

Series WBV/WW

Oil Boilers



Installation, Operation & Maintenance Manual

PEERLESS®

CAST IRON BOILERS

Peerless Heater Company SERIES WBV/WV

Residential Oil Fired,
Packaged or Knockdown, Hot Water or Steam Boilers

8 Sizes 3-5 Sections .60 to 2.00 GPH Input 82% to 86% AFUE

Features:

Natural Draft (chimney) Venting

Factory Assembled Sections on Knockdown Boilers

- Reduces Installation Time

WBV in 3 and 4 Section for Hot Water or Steam

- Convertible from Rear to Top Flue for Venting Flexibility

WV in 5 Section for Hot Water

- Top Flue Only

High Efficiency Flame Retention Burners

- Choice of Beckett, Carlin or Riello

Full Plate Swing-Out Door

- Standard on All Boilers
- Provides Easy Access to Combustion Chamber Area for Cleaning and Servicing

Large Water Content, Wet Base Section Design

- Reduces On/Off Cycling

Steel Push Nipples

- Provide a Permanent Water Tight Seal Between Sections
- Unaffected by Petroleum and Other Contaminants

Deluxe Insulated Enameled Steel Jacket

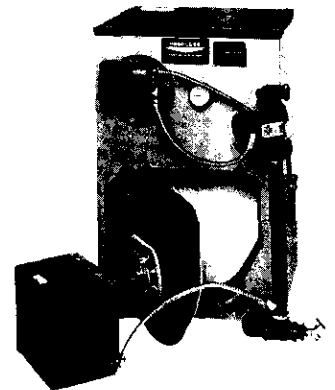
- Reduces Boiler Heat Loss

Safety Controls

- Probe or Float Type Low Water Cut-Off Approved on Steam Boilers

Tankless Coils

- For Domestic Hot Water Production on Hot Water Boilers



As an ENERGY STAR® Partner, Peerless Heater Company has determined that certain firing rates of this product meet the ENERGY STAR® guidelines for energy efficiency.

Standard Equipment:

- Honeywell Operating Controls
- Taco 007 Circulator on Packaged Water Boilers
- Probe Type LWCO on Packaged Steam Boilers

Optional Equipment:

- Tankless Coils
- Barometric Draft Damper
- Grundfos Circulator on Packaged Water Boilers
- Float Type LWCO on Packaged Steam Boilers

A Complete
Warranty Program
Like No Other!

Peerless Heater Company is pleased to offer one of the most comprehensive warranty programs in the industry. All Peerless residential cast iron boilers include a full one-year warranty. A limited, lifetime warranty is provided for the cast iron sections of Peerless residential hot water boilers. Peerless also provides a limited, ten-year warranty on the cast iron sections of its residential steam boilers. Five and ten-year extended warranties on parts and labor are now available. Please consult Peerless Heater Company for complete warranty information.



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Background Information - Draft Requirements

Modern boilers operate with higher efficiencies than older boilers. Smaller flueways, as well as bars, pins and fins are designed into modern boilers to transfer as much heat as possible from the hot gases to the water or steam and prevent heat loss up the chimney. However, these design features result in higher pressure, or draft loss, in the boiler.

This draft loss must be taken into account when installing an oil boiler into a new or old chimney. New chimneys are less likely to have poor draft. However, they must have sufficient draft to support combustion. A $-.06''$ draft is desirable and preferred. Older, unlined chimneys may require a replacement liner to have them perform well enough to support combustion.

An example follows:

	Old installation	New installation	Comments
Chimney Draft	$-.04''$	$-.04''$	No change, but older chimneys (especially unlined ones) have leaks which reduce draft.
Boiler Design Pressure Drop	$+.01''$	$+.04''$	Required for mandated efficiency increases.
Draft Over Fire	$-.03''$	$0.00''$	The old installation would have had a higher temperature in the chimney [as high as 800 degrees vs. 400 degrees F], which would increase the draft.

The above readings are 'cold' readings [before the boiler and chimney are heated up].
A $-.01''$ to $-.02''$ minimum draft over fire is required for a good installation where no oil fumes would be present. The draft would vent them up the chimney.

The above discussion which concerns draft in the chimney and draft loss in the boiler, is incomplete without discussing the effect of draft on the burner. Very simply, increasing the fuel usage [higher gallonage] on a unit which has multiple firing rates, requires more air for combustion and a higher draft loss in the boiler. As an example, increasing the firing rate 1/4 gallon will increase the draft loss in the unit by approximately $+.01''$. *The actual burner used on a particular boiler also effects the draft and smoke condition. The use of a burner supplied by Peerless Heater Company would assure you of a quality, trouble free installation.*

INSTALLATION INSTRUCTIONS – SERIES WBV and WV

Read carefully before beginning work. It will save time. Study the included drawings.

The equipment shall be installed in accordance with those installation regulations in force in the local area where the installation is to be made, including the current edition of NFPA-31. These shall be carefully followed in all cases. Authorities having jurisdiction shall be consulted before installations are made.

The boiler must be installed by a qualified contractor.

The boiler warranty can be voided if the boiler is not installed, maintained and serviced correctly.

A – ACCESSIBILITY CLEARANCES

- 1 – To provide for reasonable conditions of accessibility, the following minimum clearances are recommended.
 - a. Top Outlet Flue: At least 24" in the front, rear and on both sides.
 - b. Rear Outlet Flue: At least 24" in front and both sides; at least 30" in the rear.

B – AIR FOR COMBUSTION AND VENTILATION

- 1 – Be certain adequate facilities are available to provide air for satisfactory combustion and ventilation.
- 2 – Appliances Located in Unconfined Spaces.
 - a. For installations in unconfined spaces with conventional construction and larger areas such as basements, the supply of air for combustion and ventilation can usually be considered adequate.
- 3 – Appliances Located in Confined Spaces.
 - a. If all air for combustion and ventilation is to come from within the building: two openings, one near the ceiling and one near the floor of the boiler room shall be provided with the minimum free area of each opening equal to 140 sq. in. per gallon of oil burned.
 - b. If all air for combustion and ventilation is to come from outside the building: two openings, one near the ceiling and one near the floor of the boiler room shall be provided with the minimum free area of each opening equal to 35 sq. in. per gallon of oil burned.
If ducts are used to convey the air, areas of 35 sq. in. per gallon of oil burned for vertical ducts or 70 sq. in. per gallon of oil burned for horizontal ducts are to be provided. Ducts shall have the same area as the free area of the openings to which they are connected.

