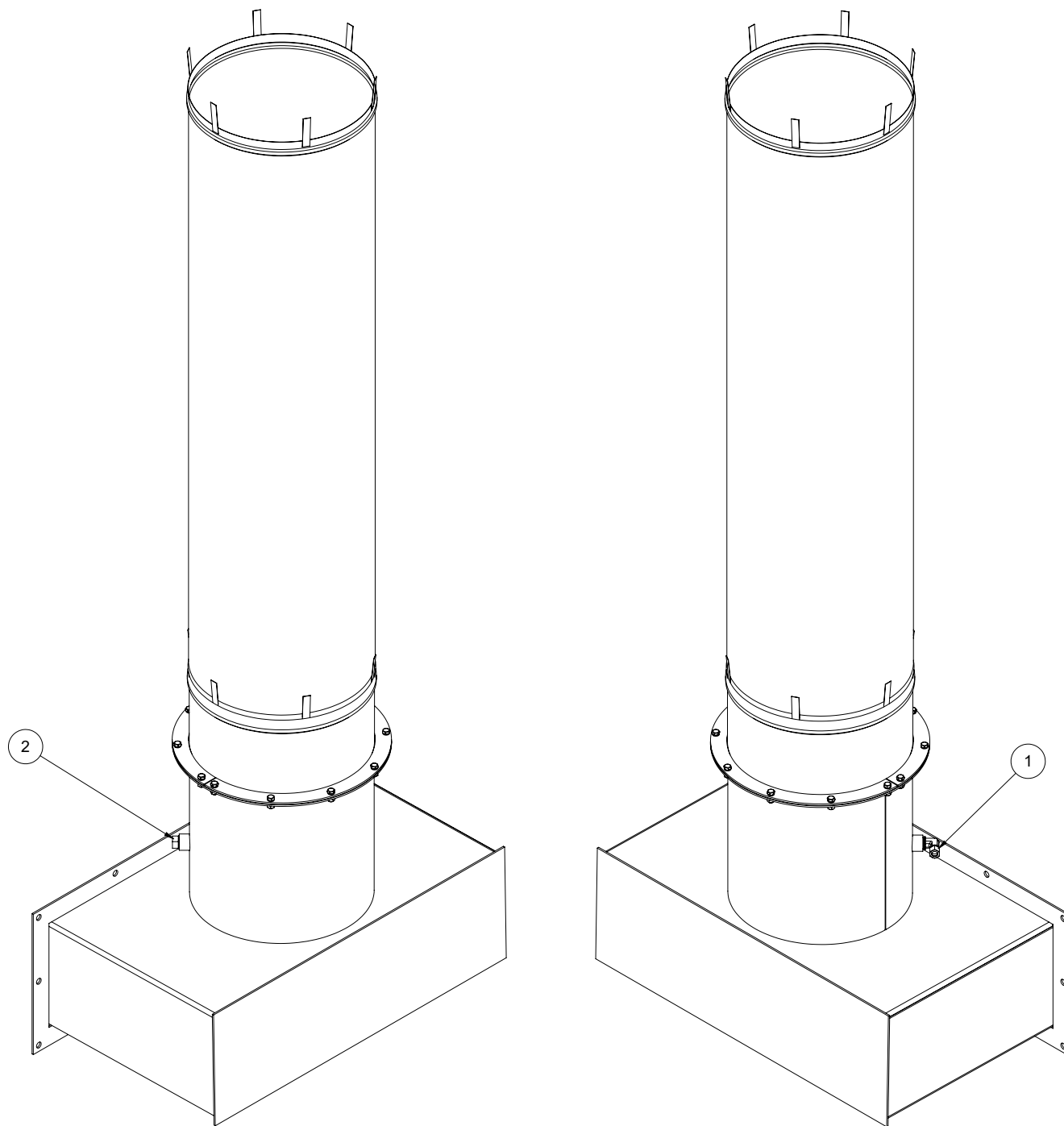


Table 3.3.3.2 3500 to 6000 - Pre-Concert Rear Flue Collector

Item Number	Description	Quantity	Part Number
1	1/2" NPT x 3/8" Tube Compression Fitting 90° Elbow	1	P20216
2	Stainless Steel 1/2" Pipe Plug	1	106530-01

