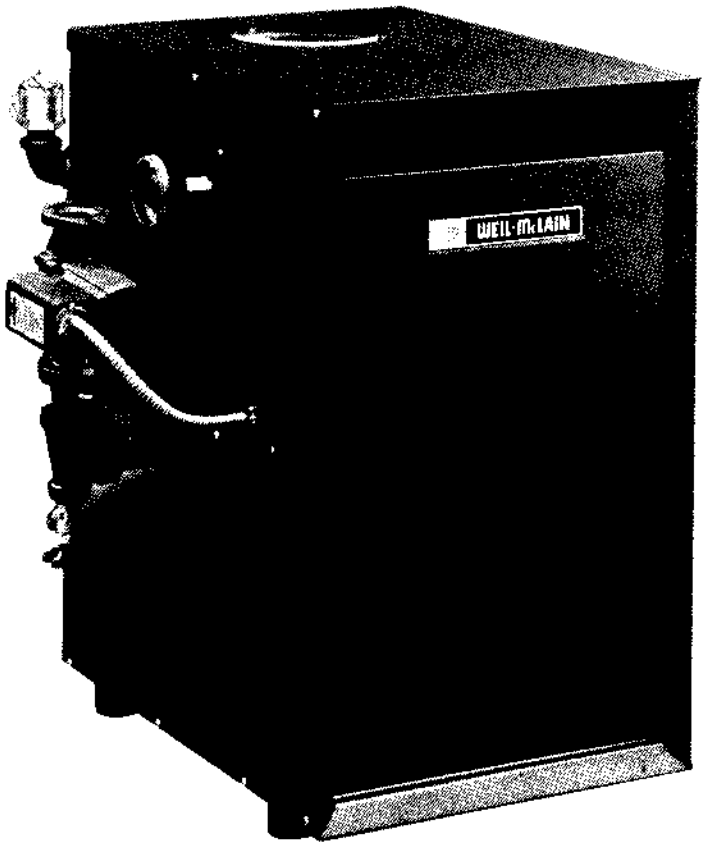
Obsoleted by 550-110-242/109

WEIL-McLAIN

W-M

CGM (Series 10) Gas-Fired Boiler Manual



Includes:
- **Installation**
- **Start-up**
- **Service**
- **Parts**

Refer to Control Supplement for additional information

For Natural or Propane Gas

BOILER MANUAL FOR USE BY A QUALIFIED CONTRACTOR

To the owner: Regular service on this boiler is recommended and should be performed by a qualified contractor.

To the installer: Read all instructions and warranty before starting.

Any claims for damage or shortage in shipment must be filed immediately against the transportation company by the consignee.

Part No. 550-110-526/1290 WP

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IMPORTANT: When calling or writing about the boiler, PLEASE GIVE THE MODEL and SERIES located on the boiler rating label AND C.P. NUMBER affixed next to the rating label.

Pay attention to these terms:

DANGER indicates presence of a hazard which *will* cause *severe* personal injury, death or substantial property damage if ignored.

WARNING indicates presence of a hazard which *can* cause *severe* personal injury, death or substantial property damage if ignored.

CAUTION indicates presence of a hazard which *will* or *can* cause minor personal injury or property damage if ignored.

NOTICE indicates special instructions on installations, operation, or maintenance which are important but not related to personal injury hazards.

WARNING

DO NOT USE PETROLEUM-BASED CLEANING OR SEALING COMPOUNDS IN BOILER SYSTEM. SEVERE DAMAGE TO THE BOILER WILL OCCUR.

WARNING

FAILURE TO FOLLOW ALL INSTRUCTIONS IN PROPER ORDER CAN CAUSE PERSONAL INJURY OR DEATH. READ ALL INSTRUCTIONS BEFORE INSTALLING.

Section I: Pre-Installation

CODES

Installations must comply with all local codes, laws, regulations and ordinances, also United States National Fuel Gas Code ANSI Z223.1-latest edition. When required, installations must conform to American Society of Mechanical Engineers Safety Code for Controls and Safety Devices for Automatically Fired Boilers, No. CSD-1. Safe lighting and other performance criteria were met with the gas manifold and control assembly provided on boiler when boiler underwent tests specified in ANSI Z21.13a-latest edition.

In Canada, installation must comply with CAN/GGA B149.1 and .2 Installation Code.

AIR SUPPLY FOR COMBUSTION

WARNING Adequate combustion and ventilation air must be provided to assure proper combustion and prevent the possibility of flue gas spillage.

1. In buildings of conventional frame, masonry or metal construction, infiltration is normally adequate to provide combustion air for boilers in unconfined rooms.
2. If the space is in a building of unusually tight construction, air should be obtained from outdoors or from spaces which freely connect with outdoors (see #4 below).
3. For boilers in confined rooms, two permanent openings shall be provided: one within 12 inches from the ceiling and one within 12 inches from the floor of the room. Each opening shall be at least one square inch per 1,000 BTUH boiler input, but must not be less than 100 sq. inches. These openings shall freely connect with areas having adequate infiltration from outside.
4. When all air is provided from outdoors the confined space shall be provided with two openings as outlined in #3 above. These openings shall connect directly or by ducts with outdoors or spaces (crawl or attic) that freely connect with the outdoors and shall be of the size listed below for that particular arrangement:
   (a) One square inch per 4,000 BTUH of boiler input for direct outdoor air supply through an outside wall or through vertical ducting directly to outside.
   (b) One square inch per 2,000 BTUH of boiler input for direct outdoor air through horizontal ducting.
   (c) All ducting shall be of the same size as the opening to which it is connected with minimum dimensions of no less than 3 × 3 inches or 9 total square inches of area.
   (d) Other size ducting must comply with local codes.

CHIMNEY OR VENT REQUIREMENTS

Minimum chimney or vent sizes are on back cover of these instructions. In most cases a chimney or vent extended at least 2 feet above highest part of roof or other structure within 30 feet will be sufficient to prevent downdrafts.

A lined chimney is preferred and must be used when required by federal, provincial, territorial, state, or local building codes. Vitreous tile linings with joints that prevent retention of moisture and linings made of noncorrosive materials are best. Advice for flue connections and chimney linings can be obtained from local gas utility.

DANGER Inspect existing chimney before installing boiler. Failure to clean or replace perforated pipe or tile lining will cause severe injury or death.

DANGER Do not alter boiler draft hood or place any obstruction or non-approved damper in the breeching or vent system. Flue gas spillage will occur. A.G.A./CGA certification will become void.

Where two or more gas appliances vent into a common chimney or vent, the equivalent area should be at least equal to the area of the vent outlet on the largest appliance plus 50 percent of the area of the vent outlet on the additional appliance.

WHEN REMOVING BOILER FROM COMMON VENTING SYSTEM:

At the time of removal of an existing boiler, the following steps shall be followed with each appliance remaining connected to the common venting system placed in operation, while the other appliances remaining connected to the common venting system are not in operation.

a. Seal any unused openings in the common venting system.
b. Visually inspect the venting system for proper size and horizontal pitch and determine there is no blockage or restriction, leakage, corrosion, and other deficiencies which could cause an unsafe condition.
c. Insofar as is practical, close all building doors and windows and all doors between the space in which the appliances remaining connected to the common venting system are located and other spaces of the building. Turn on clothes dryers and any appliances not connected to the common venting system. Turn on any exhaust fans, such as range hoods and bathroom exhausts, so they will operate at maximum speed. Do not operate a summer exhaust fan. Close fireplace dampers.

d. Place in operation the appliance being inspected. Follow the lighting instructions. Adjust thermostat so appliance will operate continuously.
e. Test for spillage at draft hood relief opening after 5 minutes of main burner operation. Use the flame of a match, or candle, or smoke from a cigarette, cigar or pipe.
f. After it has been determined that each appliance remaining connected to the common venting system properly vents when tested as outlined above, return doors, windows, exhaust fans, fireplace dampers, and any other gas-burning appliance to their previous conditions of use.

Any improper operation of common venting system should be corrected so the installation conforms with the National Fuel Gas Code, ANSI Z223.1—latest edition. Correct by resizing to approach the minimum size as determined using the appropriate tables in Appendix G of that code.

SELECT THE BOILER LOCATION

CONSIDER ALL CONNECTIONS TO THE BOILER BEFORE SELECTING A LOCATION.

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

MINIMUM SERVICE CLEARANCES

Suggested for easy servicing:

24 inches for cleaning and servicing, left side.
18 inches for access to controls and components, front.
36 inches from top for cleaning flueways.
7 inches on remaining sides.

Single wall vent pipe must be at least 6 inches from combustible material.

Double wall and B-vent vent pipe refer to vent manufacturer's recommendation for clearances to combustible material.

Clearance from hot water piping to combustible material—1 inch.

Screwdriver clearance for removal of jacket screws should be provided. If not, unions and shut-off valves should be installed in system so boiler can be moved for servicing.