C – SETTING THE BOILER

- 1 – The WBV/WV Boiler Sections are Factory Assembled with the Target Wall Shipped in place. Provide a level foundation, located as close as possible to the center of the heating system and to the chimney. The WBV/WV Series is available as a complete package, or in a knocked down form. Refer to page 5 for exploded view of boiler if on-the-job assembly is required.
- 2 – This boiler is suitable for use on combustible flooring, provided the boiler is not set on carpet and a metal drip pan is placed under the appliance.
- 3 – The WBV-03 and WBV-04 boiler models may be installed as a rear flue outlet unit or a top flue outlet unit. This may be done by mounting the Flue Collar Adapter (Item 14) to either the rear boiler section for a rear flue application, or to the Flue Collector Cover Plate (Item 11) for a top flue application. The Rear Outlet Cover Plate (Item 13) is then used to close the remaining opening. On Packaged Units the large knockout in the Top Jacket Panel must be removed to convert to a top flue application. NOTE: The WV-05 boiler model is only available as a top flue outlet unit.
- 4 – Open trim carton. Remove Flue Collector Cover Plate and Blanket Seal (Items 10 and 11) and attach with the four (4) $\frac{5}{16}$ " x $1\frac{1}{2}$ " studs, nuts and washers provided. Attach either the Flue Collar Adapter (Item 14) or the Outlet Cover Plate (Item 13) to the Flue Collector Cover Plate with the nuts and washers provided making sure the rope seal (Item 12) is in place. Attach the remaining Flue Collar or Cover Plate to the rear section with four (4) $\frac{5}{16}$ " bolts and washers.
- 5 – If a tankless coil is used, (Item 9) install as pictured. Water Boiler - front section opening. Steam Boiler - rear section opening. For suggested piping of tankless water heaters refer to Figures 4 and 5.
- 6 – When a tankless coil is not employed, cover the opening with cover plate (Item 7 or 16).

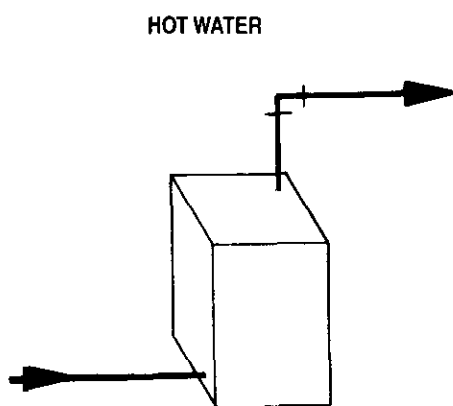
D – JACKET ASSEMBLY

- 1 – If boiler is to be installed with a rear flue outlet, remove the square knock-out in the back panel then attach to bosses on middle of back section with two $\frac{1}{4}$ " x $\frac{3}{8}$ " machine screws provided. The back panel has two $\frac{5}{16}$ " dia. holes close to the center of the panel.
- 2 – Attach both the left and right side panels to the back panel and secure with sheet metal screws.
- 3 – Remove Burner Mounting Plate (Item 5) and make certain the Target Wall (Item 2) and Cerafelt Liner on floor of boiler in front of target wall (Item 3) are firmly in place.
- 4 – Remove the two (2) knockouts in the front jacket panel which will allow clearance for the hinge. Place the front jacket panel on the block and attach the left and right side panels in the same manner as they are attached to the back panel. Attach the Combustion Chamber Cover Plate.
- 5 – Reinstall Combustion Chamber Cover Plate.
- 6 – If boiler is to be installed with a top flue outlet, remove the knock-out in the top jacket panel then secure with sheet metal screws.

E – PIPING

DO NOT PIPE BOILER BEFORE JACKET IS INSTALLED.

- 1 – See Figures 1 and 2 for suggested piping to the boiler.
- 2 – Make up cold water supply connection to the boiler.
- 3 – Install pressure gauge or pressure-temperature gauge in tapping provided. See page 3.
- 4 – Plug all open tapings in the boiler and fill with water. Apply approximately thirty (30) pounds pressure. Check to make certain that all joints and fittings are water tight.
- 5 – After all joints and connections have been proven water tight, remove cold water supply and plugs from all tapings that are to be used. See page 3 for tapping locations.
- 6 – Return water piping must be done in such a manner to allow clearance of the door to the circulator stand pipe or other piping when opening and closing the door. Peerless suggests using a 1 1/4" tee, a 90° street elbow, and 1 1/4" x 5" pipe nipple in the return tapping before a vertical circulator stand pipe is used as shown on page 3.



The supply and return connections should be sized to suit the system. A 1 1/2" to 1 1/4" reducing coupling may be used on the return where the system piping is 1 1/2".

The supply should be out of the top of the back section and return to the bottom of the front section. There is a 3/4" tapping in the top of the back section for air elimination.

FIGURE 1

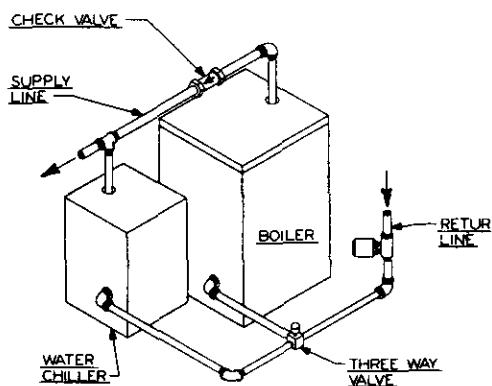
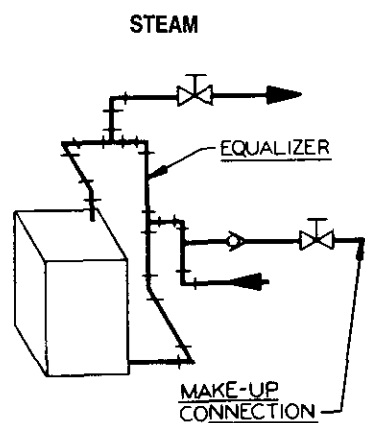


FIGURE 3



Boiler Model No.	Supply Riser	Equalizer
WBV-03	1 - 2"	1 1/4"
WBV-04	1 - 2"	1 1/4"

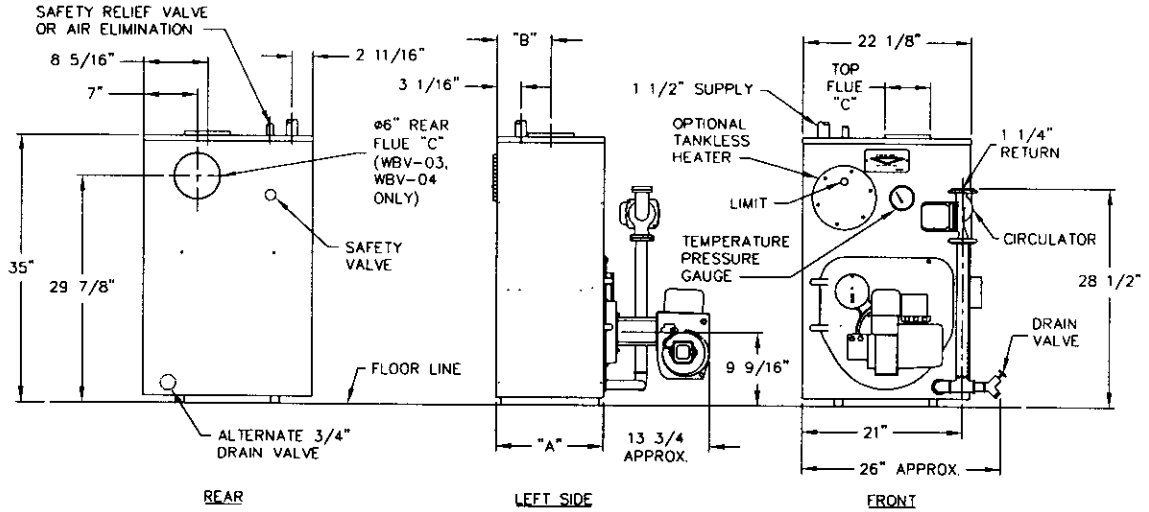
The return from system should always enter equalizer through Hartford Loop, 2" to 4" below normal water line.

