



PHANTOM-XL SERIES

SERVICE PARTS MANUAL 399-1000 MBH Indoor/Outdoor



Intertek



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⚠ WARNING

Asphyxiation Hazard. Fire Hazard. Explosion Hazard.

This appliance 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.

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.

Water Heater Models	Boiler Models
PHXW 400	PHX 400
PHXW 500	PHX 500
PHXW 650	PHX 650
PHXW 800	PHX 800
PHXW 1000L	PHX 1000L

NOTICE

The replacement parts noted in this manual are for a standard PHX series 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 Velocity Boiler Works Distributor.

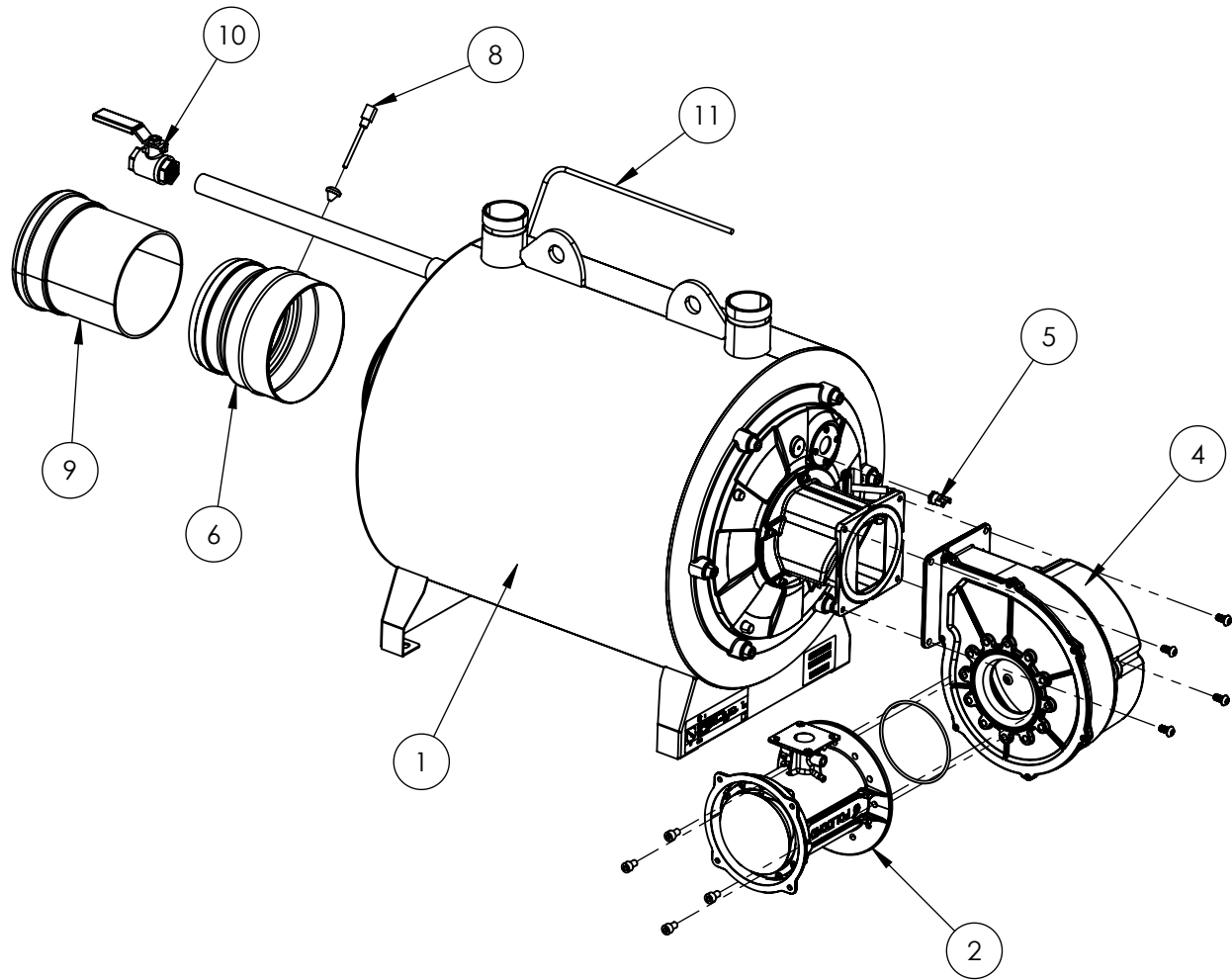


Table 1: PHX 400-1000L Heat Exchanger Assembly Part Numbers

Item No.	Descriptions	PHX Model Size				
		400	500	650	800	1000L
1	Heat Exchanger	Contact Local Representative				
2	Mixer, NG (With Bolts, O-ring, Gaskets)	111545-01	111545-02	111545-03	111545-04	111545-05
	Mixer, LP (With Bolts, O-ring, Gaskets)	111544-01	111544-02	111544-03	111544-04	111544-05
4	Blower (With Bolts, O-ring, Gasket)	112056-01	112056-02	112056-03		112056-04
5	Thermal Fuse	112119-01				
6	HX Vent Adapter	109203-01		112083-05		
8	Flue Temp Sensor (with grommet)	112057-01				
9	Vent Adapter Extension	N/A		112083-03	112083-04	N/A
10	Drain Valve	112242-01 (Water Heater), 112242-02 (Boiler)				
11	Block Vent Switch Tubing (With Compression Fittings)	112122-01				
12*	HX Flue Adapter Gasket	104501-01		112132-01		