4.4 Jacket

4.4.1 Concert (Jacket)

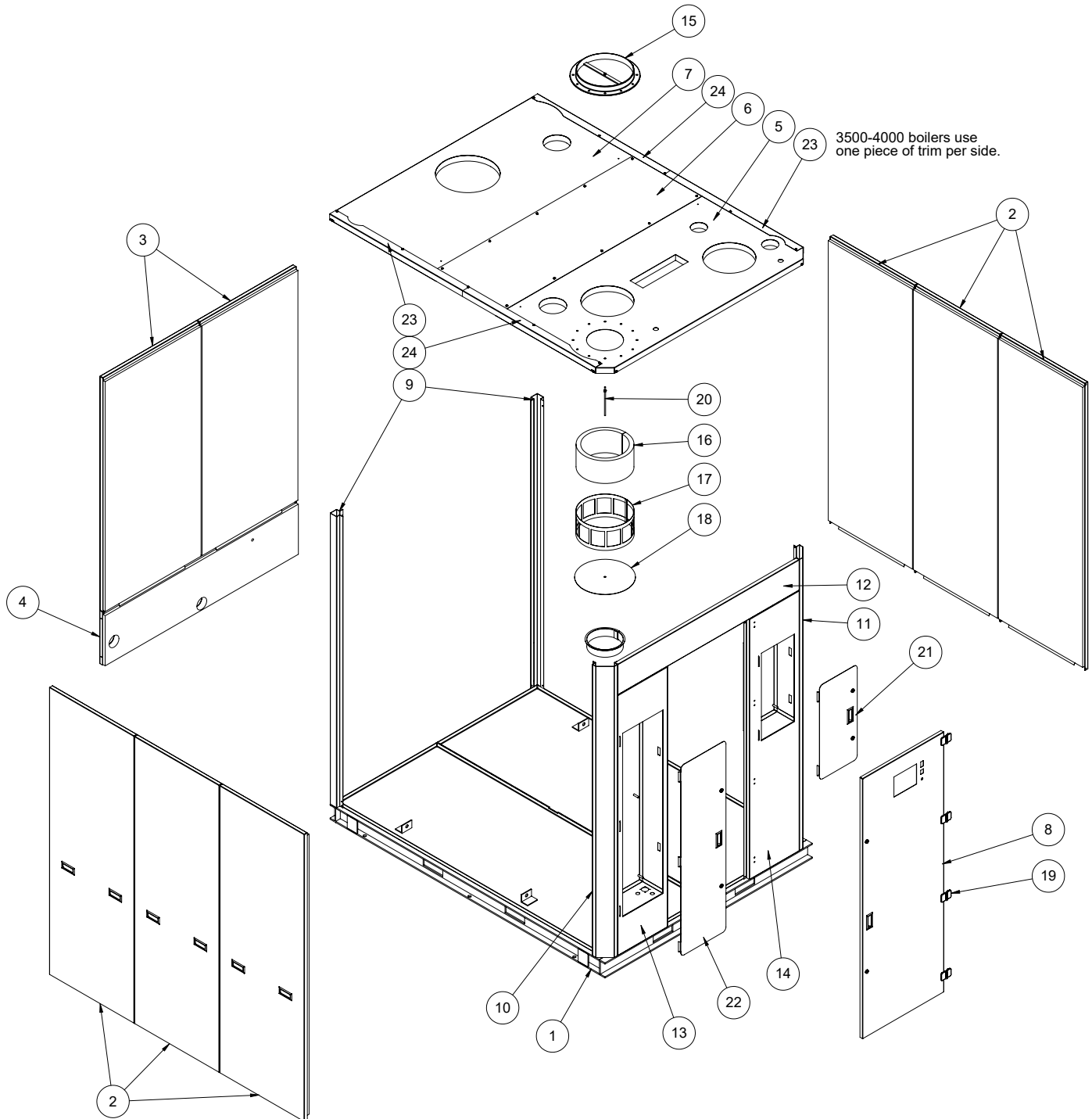


Table 3.4.1 3500-6000 - Concert Jacket					
<i>Item Number</i>	<i>Description</i>	3500-4000		4500-6000	
		<i>Quantity</i>	<i>Part Number</i>	<i>Quantity</i>	<i>Part Number</i>
1	Base	1	T40075	1	T40109
2	Side Door	6	T40103	6	T40123
3	Rear Panel	2	T40090	2	T40090
4	Rear Lower Panel	1	T40248	1	T40248
5	Top Front Panel	1	T40344	1	T40346
6	Top Center Panel	1	T40250	1	T40251
7	Top Rear Panel	1	T40252	1	T40253
8	Front Door	1	T40381	1	T40381
9	Rear Corner (Orange)	2	T30147.O	2	T30147.O
	Rear Corner (Silver)		T30147.S		T30147.S
10	Front Left Corner (Orange)	1	T30211.O	1	T30211.O
	Front Left Corner (Silver)		T30211.S		T30211.S
11	Front Right Corner (Orange)	1	T30096.O	1	T30096.O
	Front Right Corner (Silver)		T30096.S		T30096.S
12	Front Door Top Bar	1	T40317	1	T40317
13	Front Left Panel	1	T40312	1	T40312
14	Front Right Panel	1	T40311	1	T40311
15	Air Intake Angle Ring	1	T40165	1	T40166
16	Air Intake Filter	1	T30172	1	T30173
17	Air Intake Filter Retainer	1	T30171	1	T30169
18	Air Intake Filter Cover	1	T30174	1	T30175
19	Hinges	4	P20044	4	P20044
20	Air Intake Filter Mount Stud	1	T30178	1	T30178
21	PCB Control Panel Door	1	T40316	1	T40316
22	Control Panel Door	1	T40315	1	T40315
23	Top Side Trim	2	T30353	2	T30355
24				2	T30354