FIGURE 2

Note: If boiler is to be used in conjunction with a refrigeration system, the chilled medium shall be piped in parallel with boiler and proper valves applied to prevent the chilled medium from entering the boiler. Refer to Figure 3.

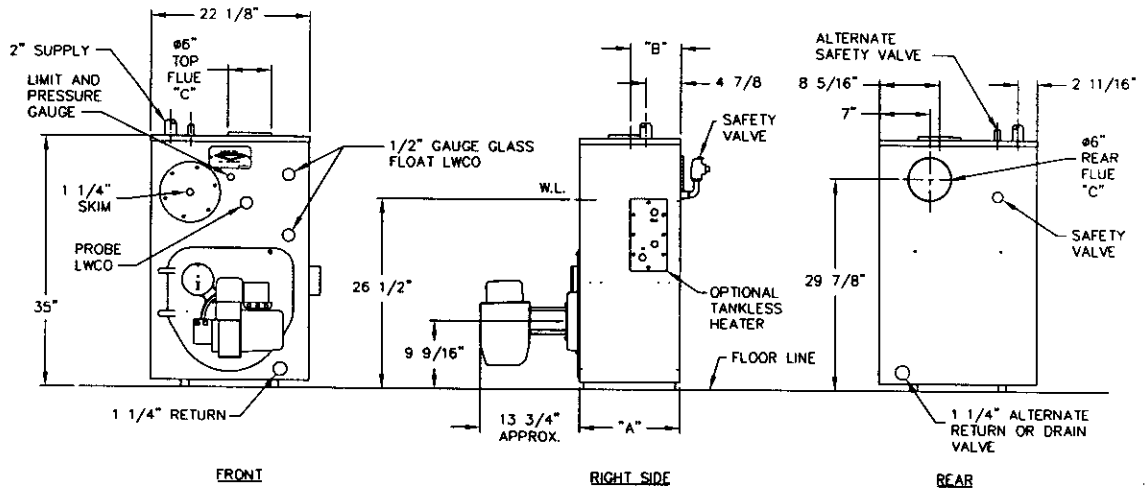
When the boiler is connected to heating coils located in air handling units, the boiler piping system must be equipped with flow control valves or other automatic devices to prevent gravity circulation of the boiler water during the cooling cycle.

WBV/WV WATER BOILER



Boiler Model Number	Jacket Depth "A"	Rear of Jacket to C/L of Top Flue Outlet "B"	Top/Rear Flue Size "C"
WBV-03-085/110	14 1/8"	7 1/16"	6"
WBV-04-125/150	18 1/8"	9 1/16"	6"
WV-05-175/200	22 1/8"	11 1/16"	7" (Top Only)

WBV STEAM BOILER



Boiler Model Number	Jacket Depth "A"	Rear of Jacket to C/L of Top Flue Outlet "B"	Top/Rear Flue Size "C"
WBV-03-085/110	15 3/4"	8 7/8"	6"
WBV-04-125/150	19 3/4"	10 7/8"	6"

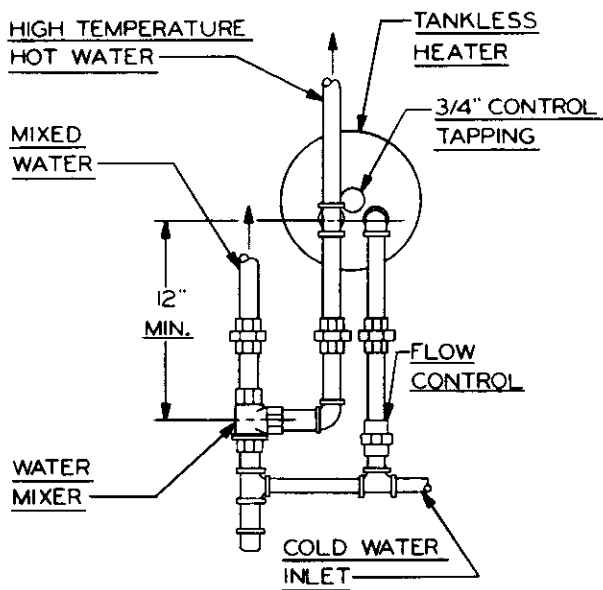


FIGURE 4

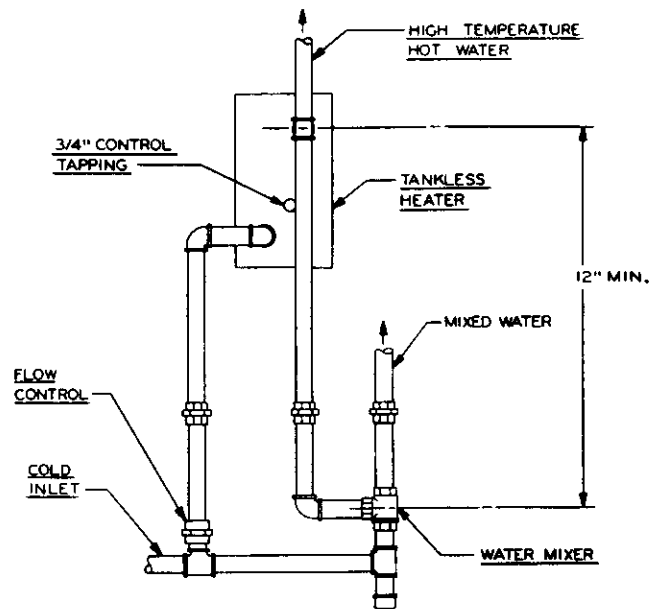


FIGURE 5

7 – Tankless Water Heater

When water heater is not employed, cover the heater opening with cover plate (Item 7 or 16)

BE SURE RUBBER GASKET IS IN PLACE BETWEEN COVER PLATE OR WATER HEATER PLATE AND BOILER SECTION.

8 – Storage Tank Heater - if a water boiler is to be used in conjunction with a storage tank heater refer to Figure 6 for typical piping. Also refer to additional instructions supplied with tank.

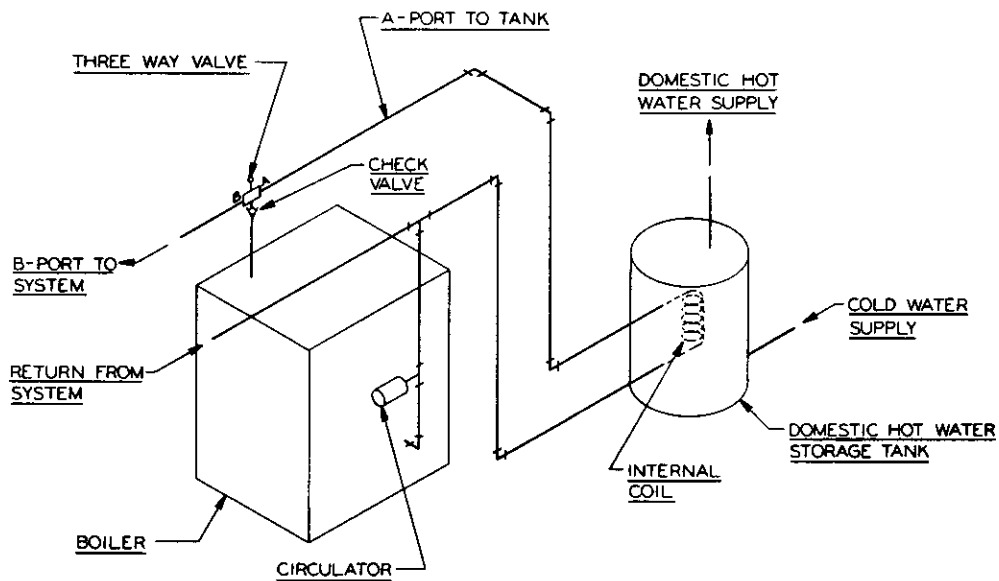


FIGURE 6

DANGER: INSTALL ANTI-SCALD DEVICE IN HOT WATER SUPPLY PIPING. WATER TEMPERATURE ABOVE 125°F CAN CAUSE SEVERE BURNS INSTANTLY OR DEATH FROM SCALDS.

