Service and maintenance

Table 12 Service and maintenance schedules (service technician and owner)

	Service technician (see following pages for instructions)	Owner maintenance (see User's Information Manual for instructions)	
Annual start-up	**Inspect:** • Reported problems • Boiler area • Air openings • Flue gas vent system • Pilot and main burner flames • Piping • Boiler heating surfaces • Burners and base **Service:** • Gauge glass • Temperature sensor **Start-up:** • Perform start-up per manual • EGH - Check base insulation & fastener clips **Check/test:** • Gas piping • Boiler waterline • Limit controls and cutoffs • Boiler relief valve **Review:** • Review with owner	Daily	• Check boiler area • Check air openings • Check boiler pressure/ temperature gauge
		Monthly	• Check boiler interior piping • Check venting system • Check air vents • Check boiler relief valve • Check pilot and main burner flames
		Periodically	• Test low water cutoff (if used)
		End of season	• Shut down procedure

⚠WARNING Follow the "Service and maintenance" procedures given throughout this manual, the Control Supplement and in component literature shipped with the boiler. See "Read this page first" on page 2. Failure to perform the service and maintenance could result in damage to the boiler or system. Failure to follow the directions in this manual and component literature could result in severe personal injury, death or substantial property damage.

⚠CAUTION Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation.

⚠WARNING To avoid personal injury, death or property damage, keep boiler area clear and free from combustible materials, gasoline and other flammable vapors and liquids.

⚠WARNING Do not block flow of air to boiler. Incomplete combustion and flue gas spillage can occur.

⚠WARNING Do not store sources of hydrocarbons (i.e., bleaches, cleaners, chemicals, sprays, paint removers, fabric softeners, etc.) in boiler area. This can contribute to shortened boiler/vent system life.

Service and maintenance *(continued)*

⚠WARNING The boiler should be inspected and started annually, at the beginning of the heating season, only by a qualified service technician. In addition, the maintenance and care of the boiler designated in Table 12, page 29 and explained on the following pages must be performed to assure maximum boiler efficiency and reliability. Failure to service and maintain the boiler and system could result in equipment failure.

⚠WARNING Electrical shock hazard — Turn off power to the boiler before any service operation on the boiler except as noted otherwise in this manual. Failure to turn off electrical power could result in electrical shock, causing severe personal injury or death.

⚠WARNING The boiler contains ceramic fiber and fiberglass materials. Use care when handling these materials per instructions on page 33 of this manual. Failure to comply could result in severe personal injury.

Inspect . . . . . .

Reported problems

Inspect any problems reported by owner and correct before proceeding.

Boiler area

1. Verify that boiler area is free of any combustible materials, gasoline and other flammable vapors and liquids.
2. Verify that boiler area is free of any of the contaminants listed on page 7 of this manual. If any of these are present in the boiler intake air vicinity, they must be removed. If they cannot be removed, install combustion air piping to the boiler in accordance with national, provincial or local codes.

Air openings

1. Verify that combustion and ventilation air openings to the boiler room and/or building are open and unobstructed. Check operation and wiring of automatic combustion air dampers, if used.
2. Verify that boiler vent discharge and air intake are clean and free of obstructions.

Flue gas vent system

1. Visually inspect entire flue gas venting system for blockage, deterioration or leakage. Repair any joints that show signs of leakage in accordance with vent manufacturer's instructions.
2. Verify that masonry chimneys are lined, lining is in good condition, and there are not openings into the chimney.

⚠WARNING Failure to inspect for the above conditions and have them repaired can result in severe personal injury or death.

Pilot and main burner flames

Visually inspect pilot burner and main burner flames as directed on page 26 of this manual.

Piping

1. Check the boiler interior piping and all system piping for signs of leaks. Repair any leaks before proceeding.

⚠DANGER Do not use petroleum-based cleaning or sealing compounds in boiler system. Severe damage to boiler will occur, resulting in substantial property damage.

⚠WARNING Eliminate all system or boiler leaks. Continual fresh makeup water will reduce boiler life. Minerals can build up in sections, reducing heat transfer, overheating cast iron, and causing section failure. Leaking water may also cause severe property damage.

Boiler heating surfaces

⚠WARNING The boiler contains ceramic fiber and fiberglass materials. Use care when handling these materials per instructions on page 33 of this manual. Failure to comply could result in severe personal injury.

1. Disconnect the vent pipe at the boiler draft diverter and remove draft diverter after turning off power to the boiler.
2. Use a bright light to inspect the boiler flue collector and heating surfaces.
3. If the vent pipe or boiler interior surfaces show evidence of soot, follow "Cleaning boiler heating surfaces", page 30. Remove the flue collector and clean the boiler if necessary after closer inspection of boiler heating surfaces.
4. If there is evidence of rusty scale deposits on boiler surfaces, check the water piping and control system to make sure the boiler return water temperature is properly maintained (per this manual).
5. Reconnect vent and draft diverter. Replace all boiler components before returning to service.
6. Check inside and around boiler for evidence of any leaks from the boiler. If found, locate source of leaks and repair.

Burners and base

1. After turning off power to the boiler, remove the jacket door and base access panel.
2. Inspect burners and all other components in the boiler base.
3. If burners must be cleaned, raise rear of each burner to release from support slot, slide forward and remove. Then brush and vacuum the burners thoroughly, making sure all ports are free of debris. Carefully replace all burners, making sure burner with pilot bracket is replaced in its original position and all burners are upright (ports up).
4. Inspect the base insulation.
   a. Verify that the insulation is intact and secure against all four sides of the base and attachment clips are still in place.

⚠WARNING If insulation is damaged or displaced, do not operate the boiler. Replace or reposition insulation as necessary. Failure to replace damaged insulation can result in a fire hazard, causing severe personal injury, death or substantial property damage.

Service and maintenance *(continued)*

❑ Service . . . . . .

Gauge glass (steam boilers)

NOTICE Normal waterline is halfway up gauge glass. Clean when needed.