* Not shown in drawing

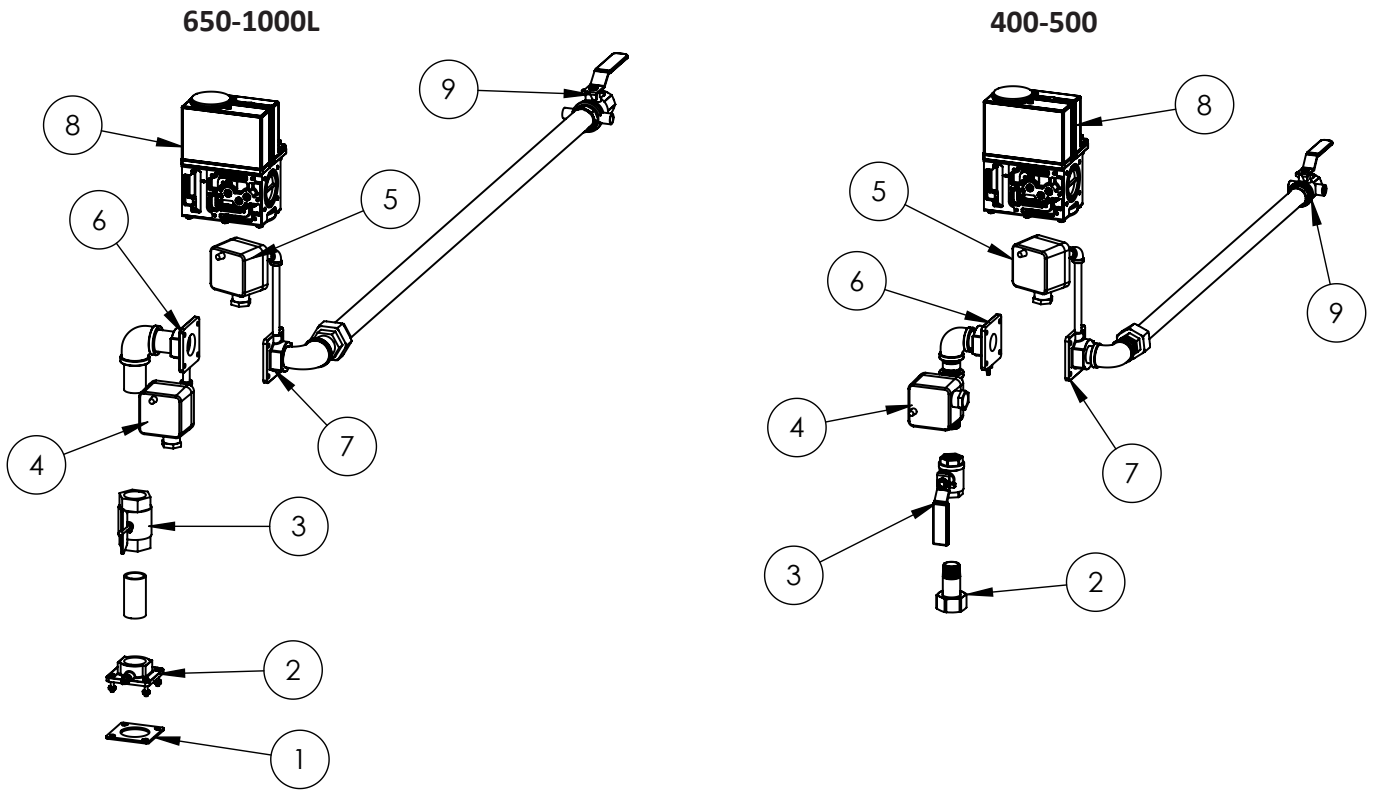


Table 2: PHX 400-1000L Gas Train Part Numbers

Item No.	Descriptions	PHX Model Size				
		400	500	650	800	1000L
1	Gasket, Gas Train to Mixer	108167-01		-		
2	Mixer to NPT Adapter (With gasket and hardware)	108170-01		112069-01	112069-02	
3	Ball Valve, Secondary Shut-off	112242-02			112242-03	
4	High Gas Pres. SW	112067-01				
5	Low Gas Pres. SW	112067-02				
6	Gas Valve Flange, Outlet (with o-ring and hardware)	112069-01			112069-02	
7	Gas Valve Flange, Inlet (with o-ring and hardware)	112069-01		112069-02		
8	Gas Valve	112068-02	112068-03			
9	Ball Valve, Main Shutoff	112242-06		112242-04		
11*	Tubing for Air Proving Switch and Gas Valve	112053-01				