4.4.2 Pre-Concert (Jacket)

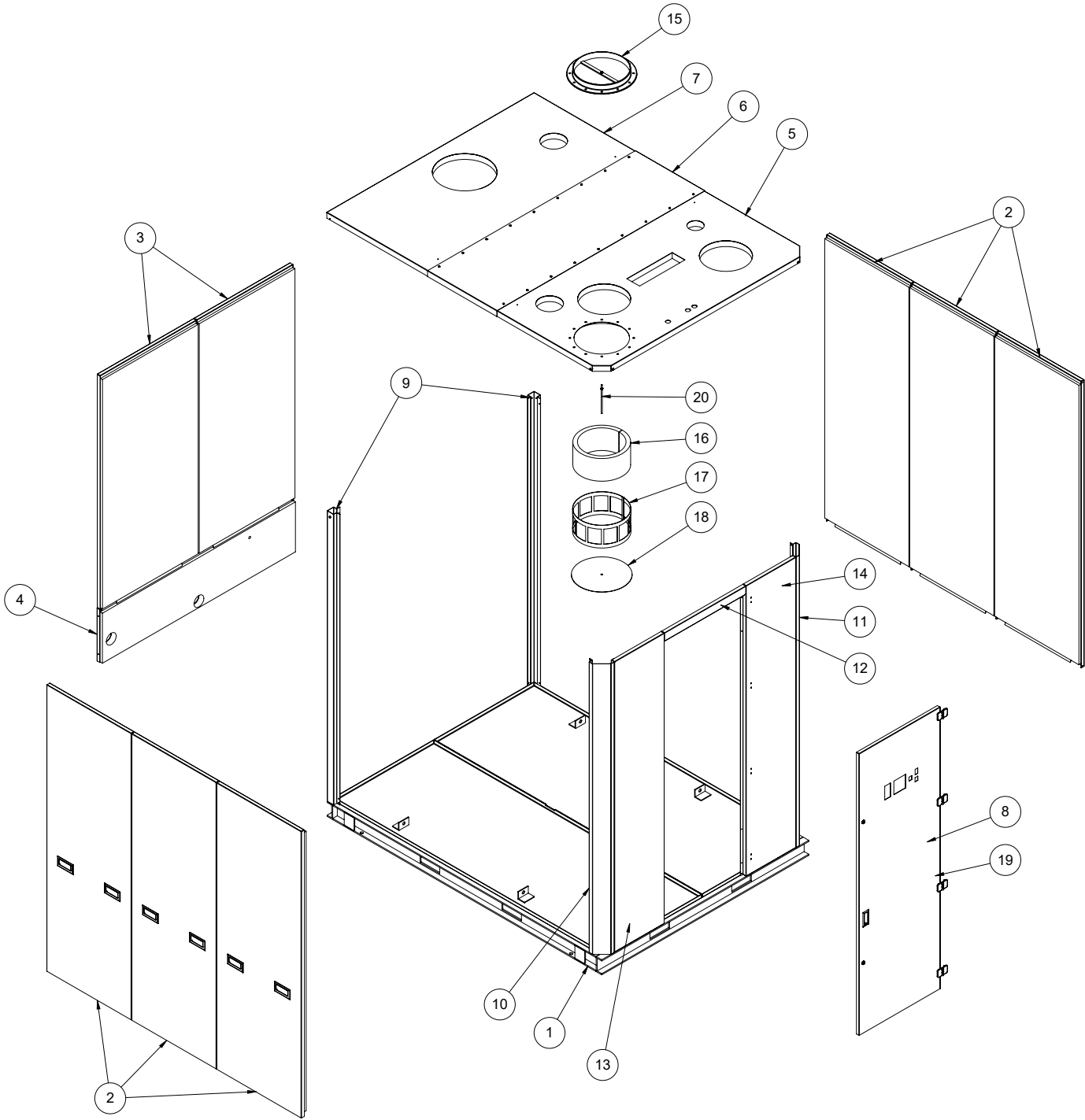


Table 3.4.2 3500 to 6000 - Pre-Concert Jacket					
<i>Item Number</i>	<i>Description</i>	3500-4000		4500-6000	
		<i>Quantity</i>	<i>Part Number</i>	<i>Quantity</i>	<i>Part Number</i>
1	Base	1	T40075	1	T40109
2	Side Door	6	T40103	6	T40123
3	Rear Panel	2	T40090	2	T40090
4	Rear Lower Panel	1	T40248	1	T40248
5	Top Front Panel	1	T40249	1	T40304
6	Top Center Panel	1	T40250	1	T40251
7	Top Rear Panel	1	T40252	1	T40253
8	Front Door	1	T40318	1	T40318
9	Rear Corner (Orange)	2	T30147.O	2	T30147.O
	Rear Corner (Silver)		T30147.S		T30147.S
10	Front Left Corner (Orange)	1	T30211.O	1	T30211.O
	Front Left Corner (Silver)		T30211.S		T30211.S
11	Front Right Corner (Orange)	1	T30096.O	1	T30096.O
	Front Right Corner (Silver)		T30096.S		T30096.S
12	Front Door Top Bar (Orange)	1	T30035	1	T30035
	Front Door Top Bar (Silver)		T30035.FF		T30035.FF
13	Front Left Panel	1	T40254	1	T40254
14	Front Right Panel	1	T40255	1	T40255
15	Air Intake Angle Ring	1	T40165	1	T40166
16	Air Intake Filter	1	T30172	1	T30173
17	Air Intake Filter Retainer	1	T30171	1	T30169
18	Air Intake Filter Cover	1	T30174	1	T30175
19	Hinges	4	P20044	4	P20044
20	Air Intake Filter Mount Stud	1	T30178	1	T30178

4.5 Inlet/Return and Outlet/Supply Manifold

4.5.1 Inlet/Return Manifold

4.5.1.1 Concert (Inlet/Return Manifold)

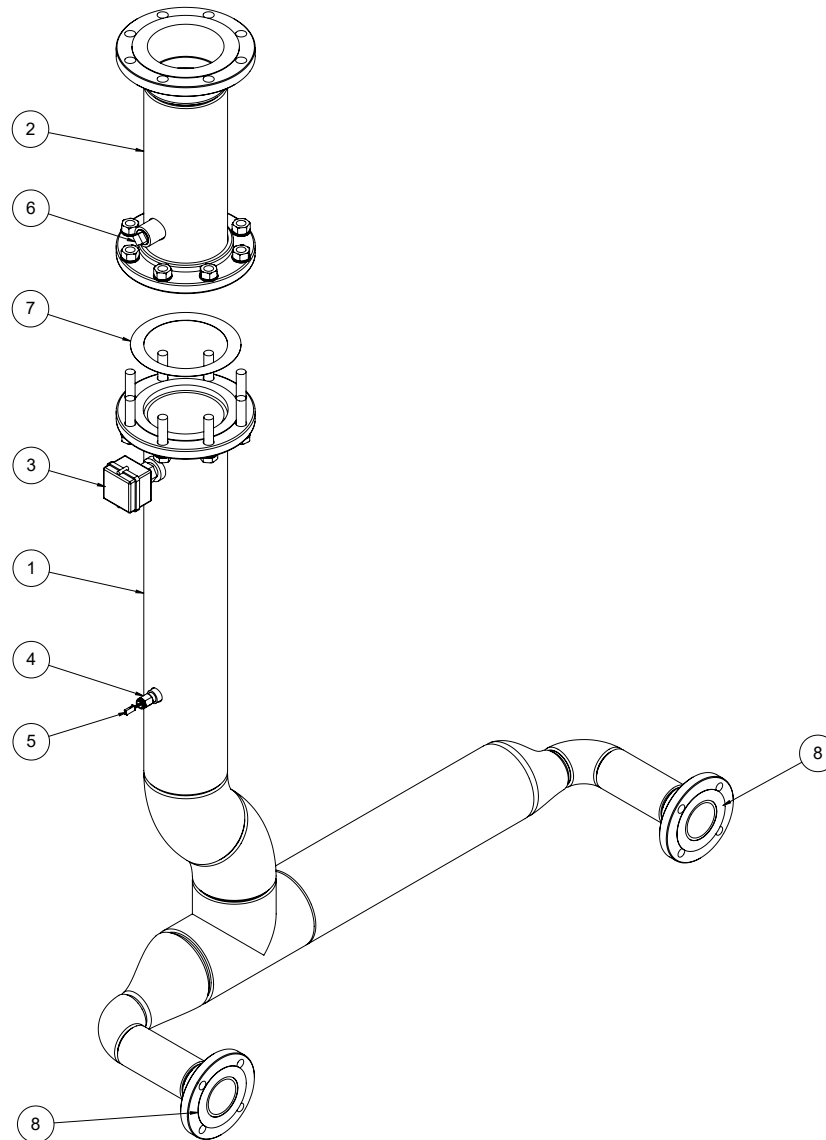


Table 3.5.1.1 3500 to 6000 - Concert Inlet/Return Manifold

Item Number	Description	Quantity	Part Number
1	Lower Water Inlet Manifold	1	T40094
2	Dutchman	1	T40338
3	Water Flow Switch	1	105687-01
4	Brass Immersion Well	1	105684-01
5	Inlet Temperature Sensor (10 Kohm)	1	105685-01
6	1" Pipe Plug	1	806603501
7	6" Pipe Flange Gasket	1	29199
8	3" Pipe Flange Gasket	2	29196