1. Close lower gauge cock.
2. Open pet cock.
3. Open lower gauge cock and allow a small amount of water to flush out through open pet cock.
4. Close pet cock.
5. Open lower gauge cock.

Temperature sensor

1. The temperature sensor may accumulate deposits on the probe surface. Annual inspection and cleaning of the probe will improve boiler performance.
   Disconnect power, unplug harness from sensor.
   a. Drain boiler water to a level below the sensor.
   b. Remove sensor from boiler.
   c. Wipe any built up contaminates from probe and insulator surfaces.
   d. Reinstall sensor into boiler

⚠ DANGER Boiler pressure must be low to eliminate potential of severe burns.

⚠WARNING If gauge glass breaks, close both gauge cocks. Replace gauge glass. Do not replace with thin glass tubing. Failure to comply could cause severe personal injury, death or substantial property damage.

❑ Start-up . . . . . .

1. Perform "Start-up" procedures in this manual, pages 24–27, including "Verify operation" of burners and vent damper on page 26.
2. Check gas piping, per pages 22 and 24, verifying no indications of leakage and all piping and connections are in good condition.
3. Read the "Operating Instructions" in the Control Supplement.
4. Start the boiler following the "Operating Instructions."

❑ Check/test . . . . . .

Gas piping

1. Sniff near floor and around boiler area for any indication of a gas leak.
2. Test gas piping using bubble test, per page 22 of this manual, if there is any indication of a leak.

Boiler waterline

Normal waterline is halfway up gauge glass.

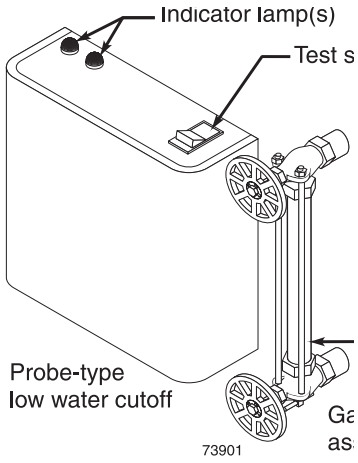
Limit controls

1. Inspect and test the boiler limit control. Verify operation by turning control set point below boiler pressure. Boiler should cycle off. Return dial to original setting.

Probe-type low water cutoff (when used)

⚠WARNING Clean probe-type low water cutoff (when used) for proper operation.

1. Turn off power to boiler and wait 5 minutes.
2. Drain water to bottom of gauge glass.
3. Turn on power.
4. Set thermostat to call for heat. Red neon lamp on lower water cutoff should light.
5. Wait 5 minutes. Boiler should not fire.
6. Refill boiler to correct waterline. Red lamp should go off.
7. Wait 5 minutes. Boiler should fire.
8. Return thermostat to normal setting.



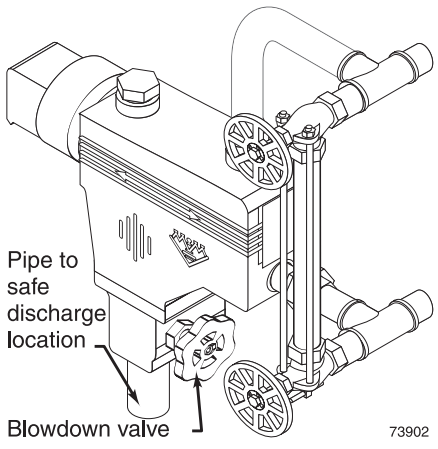
Float-type low water cutoff (when used)

⚠WARNING Clean float-type low water cutoff to clear float chamber of sediment.

1. Open blowdown valve at bottom control.
2. Drain water into a bucket.

⚠ DANGER Scald potential. Boiler pressure must be low to avoid the potential of severe burns from steam.

3. Check float-type low water cutoff for proper operation:
   a. Turn operating control to call for heat.
   b. Before water gets hot, drain to bottom of gauge glass. Boiler should shut off after water level lowers a few inches.
   c. Refill boiler to correct waterline. Boiler should come back on.



Service and maintenance *(continued)*

❑ Check/test . . . . . .

Boiler relief valve

1. After following the warning directions below, if the relief valve weeps or will not seat properly, replace the relief valve.

⚠ DANGER Before testing, make certain discharge pipe is properly connected to valve outlet and arranged to contain and safely dispose of boiler discharge. Wear gloves to protect your hands from hot surfaces. Verify that discharge piping is installed in accordance with this manual and the instructions on the relief valve tag. Failure to comply will expose operator and others to severe personal injury or death.

⚠ WARNING Safety relief valves should be reinspected AT LEAST ONCE EVERY THREE YEARS, by a licensed plumbing contractor or authorized inspection agency, to ensure that the product has not been affected by corrosive water conditions and to ensure that the valve and discharge line have not been altered or tampered with illegally. Certain naturally occurring conditions may corrode the valve or its components over time, rendering the valve inoperative. Such conditions are not detectable unless the valve and its components are physically removed and inspected. This inspection must only be conducted by a plumbing contractor or authorized inspection agency — not by the owner. Failure to reinspect the boiler relief valve as directed could result in unsafe pressure buildup, which can result in severe personal injury, death or substantial property damage.

⚠ WARNING Check the setting of the boiler limit control. The control should never be set with a pressure above 10 psig. Operating at a higher pressure can cause damage to the boiler relief valve.

⚠ WARNING The boiler relief valve must be tested at least monthly during the heating season to verify the valve and discharge piping flow freely. If corrosion and/or deposits are noticed within the valve body, testing must be performed more often. A "try lever test" must also be performed at the end of any non-service period. Follow the instructions below for a "try lever test":

With the system at operating pressure, lift and hold the test lever fully open for at least 5 seconds to flush the valve seat free of sediment and debris. Then release lever and permit the valve to snap shut.

❑ Review with owner

1. Review the User's Information Manual with the owner.
2. Emphasize the need to perform the maintenance schedule specified in the User's Information Manual (and in this manual as well).
3. Remind the owner of the need to call in a licensed contractor should the boiler or system exhibit any unusual behavior.
4. Remind the owner to follow the proper shutdown procedure and to schedule an annual start-up at the beginning of the next heating season.