* Not shown in drawing

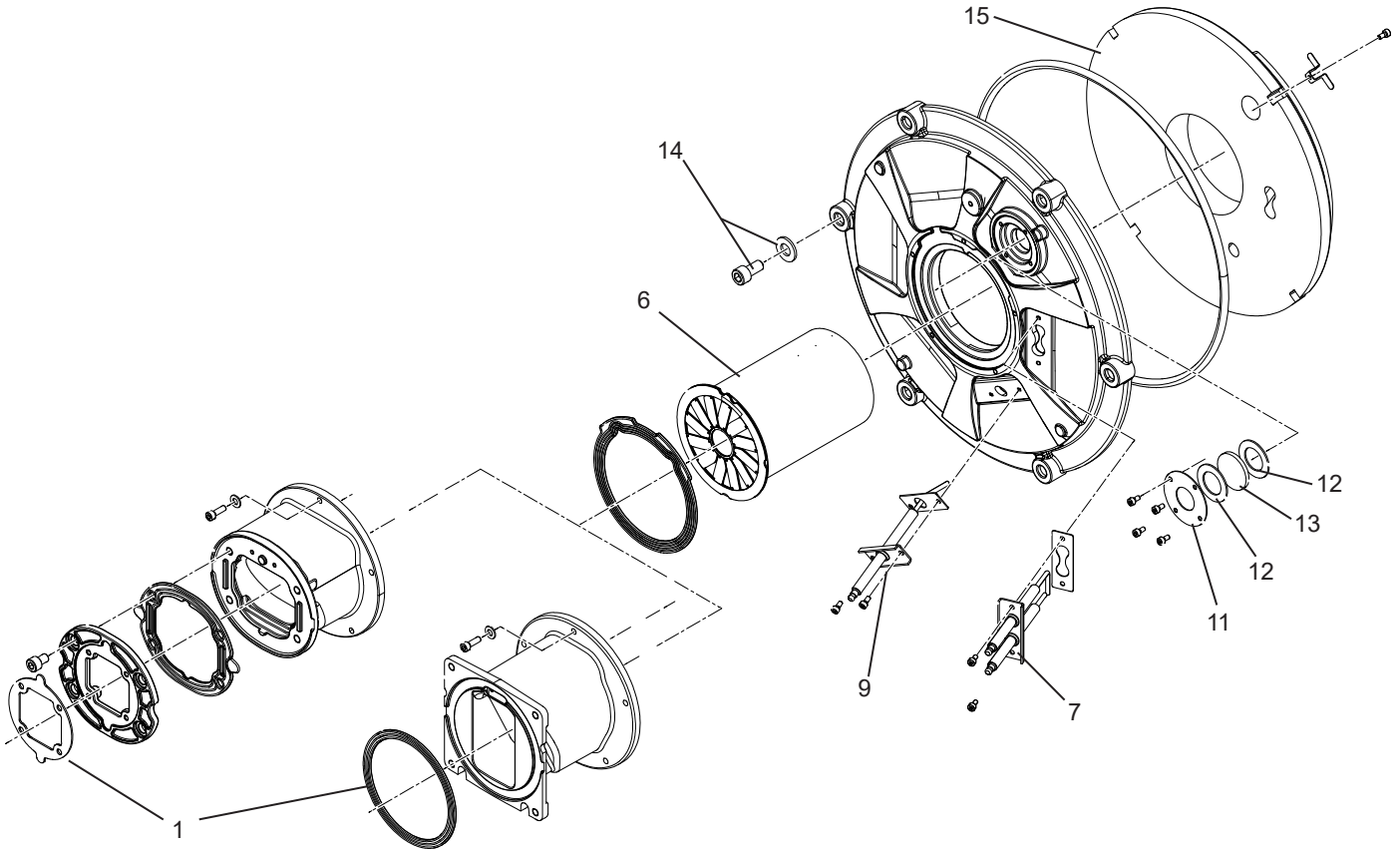


Table 3: PHX 400-1000L Burner Door Assembly Part Numbers

Item No.	Descriptions	PHX Model Size				
		400	500	650	800	1000L
1	Blower/Fan Outlet Gasket	112279-03		112279-04		
6	Burner (with gasket and screws)	112130-01	112130-02	112130-03	112130-04	112130-05
7	Ignition Electrode (with gasket and screws)	112131-01				
9	Flame Sensor/Flame Rod (gasket and screws)	112131-02				
11-13	Observation Port Assembly	112133-01				
14	Burner Door Screws (M10 X 16mm Stainless)	112134-03				
15	Burner Door Insulation	112134-01				
17*	HX Divider Insulation (with clips and screws)	112134-02				