4.5.1.2 Pre-Concert (Inlet/Return Manifold)

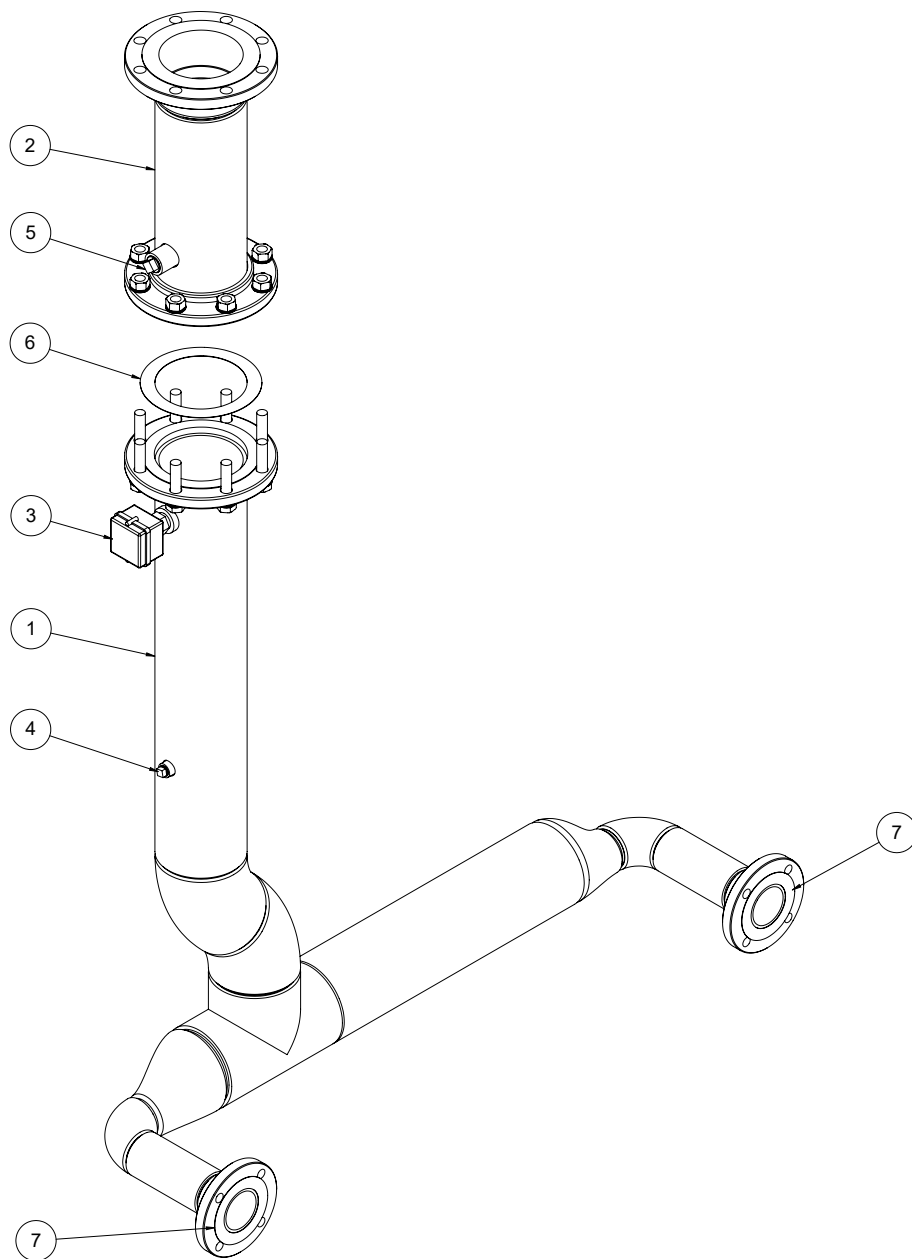


Table 3.5.1.2 3500 to 6000 - Pre-Concert Inlet Manifold			
Item Number	Description	Quantity	Part Number
1	Lower Water Inlet Manifold	1	T40094
2	Dutchman	1	T40338
3	Water Flow Switch	1	105687-01
4	1/2" Pipe Plug	1	806603507
5	1" Pipe Plug	1	806603501
6	6" Pipe Flange Gasket	1	29199
7	3" Pipe Flange Gasket	2	29196

Note:

Revised Inlet Manifold shown, early Pre-Concert boilers have a discontinued one-piece Inlet Manifold.