❑ Cleaning boiler heating surfaces

⚠ WARNING The boiler contains ceramic fiber and fiberglass materials. Use care when handling these materials per instructions on page 33 of this manual. Failure to comply could result in severe personal injury.

1. Follow shut-down procedure
2. Disconnect breeching and remove damper (if used) and draft hood.
3. Remove upper rear jacket panel. Turn back jacket insulation to expose collector hood.
4. Remove collector hood. Clean excess boiler cement from collector hood and cast iron sections.
5. Remove burners from base of boiler. Follow "Cleaning main burners" to thoroughly clean burners. Place newspaper in base of boiler to collect soot that will fall.
6. With a wire flue brush, clean between the sections.
7. Remove paper and soot. Vacuum or brush base and surrounding area.
8. Replace collector hood. Seal with boiler cement.
9. Replace draft hood, damper (if used) and breeching.
10. Replace insulation and jacket panel.
11. Replace main burners.

Cleaning main burners

1. Vacuum or brush burners to remove dust and lint.

⚠ DANGER When replacing, burner tubes must be seated in slots in the back with openings face up. Gas orifices must inject down center of burner. Failure to properly seat burners will result in severe personal injury, death or substantial property damage.

Annual shut-down procedure

1. Follow correct operating instructions on boiler.
2. Do not drain system unless exposure to freezing temperatures will occur. If antifreeze is used with system, do not drain.
3. If complete boiler and piping system must be drained to avoid freezing, provide method to drain water from both ends of boiler at or below return tapping level.

Handling fiberglass and ceramic fiber materials

REMOVAL OF COMBUSTION CHAMBER LINING OR BASE PANELS

⚠WARNING

The combustion chamber lining or base insulation panels in this product contains ceramic fiber materials that have been identified as carcinogenic, or possibly carcinogenic, to humans. Ceramic fibers can be converted to cristobalite in very high temperature applications. The International Agency for Research on Cancer (IARC) has concluded, "Crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (Group 1).":

- Avoid breathing dust and contact with skin and eyes.
  - Use NIOSH certified dust respirator (N95). This type of respirator is based on the OSHA requirements for cristobalite at the time this document was written. Other types of respirators may be needed depending on the job site conditions. Current NIOSH recommendations can be found on the NIOSH web site at http://www.cdc.gov/niosh/homepage.html. NIOSH approved respirators, manufacturers, and phone numbers are also listed on this web site.
  - Wear long-sleeved, loose fitting clothing, gloves, and eye protection.
- Apply enough water to the combustion chamber lining or base insulation to prevent airborne dust.
- Remove combustion chamber lining or base insulation from the boiler and place it in a plastic bag for disposal.
- Wash potentially contaminated clothes separately from other clothing. Rinse clothes washer thoroughly.

NIOSH stated First Aid.

- Eye: Irrigate immediately.
- Breathing: Fresh air.

REMOVAL OF FIBERGLASS WOOL — OR —

INSTALLATION OF FIBERGLASS WOOL, COMBUSTION CHAMBER LINING OR BASE PANELS:

⚠WARNING

This product contains fiberglass jacket insulation and ceramic fiber materials in combustion chamber lining or base panels in gas fired products. Airborne fibers from these materials have been listed by the State of California as a possible cause of cancer through inhalation.

- Avoid breathing dust and contact with skin and eyes.
  - Use NIOSH certified dust respirator (N95). This type of respirator is based on the OSHA requirements for fiberglass wool at the time this document was written. Other types of respirators may be needed depending on the job site conditions. Current NIOSH recommendations can be found on the NIOSH web site at http://www.cdc.gov/niosh/homepage.html. NIOSH approved respirators, manufacturers, and phone numbers are also listed on this web site.
  - Wear long-sleeved, loose fitting clothing, gloves, and eye protection.
- Operations such as sawing, blowing, tear out, and spraying may generate airborne fiber concentration requiring additional protection.
- Wash potentially contaminated clothes separately from other clothing. Rinse clothes washer thoroughly.

NIOSH stated First Aid.

- Eye: Irrigate immediately.
- Breathing: Fresh air.