*Not shown in drawing

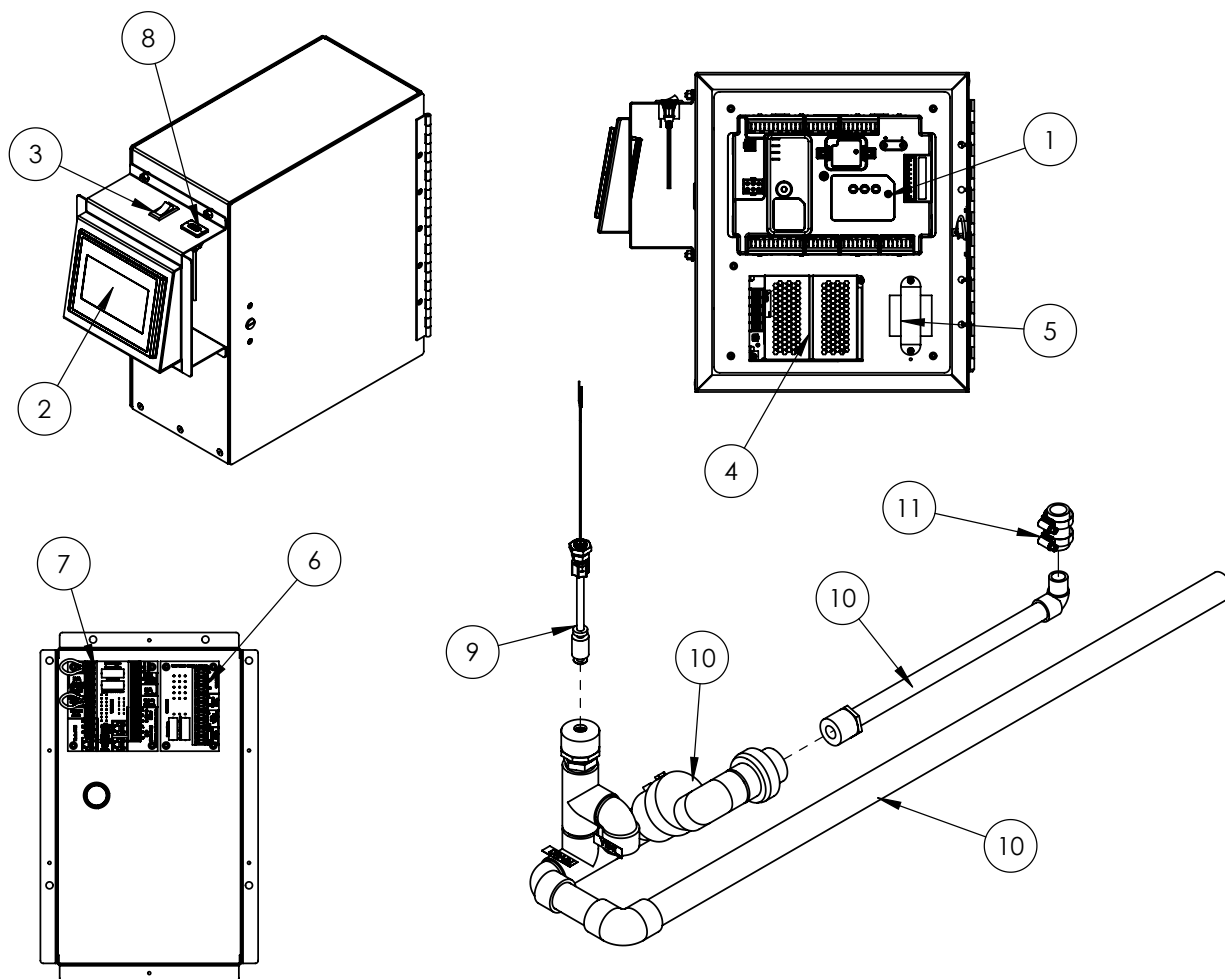


Table 4: PHX 400-1000L Electronics and Controls Part Numbers

Item No.	Descriptions	PHX Model Size				
		400	500	650	800	1000L
1	Main Boiler Control	112078-01				
2	Display (with hardware)	112077-01				
3	On/Off switch	112244-02				
4	Display Power Supply, 24VDC	112110-03				
5	24 VAC Transformer	112110-02				
6	120V PCB	106512-01				
7	Low Voltage PCB	106513-01				
8	USB Type A Panel Mount	112244-01				
9	Block Condensate Switch	112121-01				
10	Condensate Trap/Switch Assy.	112071-06		112071-07	112071-08	112071-09
11	Condensate Line Tube & Clamps	112071-02				
12*	Air Proving SW	112052-03				
13*	Blocked Vent SW	112052-01	112052-02	112052-01		112052-02
14*	Low Water Cut Off	112062-01				
15*	Fuse Kit (Low Voltage & 120V PCB)	112054-01				
16*	Control Box Slide Rails (Pair)	112097-01				

*Not shown in drawing

Table 5: PHX 400-1000L Wire Harness Part Numbers

Item No.	Descriptions	PHX Model Size				
		400	500	650	800	1000L
1	120 VAC Wire Harness	112072-01				
2	24 VAC Wire Harness	112072-02				
3	Flow Switch harness	112072-03 (indoor harness), 112072-07 (outdoor connector adapter)				
4	Gas Valve Harness	112072-05	112072-06			
5	Ignition Harness	112072-04				

