



Evergreen[®]

CONDENSING GAS BOILER
220/299/300/399

Manual Addendum

This Addendum needs to be used in conjunction with the Evergreen[®] Boiler Manual P/N 550-100-131_0816.

**ATTENTION to installers and homeowners of Evergreen[®] boilers.
KEEP THIS ADDENDUM WITH BOILER MANUAL**

Direct Exhaust Vent Systems Kit

Direct Exhaust Kit 383-500-769, See page 2, for addition to Page 117 of Boiler Manual

The Evergreen[®] boiler has been designed and tested to work as a direct exhaust unit. Inlet air comes from the room and is exhausted either vertically or horizontally. The following pages describe the methods and materials for operating the boiler in the direct exhaust mode.

Blower Replacement Part Change

See page 3, for Blower Replacement part changes to Page 124 of Boiler Manual

Rating Note Change

See page 4, for changes to Note 4, on Page 129 of Boiler Manual



This addendum must only be used by a qualified heating installer/service technician. Read all instructions, including the Evergreen boiler manual and all other information shipped with the boiler, before installing. Perform steps in the order given. Failure to comply could result in severe personal injury, death or substantial property damage.



Replacement parts *(continued)*

Figure 111 Miscellaneous parts and kits

Description	Part Number	Description	Part Number
Antifreeze, Sentinel X500 (1 gal)	592-900-029	Sidewall separate pipes vent/air termination kits (includes two cover plates) Kit for 3" or 4" PVC vent and air pipes	383-500-100
Antifreeze, Sentinel X500 (5 gal)	592-900-006		
Corrosion inhibitor, Sentinel X100	592-900-002		
Sentinel X100 Quick Test Kit	592-900-005		
Cleaner, Sentinel X400	592-900-003		
Evergreen Inspection kit — igniter gasket, flame sense gasket, burner gasket, burner access cover seal, and hardware	383-900-097	PVC concentric vent kit — horizontal or vertical (includes components for concentric assembly) Kit for 3" PVC vent and air pipes Kit for 4" PVC vent and air pipes	383-500-350 383-900-075
Evergreen 220 maintenance kit — flame sense rod, flame sense gasket, igniter, igniter gasket, venturi gasket, cover plate gasket, venturi-gas valve o-ring, refractory, silicone, inhibitor test kit, burner access cover seal, and hardware	383-900-071	IPEX PVC concentric vent kit — available from IPEX Kit for 3" PVC vent and air pipes Kit for 4" PVC vent and air pipes	196006(L=20") 196106(L=32") 196116(L=44") 196021
Evergreen 299/300 maintenance kit — flame sense rod, flame sense gasket, igniter, igniter gasket, venturi gasket, cover plate gasket, venturi-gas valve o-ring, refractory, silicone, inhibitor test kit, burner access cover seal, and hardware	383-900-072	Bird screens (2 required) For 3" PVC vent and air pipes For 4" PVC vent and air pipes	383-500-105 383-500-110
Evergreen 399 maintenance kit — flame sense rod, flame sense gasket, igniter, igniter gasket, venturi gasket, cover plate gasket, venturi-gas valve o-ring, refractory, silicone, inhibitor test kit, burner access cover seal, and hardware	383-900-088	M&G Simpson-Duravent PolyPro VERTICAL concentric vent/air kit; color = black (VK suffix) or terra cotta (TC suffix) 3" polypropylene pipe 4" polypropylene pipe	3PPS-VKL 4PPS-VKL
Wall-mount kit — wall mount bracket and hardware	383-900-074	PP Appliance Adapters 4" M&G Simpson-Duravent 4" Centrotherm INNOFLUE	4PPS-04PVC-M-4PPF ISAAL040Y
Condensate drain tube - EVG 220	560-907-767	Centrotherm INNOFLUE VERTICAL concentric vent/air kit 3" polypropylene pipe 4" polypropylene pipe	ICRT3539 ICRT4679
Condensate drain tube - EVG 299/300/399	560-907-768		
Low water cut-off w/test button, Kit	383-500-643	System Immersion Temperature Sensor (2 required)	511-724-299
Relief Valve (80 psi) and P&T Gauge Kit	383-900-082	Protonode Conversion Kit –Bacnet	383-600-322
Condensate neutralizer kit	383-500-631		
Direct Exhaust Kit (Includes mounting plates for intake and exhaust for inside and outside, vent screen 3 & 4 Inch, Template vent/air termination hole, and mounting hardware)	383-500-769		
Weil-McLain sidewall vent/air cap termination kit for PVC vent and air pipes (Includes W-M sidewall vent/air termination cap, inside and outside cover plates, and mounting hardware) (EVG 220) – 3" Kit (EVG 220, 299, 300 & 399) – 4" Kit	383-500-397 383-500-398		

Go to www.weil-mclain.com to locate Weil-McLain distributors



Replacement parts *(continued)*

Figure 118 Piping components for Evergreen® 220/299/300/399 (see Figure 116, page 123 for illustration)