Replacement parts — EG/PEG

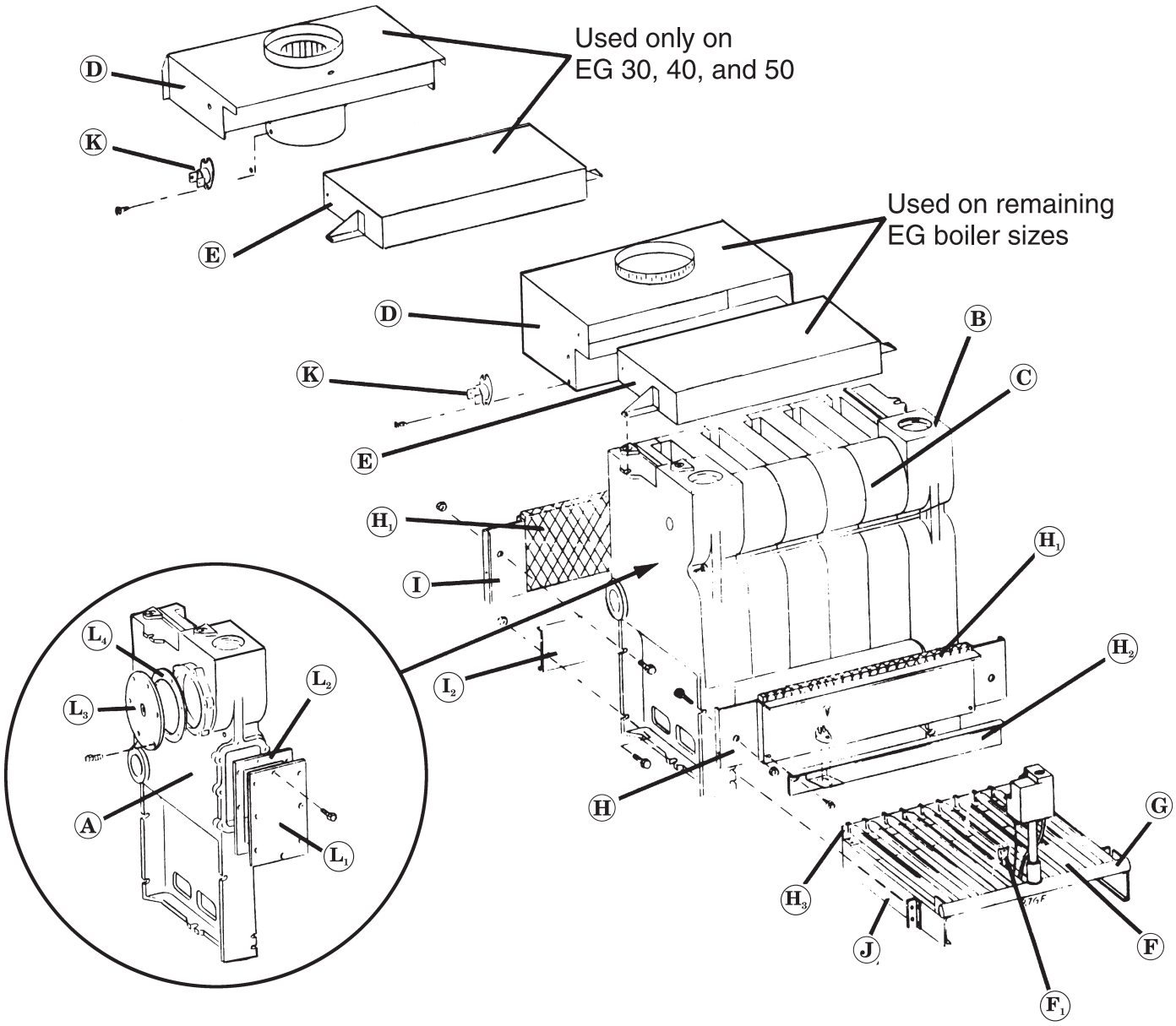
Table 13 EG/PEG replacement parts

Item	Description	Boiler Models	Part Number
A	Left hand end section with heater opening (Pattern No. 1814)	—	311-800-014
	Left hand end section without heater opening (Pattern No. 1813)	—	311-800-007
B	Right hand end section without heater opening (Pattern No. 18118)	—	311-800-029
C	Intermediate section (Pattern No. 1815)	—	311-800-010
D	Draft hood	**EG-30**	450-021-255
		EG-35	450-021-256
		EG-40	450-021-257
		EG-45	450-021-258
		EG-50	450-021-259
		EG-55	450-021-260
		EG-65	450-021-261
		EG-75	450-021-262
E	Collector hood	**EG-30, 35**	450-014-733
		EG-40, 45	450-014-734
		EG-50, 55	450-014-735
		EG-65	450-014-736
		EG-75	450-014-737
F	Burner, stainless tube, regular	—	512-200-000
F_1	Burner, stainless tube, with pilot bracket	—	512-200-001
G	Manifold	**EG-30**	591-125-533
		EG-35	591-125-538
		EG-40	591-125-534
		EG-45	591-125-539
		EG-50	591-125-535
		EG-55	591-125-540
		EG-65	591-125-541
		EG-75	591-125-542
	Main burner orifice, natural gas, 2.45mm	—	560-528-987
	Section assembly complete with heater opening (not shown)	**EG-30, 35**	321-811-095
	Section assembly complete without heater opening (not shown)	**EG-35**	321-811-100
	Section assembly complete with heater opening (not shown)	**EG-40, 45**	321-811-110
	Section assembly complete without heater opening (not shown)	**EG-40, 45**	321-811-115
	Section assembly complete with heater opening (not shown)	**EG-50, 55**	321-811-120
	Section assembly complete without heater opening (not shown)	**EG-50, 55**	321-811-125
	Section assembly complete with heater opening (not shown)	**EG-65**	321-811-130
	Section assembly complete without heater opening (not shown)	**EG-65**	321-811-135
	Section assembly complete with heater opening (not shown)	**EG-75**	321-811-140
	Section assembly complete without heater opening (not shown)	**EG-75**	321-811-145
	Retort cement (1 quart) (not shown)	—	591-602-913
	Flue brush (not shown)	—	591-706-214

Item	Description	Boiler Models	Part Number
H	Front base panel	**EG-30, 35**	451-800-000
		EG-40, 45	451-800-001
		EG-50, 55	451-800-002
		EG-65	451-800-003
		EG-75	451-800-004
H_1	Base insulation kit (includes front and rear base panel insulation, water glass, and boiler cement)	—	510-811-660
H_2	Base front access panel with flame rollout switch bracket	**EG-30, 35**	451-800-040
		EG-40, 45	451-800-041
		EG-50	451-800-039
		EG-55	451-800-042
		EG-65	451-800-043
		EG-75	451-800-044
H_3	Back burner support	**EG-30**	451-800-085
		EG-34	451-800-086
		EG-40	451-800-087
		EG-45	451-800-088
		EG-50	451-800-089
		EG-55	451-800-090
		EG-65	451-800-092
		EG-75	451-800-094
I	Back base panel	**EG-30, 35**	451-800-010
		EG-40, 45	451-800-011
		EG-50, 55	451-800-012
		EG-65	451-800-013
		EG-75	451-800-014
I_2	Back base channel	**EG-30, 35**	451-800-020
		EG-40, 45	451-800-021
		EG-50, 55	451-800-022
		EG-65	451-800-023
		EG-75	451-800-024
J	Base side rail (2 required)	—	451-800-070
K	Spill switch	—	510-300-013
L	Cover plate for heater opening (rectangular)	—	389-900-103
L_2	Gasket for cover plate (rectangular)	—	590-317-579
L_3	Cover plate for heater opening (round)	—	389-900-101
L_4	Gasket for cover plate (round)	—	590-317-495
	Section replacement kit (includes 3" and 6" elastomer seal, 2 pieces of rope, tube of silicone, order 1 per joint between sections) (not shown)	—	381-800-667
	3" Diameter bottom elastomer seal (1 per joint)	—	592-800-010
	6" Diameter top elastomer seal (1 per joint)	—	592-800-007
	Sealer for sections (2 pieces of rope, tube of silicone per joint between sections) (not shown)	—	591-641-865
	½" x 14" Tie rod w/o nut (2 per boiler) (not shown)	**EG-30, 35**	560-234-470
	½" x 18½" Tie rod w/o nut (2 per boiler)(not shown)	**EG-40, 45**	560-234-475
	½" x 22¾" Tie rod w/o nut (2 per boiler)(not shown)	**EG-50, 55**	560-234-480
	½" x 27" Tie rod w/o nut (2 per boiler)(not shown)	**EG-65**	560-234-485
	½" x 31¼" Tie rod w/o nut (2 per boiler)(not shown)	**EG-75**	560-234-490
	½" Nut (2 per tie rod) (not shown)	—	561-928-221
	½" Lock washer (1 per tie rod) (not shown)	—	562-248-668
Note 1: Order sufficient quantities to replace all orifices within a base.			