4.5.2 Outlet/Supply Manifold

4.5.2.1 Concert Outlet/Supply Manifold

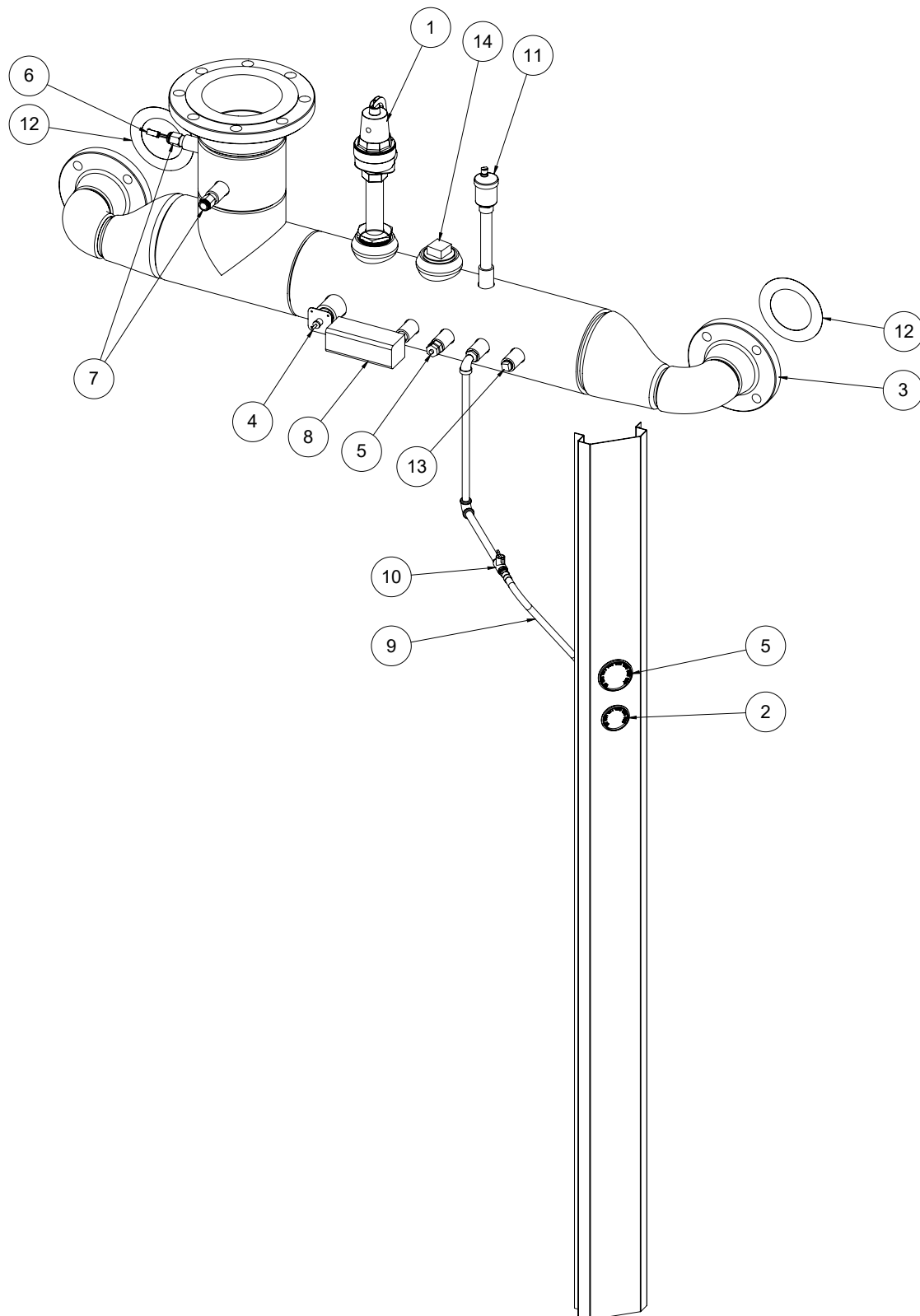


Table 3.5.2.1 3500 to 6000 - Concert Outlet/Supply Manifold

Table 1: Equipment List for 1000 to 6000 GPM Centrifugal Pump, Supply Mainline									
Item Number	Description	Qty.	Part Number						
			Relief Valve Setting						
			30 PSI	50 PSI	60 PSI	75 PSI	100 PSI	125 PSI	150 PSI
1	3500 Relief Valve	1	262326	262321	262322	262323	262314.2	262315	262307
	4000 Relief Valve	1	262331	262321	262322	262323	262314.2	262315	262316
	4500 Relief Valve	1	262331	262328	262322	262323	295687.1	262315	262316
	5000 Relief Valve	1	262331	262328	262329	262323	295687.1	262315	262316
	5500 Relief Valve	1	262331	262328	262329	262323	295687.1	93996.125	262316
	6000 Relief Valve	1	262331	262333	262329	262330	295687.1	93996.125	262316
2	Pressure Gauge	1	P20064		P20096			P20036	
3	Upper Water Outlet Manifold	1	T40088						
4	LWCO Probe	1	28344.3						
5	Temperature Gauge and Probe	1	P20287						
6	Outlet Water Sensor (10Kohm)	1	105685-01						
7	Brass Immersion Well	2	105684-01						
8	Operator Aquastat	1	296021.3						
9	1/4" Braided Hose	1	P20110						
10	Ball Valve	1	822758						
11	1/2" NPT Air Vent	1	102260-01						
12	3" Pipe Flange Gasket	2	29196						
13	1/2" Pipe Plug	1	806603507						
14	2" Pipe Plug	1	806603511						

4.5.2.2 Pre-Connect Outlet/Supply Manifold

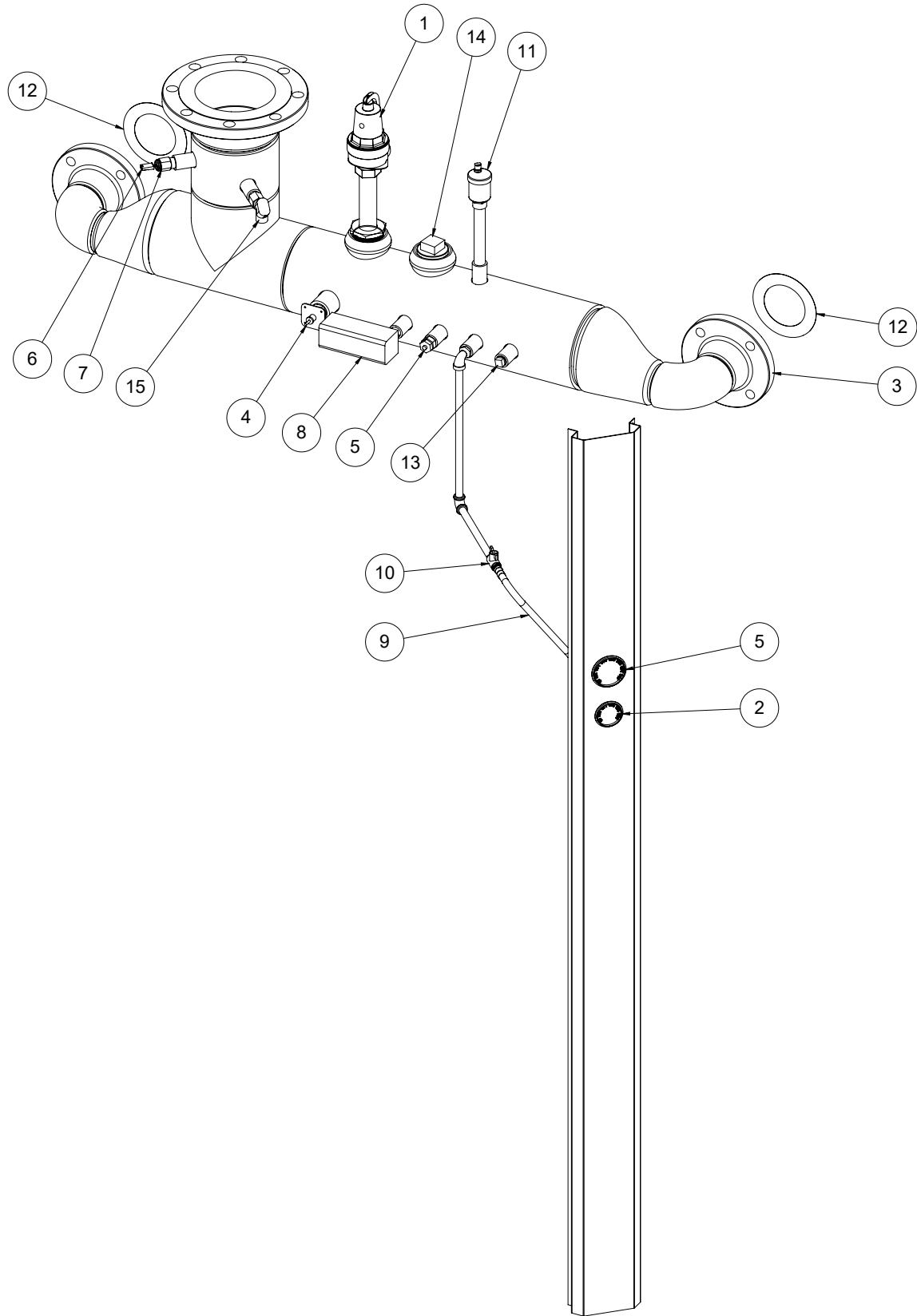
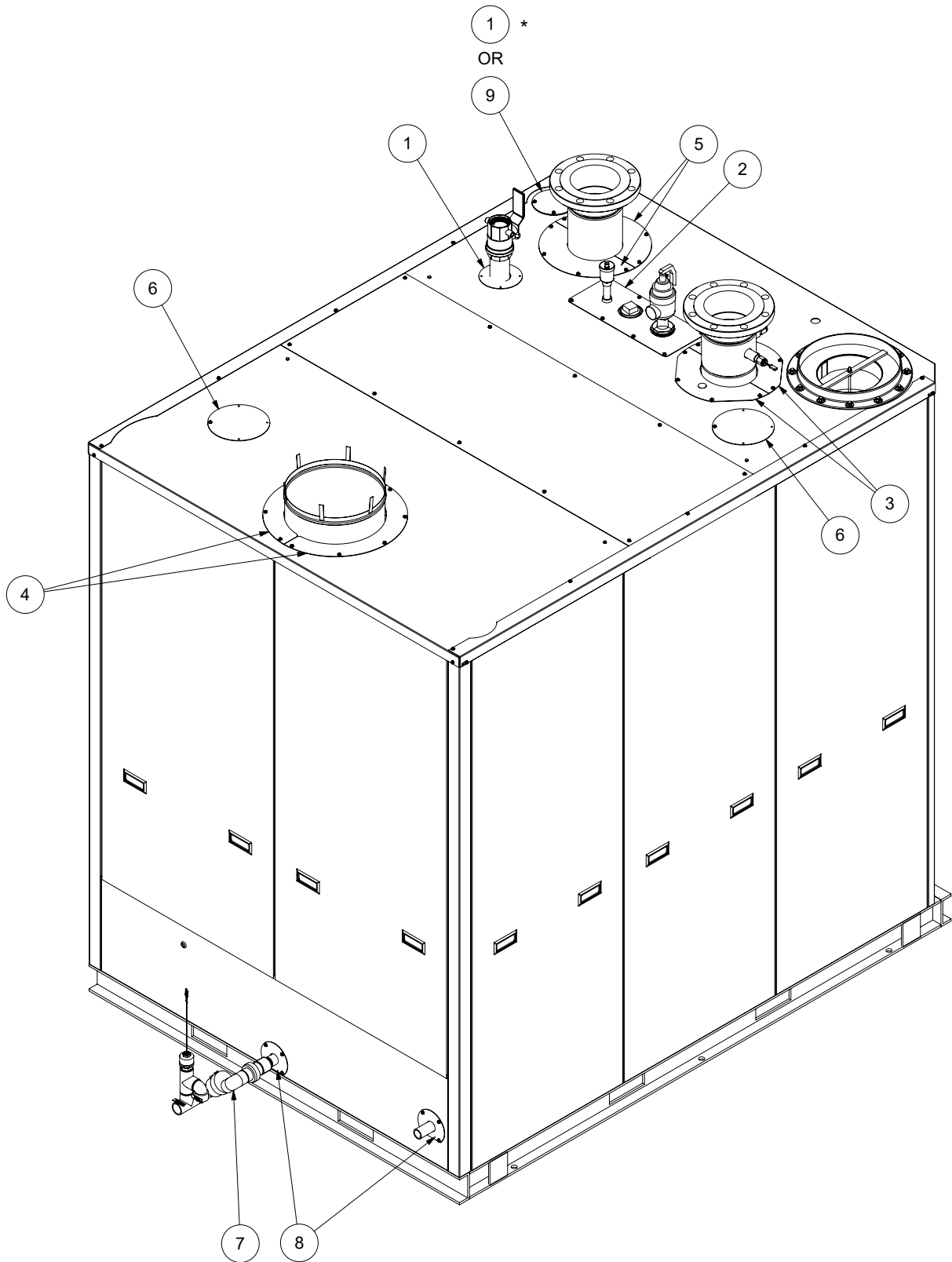