Required clearances in confined spaces

Refer to label located on left side panel for required minimum clearances. Also see Figure 1.

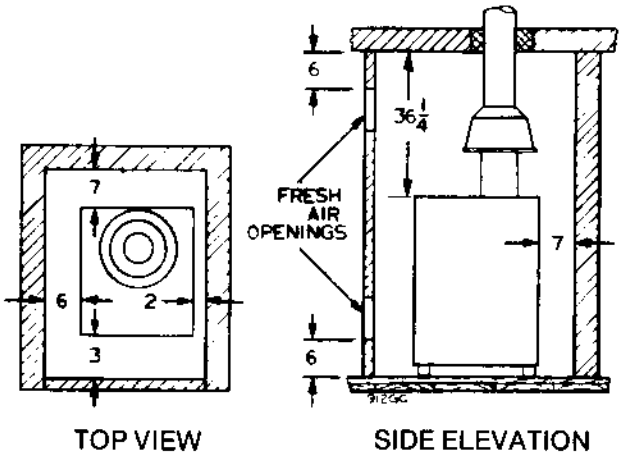


FIGURE 1

RESIDENTIAL GARAGE INSTALLATION (ANSI Z223.1)

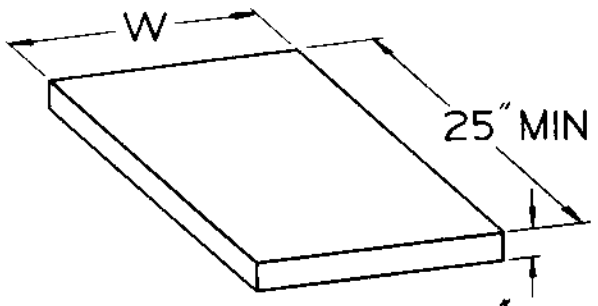
Install boiler so burners are at least 18 inches above the floor.

BOILER FOUNDATION

Boilers are approved for use on combustible flooring but MUST NOT BE INSTALLED ON CARPETING.

1. Level concrete or solid brick pad foundation is required if:
   a) Water could flood area.
   b) Non-level conditions exist.

BOILER FOUNDATION SIZES		
Number of Boiler Sections	Foundation Width	Foundation Length
3	12"	25¼"
4	15"	25¼"
5	18"	25¼"
6	21"	25¼"
7	24"	25¼"
8	27"	25¼"



BOILER FOUNDATION
FIGURE 2

PLACING THE BOILER

Leave boiler in crate and on pallet until installation site is ready.

1. Move entire crate and pallet next to selected location.
2. Remove crate.
3. Remove boiler from pallet as follows:
   a. Tilt left side of boiler up and place a board under left legs.
   b. Tilt boiler the other way and place a board under right legs.
   c. Slide boiler backward off pallet and into position.

DO NOT DROP BOILER OR BUMP JACKET ON FLOOR OR PALLET.

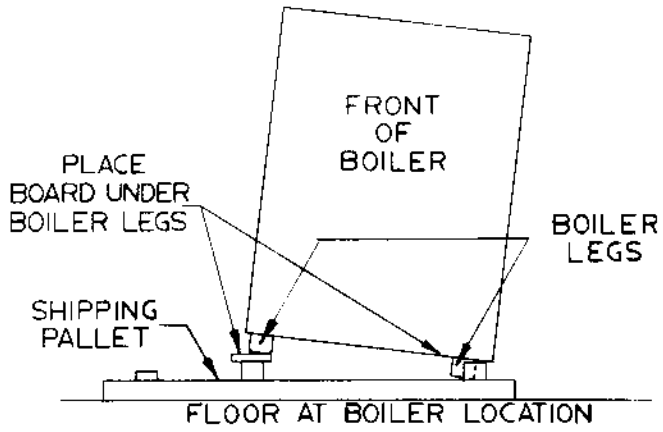


FIGURE 3

4. Check level. Shim legs, if needed. Do not alter the legs.
5. Remove front jacket door. Remove burner access panel. Unscrew access panel screws; remove and discard shipping washers; reinstall screws.
6. Check for proper orifice sizing from chart below.

ORIFICE DRILL SIZES		
Type of Gas	Heating Value, BTU/cu. ft.	Std. Orifice Drill Size
Natural	1000	46
Propane	2500	56

7. Level and straighten the burners.

DANGER Burners must be properly seated in their locating slots with their openings facing up. Gas orifices must inject down the center of the burner.

8. Reinstall access panel.

CAUTION Access panel must be secured in position during boiler operation to prevent momentary flame rollout on ignition of main flame.

DRAFT HOOD INSTALLATION

Secure draft hood to outlet at top of boiler with sheet metal screws. Bottom of draft hood or "skirt" must have the clearance dimension above jacket top panel as indicated on draft hood.

DANGER Do not alter the draft hood—flue gas spillage will occur. If draft hood is altered, **A.G.A./C.G.A. certification becomes void.**

SPILL SWITCH INSTALLATION

Fasten spill switch to draft hood as shown on page 19. Connect wires as shown on wiring diagram.

BREECHING ERECTION

Connect from draft hood outlet to chimney or vent with same size breeching. Where possible, vertical venting to the outside from the draft hood outlet will offer best performance. Where horizontal breeching is used, slope upward at least ¼ inch per lineal foot toward chimney or vent.

WARNING Long horizontal breechings, excessive numbers of elbows or tees, or other obstructions which restrict the flow of combustion gases should be avoided.

Breaching must not be connected to any portion of a mechanical draft system that can operate under positive pressure.

HYDROSTATIC PRESSURE TEST

Pressure test before attaching piping or electrical supply.

WARNING Leaks must be repaired at once or damage to the boiler can result. NEVER use petroleum based stop-leak compounds or leakage between the sections will occur.

1. Remove shipping nipple from supply outlet. Plug tappings, including compression tank tapping.
2. Connect water supply. Fill boiler and purge all air. TEST AT 45 PSIG for more than 10 minutes.

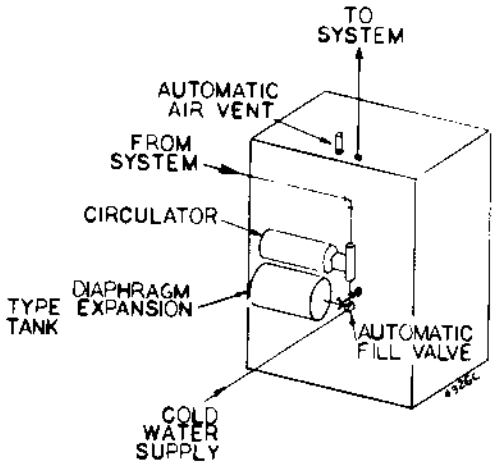
WARNING Do not leave the boiler unattended. A cold water fill could expand and cause excessive pressure.

3. Make sure gauge pressure has been maintained.
4. Check for leaks. Repair, if found.
5. Drain boiler and remove testing plugs.
6. On initial start-up, check for leaks in system piping. If found, repair at once.

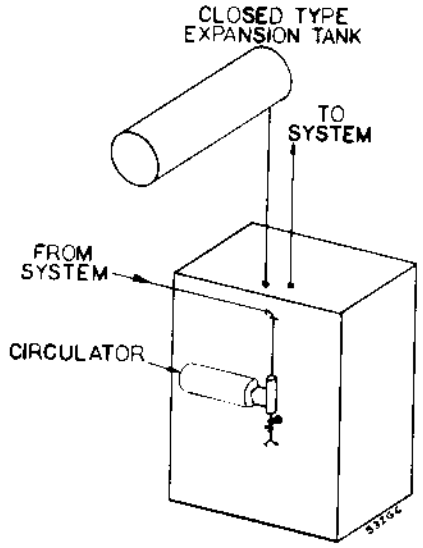
CAUTION Failure to properly pipe boiler may result in improper operation and damage to boiler or building.

1. Pipe as shown in Figures 4 or 5.
   a. Diaphragm-type expansion tank: Be sure tank pressure and size will handle system pressure and water volume.
      1) Fill pressure may be adjusted at tank for design conditions. Follow manufacturer's instructions.
      2) Additional tanks may be connected to tees in system near boiler. See Table I.
      3) Install automatic air vent as shown in Figure 4.
   b. Closed-type expansion tank: Size tank to system requirements. Refer to tank manufacturer's instructions.
      1) Connection from ½" N.P.T. tapping (located behind supply outlet) to expansion tank. Use ½" piping. Any horizontal piping must pitch up towards tank 1" per 5 feet of piping.
      2) Built-in air elimination system is provided. No additional device is needed if tank is piped as shown in Figure 5.
2. Use low water cut-off when:
   a. boiler is located above radiation level.
   b. required by certain state, local, or territorial codes or insurance companies.