Replacement parts — EG/PEG *(continued)*

⚠WARNING The boiler contains ceramic fiber and fiberglass materials. Use care when handling these materials per instructions on **page 33** of this manual. Failure to comply could result in severe personal injury.



Replacement parts — EGH

Table 14 EGH replacement parts

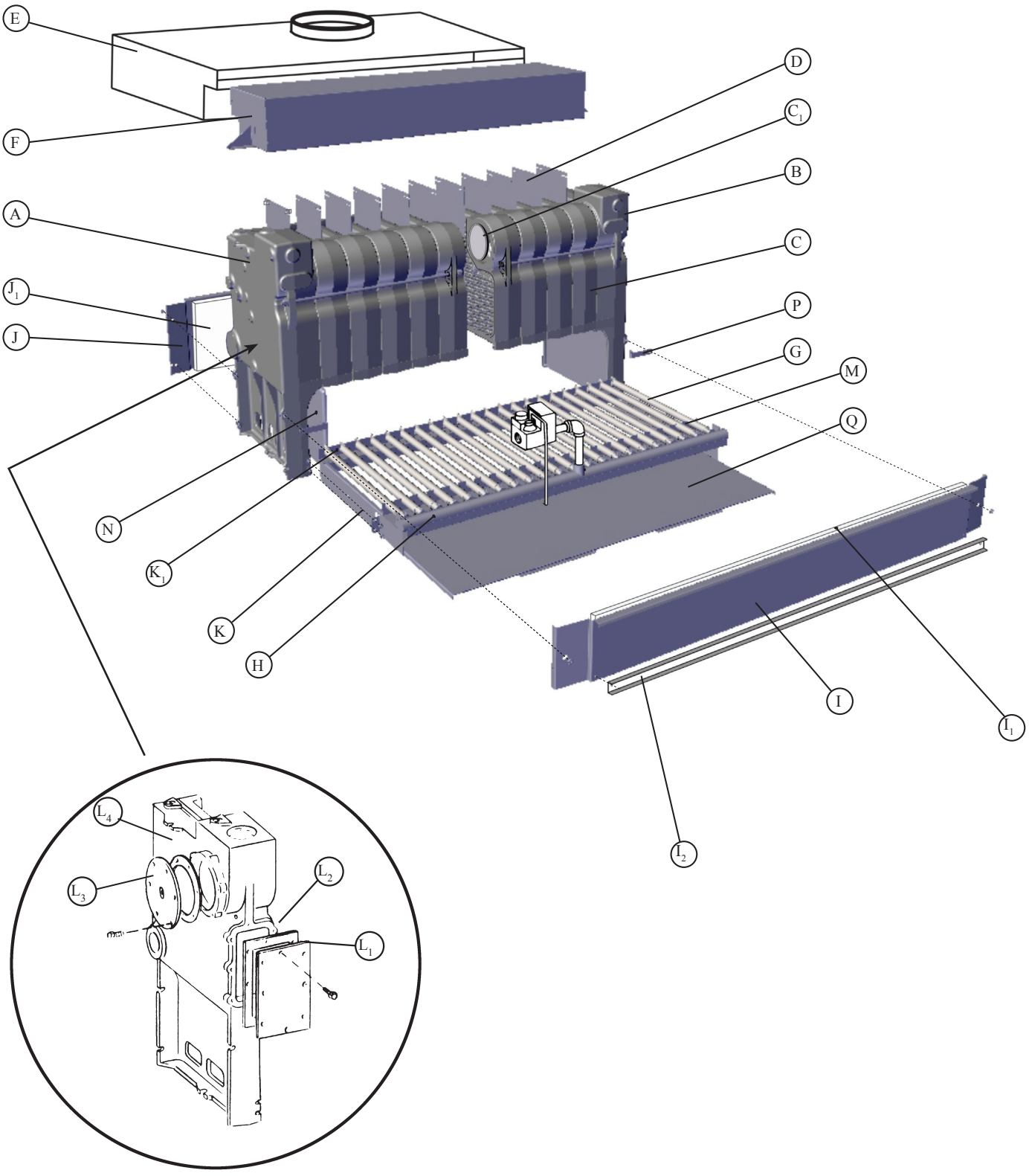
Item	Description	Boiler Models	Part Number
A	Left hand end section with heater opening (Pattern No. 1814)	—	311-800-014
	Left hand end section without heater opening (Pattern No. 1813)	—	311-800-007
B	Right hand end section with heater opening (Pattern No. 1819)	—	311-800-022
	Right hand end section without heater opening with control tappings (Pattern No. 18118)	—	311-800-032
C	Intermediate section (Pattern No. 1815)	—	311-800-010
	Intermediate section with tie rod lugs (Pattern No. 1817)	—	311-800-026
C_1	3" Diameter bottom elastomer seal (1 per joint)	—	592-800-010
	6" Diameter top elastomer seal (1 per joint)	—	592-800-007
D	Flue baffle (1 per joint)	—	460-003-790
E	Draft hood	EGH-85	450-206-240
		EGH-95	450-206-241
		EGH-105	450-206-242
		EGH-115	450-206-243
		EGH-125	450-206-244
F	Collector hood	EGH-85	450-014-750
		EGH-95	450-014-751
		EGH-105	450-014-752
		EGH-115	450-014-753
		EGH-125	450-014-754
G	Burner, stainless tube, regular	—	512-200-000
G_1	Burner, stainless tube, with pilot bracket	—	512-200-001
H	Manifold	EGH-85	591-125-543
		EGH-95	591-125-544
		EGH-105	591-125-545
		EGH-115	591-125-546
		EGH-125	591-125-547
not shown	Main burner orifice, natural gas, 2.30mm	—	560-528-975
	Main burner orifice, propane gas, 1.40mm	—	560-528-972
I	Front base panel (in base panel carton)	—	—
I_1	Front base insulation (in base panel carton)	—	—
I_2	Base front access panel (in base panel carton)	—	—
I, I_1, I_2, J, J_1, & J_2	Base panel carton	EGH-85	381-700-241
		EGH-95	381-700-246
		EGH-105	381-700-251
		EGH-115	381-700-256
		EGH-125	381-700-262
J	Back base panel (in base panel carton)	—	—
J_1	Back base insulation (in base panel carton)	—	—
K	Side rail for burner panel with bracket for burner pan	—	451-800-070
K_1	Back burner support	EGH-85	451-800-095
		EGH-95	451-800-096
		EGH-105	451-800-097
		EGH-115	451-800-098
		EGH-125	451-800-099