F – OIL BURNER INSTALLATION

- 1 – The oil burner is supplied with a mounting flange fixed in position.
- 2 – Mount the burner to the combustion chamber cover plate (Item 5) with four (4) 5/16" studs and nuts provided.
BE SURE HI TEMP GASKET IS BETWEEN THE BURNER MOUNTING FLANGE AND THE COMBUSTION CHAMBER COVER PLATE.
- 3 – Care must be taken when routing the oil lines so not to interfere with the opening and closing of the door. Flexible oil lines or flared copper disconnects with valves (when copper lines are used) may be installed to assure full opening of the door when servicing.
- 4 – Oil Burner Specifications:
For information pertinent to the oil burner such as nozzle sizing, fuel supply piping, adjusting or servicing, refer to the charts below and the installation manual accompanying the burner.

BECKETT BURNER WITH 140 PSI PUMP PRESSURE							
Boiler Model No.	Burner Model No.	Burner Head	Static Plate	Nozzle Size	Start-Up Settings		Head Setting
					Air Shutter	Air Band	
WBV-03-085	AFG-F3*	F3	3 ³ / ₈ "	0.75 80° B HAGO	6.0	1	N/A
WBV-03-110	AFG-F4	F4	3 ³ / ₈ "	0.90 80° B HAGO	6.0	0	N/A
WBV-04-095	AFG-F4	F4	3 ³ / ₈ "	0.85 80° B DEL	6.0	0	N/A
WBV-04-125	AFG-F4	F4	3 ³ / ₈ "	1.10 80° B HAGO	5.0	2	N/A
WBV-04-150	AFG-F6	F6	2 ³ / ₄ "	1.25 80° B HAGO	8.0	1	N/A
WV-05-175	AFG-MV1	V-1	-	1.50 60° B HAGO	10.0	3	3
WV-05-200	AFG-MV1	V-1	-	1.75 60° B HAGO	10.0	9	3

*Requires Low Firing Rate Baffle

WAYNE BURNER WITH 100 PSI PUMP PRESSURE						
Boiler Model No.	Burner Model No.	Air Cone I.D.	Nozzle ** Size	Flame Lock	Start-Up Settings Off-Cycle Damp.	Air Shutter
WBV-03-085	HS	2 ¹ / ₂ " No Holes	0.85 80° B	1	1.0	0.50
WBV-03-110	HS	2 ¹ / ₂ " No Holes	1.10 80° B	1	2.0	1.50
WBV-04-125	HS	2 ¹ / ₂ " 6 Holes	1.25 80° B	1	2.0	1.75
WBV-04-150	HS	2 ¹ / ₂ " 6 Holes	1.50 80° B	1 ¹ / ₂	2.0	2.00
WV-05-175	HS	2 ¹ / ₂ " 6 Holes	1.75 80° B	3	2.0	2.25
WV-05-200	HS	2 ¹ / ₂ " 6 Holes	2.00 80° B	5	2.0	2.50

** Delavan Recommended

CARLIN 99FRD OIL BURNER WITH MODEL 98022 PSC MOTOR						
Boiler Model No.	Burner Model No.	Air Shutter	Nozzle Size	Pump Pressure	Start-Up Settings Head Dim. A	Air Band
WV-05-175	99FRD	Open	1.50 x 60° B HAGO	150 PSI	5	10% open
WV-05-200	99FRD	Open	1.65 x 60° B HAGO	150 PSI	5	45% open

CARLIN EZ-1HP OIL BURNER WITH MODEL 98022 PSC MOTOR						
Boiler Model No.	Burner Model No.	Air Shutter	Nozzle Size	Pump Pressure	Start-Up Settings Air Band	Head Bar
WBV-03-085	EZ-1HP	Blank	0.65 x 70° A DEL	150 PSI	0.60	0.60 - 0.65
WBV-03-110	EZ-1HP	Blank	0.85 x 70° A DEL	150 PSI	0.65	0.85 - 1.00
WBV-04-095	EZ-1HP	Blank	0.75 x 70° A DEL	150 PSI	0.60	0.75
WBV-04-125	EZ-1HP	Blank	1.00 x 70° A DEL	150 PSI	0.85	0.85 - 1.00
WBV-04-150	EZ-1HP	Blank	1.25 x 60° B DEL	150 PSI	1.00	1.10 - 1.25

NOTE: Start-up and Adjustment Recommendations . . . Adjust burner for highest CO₂ (Maximum 13%) while maintaining a 0 Smoke and -.01 to -.02" W.C. Overfire Draft. All adjustments must be made using suitable instruments such as found in a Bacharach Combustion Test Kit.

F – OIL BURNER INSTALLATION (continued)

RIELLO SERIES 40 OIL BURNER					
Boiler Model No.	Burner Model No.	Nozzle ** Size	Pump Pressure	Turbulator Setting	Air Damper Setting
WBV-03-060	F3	0.50 90° B	145	0.0	2.9
WBV-03-085	F5	0.65 60° W	170	1.0	2.45
WBV-03-110	F5	0.85 60° W	165	2.5	2.8
WBV-04-125	F5	1.00 60° W	155	2.5	3.4
WBV-04-140	F5	1.10 60° W	160	4.0	4.2
WV-05-175	F10	1.35 60° B	165	2.0	2.5
WV-05-200	F10	1.50 60° B	170	2.5	2.8

** Delavan Recommended

NOTE: Above Turbulator and Air Damper Settings are **start-up settings only**. Final adjustments must be made with combustion test instruments.

ADVERSE FUEL CONDITIONS

If an adverse fuel condition such as cold oil exists, it may be necessary to increase the pump pressure to the nozzle. Cold oil is much harder to atomize at 100 psi compared to room temperature oil. To the right is a chart giving flow rates of standard nozzle sizes at 120 psi and 140 psi pump pressure.

Note: If it was necessary to increase the pump pressure above the standard 100 psi, to eliminate any confusion for the next routine servicing a tag must be placed on the burner indicating pump pressure and nozzle size used.