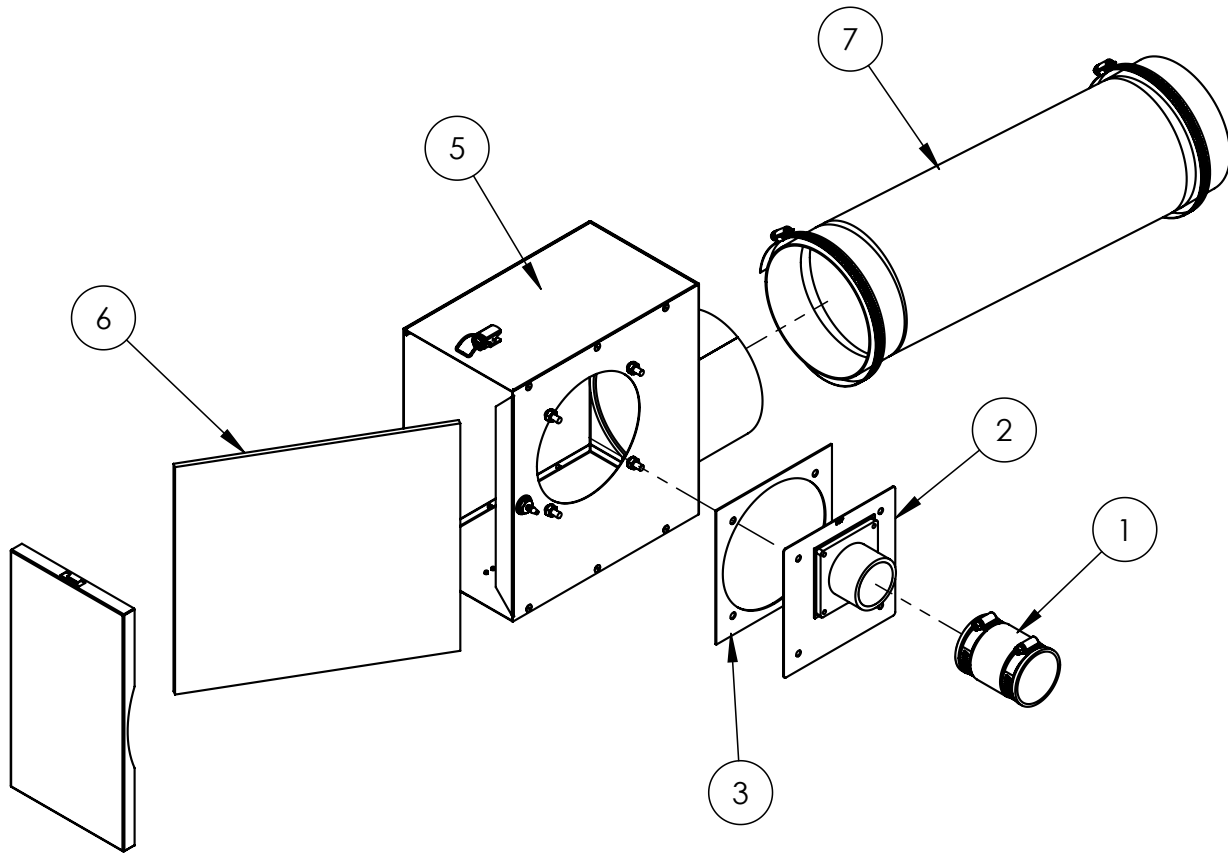


Table 6: PHX 400-1000L Combustion Air Intake Assembly

Item No.	Descriptions	PHX Model Size				
		400	500	650	800	1000L
1	Flex Coupling	112070-05		N/A		
2	Filter Box Adapter Assy.	112070-02		N/A		
3	Filter Box/Mixer gasket	112070-04				
4	Filter Box Assembly	112070-01				
5	Intake Filter	112108-01				
7	Intake Flex Duct (with clamps)	112070-03 (38", Cut down to 22" for 400-500)				