Item	Description	Boiler Models	Part Number
L_1	Cover plate for heater opening (rectangular)	—	389-900-103
L_2	Gasket for cover plate (rectangular)	—	590-317-579
L_3	Cover plate for heater opening (round)	—	389-900-101
L_4	Gasket for cover plate (round)	—	590-317-495
	Section assembly complete with heater opening (not shown)	EGH-85	321-711-100
	Section assembly complete without heater opening (not shown)	EGH-85	321-711-105
	Section assembly complete with heater opening (not shown)	EGH-95	321-711-110
	Section assembly complete without heater opening (not shown)	EGH-95	321-711-115
	Section assembly complete with heater opening (not shown)	EGH-105	321-711-120
	Section assembly complete without heater opening (not shown)	EGH-105	321-711-125
	Section assembly complete with heater opening (not shown)	EGH-115	321-711-130
	Section assembly complete without heater opening (not shown)	EGH-115	321-711-135
	Section assembly complete with heater opening (not shown)	EGH-125	321-711-140
	Section assembly complete without heater opening (not shown)	EGH-125	321-711-145
	Section replacement kit (includes 3" and 6" elastomer seal, 2 pieces of rope, tube of silicone, order 1 per joint between sections) (not shown)	—	381-800-667
M	Burner shield (rollout)	EGH-85	451-800-120
		EGH-95	451-800-121
		EGH-105	451-800-122
		EGH-115	451-800-123
		EGH-125	451-800-124
N	Refractory Leg-Left and Right	—	591-222-183
P	Refractory clip	—	421-800-208
Q	Base shield	EGH-85	451-800-136
		EGH-95	451-800-137
		EGH-105	451-800-138
		EGH-115	451-800-139
		EGH-125	451-800-140
	Sealer for sections (2 pieces of rope, tube of silicone per joint between sections) (not shown)	—	591-641-865
	½" x 7" Tie rod w/o nut (2 per boiler) (not shown)	—	560-234-465
	½" x 17" Tie rod w/o nut (not shown) (4 – EGH-85) (2 – EGH-95)	—	560-234-472
	½" x 21¼" Tie rod w/o nut (not shown) (2 – EGH-95) (2 – EGH-115) (4 – EGH-125)	—	560-234-477
	½" x 25¼" Tie rod w/o nut (not shown) (2 – EGH-115) (4 – EGH-125)	—	560-234-482
	½" Nut (2 per tie rod) (not shown)	—	561-928-221
	½" Lock washer (1 per tie rod) (not shown)	—	562-248-668
	Retort cement (1 quart) (not shown)	—	591-602-913
	Flue brush (not shown)	—	591-706-214

Note 1: Order sufficient quantities to replace all orifices within a base.

Replacement parts — EGH *(continued)*

⚠WARNING The boiler contains ceramic fiber and fiberglass materials. Use care when handling these materials per instructions on **page 33** of this manual. Failure to comply could result in severe personal injury.