Table 3.5.2.2 3500 to 6000 - Pre-Concert Outlet/Supply Manifold									
Item Number	Description	Qty.	Part Number						
			Relief Valve Setting						
			30 PSI	50 PSI	60 PSI	75 PSI	100 PSI	125 PSI	150 PSI
1	3500 Relief Valve	1	262326	262321	262322	262323	262314.2	262315	262307
	4000 Relief Valve	1	262331	262321	262322	262323	262314.2	262315	262316
	4500 Relief Valve	1	262331	262328	262322	262323	295687.1	262315	262316
	5000 Relief Valve	1	262331	262328	262329	262323	295687.1	262315	262316
	5500 Relief Valve	1	262331	262328	262329	262323	295687.1	93996.125	262316
	6000 Relief Valve	1	262331	262333	262329	262330	295687.1	93996.125	262316
2	Pressure Gauge	1	P20064		P20096			P20036	
3	Upper Water Outlet Manifold	1	T40088						
4	LWCO Probe	1	28344.3						
5	Temperature Gauge and Probe	1	P20287						
6	Outlet Water Sensor (10Kohm)	1	105686-01						
7	Brass Immersion Well	1	105684-01						
8	Operator Aquastat	1	296021.3						
9	1/4" Braided Hose	1	P20110						
10	Ball Valve	1	822758						
11	1/2" NPT Air Vent	1	102260-01						
12	3" Pipe Flange Gasket	2	29196						
13	1/2" Pipe Plug	1	806603507						
14	2" Pipe Plug	1	806603511						
15	Outlet Water Sensor with Well	1	294444.2						

4.6 Miscellaneous External Components



**Dual fuel only.*

Table 3.6 3500-6000 Miscellaneous External Components

Item Number	Description		3500-4000		4500-6000	
			Quantity	Part Number	Quantity	Part Number
1	2" Pipe Trim Ring	Single Fuel Boiler	1	P30299.P	1	P30299.P
2	Air Vent & Relief Valve Trim Plate		1	T20139	1	T20139
3	Outlet Trim Ring		2	T20177	2	T20177
4	Stack Trim Ring		2	T20069	2	T20086
5	Inlet Trim Ring		2	T20068	2	T20068
6	Lifting Lug Access Hole Cover		2	T20164	2	T20164
7	Condensate Trap Assembly		1	108266-01	1	108266-01
8	1" Pipe Trim Ring		2	T20040.P	2	T20040.P
9	Drain Pipe/Gas Train Hole Cover	Single Fuel Boiler	1	T20138	1	T20138