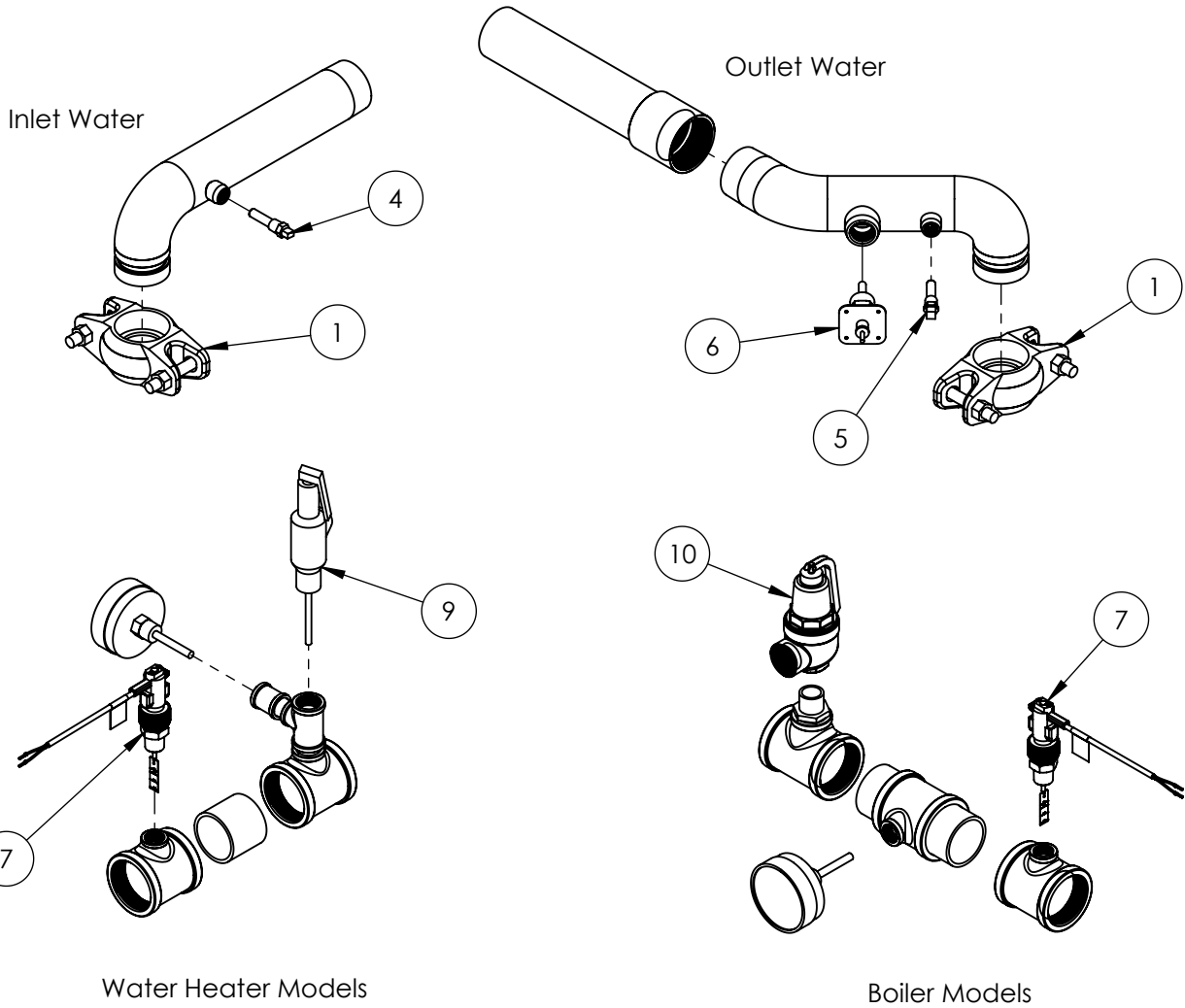


Table 7: PHX 400-1000L Water Piping Assemblies

Item No.	Descriptions	PHX Model Size				
		400	500	650	800	1000L
1	Victaulic Coupling	112243-01				
4	Inlet Temp Sensor	112061-01				
5	Outlet Temp Sensor	112061-02				
6	Low Water Cut Off	112062-01				
7	Water Flow Switch	112063-01 (indoor), 112063-02 (outdoor)				
9	T&P Relief Valve (Water Heater)	112272-01				
10	Pressure Relief Valve (Boiler)					
	30 psi	112273-01		112273-02		
	50 psi (standard)	112273-03				112273-04
	60 psi	112273-05				112273-06
	75 psi	112273-07				
	100 psi	112273-08				
	125 psi	112273-09				
	150 psi	112273-10				