Nozzle Rating At 100 PSI	Approx. Nozzle Rates GPH	
	120 PSI	140 PSI
0.50	0.55	0.59
0.65	0.71	0.77
0.75	0.82	0.89
0.85	0.93	1.00
0.90	0.99	1.07
1.00	1.10	1.18
1.10	1.21	1.30
1.20	1.31	1.41
1.25	1.37	1.48
1.35	1.48	1.60
1.50	1.64	1.78
1.65	1.81	1.95
1.75	1.92	2.07

G – CONTROLS

1 – Apply controls as follows:

a. Water Boilers:

Install the limit or operating control, pressure-temperature gauge and safety relief valve. See page 3 for proper location.

b. Steam Boilers:

Install limit, pressure gauge, gauge glass trim and safety valve. See page 3. For application of probe low-water cut-off see page 3, and control manufacturers instruction sheet shipped with the control. When probe-type LWCO is used, Peerless recommends Hydrolevel CG450.

2 – For complete information on servicing and adjustment of controls, refer to the attached control specification sheets.

Caution: Pipe the discharge of the safety valve or relief valve to prevent injury in the event of pressure relief. Pipe the discharge to a drain. Provide piping that is the same size as the relief valve.

H – WIRING

1 – All electrical wiring shall be done in accordance with the National Electrical Code and Local Requirements. Single Pole Switches including those of Safety Controls or Protective Devices shall not be wired in a grounded line.

2 – Locate junction box in the trim carton. Mount junction box to the holes in the right side of jacket with (2) #10 x 1" sheet metal screws.

3 – Locate polarized harness in the trim carton. Connect harness from the junction box to the limit (water boilers) or low water cut-off (steam boilers). See Junction Box detail (Figure 9), photos (Figure 10 & cover), and wiring diagrams (Figures 11-13).

WARNING: Improper installation of burner harness can allow burner to energize with swing door open, creating a severe burn hazard to boiler maintenance personnel

4a - Locate the polarized burner harness in the burner carton. Attach harness between burner and junction box. See Junction Box detail (Figure 9), photos (Figure 10 & cover), and wiring diagrams (Figures 11-13).

4b. - If using a non-Peerless supplied burner, obtain appropriate burner harness from a Peerless Distributor, or hardwire burner such that burner swing door can not be opened without disconnecting power.

Harness for Beckett or Carlin burner - 50232 (polarized, 21" long conduit)

Harness for Riello burner - 50226 (polarized, 36" long conduit)

5 - Wire zone circulators as shown in Figure 14 and zone valves as shown in Figure 15.