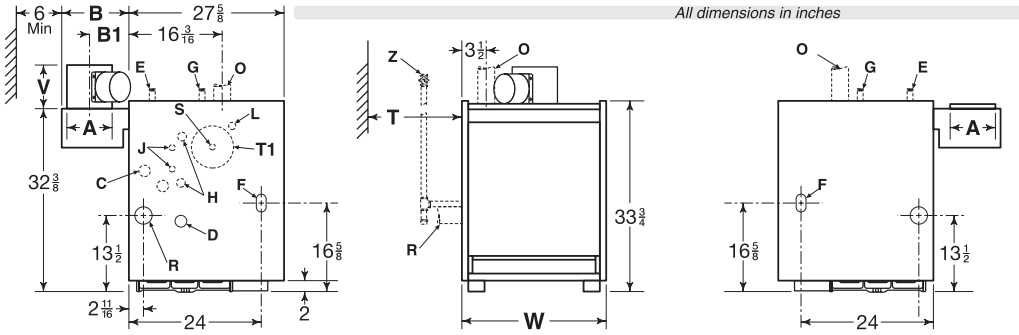
Dimensional data

Table 15 Dimensional data

Model number	Supply EG/EGH	Return EG/EGH	Dimensions (See note 3 for PEG-30 to PEG-55 crate dimensions)						Gas Connection "F"	Draft hood outlet size	Approx. ship wt.
			W	A	B	B1	V (note 2)	T	(note 1)		(lbs)
EG & PEG-30 & -35	1 - 3"	1 - 2 ½"	17"	5"	11 ¾"	6 ¾"	6"	Water boiler tankless coil removal clearance: E-624: 14" E-626: 18" E-632: 22"	½"	5"	430
EG & PEG-40 & -45	1 - 3"	1 - 2 ½"	21 ¼"	6"	11 ¾"	6 ¾"	6 ½"		½"	6"	505
EG & PEG-50 & -55	1 - 3"	1 - 2 ½"	25 ½"	7"	11 ¾"	6 ¾"	9"		½"	7"	585
EG & PEG-65	1 - 3"	1 - 2 ½"	29 ¾"	8"	11 ¾"	6 ¾"	9 ½"		¾"	8"	660
EG-75	1 - 3"	1 - 2 ½"	34"	8"	15 ¾"	8 ¾"	—		¾"	8"	735
EGH-85	2 - 3"	2 - 2 ½"	38 ¼"	9"	15 ¾"	8 ¾"	—	N/A	¾"	9"	825
EGH-95	2 - 3"	2 - 2 ½"	42 ½"	10"	15 ¾"	8 ¾"	—		¾"	10"	915
EGH-105	2 - 3"	2 - 2 ½"	46 ¾"	10"	15 ¾"	8 ¾"	—		1"	10"	1005
EGH-115	2 - 3"	2 - 2 ½"	51"	12"	15 ¾"	8 ¾"	—		1"	12"	1095
EGH-125	2 - 3"	2 - 2 ½"	55 ¼"	12"	15 ¾"	8 ¾"	—		1"	12"	1185
Notes:	1. Sizes shown are gas connection sizes, natural or liquefied petroleum (propane) gas. Gas piping from meter to boiler to be sized according to local utility requirements. Gas line can enter on either the right or left end of the boiler. 2. Damper dimension for EG-30 through EG-65 ONLY. For EG-75 and all EGH boilers the damper is additional equipment. 3. PEG crates are 32" wide x 39" high. Crate lengths are 32" for PEG-30, -35, -40; 37" for PEG-45, -50, and -55; 39" for EG-65.										

All dimensions in inches

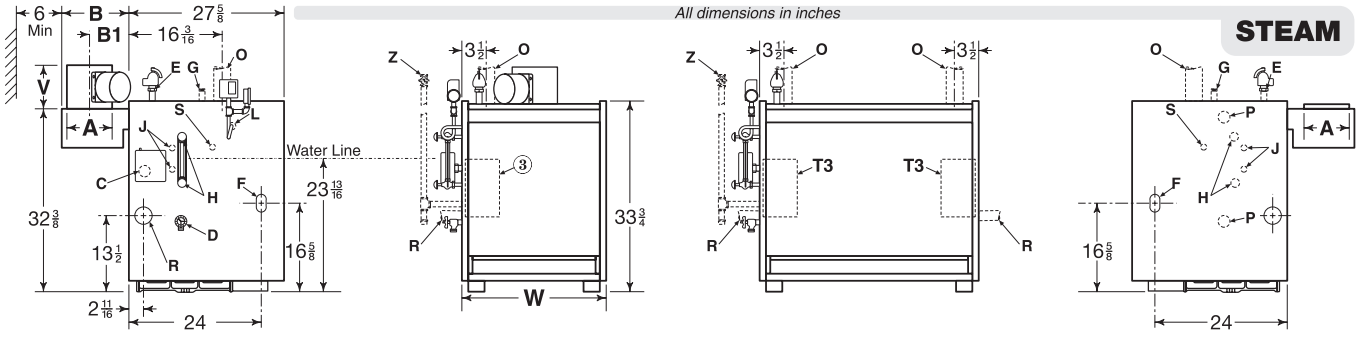
WATER



Left side (EG) **Front** (EG) **Right side** (EG)

All dimensions in inches

STEAM



Left side (EG/PEG/EGH) **Front** (EG/PEG) **Front** (EGH) **Right side** (EGH)

Tapping	Size	Steam Boilers	Water Boilers - EG only	Tapping	Size	Steam Boilers	Water Boilers - EG only
C	¾	Probe type low water cut-off	Probe type LWCO (when used)	P (EGH Only)	1	Float type LWCO, pressure limit control and pressure gauge; or LWCO and feeder combination; or LWCO and pump control	Float type LWCO; or LWCO and feeder combination; or LWCO and pump control
D	¾	Drain	Drain	S	1 ½	Skim tapping	Limit control
E	¾	Safety valve	Safety relief valve		¾	— (note 1)	Limit control
G	¾	Plugged	Piping to compression tank or auto air vent	T1		—	Optional tankless heater for water boilers
H	½	Gauge glass and/or optional LWCO	Combination pressure temperature gauge	T2		—	Optional tankless heater for EGH water boilers only
J	⅜	Tri cock tappings	Plugged	T3		Optional steam boiler tankless heater	—
L	½	Syphon, pressure gauge, high limit (probe type LWCO)	Combination pressure temperature gauge	Z		Manual shut-off gas valve (supplied by installer)	
Notes	1. Available on special request only, when tankless heater is specified.			Notes	2. When a tankless water heater coil is installed, use the tapping in the heater for an additional operating control.		