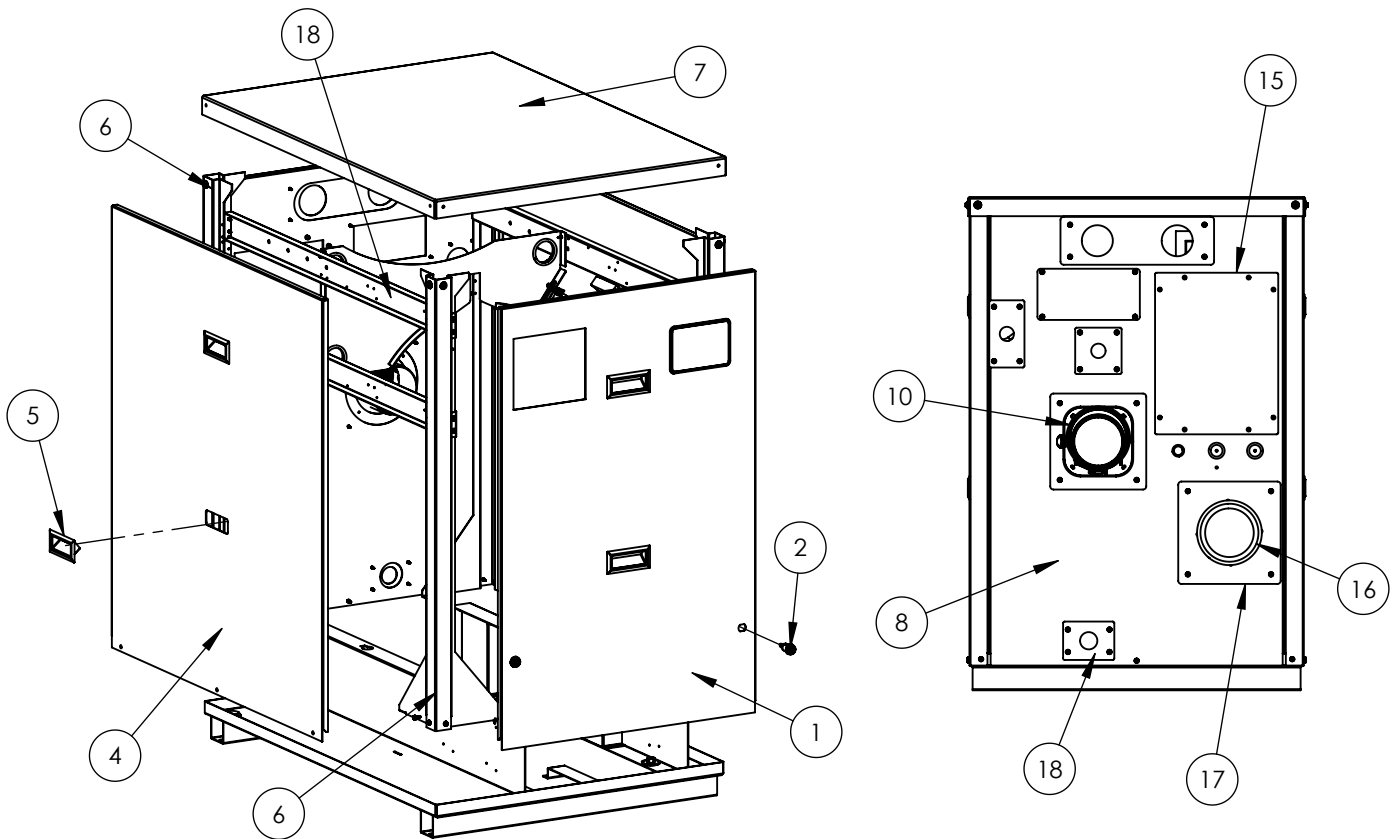


Table 8: PHX 400-1000L Jacket Part Numbers

Item No.	Descriptions	PHX Model Size				
		400	500	650	800	1000L
1	Front Panel	112099-09 (indoor), 112099-12 (outdoor)				
2	Front Panel Latch	112246-01 (indoor), 112246-02 (outdoor)				
4	Side Panel (indoor)	112099-21		112099-22		
	Side Panel (outdoor)	112099-26		112099-27		
5	Panel Handle	112246-03				
6	Corner Post	112099-01				
7	Top Panel	112099-02		112099-03		
8	Rear Panel	112099-23				
10	Vent Adapter	107034-02		109227-01		
15	Rear Control Box Gasket (pair)	112247-01				
16	Intake Adapter	107017-02		112070-06		
17	Intake Panel Gasket*	112247-02		N/A		
18	Control Mounting Rails	112099-24		112099-25		

*Not shown in drawing

PHX 400-1000L Optional Parts List

Table 9: Optional Accessories and Service Kits

Accessory/Kit	Model Sizes	Part Number
Heat exchanger cleaning service kit	all	112267-01
Condensate neutralizer kit	400-500	107860-08
Condensate neutralizer kit	650-800	107860-09
Condensate neutralizer kit	1000L	107860-06
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 (boilers only)	108681-01
Gateway, BACnet IP, BACnet MS/TP, Metasys N2 Open	all	106432-01
Gateway, LonWorks	all	106433-01
Gateway, Protoair Wireless (Wi-Fi)	all	112316-01
EMS Signal Converter Kit	all	108596-02
High Limit w/ Manual Reset Kit:	all	106056-01
Alarm Buzzer w/ Silencing Switch:	all	111736-02
PVC Venting (CPVC Starter Kit)	400-500	111569-01
PVC Venting (CPVC Starter Kit)	650-1000L	111569-02
Hydronic kit, Grundfos	400-500	109938-21
Hydronic kit, Taco	400	111851-01
Hydronic kit, Taco	500	111851-02
Hydronic kit, Grundfos	650-800	109938-22
Hydronic kit, Taco	650	111851-03
Hydronic kit, Taco	800	111851-05
Hydronic kit, Grundfos	1000L	109938-23
Hydronic kit, Taco	1000L	111851-04



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