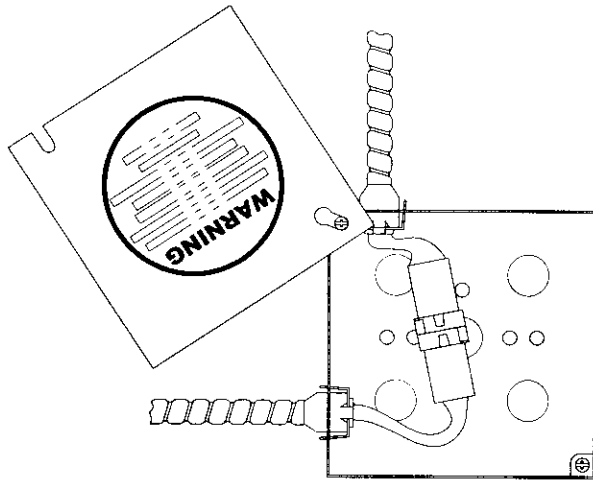


FIGURE 9

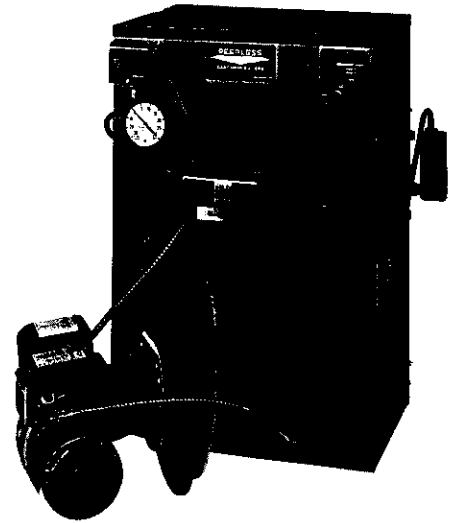


FIGURE 10

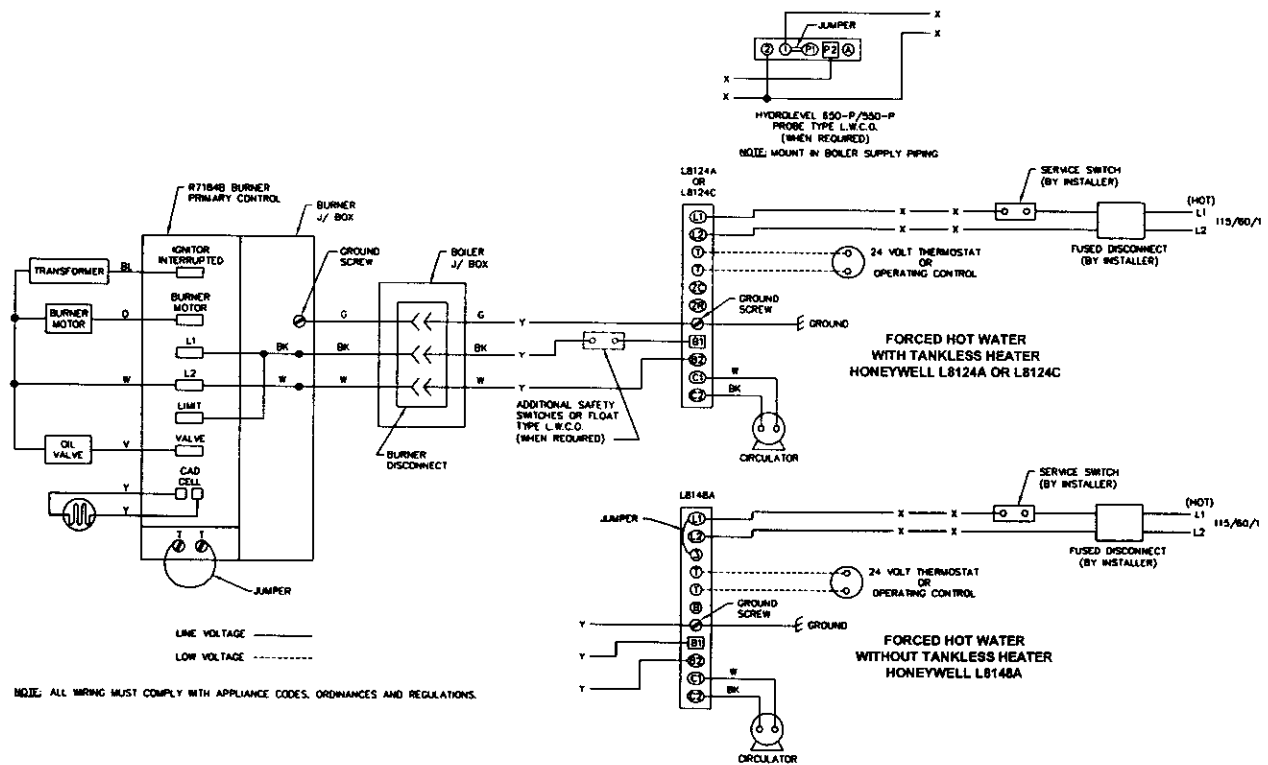


FIGURE 11: WATER BOILERS

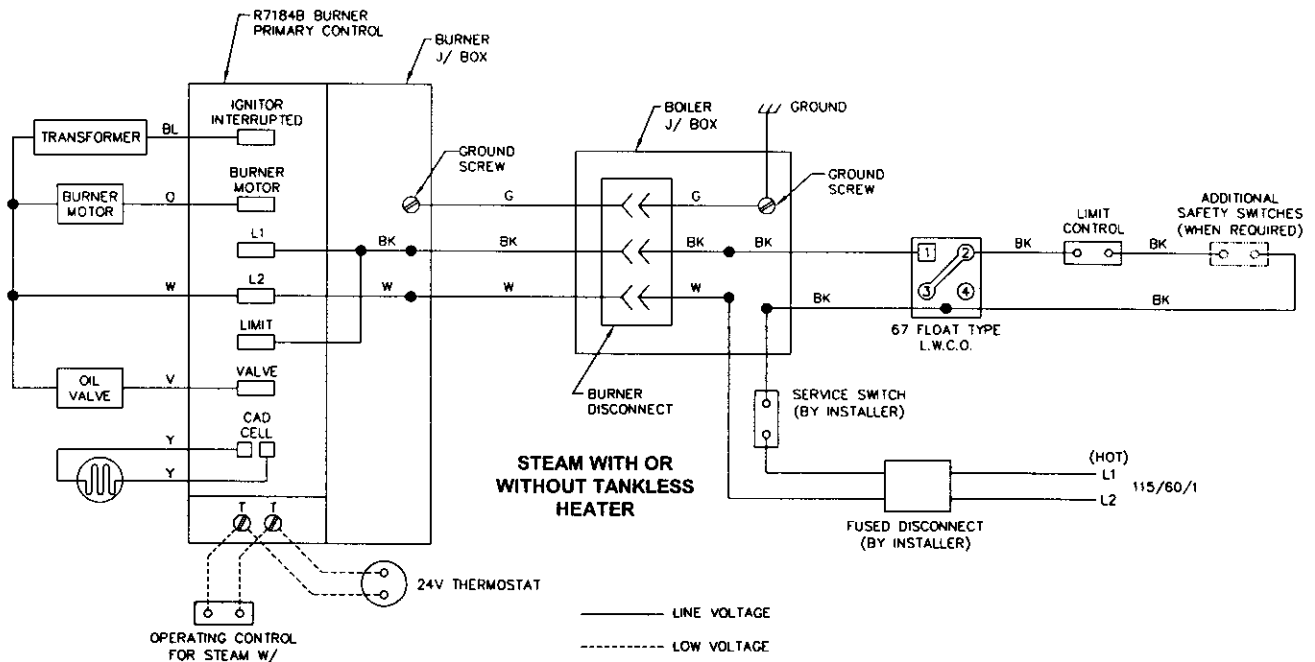


FIGURE 12: STEAM WITH FLOAT LOW WATER CUT-OFF

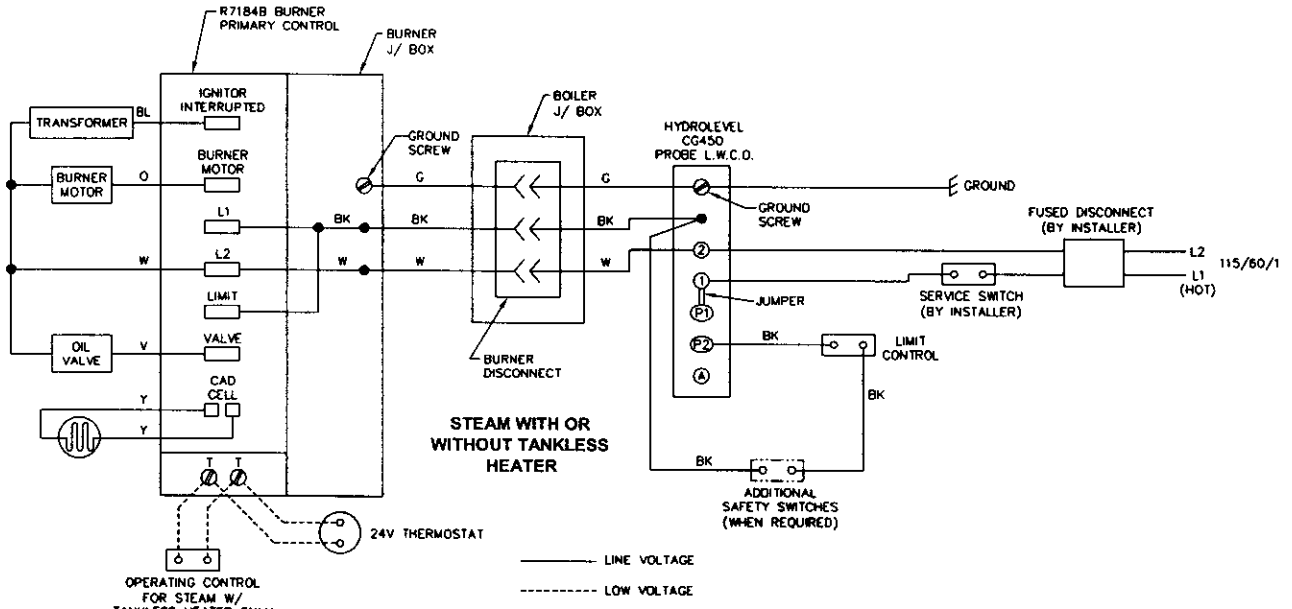


FIGURE 13: STEAM WITH PROBE LOW WATER CUT-OFF

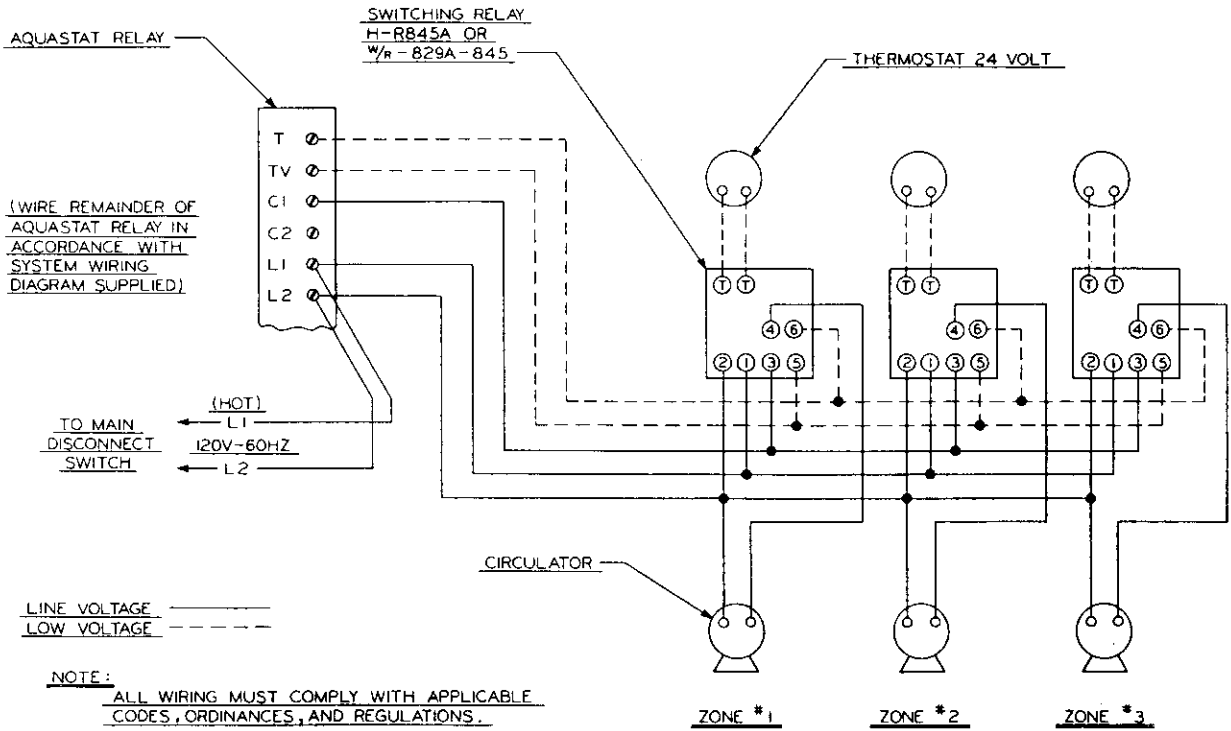


FIGURE 14: ZONING WITH CIRCULATORS

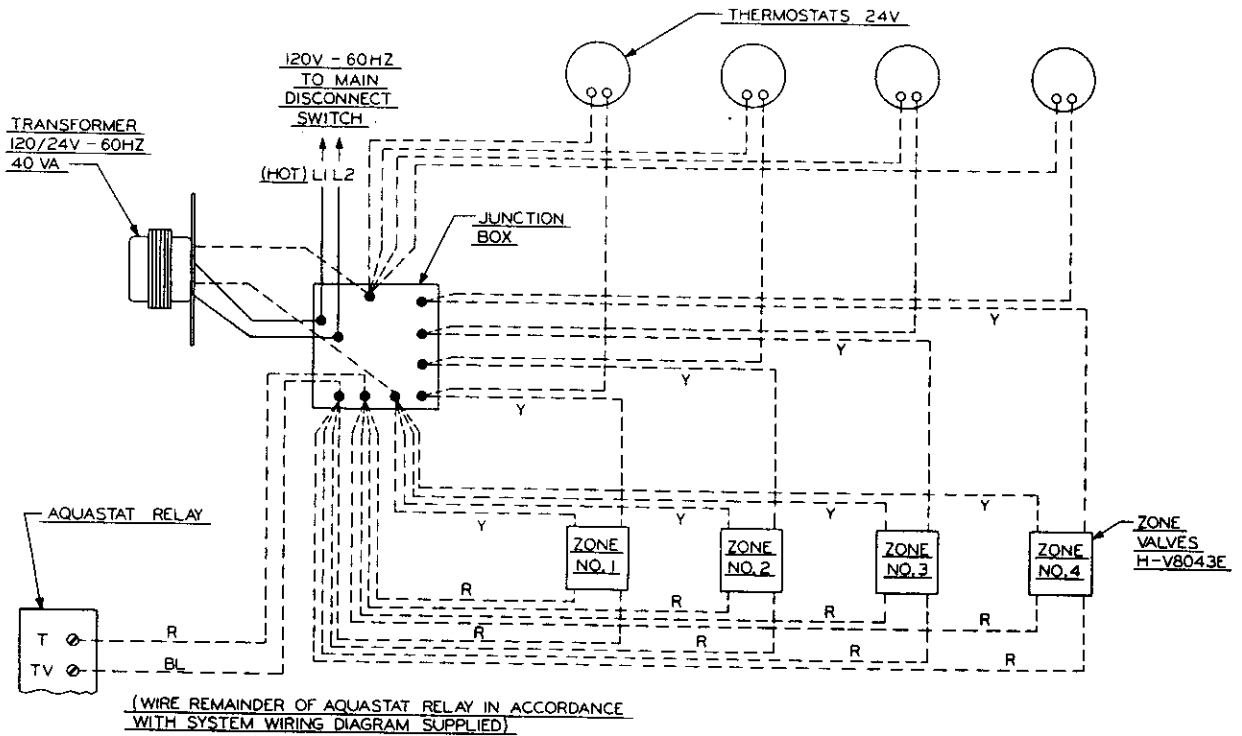


FIGURE 15: ZONING WITH ZONE VALVES

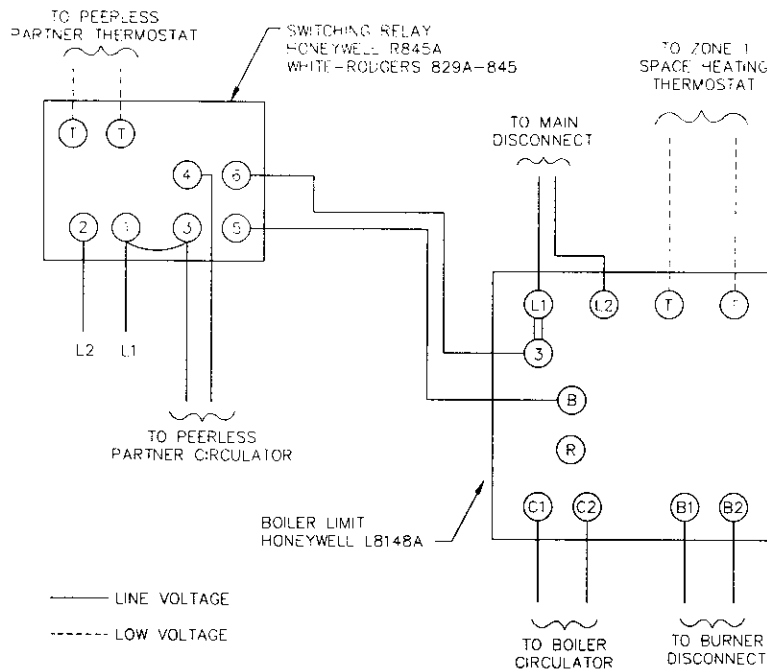


FIGURE 16: PARTNER WITH CIRCULATOR (NON-PRIORITY)

I – CLEANING THE STEAM SIDE (SKIMMING)

Clean the boiler within one week after initial start-up. Cleaning will be more effective if boiler operates a day or two to loosen sediment and impurities in system.

Boiler must be cleaned to remove any accumulation of oil, grease, sludge, etc. in system. These substances can cause foaming and surging of boiler water, producing an unstable water line and water carryover to system.

WARNING: CLEANING THE BOILER REQUIRES THE USE OF VERY HOT WATER AND CORROSIVE CHEMICALS. USE CARE WHEN HANDLING TO PREVENT INJURY.

- 1 – Connect a skim valve off the 1¼ NPT skim tapping on front of boiler. See WBV steam boiler figures on page 3 to locate skim tapping. Run a drain line off skim valve to a point of safe discharge.
- 2 – Provide a means of supplying continuous fresh water to the boiler for the cleaning process.
- 3 – Open the skim valve. Fill boiler until water begins to flow out of the valve.
- 4 – Use common washing soda, such as Arm and Hammer Super Washing Soda. Mix 1/2 pound of soda with water in a 10 quart pail. Pour the mixture into the boiler through the safety relief valve tapping.