   Use low water cut-off designed for water installations. Electrode probe type may be located in tee in supply piping.



DIAPHRAGM TYPE EXPANSION TANK PIPING FIGURE 4



CLOSED TYPE EXPANSION TANK PIPING FIGURE 5

TABLE I—EXPANSION TANK SIZING*

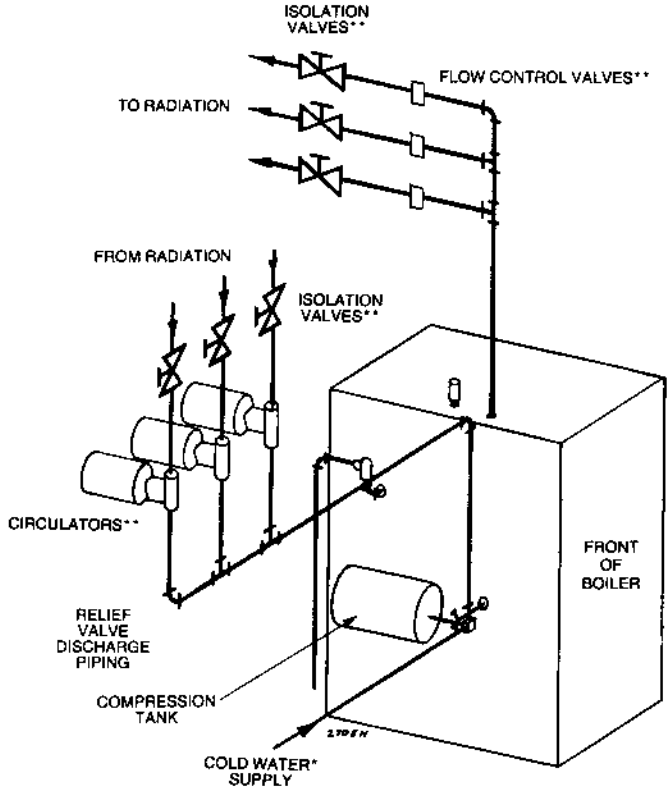
Number of Boiler Sections	Standard Fill-Trol Tank—Adequate for Series Loop Piping Systems with Convector Baseboard	Additional Ex-Trol Tank Required for One Pipe Systems with Convector Baseboard	** Additional Ex-Trol Tank(s) Required for Cast-Iron Radiators	Additional Ex-Trol Tank(s) Required for Cast-Iron Baseboard
3	No. 109	—	No. 15	No. 15
4	No. 109	No. 15	No. 15	No. 30
5	No. 109	No. 15	No. 15	No. 30
6	No. 110	—	No. 15	No. 30
7	No. 110	—	No. 30	No. 30
8	No. 110	No. 15	No. 30	No. 15 & 30

* Tank selections based on 220°F. average system water temperature.
** Systems with unusually large volumes of water may require additional expansion capacity.

3. **If the system is to comply with ASME codes,** an additional high temperature limit is needed. Purchase and install in supply piping from the boiler.
4. **WARNING** Relief valve discharge piping must be piped near floor close to floor drain to eliminate potential of severe burns. Do not pipe to any area where freezing could occur.
5. Connect supply, return, and cold water fill piping. Supply tapping size is 1¼" in left end section. Bush down to ¾" for CGM-25, increase to 1½" for CGM-8.

MULTIPLE ZONING WITH CIRCULATORS

1. If multiple zoning with circulators, boiler must be repiped. See Figure 6.
   a) Remove provided circulator.
   b) Determine if by-pass piping will be needed. See page 8.
   c) Mount circulators as shown.
   d) Install flow control valves.
   e) Follow remaining piping instructions



*DO NOT USE DRAIN COCK TAPPING
**MAY BE INSTALLED IN ALTERNATE LOCATIONS

MULTIPLE ZONING WITH CIRCULATORS
FIGURE 6

BYPASS PIPING

BYPASS PIPING IS NOT NORMALLY REQUIRED ON TYPICAL BASEBOARD SYSTEM.

Bypass piping should be used for the following installations. Bypass, supply, and return piping should be same size.

1. When return water temperature is 130°F or greater: to protect system radiant panels, plaster, etc. from high temperature water supplied from boiler, see Figure 7.

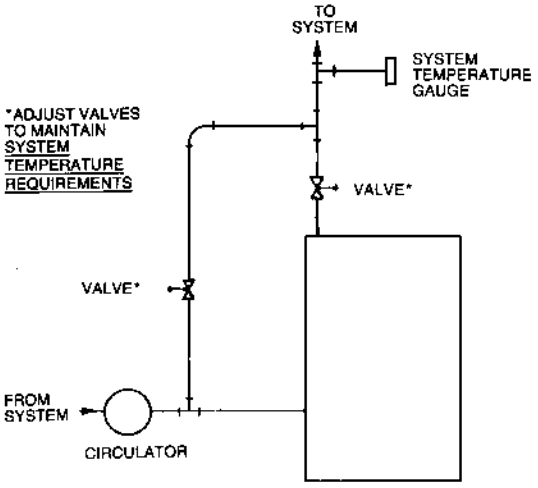


FIGURE 7

2. To protect boiler from condensation formed by low water temperature returned from large water content converted gravity systems, etc., see Figure 8.

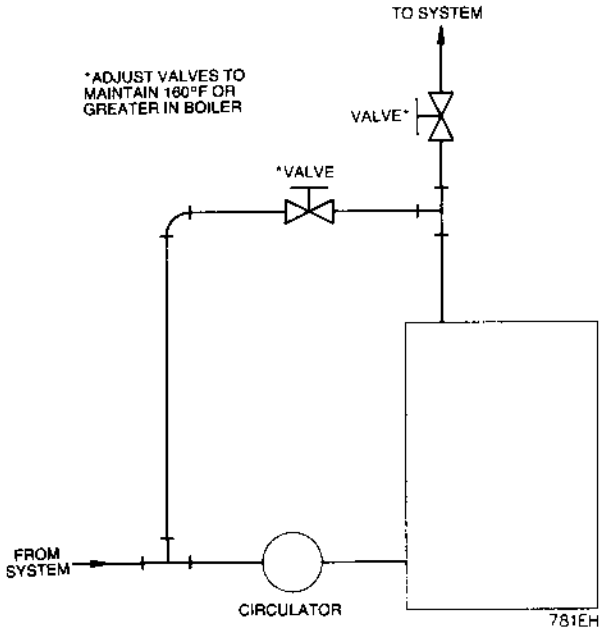


FIGURE 8

3. When return water temperature is below 130°F: to protect boiler from condensation while protecting system from high water temperatures, as in large water content radiant ceiling panels, see Figure 9.

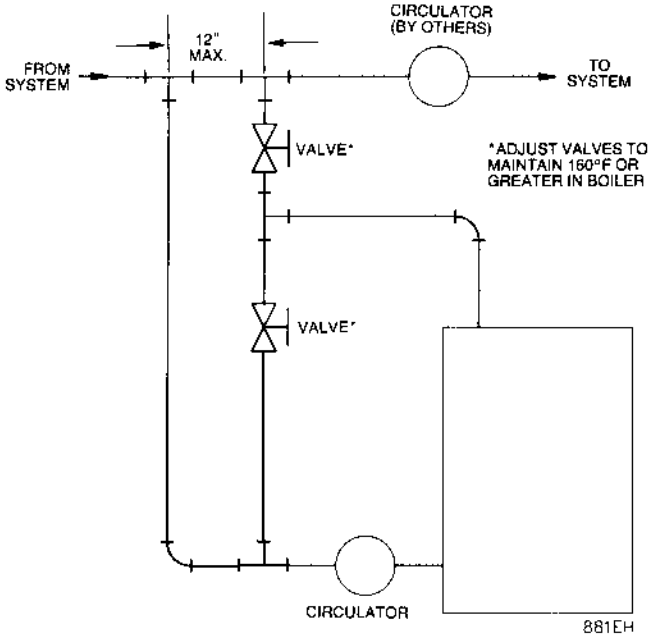
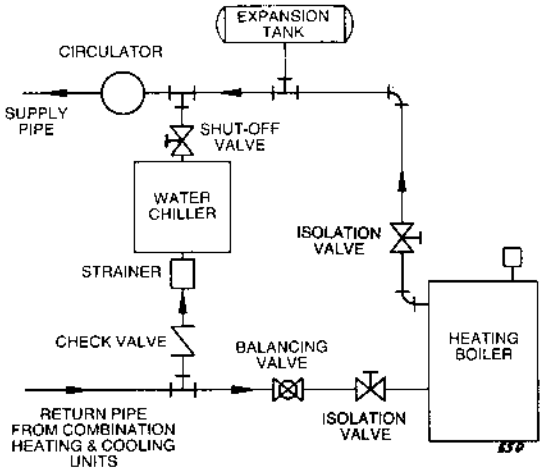


FIGURE 9

USE WITH REFRIGERATION SYSTEM

The boiler must be installed so that chilled medium is piped in parallel with the heating boiler with appropriate valves to prevent the chilled medium from entering the boiler. Consult I=B=R Installation and Piping Guides.