Ratings

Table 16 Ratings

Boiler Model Number	0–2,000 feet altitude		2,000–4,500 feet altitude (Canada)		Net AHRI Ratings			Chimney Size	Boiler Water Content (Gallons)	
	Input (Btuh)	DOE Heating Capacity Gross Output (Btuh)	Input (Btuh)	(Output) (Btuh)	Sq. Ft. Steam	Steam Btuh	Water Btuh		Water	Steam (to Waterline)
(Note 1)		(Note 2)	(Note 3)		(Note 4)					
*EG-30-	75,000	62,000	67,500	56,000	196	47,000	55,000	5"I.D. x 20'	12.3	8.4
*EG-35-	100,000	83,000	90,000	74,700	258	62,000	73,000	5"I.D. x 20'	12.3	8.4
*EG-40-	125,000	103,900	112,000	93,000	325	78,000	91,000	6"I.D. x 20'	14.8	9.8
*EG-45-	150,000	124,700	135,000	112,200	392	94,000	110,000	6"I.D. x 20'	14.8	9.8
*EG-50-	175,000	145,400	157,500	130,900	454	109,000	128,000	7"I.D. x 20'	17.3	11.2
*EG-55-	200,000	166,600	180,000	149,900	521	125,000	146,000	7"I.D. x 20'	17.3	11.2
*EG-65-	250,000	208,800	225,000	187,900	654	157,000	183,000	8"I.D. x 20'	19.8	12.6
EG-75-	299,000	249,000	270,000	216,000	770	185,000	217,000	8"I.D. x 20'	22.3	14.0
EGH-85-S	315,000	243,000	283,500	226,800	760	182,000	–	9"I.D. x 20'	–	15.4
EGH-95-S	360,000	278,000	324,000	259,200	868	208,000	–	10"I.D. x 20'	–	16.8
EGH-105-S	405,000	312,000	364,500	280,800	977	234,000	–	10"I.D. x 20'	–	18.2
EGH-115-S	450,000	347,000	405,000	312,300	1,085	260,000	–	12"I.D. x 20'	–	19.6
EGH-125-S	495,000	382,000	445,500	343,800	1,193	286,000	–	12"I.D. x 20'	–	21.0

Notes (Table 16)

* Add prefix "P" for package boiler completely assembled and wired with jacket and controls (PEG-30-S through PEG-65-S only).

1. **EG-30 thru 75**: Add suffix "PID" or "PI" for electronic ignition (30-65 — damper required in U.S.; optional in Canada); add "N" for natural; add "W" for water; add "S" for steam; add "T" for tankless heater; add "P" for provisional tankless heater.

   EGH-85 & 95: Add suffix "PI" for electronic ignition (damper available on PI only); add "N" for natural; add "L" for propane; add "S" for steam; add "T" for tankless heater (tankless available on EGH-85 thru 125 PI Steam; EGH-85 and 95 SP Steam only); add "P" for provisional tankless heater.

   EGH-105 thru 125: Add suffix "PI" for electronic ignition (damper available on PI only); add "T" for tankless heater.

2. Based on standard test procedures prescribed by the United States Department of Energy.

   EGH-85 thru EGH-125: Gross output.

3. EGH-105 thru 125 may be installed at altitudes of 2,000-4,500 feet subject to acceptance by Provincial Inspections Authority based on field tests of individual installations.

4. Net AHRI ratings are based on net installed radiation of sufficient quantity for the requirements of the building and nothing need be added for normal piping and pick-up. Water ratings are based on a piping and pick-up allowance of 1.15; steam ratings on an allowance of 1.333. An additional allowance should be made for unusual piping and pick-up loads. Consult local Weil-McLain representative.

Table 17 DOE seasonal efficiencies

Boiler Model Number	DOE season efficiency (AFUE)	
	Water	Steam
	PIDN	PIDN
EG-30 PEG-30	84.3	83.0
EG-35 PEG-35	83.6	82.9
EG-40 PEG-40	84.0	82.9
EG-45 PEG-45	83.5	82.9
EG-50 PEG-50	83.8	82.8
EG-55 PEG-55	83.8	82.8
EG-65 PEG-65	84.0	83.0
EG-75	82.7	82.4

Standard and optional equipment

Standard equipment

- Factory-Assembled Section Block
- Insulated Extended Jacket
- Draft Hood
- Aluminized Steel Burners
- Non-Linting Pilot Burner
- Heater Cover Plates (for boilers with tankless heater openings)
- Control Wire
- Electrical Junction Box

EG/PEG boilers add:

- Combination Gas Valve for 24 volt
- Thermocouple (high efficiency models)
- Rollout Thermal Fuse Element
- Spill Switch
- Highest Efficiency Models, PID Intermittent Electronic Ignition System and Automatic Vent Damper

For EG water boilers

- Ignition Module United Technologies 1135-605
- Temperature sensor
- Built-In Air Eliminator
- 30 P.S.I. Relief Valve
- Combination Pressure Temperature Gauge
- High-Limit Control
- 40 VA Transformer
- Circulator Relay

For EG/PEG steam boilers

- Relief Valve
- Steam Pressure Gauge
- High-Limit Pressure Control
- Syphon
- Gauge Cocks
- Gauge Glass
- Low-Water Cutoff
- 40 VA Transformer

EG additional equipment

- Tankless Water Heater
  (EG-35 – 65 PI; EG-75 PI only)
  With tankless heater: Combination High Limit, Low Limit, Circulator Control, and Relay with 40 VA Transformer
- Tankless Steam Heater
  (EG-35 – 75)
  With Tankless Heater: Operating Control and Tankless Heater 35-S-29 for All Units

EGH boilers add:

- Combination Gas Control Valve (includes main gas valve with redundant seat, PI and PI with damper models; main gas valve with single seat, 24V models; pressure regulator, gas cock, pilot filter, pilot adjustment)
- Highest Efficiency Models, PI Intermittent Electronic Ignition System
- 100% Shutoff
- 40 VA Transformer with Receptacle for Circulator Relay

For EGH steam boilers

- Relief Valve
- Steam Pressure Gauge
- High-Limit Pressure Control (two limit controls on EGH-85 and 95 SP)
- Syphon
- Gauge Cocks
- Gauge Glass
- Low-Water Cutoff – Probe Type

EGH additional equipment

- Tankless Heaters – PI & SP Steam only
- With Tankless Heater(s):
  - Operating Control
  - Automatic Vent Damper

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