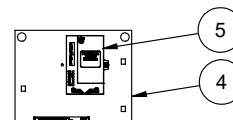
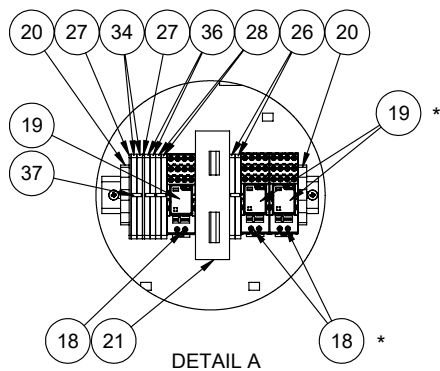
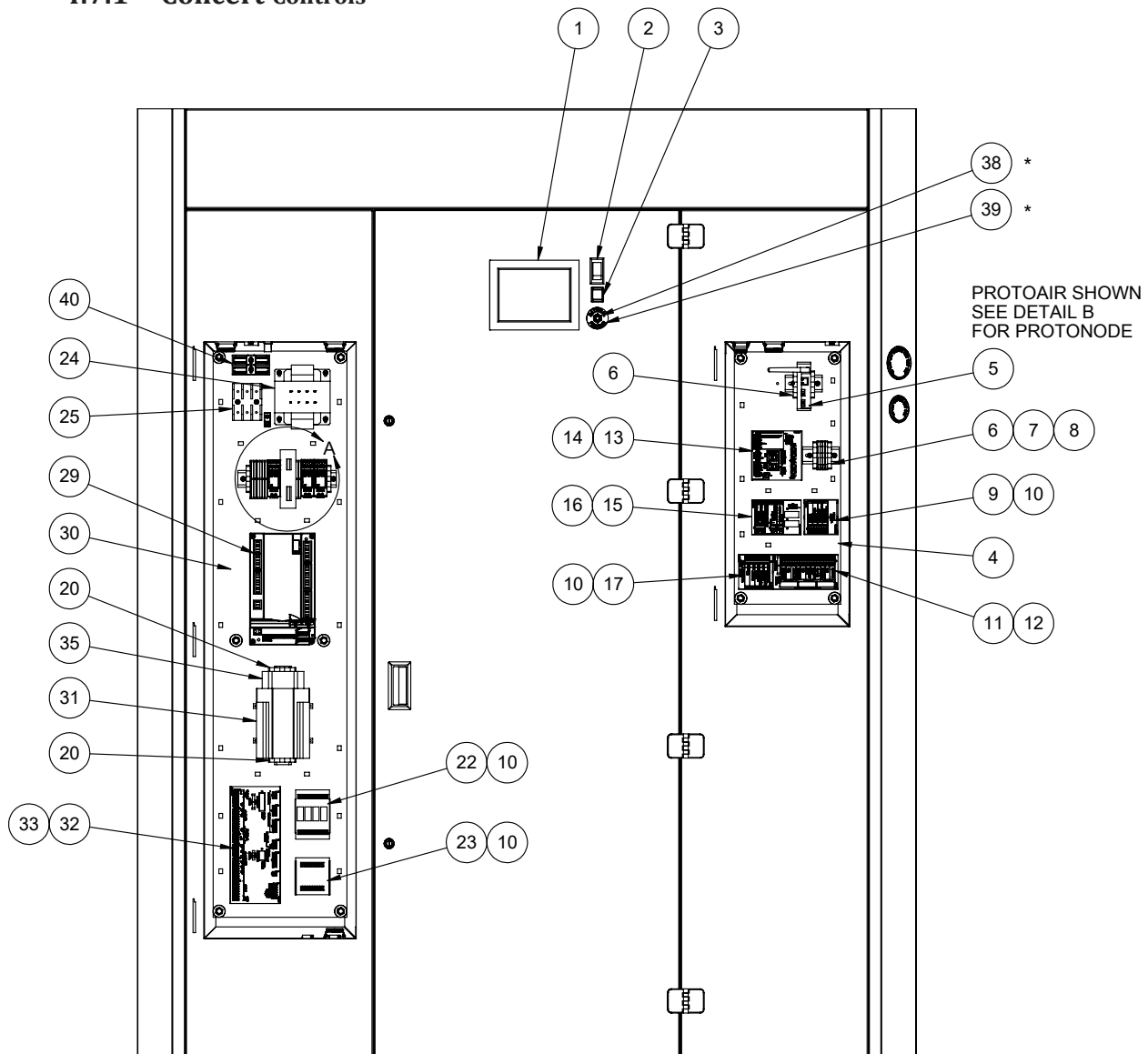
Note:

1) On older boilers if Item Number "7" is different than what is pictured, it is an obsolete version of the Condensate Trap Assembly with the Blocked Condensate Switch being located in the front of the boiler (see "4.7.2 Pre-Convert Controls", item 23). Both have been replaced with a Blocked Condensate Trap/Drain Assembly with Switch, located at the rear of the boiler. A Conversion Kit must be purchased to replace either or both of these items. The kit number is: T40354-K.

2) Some boilers already have the Condensate Trap/Drain Assembly *with Switch* at the back of the boiler that is different than pictured. It has been replaced with part number: 108266-01.

4.7 Controls

4.7.1 Concert Controls



DETAIL B

**Dual fuel only.*

Table 3.7.1 3500-6000 - Concert Controls				
Item Number	Description		Quantity	Part Number
1	Display		1	113347-02
2	On/Off Switch		1	105658-01
3	Reset Switch		1	P20276
4	PCB Control Panel Wiring Insert		1	T30289
5	Bacnet Communications ProtoAir (WiFi)		1	29444-3
	Bacnet Communications Protonode			106432-01
	Lonworks Communications Protonode			106433-01
6	Terminal End Anchor		4	99992.62
7	Terminal Block		4	99992.58
8	Terminal End Barrier		1	99992.59
9	PCB-04		1	106698-01
10	Snaptrack, 2-3/4" Wide x 2-3/4" Long		4	107252-01
11	PCB-02		1	106165-01
11.1	6.3 Amp 250 Volt Fuse - 1/4" x 1-1/4" (PCB-02)		3	111387-01
12	Snaptrack, 2-3/4" Wide x 5-1/4" Long		1	107250-01
13	PCB-06		1	106166-01
14	Snaptrack, 4" Wide x 4" Long		1	107254-01
15	PCB-05		1	106699-01
16	Snaptrack, 2-3/4" Wide x 4" Long		1	107253-01
17	PCB-03		1	106697-01
18	Screw Terminal Socket Base	Single Fuel Boiler	1	28459.1
19	Relay	Single Fuel Boiler	1	28459
20	End Anchor		4	104743-03
21	Power Supply		1	28523
22	PCB-12		1	107311-01
23	PCB-13		1	T20151
24	208-230-460V/120V Transformer		1	P20062
25	Fuse Block, 3-Pole		1	P20053
26	Terminal Block, Four Position, Green		2	108424-01
27	Terminal End Barrier, Four Position		2	104743-01
28	Terminal Block, Four Position, Red		2	108311-01
29	Control Unit - LMV 37		1	T20170
29.1	6.3 Amp 250 Volt Fuse - 5 mm x 20 mm (LMV36 & LMV37)		2	105300-1
30	Control Panel Wiring Insert		1	T30292
31	PLC		1	107331-01
32	PCB-01		1	106164-01

Table continued on next page.