RECOMMENDED PIPING FOR COMBINATION HEATING & COOLING (REFRIGERATION) SYSTEMS
FIGURE 10

Size gas piping considering:

a. Diameter and length of gas supply piping.

b. Number of fittings.

c. Maximum gas consumption (including any possible future expansion).

d. Allowable loss in gas pressure from gas meter outlet to boiler. For pressure drops, see ANSI Z223.1.

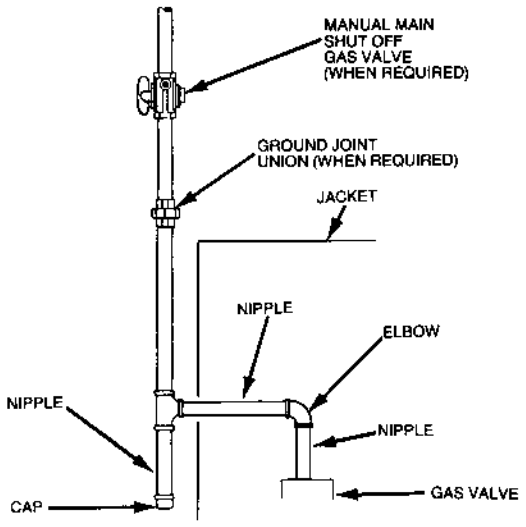
1. For natural gas:
   a) Refer to following tables. To obtain cubic feet per hour, divide the input by 1000.
   b) Size for rated boiler input.
   c) Inlet gas pressure: 5" W.C. minimum
      13" W.C. maximum
   d) Manifold gas pressure: 3½" W.C.
   e) Install 100% lock-up gas pressure regulator in supply line if inlet pressure exceeds 13" W.C. Adjust for 13" W.C. maximum.

PIPE DELIVERY SCHEDULE

Length of Pipe In Feet	*CAPACITY OF PIPE IN CUBIC FEET OF GAS PER HOUR				
	½"	¾"	1"	1¼"	1½"
10	132	278	520	1050	1600
20	92	190	350	730	1100
30	73	152	285	590	890
40	63	130	245	500	760
50	56	115	215	440	670
75	45	93	175	360	545
100	38	79	150	305	460
150	31	64	120	250	380

* 0.60 Specific Gravity, 0.30 inches water column pressure drop.
NOTE: For additional piping schedules, see ANSI Z223.1.

2. For propane gas:
   a) Inlet gas pressure: 11" W.C. minimum
      13" W.C. maximum
   b) Manifold gas pressure: 10" W.C.
   c) Gas pressure regulator provided by gas supplier must be adjusted for maximum pressure of 13" W.C.
   d) Contact gas supplier to size pipes, tanks and regulator.
3. Remove jacket door and refer to Figure 11 for gas piping.
4. Follow good piping practices.
5. Pipe joint compound (pipe dope) must be resistant to corrosive action of liquified petroleum gases and applied sparingly only to male threads of pipe joints.
6. Install drip leg at inlet of gas connection to boiler. Where local utility requires drip leg be extended to the floor, use an appropriate length of pipe between the cap and tee.



GAS SUPPLY PIPING
FIGURE 11

7. Install ground joint union to provide for servicing, when required.
8. Install manual shut-off valve in gas supply piping outside boiler jacket when required by local codes or utility requirements.
9. Support piping by hangers, not by the boiler or its accessories.
10. Purge all air from supply piping.
11. Check factory installed piping and field installed piping for leaks—BUBBLE TEST.

CAUTION

   a) DO NOT check for gas leaks with an open flame—BUBBLE TEST.
   b) Close manual main shut-off valve during any pressure testing at less than 13 inches water column.
   c) Disconnect boiler and gas valve from gas supply piping during any pressure test greater than 13 inches water column.

12. In Canada—when using manual main shutoff valve, it must be identified by installer.

Refer to wiring diagram label on jacket door and Control Supplement for specific wiring details.

WIRING

WARNING **For your safety, turn off electrical power supply at service entrance panel before making any electrical connections to avoid possible electrical shock hazard.**

All wiring must be installed in accordance with requirements of the National Electrical Code and any additional national, state, or local code requirements having jurisdiction. All safety circuit wiring must be N.E.C. Class 1.

The boiler must be electrically grounded in accordance with the National Electrical Code, ANSI/NFPA No. 70-latest edition. If original rollout thermal fuse element wire as supplied with the boiler must be replaced, type 200°C wire or equiv. must be used. If other original wiring as supplied with the boiler must be replaced, type 90°C wire or equivalent must be used.

The boiler is shipped with the control components completely wired.

A separate electrical circuit should be used for the boiler with a fused disconnect switch (15 amp. recommended). Bring electrical supply through proper opening in jacket left end panel and into electrical junction box. Wire electrical supply to leads in junction box as shown on the diagram.

INSTALL ROOM THERMOSTAT

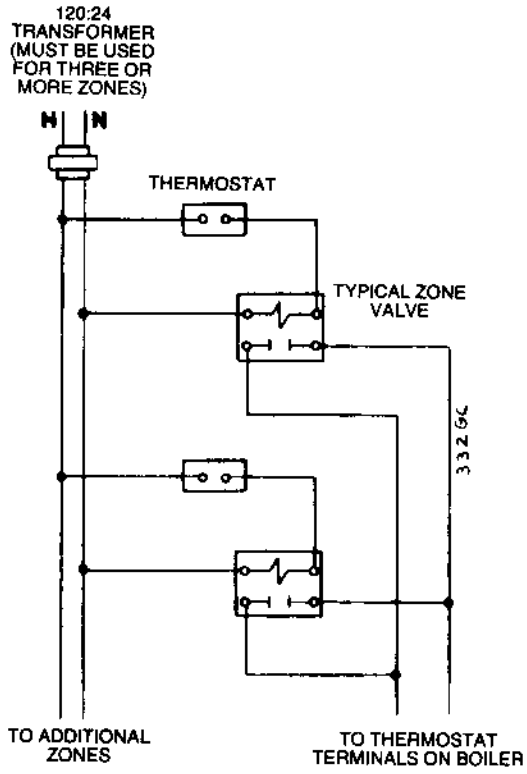
Install room thermostat on an inside wall. Never install where it will be influenced by drafts, hot or cold water pipes, lighting fixtures, television, sun rays or near a fireplace.

Heat anticipator in thermostat must be set to match power requirements of primary control to which it is connected.

Refer to wiring diagram on jacket door or in Control Supplement for recommended heat anticipator setting with standard equipment. Wire thermostat as shown.

WIRING MULTIPLE ZONES

Refer to zone valve manufacturer's literature for wiring and application. A separate transformer is required to power zone valves. Zoning with circulators requires a relay for each circulator.



TYPICAL WIRING—ZONING WITH ZONE VALVES
FIGURE 12

WATER TREATMENT

Never use petroleum based stop-leak compounds. Water seal deterioration will occur, resulting in leakage between sections.

Continual make-up water will reduce boiler life. Minerals can build up in the sections, reducing heat transfer, overheating the cast iron, and causing section failure.

For unusually hard water areas or low pH conditions (less than 7.0) consult local water treatment company.

Freeze protection (when used):

Use antifreeze especially made for hydronic systems. Inhibited propylene glycol is recommended. DO NOT use undiluted or automotive type antifreeze.

50% solution provides protection to about – 34°F.

Local codes may require a back-flow preventer or actual disconnect from city water supply.

Determine quantity according to system water content. Boiler water content is listed on back cover.

Follow antifreeze manufacturer's instructions.

FILLING SYSTEM

1. Close manual air vents, drain cock, and automatic air vent, if used.
2. Fill to correct system pressure. Correct pressure will vary with each application. Residential systems are often designed for 12 pounds of cold fill pressure.
3. Open automatic air vent two turns, if used.
4. Open manual water feed valve.
5. a) Starting on the lowest floor, open air vents one at a time until water squirts out. Close vent.
   b) Repeat with remaining vents.
6. Close manual water feed valve when correct boiler pressure is reached.

INSPECT BASE INSULATION

Check to make sure refractory is secure against all four sides of the base.

WARNING If refractory material is damaged or displaced, call service technician immediately. DO NOT operate boiler.

CAUTION Ceramic fiber material used in boiler base insulation and gaskets can cause temporary skin, eye, and upper respiratory irritation.