Item	Name	Description / contents	Part Number	Model 220	Model 229/300	Model 399	
100	Gas valve	Gas valve, gasket, and o-ring	383-900-027	●	●	—	
			383-900-061	—	—	●	
120	Venturi	Natural gas (Includes 130, 150 and 240)	383-900-054	●	—	—	
			383-900-055	—	●	—	
			383-900-056	—	—	●	
		Liquefied Petroleum (Propane) Gas (Includes 130, 150 and 240)	383-900-064	●	—	—	
			383-900-065	—	●	—	
			383-900-066	—	—	●	
130	Silencer gasket	Gasket between venturi and silencer	590-318-103	●	●	●	
140	Adapter gas pipe ¾" NPT	Gas pipe adapter between gas valve and venturi	562-302-584	●	●	●	
150	Gas pipe gasket	For sealing between adapter and venturi	562-248-765	●	●	●	
160	Gas valve adapter block	Threaded block, o-ring and screws (2 required)	383-900-026	●	●	●	
170	Gas flex line adapter	Connection between gas valve and gas line	562-302-583	●	●	●	
180	Gas line	Gas line between gas valve and cabinet	560-907-766	●	●	●	
190	Gas line gasket	Gas line seal to cabinet	590-318-085	●	●	●	
200	Blower	Blower	Complete Blower	383-900-039	●	●	●
210	Blower gasket	Blower to cover plate seal	383-900-036	●	●	●	
220	Inlet air silencer	Silencer with gasket	383-900-034	●	●	—	
			383-900-035	—	—	●	
230	O-ring -gas valve	(2 required per assembly)	590-318-043	●	●	●	
240	O-ring -blower	O-ring between blower and venturi	590-318-102	●	●	●	
300	Pressure & temperature gauge	Shipped loose for field installation	380-000-000	●	●	●	
310	Relief valve	30 PSIG relief valve — shipped loose for field installation	383-500-095	●	●	—	
			383-900-076	—	—	●	
320	Condensate drain trap	(not shown)	540-131-075	●	—	—	
			540-131-076	—	●	●	



Ratings

Figure 123 Ratings and engineering data — Evergreen® 220/299/300/399



AHRI Certified Ratings

Boiler Model	Input	Heating Capacity	Seasonal Efficiency	Net Water Rating	% Input derate vs vent length (Values shown are at MAX vent/air pipe length — See Note 6) Direct Vent Venting ONLY				Boiler Water Content	Vent/ Comb. Air Connection Diameter
					Natural gas		Propane			
					3" Vent/air piping	4" Vent/air piping	3" Vent/air piping	4" Vent/air piping		
EVG 220	220,000	206	95.0	179	7.2%	2.1%	7.2%	2.1%	4.6	3 or 4" PVC
EVG 299	299,000	280	95.0	243	N/A	2.7%	N/A	2.7%	7.0	4" PVC

Boiler Model	CSA Input	Gross Output	Net Rating	Combustion Efficiency	Thermal Efficiency	% Input derate vs vent length (Values shown are at MAX vent/air pipe length — See Note 6) Direct Vent Venting ONLY		Boiler Water Content	Vent/ Comb. Air Connection Diameter
						Natural gas	Propane		
						4" Vent/air piping	4" Vent/air piping		
EVG 300	300,000	286	248	96.0	95.5	2.7%	2.7%	7.0	4" PVC
EVG 399	399,000	383	333	96.5	96.0	4.3%	4.3%	6.7	4" PVC

Notes

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|--|---|---|
| <p>1 As an Energy Star Partner, Weil-McLain has determined that Evergreen® 220 and 299 boilers meet the Energy Star guidelines for energy efficiency. NOTE: Adjusting boiler firing rate will affect AFUE rating.</p> <p>2 Based on standard test procedures prescribed by the United States Department of Energy. Ratings also referred to as CSA Output. NOTE that only DOE Heating Capacity and AFUE are certified by AHRI. AFUE is also known as Annual Fuel Utilization Efficiency or Seasonal Efficiency.</p> <p>3 Net AHRI ratings are based on net installed radiation of sufficient quantity</p> | <p>for requirements of the building and nothing need be added for normal piping and pickup. Ratings are based on a piping and pickup allowance of 1.15. An additional allowance should be made for unusual piping and pickup loads.</p> <p>4 Evergreen® boilers are designed to be direct-vented. Evergreen® boilers require special venting, consistent with Category IV boiler. Use only the vent materials and methods specified in this manual. Evergreen® boilers maybe direct exhaust vented. Evergreen® 220 vent/air pipes can be either 3" or 4". Evergreen 299/300/399 vent/air pipes must be 4".</p> | <p>All vent and air pipe elbows must be sweep elbows, NOT short-radius elbows.</p> <p>5 Ratings shown are for sea level applications only. For altitudes from sea level to 2000 feet above sea level, the Evergreen boiler requires no modifications. The boiler automatically derates itself by approximately 4% per 1000 feet above sea level.</p> <p>6 All of the boilers will automatically de-rate as vent/air pipe length increases, due to the pressure loss through the piping. For vent/air pipe lengths less than the maximum, the derate equals the value above times vent length ÷ 100.</p> |
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THE OUTDOOR SENSOR SUPPLIED WITH THE BOILER MUST BE INSTALLED UNLESS EXEMPTED BELOW:

IMPORTANT

In accordance with **Section 303 of the 2007 Energy Act**, this boiler is equipped with a feature that saves energy by reducing the boiler water temperature as the heating load decreases. This feature is equipped with an override which is provided primarily to permit the use of an external energy management system that serves the same function.

THIS OVERRIDE MUST NOT BE USED UNLESS AT LEAST ONE OF THE FOLLOWING CONDITIONS IS TRUE:

- An external energy management system is installed that reduces the boiler water temperature as the heating load decreases.
- This boiler is not used for any space heating.
- This boiler is part of a modular or multiple boiler system having a total input of 300,000 BTU/hr or greater.
- This boiler is equipped with a tankless coil (not applicable to Evergreen).