Table 3.7.1 3500-6000 - Concert Controls (Continued)			
<i>Item Number</i>	<i>Description</i>	<i>Quantity</i>	<i>Part Number</i>
32.1	6.3 Amp 250 Volt Fuse - 1/4" x 1-1/4" (PCB-01)	2	105300-01
32.2	3 Amp 250 Volt Fust - 5 mm x 20 mm (PCB-01)	2	111068-01
33	Snaptrack, 4" Wide x 9-1/2" Long	1	107249-01
34	Terminal Block, Four Position, Yellow	2	T20202
35	Modbus Module	1	267403
36	Terminal Block, Four Position, Black	2	T20201
37	Terminal Block Jumper	4	8136561
Not Shown	PCB Control Panel Harness	1	T20174-1
Not Shown	Display Communication & Power Harness	1	T20174-2
Not Shown	Control Panel to PCB Control Panel 37 and 24 Position Harness	1	T20174-3
Not Shown	Control Panel Harness	1	T20174-4
Not Shown	37 Position Safety Circuit Harness	1	T20174-5
Not Shown	16 Position Safety Circuit Harness	1	T20174-6
Not Shown	Blower Harness	1	T20174-7

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4.7.2 Pre-Concert Controls

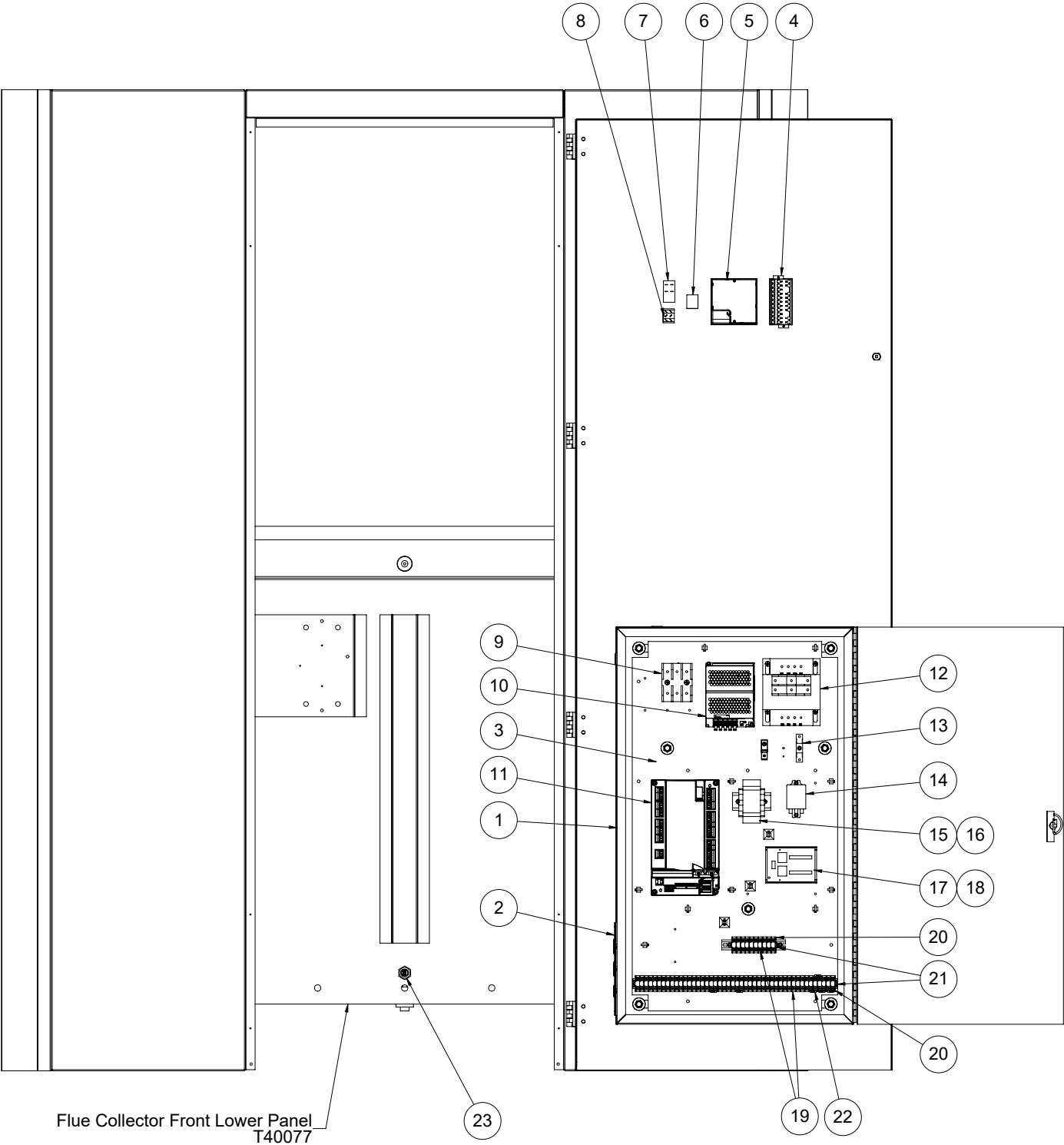


Table 3.7.2 3500 to 6000 - Pre-Concert Controls			
<i>Item Number</i>	<i>Description</i>	<i>Quantity</i>	<i>Part Number</i>
1	Control Panel	1	T40054
2	Control Panel Knockouts Trim Plate	2	T30187
3	Control Panel Wiring Insert	1	T30067
4	Universal Control	1	106203-01
5	Display	1	T20172
6	Rocker Switch	1	P20133
7	On/Off Switch	1	105658-01
8	Reset Switch	1	P20276
9	Fuse Block, 3-Pole	1	P20053
10	24VDC Transformer	1	105680-01
11	Control Unit - LMV 37	1	T20170
11.1	6.3 Amp 250 Volt Fuse - 5 mm x 20 mm (LMV 36)	2	105300
12	208-230-460V/120V Transformer	1	P20062
13	Fuse Block, 1-Pole	1	P20202
14	Relay	1	28434
15	Modbus Module	1	267403
16	End Anchor	2	99992.62
17	Low Voltage PCB	1	107533-01
18	Snaptrack, 2-3/4" Wide x 4" Long	1	107253-01
19	Terminal Block	56	25520
20	Terminal Block End Barrier	2	25526
21	Retainer Clip	4	25524
22	Jumper	6	25521
23	Blocked Condensate Switch	1	105659-01

Note:

On older boilers, Item Number "23" is an obsolete Blocked Condensate Switch. It has been replaced with a Blocked Condensate Trap/Drain Assembly with Switch, located at the rear of the boiler (see "4.6 Miscellaneous External Components", item 7). A Conversion Kit must be purchased to replace either or both of these items. The kit number is: T40354-K.



Thermal Solutions Product, LLC
Lancaster, PA 17604-3244
Phone: 717-239-7642
orders@thermalsolutions.com
www.thermalsolutions.com