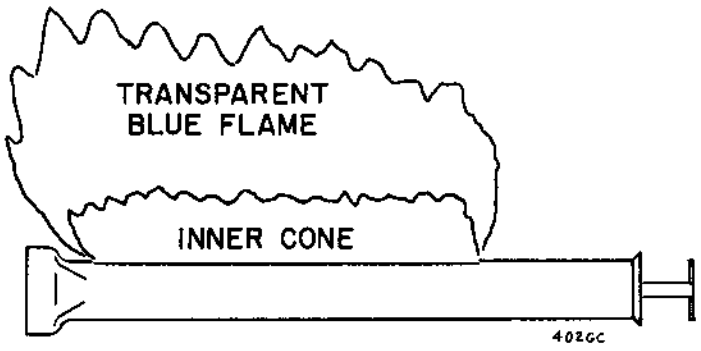
Use NIOSH or MSHA approved protection when installing or removing this material.

TO PLACE IN OPERATION

1. Be sure boiler has been correctly filled with water.
2. Follow correct lighting/operating instructions from pages 13 to 14 according to the type of ignition system and gas valve on boiler.
3. If boiler starts, go to Step 5.
   If boiler fails to start, go to Step 4.
4. If boiler fails to start, check for following conditions:
   a) Loose connection or blown fuse?
   b) Limit setting below boiler water temperature?
   c) Thermostat set below room temperature?
   d) Gas not turned on at meter and boiler?
   e) Incoming natural gas pressure less than 5" W.C. or propane less than 10" W.C.?
   f) Access panel not secured in place?
   g) If above fails to eliminate the trouble, call a service technician.
5. Make sure boiler goes through several normal operating cycles.
6. Turn thermostat or operating control to desired setting.

CHECK BURNER FLAMES

1. Proper burner flame, see Figure 13. Yellow-orange streaks may appear—caused by dust.
2. Improper flame:
   a) Overfired—Flames large.
   b) Underfired—Flames small.
   c) Lack of primary air—Yellow tipping on flames; sooting will occur.
3. If improper burner flames are suspected, contact a service technician or local gas utility.



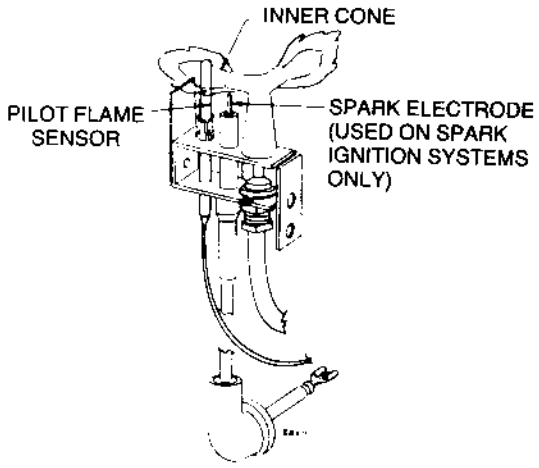
TYPICAL MAIN BURNER FLAME
FIGURE 13

Check pilot burner flame:

1. Proper pilot flame
   a) Blue flame.
   b) Inner cone engulfing pilot flame sensor
   c) Pilot flame sensor glows cherry red.
2. Improper pilot flame
   a) Overfired—flame is large and lifting or blowing past pilot flame sensor.
   b) Underfired—flame small; pilot flame sensor not engulfed by inner cone.
   c) Lack of primary air—flame tip yellow.
   d) Pilot flame sensor not heated properly.
3. If improper flames are suspected, contact a service technician or local gas utility to inspect the condition.

INSPECT VENTING SYSTEM

1. Check venting system at least once a month during heating season. With boiler firing, hold a candle or match below lower edge of draft hood "skirt". If the flame does not blow out, but burns undisturbed, the vent system is functioning properly. If flame blows out or flickers drastically, vent system must be checked for obstructions or other causes of improper venting.
2. Inspect all parts of venting systems for deterioration from corrosion, physical damage, sagging, etc. Correct all conditions found.



TYPICAL PILOT BURNER FLAME
FIGURE 14

FOR YOUR SAFETY READ BEFORE LIGHTING

WARNING: If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

A. This appliance has a pilot which must be lighted by hand. When lighting the pilot, follow these instructions exactly.

B. BEFORE LIGHTING, smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.

WHAT TO DO IF YOU SMELL GAS

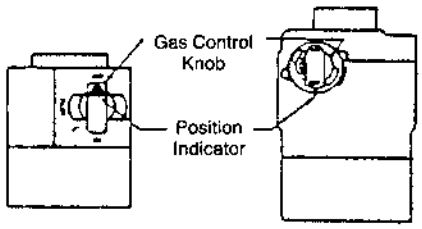
- Do not try to light any appliance.
- Do not touch any electric switch; do not use any phone in your building.
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

C. Use only your hand to push in or turn the gas control knob. Never use tools. If the knob will not push in or turn by hand, don't try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion.

D. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.

LIGHTING INSTRUCTIONS

1. STOP! Read the safety information above on this label.
2. Set the thermostat to lowest setting.
3. Turn off all electric power to the appliance.
4. Push in gas control knob slightly and turn clockwise ↷ to "OFF."



NOTE: Knob cannot be turned from "PILOT" to "OFF" unless knob is pushed in slightly. Do not force.

5. Wait five (5) minutes to clear out any gas. If you then smell gas, STOP! Follow "B" in the safety information above on this label. If you don't smell gas, go to next step.
6. Remove the pilot access panel located below and behind the gas control unit.
7. Find pilot—Follow metal tube from gas control. The pilot is between the two burner tubes behind the pilot access panel.

8. Turn knob on gas control counterclockwise ↶ to "PILOT."
9. Push in control knob all the way and hold in. Immediately light the pilot with a match. Continue to hold the control knob in for about one (1) minute afer the pilot is lit. Release knob and it will pop back up. Pilot should remain lit. If it goes out, repeat steps 5 through 10.
   - If knob does not pop up when released, stop and immediately call your service technician or gas supplier.
   - If the pilot will not stay lit after several tries,turn the gas control knob to "OFF" and call your service technician or gas supplier.
10. Replace pilot access panel.
11. Turn gas control knob counterclockwise ↶ to "ON."
12. Turn on all electric power to the appliance.
13. Set thermostat to desired setting.
14. Replace control access panel.

8. Turn on all electric power to the appliance.
9. Set thermostat to desired setting.
10. If the appliance will not operate, follow the instructions "To Turn Off Gas To Appliance" and call your service technician or gas supplier.
11. Replace front panel.

TO TURN OFF GAS TO APPLIANCE

1. Set the thermostat to lowest setting.
2. Turn off all electric power to the appliance if service is to be performed.
3. Push in gas control knob slightly and turn clockwise ↷ to "OFF." Do not force.
4. Replace front panel.

FOR YOUR SAFETY READ BEFORE OPERATING

WARNING: If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

A. This appliance is equipped with an ignition device which automatically lights the pilot. Do *not* try to light the pilot by hand.

B. BEFORE OPERATING, smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.

WHAT TO DO IF YOU SMELL GAS

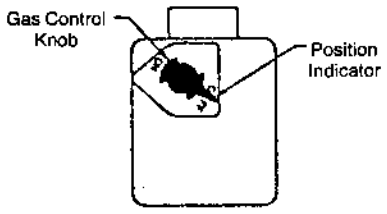
- Do not try to light any appliance.
- Do not touch any electric switch; do not use any phone in your building.
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

C. Use only your hand to push in or turn the gas control knob. Never use tools. If the knob will not push in or turn by hand, don't try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion.

D. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.

OPERATING INSTRUCTIONS

1. STOP! Read the safety information above on this label.
2. Set the thermostat to lowest setting.
3. Turn off all electric power to the appliance.
4. This appliance is equipped with an ignition device which automatically lights the pilot. Do *not* try to light the pilot by hand.



5. Push in gas control knob slightly and turn clockwise ↷ to "OFF."

NOTE: Knob cannot be turned to "OFF" unless knob is pushed in slightly. Do not force.

6. Wait five (5) minutes to clear out any gas. If you then smell gas, STOP! Follow "B" in the safety information above on this label. If you don't smell gas, go to next step.
7. Turn gas control knob counterclockwise to "ON."
8. Turn on all electric power to the appliance.
9. Set thermostat to desired setting.
10. If the appliance will not operate, follow the instructions "To Turn Off Gas To Appliance" and call your service technician or gas supplier.
11. Replace front panel.

TO TURN OFF GAS TO APPLIANCE

1. Set the thermostat to lowest setting.
2. Turn off all electric power to the appliance if service is to be performed.
3. Turn valve knob clockwise ↷ from "ON" position to "OFF." Make sure knob rests against stop.
4. Replace front panel.

Section VII: Check-out Procedure

Check-off steps as completed.

- ☐ 1. Boiler and heat distribution units filled with water?
- ☐ 2. Automatic air vent, if used, open one turn?
- ☐ 3. Air purged from system?
- ☐ 4. Air purged from gas piping? Piping checked for leaks?
- ☐ 5. Follow operating instruction label on boiler for proper start-up. Also refer to "To Place in Operation", page 11.