CAUTION: DO NOT LEAVE BOILER UNATTENDED WHILE FIRING BURNER. OPERATING BOILER WITH WATER BELOW MINIMUM PERMISSIBLE WATER LEVEL MAY FRACTURE SECTIONS.

- 5 – Turn on burner. Allow boiler water to heat up to just below steaming (180 - 200° F). Do not allow boiler to steam; steaming mixes up contaminants instead of floating them at surface.
- 6 – Open make-up water valve to continuously feed water to boiler. Adjust flow to maintain water temperature at 180 - 200° F.

CAUTION: DO NOT ALLOW MAKE-UP WATER TO FLOW TOO FAST. EXCESSIVE QUANTITIES OF COLD WATER MAY FRACTURE SECTIONS.

- 7 – Continue skimming boiler until water flowing from skim tapping flows clear. This will take some time, possibly several hours for a dirty system.
- 8 – Turn off burner, close make-up water valve.
- 9 – Drain boiler completely. Refill and drain one or two times to wash out all washing soda.
- 10 – Remove skim valve and piping. Install 1¼ NPT plug in skim tapping.

NOTE: IF GAUGE GLASS BECOMES DIRTY MORE CONTAMINANTS HAVE WORKED LOOSE IN SYSTEM. REPEAT CLEANING AND SKIMMING PROCESS AS NEEDED TO CLEAN SYSTEM.

J – CLEANING HEATING SURFACES

NOTE: BOILER IS TO BE CLEANED AT LEAST ONCE A YEAR. TO THOROUGHLY CLEAN THE BOILER IT MUST BE BRUSHED DOWN FROM THE TOP. ALTERNATELY, FOR LIMITED SPACE OR MINIMUM CLEARANCE TO COMBUSTIBLE INSTALLATIONS, CLEANING THE HEAT EXCHANGER FROM THE COMBUSTION CHAMBER SIDE IS ACCEPTABLE.

TO CLEAN:

- 1 – Turn off all electrical power to the boiler before beginning cleaning operation.
- 2 – Remove top jacket panel and flue collector cover plate, Item 11.
- 3 – Brush the flue passages thoroughly from the top with a wire brush. If unit is extremely dirty, brushing up from the combustion chamber area also may be necessary. The target wall is made of a soft ceramic fiber, care must be taken not to injure this material during cleaning.
- 4 – Remove any scale or soot from the combustion chamber area by vacuum cleaning or any other available means.

NOTE: THE OIL BURNER MUST BE REMOVED TO FACILITATE THIS OPERATION.

- 5 – Replace oil burner and flue collector cover plate making sure all gaskets are in place.
- 6 – Replace jacket top panel.



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SERIES WBV/WV RATINGS								
(1) Boiler Model Number	(2) Heating Capacity BTU/Hr.	(3) Net I=B=R Ratings			(4) I=B=R Firing Rate G.P.H.	Chimney		Minimum Draft Required in Stack
		BTU/Hr. Steam	Steam Sq. Ft.	BTU/Hr. Water		Size Inches	Height Feet	
WBV-03-60+*	74,000	N/A	N/A	64,000	0.60+*	8 x 8	15	-.03"
WBV-03-085	102,000	76,000	317	89,000	0.85	8 x 8	15	-.04"
WBV-03-110	129,000	97,000	404	112,000	1.10	8 x 8	15	-.05"
WBV-04-095+	116,000	N/A	N/A	101,000	0.95+	8 x 8	15	-.03"
WBV-04-125	150,000	112,000	467	130,000	1.25	8 x 8	15	-.04"
WBV-04-150	178,000	133,000	554	155,000	1.50	8 x 8	15	-.05"
WV-05-175	209,000	N/A	N/A	182,000	1.75	8 x 8	15	-.05"
WV-05-200	237,000	N/A	N/A	206,000	2.00	8 x 8	15	-.06"

(1) Boiler Model No. may have the following suffix letters:

- | | |
|------------------------------------|-----------------|
| W–Water | P–Packaged |
| S–Steam | C–Circulator |
| U–Boiler-Burner Unit (Unassembled) | T–Tankless Coil |

(2) Heating Capacity ratings are based on U.S. Government standard tests, with 13.0% CO₂ and -0.02" water column draft over fire.

(3) The water ratings are based on a piping pick-up allowance of 1.15; steam ratings are based on an allowance of 1.333.

Consult factory before selecting a boiler for gravity hot water installations and installations having unusual piping and pick-up requirements, such as intermittent system operation, extensive piping systems, etc.

(4) Firing rate is based on a fuel oil with a heating value of 140,000 BTU per gallon. Burner input based on maximum altitude of 2,000 ft. – for other altitudes consult factory.

+ Nozzles for these firing rates not provided as standard equipment. Consult factory for price and availability.

* This firing rate can only be achieved with a Riello F-3 burner. Consult Peerless for details.

REPAIR PARTS SERIES WBV/WV OIL BOILERS

REPAIR PARTS ARE AVAILABLE FROM YOUR INSTALLER OR BY CONTACTING
PEERLESS HEATER COMPANY, BOYERTOWN, PA 19512-1021

NOTE: REMEMBER TO INCLUDE BOILER MODEL NUMBER AND SERIAL NUMBER WHEN ORDERING PARTS

Item No.**	Stock Code	Description	Additional Information
1		Block Assembly Water (Open)	Specify Size
		Block Assembly Water (Closed)	Specify Size
		Block Assembly Steam (Open)	Specify Size
		Block Assembly Steam (Closed)	Specify Size
2	50795	Target Wall	
3		Base Liner	Specify Size
4	90538	Swing Door Hinge	
5	90158	Burner Mounting Plate Assembly	
	PP1004	Burner Mounting Plate Insulation	
6	51210	Burner Mounting Plate Rope Seal	
7	99812	Steel Cover Plate (Front) Water	
	X1078	Steel Cover Plate (Front) Steam	
8	51800	Rubber Gasket (Front Plate)	
9	90532	Tankless Coil	3 Section - Water Only
	90534		4 & 5 Section - Water Only
	90530		3 & 4 Section - Steam
10	90999	Flue Collector Plate Blanket Seal	Specify Size
11		Flue Collector Cover Plate	Specify Size
11A	90562	Top Outlet Flue Collector Plate	5 Section Only
12	51209	Rope Seal	
13	90563	Rear Outlet Cover Plate	
14		Flue Collar Adapter	Specify Steam or Water
15		Jacket Assembly (Water)	Specify Size
		Jacket Assembly (Steam)	Specify Size
16	90141	Steel Cover Plate (Rear)	
17	51673	Rubber Gasket (Rear Section Plate)	
		Oil Burner	Specify Brand Name
		Temperature-Pressure Gauge	
		Steam Gauge	
		Aquastat	
		Pressuretrol	
		Drain Valve	
		Relief Valve (Water)	
		Pop Safety Valve (Steam)	

**See Figures 7 & 8 on page 5

Series WBV/WW

Oil Boilers

Installation, Operation & Maintenance Manual

TO THE INSTALLER:

This manual is the property of the owner and must be affixed near the boiler for future reference.

TO THE OWNER:

This boiler should be inspected annually by a Qualified Service Agency.



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ASME



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