  For boilers with spark ignition: Electronic control will light pilot burner (if vent damper is installed, the damper must first be fully open). When pilot flame is proven, main gas valve will open and main burners will ignite. NOTE: If pilot flame isn't proven, main gas valve will not open and boiler will not operate until properly serviced.
- ☐ 6. Proper burner flame? Refer to "Check Burner Flames," pages 11–12.
- ☐ 7. Test safety controls: If boiler is equipped with a low water cut-off or additional safety controls, test for operation as outlined by the manufacturer. Burners should be operating and should go off when controls are tested. When safety devices are restored, burners should reignite.
- ☐ 8. Test limit control: While burners are operating, move the indicator of the high limit control below actual boiler water temperature. Burners should go off while the circulator continues to operate. Raise limit control above the boiler water temperature and burners should reignite.
- ☐ 9. Button on spill switch pushed in?
- ☐ 10. Test ignition system safety shut-off device:
  a. For 24V and MV standing pilot—Turn gas cock knob to PILOT position and extinguish pilot flame. Pilot gas flow should stop in less than 2 minutes. Put system back into operation (see page 11).
  b. For intermittent ignition systems—Connect a manometer to outlet side of gas valve. Start the boiler, allowing for normal start-up cycle to occur and main burners to ignite. With main burners on, manually shut off gas supply at manual main shut-off gas valve. Burners should go off. Immediately open manual main shut-off gas valve. The manometer should confirm there is no gas flow until the flame sensing element has sufficient time to cool. Only after this delay should the boiler cycle and the main burners reignite.
- ☐ 11. High limit control set to the design temperature requirements of the system? Maximum high limit setting—240°F.
- ☐ 12. For multiple zones, flow adjusted so it is about the same in each zone?
- ☐ 13. Thermostat heat anticipator set properly? Refer to "Install Room Thermostat" page 10, and wiring diagram on jacket door.
- ☐ 14. Boiler cycled with the thermostat? Raise to highest setting. Boiler should go through normal start-up cycle. Lower to lowest setting. Boiler should go off.
- ☐ 15. Measure gas input (natural gas only):
  a. Operate boiler 10 minutes.
  b. Turn off other appliances.
  c. At natural gas meter, measure time (in seconds) required to use one cubic foot of gas.
  d. Calculate gas input:
  $$\frac{3600 \times 1000}{\text{number seconds from step C}} = \text{Btuh}$$
  e. Btuh calculated should approximate input rating on rating plate.
- ☐ 16. Check manifold gas pressure by connecting a manometer to the downstream test tapping on the main gas valve. Manifold gas pressure for natural gas should be 3½ inches water column and for propane gas should be 10 inches water column.
- ☐ 17. Several operating cycles observed for proper operation?
- ☐ 18. Room thermostat set to desired room temperature?
- ☐ 19. Installation and Service Certificate on this page completed?
- ☐ 20. All instructions shipped with this boiler reviewed with owner or maintenance person, returned to envelope and given to owner or displayed near boiler?

Installation and Service Certificate

BOILER MODEL _____ SERIES _____ CP NUMBER _____ DATE INSTALLED _____

BTU INPUT _____

- ☐ Installation instructions have been followed.
- ☐ Check-out sequence has been performed.
- ☐ Above information is certified to be correct.
- ☐ Information received and left with owner/maintenance person.

Installer _____ _____ _____

(Company) (Address) (Phone) (Installer's Signature)

Also Refer to Additional Instructions Shipped With The Boiler For Specific Control Operation and Troubleshooting

NOTICE Your boiler should be inspected, cleaned and, if necessary, adjusted once a year. A qualified service agency should be called.

WARNING **TO AVOID PERSONAL INJURY, BEFORE SERVICING:**
1. Disconnect electrical supply.
2. Shut-off gas supply.
3. Allow boiler to cool.

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.

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

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.

Suggested Minimum Maintenance Schedule

Beginning of each heating season:
1. Annual service call by a qualified service agency.
2. Check burners and flueways and clean if necessary. Reference "Clean Boiler Heating Surfaces" and "Cleaning Main Burners", page 17.
3. Follow procedure "To Place in Operation", page 11.
4. Visually inspect pilot and burner flames. Reference "Check Burner Flames," pages 11 and 12.
5. Visually inspect venting system for proper function, deterioration or leakage. Reference "Inspect Venting System", page 12.
6. Visually inspect base insulation. Reference "Inspect Base Insulation," page 11.
7. Check operation of low-water cut-off, if used, and additional safety devices. Refer to manufacturer's instructions.
8. Check that boiler area is free from combustible materials, gasoline and other flammable vapors and liquids.
9. Check for and remove any obstruction to flow of combustion or ventilation air.
10. Follow instructions on circulator to oil, if oil lubricated. Overoiling will damage the circulator. Water lubricated circulators do not need oiling.

Daily during heating season:
1. Check that boiler area is free from combustible materials, gasoline and other flammable vapors and liquids.
2. Check for and remove any obstruction to the flow of combustion or ventilation air.

Periodically during heating season:
1. Check safety relief valve. Reference manufacturer's instructions on relief valve tag.
2. Test low water cut-off, if used. Blowdown if low water cut-off is float type. Reference manufacturer's instructions.

Monthly during heating season:
1. Check for leaks in the boiler and piping. If found, repair at once.

WARNING Continuous use of make-up water can damage boiler sections due to addition of minerals. DO NOT use petroleum based stop-leak compounds—leakage between the sections will occur.

2. Check any gaskets for leakage. Tighten or replace, if needed. Do not overtighten bolts—damage to the gasket can occur.
3. Visually inspect pilot and burner flames. Reference "Check Burner Flames," pages 11 and 12.
4. Visually inspect venting system for proper function, deterioration or leakage. Reference "Inspect Venting System", page 12.
5. Check automatic air vent for leakage. If leaking, remove vent cap and push valve core in to wash off sediment that may have accumulated on the valve seat. Release valve, replace cap and open one turn.

End of each heating season:
1. Follow "Annual Shutdown Procedure," page 17.

Clean boiler heating surfaces:

1. Follow shut-down procedure.
2. Remove upper rear jacket panel. Turn back jacket insulation to expose collector hood.
3. Remove collection hood. Clean excess boiler cement from collector hood and cast iron sections.
4. Remove radiation plates (not used on CGM-25) that hang between sections.
5. Remove burners from base of boiler. Follow "Cleaning Main Burners," page 17.
6. Place newspaper in base of boiler to collect soot that will fall.
7. With a wire flue brush, clean between the sections.
8. Remove paper and soot. Vacuum or brush base and surrounding area.
9. Replace radiation plates (not used on CGM-25).
10. Replace collector hood. Seal with boiler cement.
11. Replace insulation and jacket panel.
12. Replace main burners.

DANGER

When replacing, burner tubes must be seated in their slots in the back with the openings face up.

NOTE: Excessive sooting indicates improper combustion of the gas. If found, call a qualified service agency or your local gas utility to check for proper combustion and make any necessary adjustments.

Cleaning main burners:

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

DANGER

When replacing, burner tubes must be seated in the slots in the back with the openings facing up.

Annual shut-down procedure:

1. Follow correct "To Turn Off Gas to Appliance" instructions from pages 13 to 14 according to type of ignition system and gas valve on boiler.
2. DO NOT drain system unless exposure to freezing temperatures will occur. If antifreeze is used in the system, do not drain.

Parts Lists
Component-Assemblies Replacement

(Refer to Control Supplement for control replacement)

Section Assembly 19

Base Assembly 20

Jacket Assembly 21

Boiler Trim Assembly 22

COMPONENT REPLACEMENT INSTRUCTIONS

Before replacing any parts on the boiler:

1. **Turn off power**
2. **Shut off gas supply**

Refer to the appropriate diagram for parts replacement.

Replacement parts can be ordered or purchased through a local Weil-McLain distributor. When ordering, specify boiler model and series and include description and number of replacement part. Some parts are stock items (■) and can be purchased from a local supply house.

Weil-McLain Sales Ref. No. are found in Weil-McLain Boilers and Controls Repair Parts Book.

Section Assembly
CGM Series 10

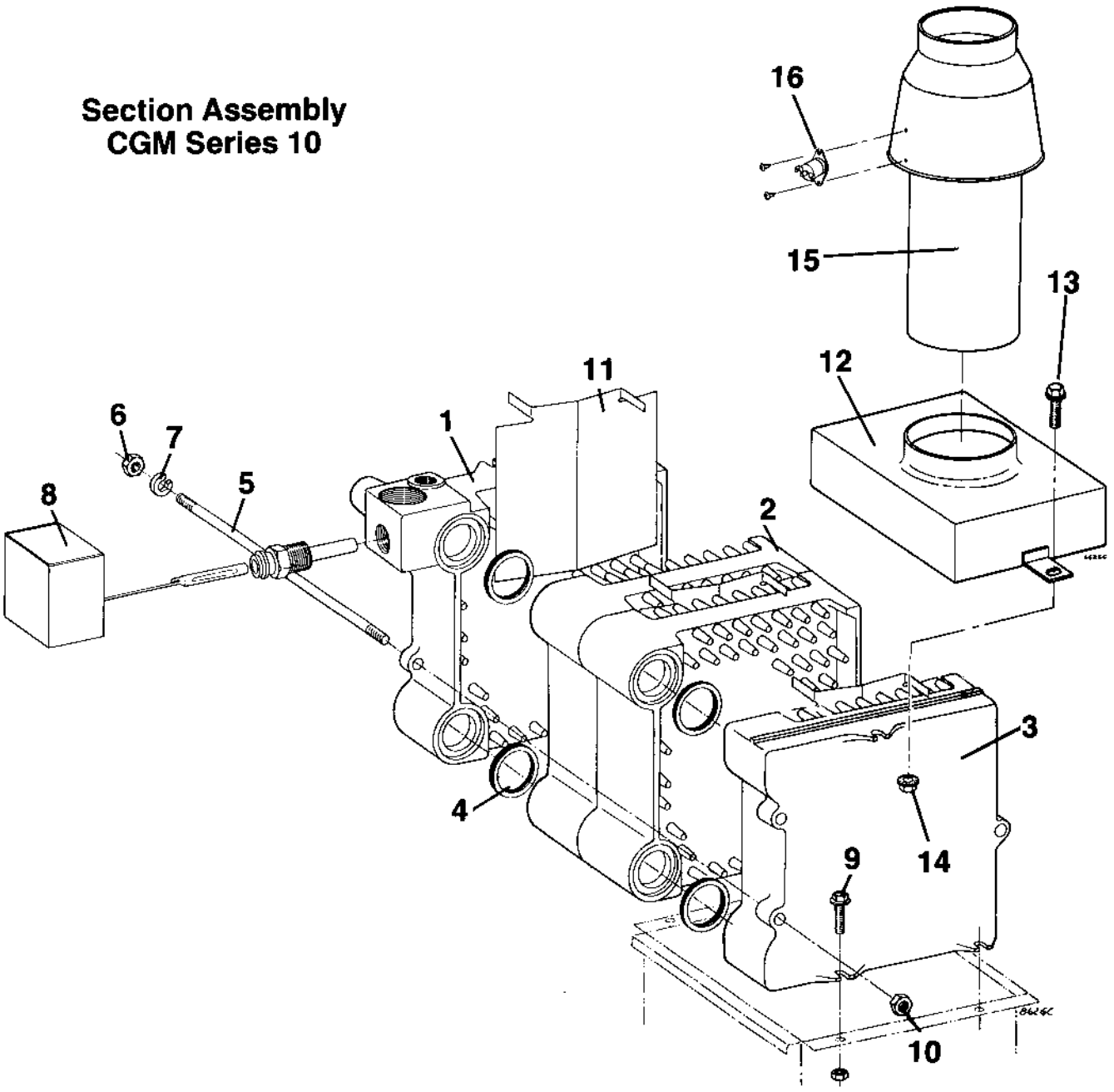


FIG. NO.	DESCRIPTION	VENDOR/ PART NUMBER	W-M SALES REF. NO.
1	Left End Section	W-M	10B008
2	Intermediate Section	W-M	10B009
3	Right End Section	W-M	10B010
4	Square Cut Seal, 2"	W-M	11B165
5	Tie Rod—CGM25/CGM-3 7/16×9	W-M	10B921
	CGM4 7/16×12		10B922
	CGM5 7/16×15		10B923
	CGM6 7/16×18		10B924
	CGM7 7/16×21		10B925
	CGM8 7/16×24		10B926
6	Nut, 7/16-14 Reg. Hex		■
7	Washer, 7/16 Reg. Helical Spring Lock		■
8	Limit Control w/1/2"—24V	W-R 11B81-3	10C055
	—MV	W-R 11B81-703	10C047
9	Screw, 5/16-18×1 Whiz-Lock		■
10	Nut, 5/16-18 2-way Lock		■
11	Radiation Plate (Not used on CGM-25)	W-M	10B795
12	Flue Collector Hood—CGM-25	W-M	10B607
	—CGM-3	W-M	10B607
	—CGM-4	W-M	10B608
	—CGM-5	W-M	10B609
	—CGM-6	W-M	10B610
	—CGM-7	W-M	10B611
	—CGM-8	W-M	10B612

FIG. NO.	DESCRIPTION	VENDOR/ PART NUMBER	W-M SALES REF. NO.
13	Screw, 1/4-20×1/4 Whiz-Lock		■
	Nut, 1/4-20 Whiz-Lock		■
15	Draft Hood—CGM-25	W-M	11B244
	—CGM-3	W-M	11B245
	—CGM-4	W-M	11B246
	—CGM-5	W-M	11B247
	—CGM-6	W-M	11B248
	—CGM-7	W-M	11B249
	—CGM-8	W-M	11B250
16	Spill Switch—24V		10C437
	—MV		10C438

* LISTED PART OR EQUIVALENT CAN BE PURCHASED AT LOCAL SUPPLY HOUSE.

Base Assembly
CGM Series 10

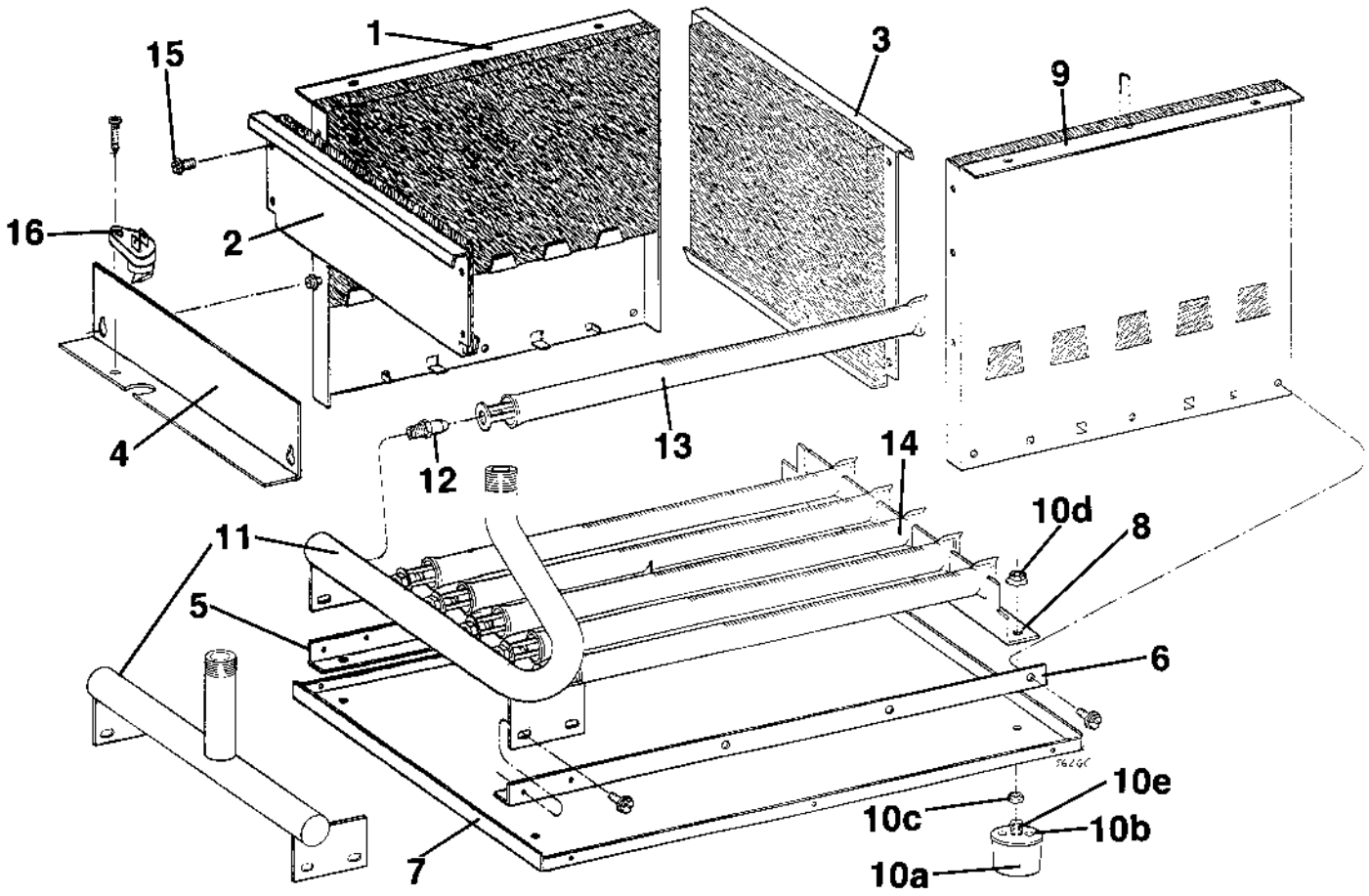


FIG. NO.	DESCRIPTION	VENDOR/ PART NUMBER	W-M SALES REF. NO.
1	Base Side Panel	W-M	10B803
2	Base Front Cross Tie—		
	CGM-25/CGM-3	W-M	10B811
	CGM-4	W-M	10B812
	CGM-5	W-M	10B813
	CGM-6	W-M	10B814
	CGM-7	W-M	10B815
	CGM-8	W-M	10B816
3	Base Back Cross Tie—		
	CGM-25/CGM-3	W-M	10B796
	CGM-4	W-M	10B797
	CGM-5	W-M	10B798
	CGM-6	W-M	10B799
	CGM-7	W-M	10B800
	CGM-8	W-M	10B801
4	Base Access Panel—		
	CGM-25/CGM-3	W-M	10B804
	CGM-4	W-M	10B805
	CGM-5	W-M	10B806
	CGM-6	W-M	10B807
	CGM-7	W-M	10B808
	CGM-8	W-M	10B809
5	Base Pan Angle—L.H.	W-M	11B251
6	Base Pan Angle—R.H.	W-M	11B252
7	Base Pan—CGM-25/CGM-3	W-M	11B253
	CGM-4	W-M	11B254
	CGM-5	W-M	11B255
	CGM-6	W-M	11B256
	CGM-7	W-M	11B257
	CGM-8	W-M	11B258
8	Burner Rest—CGM-25	W-M	11B259
	—CGM-3	W-M	11B260
	—CGM-4	W-M	11B261
	—CGM-5	W-M	11B262
	—CGM-6	W-M	11B263
	—CGM-7	W-M	11B264
	—CGM-8	W-M	11B265

FIG. NO.	DESCRIPTION	VENDOR/ PART NUMBER	W-M SALES REF. NO.
9	Base Insulation Set—		
	CGM-25/CGM3	W-M	11B092
	CGM-4	W-M	11B093
	CGM-5	W-M	11B094
	CGM-6	W-M	11B095
	CGM-7	W-M	11B096
	CGM-8	W-M	11B097
	Staple, 13/4" for base insulation	W-M	■
10	Leg, Screw-on Assembly*	W-M	10B982
10a	Leg	—	—
10b	Washer, 3/8" Hole	—	—
10c	Nut, 5/16-18 Jam	—	—
10d	Nut, 5/16-18 Whiz-Lock	—	—
10e	Screw, 5/16-18 x 21/4 Mach. Fl. Hd. Phil.	—	—
11	Manifold—CGM-25	W-M	11B174
	CGM-3	W-M	11B030
	CGM-4	W-M	11B031
	CGM-5	W-M	11B032
	CGM-6	W-M	11B033
	CGM-7	W-M	11B034
	CGM-8	W-M	11B035
12	Orifice, Main Burner—		
	Natural, #46 Drill	W-M	11B936
	Propane, #56 Drill	W-M	11B937
13	Burner, Steel	W-M	10B870
14	Burner, Steel w/Pilot Brkt.	W-M	10B871
15	Screw, 10-32 x 3/8 STP Type D Hex Wash. Hd. Slot ZP		■
16	Rollout Thermal Fuse Element		10C257

■ LISTED PART OR EQUIVALENT CAN BE PURCHASED AT LOCAL SUPPLY HOUSE.
* SOLD AS ASSEMBLY ONLY

Jacket Assembly
CGM Series 10

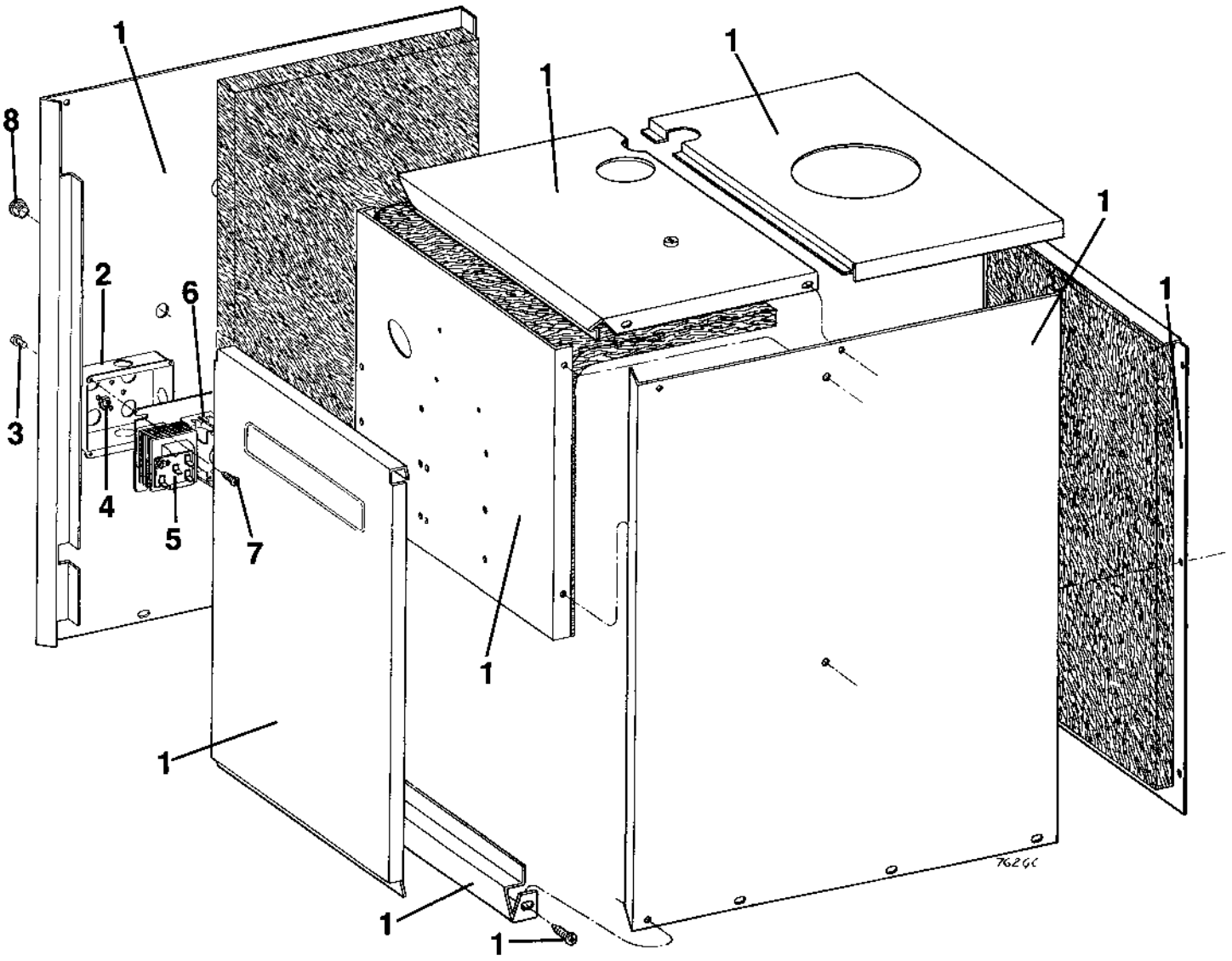


FIG. NO.	DESCRIPTION	VENDOR/ PART NUMBER	W-M SALES REF. NO.
1	CGM Repair Jacket Carton (includes top panel, removable top panel, left side panel, right side panel, door, rear panel, interior panel, front bottom cross tie, labels, screws)		
	—CGM25	W-M	10J150
	—CGM3	W-M	10J151
	—CGM4	W-M	10J152
	—CGM5	W-M	10J153
	—CGM6	W-M	10J154
	—CGM7	W-M	10J155
	—CGM8	W-M	10J156

FIG. NO.	DESCRIPTION	VENDOR/ PART NUMBER	W-M SALES REF. NO.
2	Junction Box, 4×4×1½		■
3	Screw, 10–32×½ Mach. Pan Hd. Phil.		■
4	Nut, 10–32 Hex Green-plated		■
5	Transformer w/Plug-in Recp. and Bale Wire, 24V Transformer Relay, MV		■
6	Relay		■
7	Screw, #8×½ Sht. Mtl. Pan Hd. Phil.		■
8	Bushing, Thermostat Wire		■

■ LISTED PART OR EQUIVALENT CAN BE PURCHASED AT LOCAL SUPPLY HOUSE.

Boiler Trim Assembly
CGM Series 10

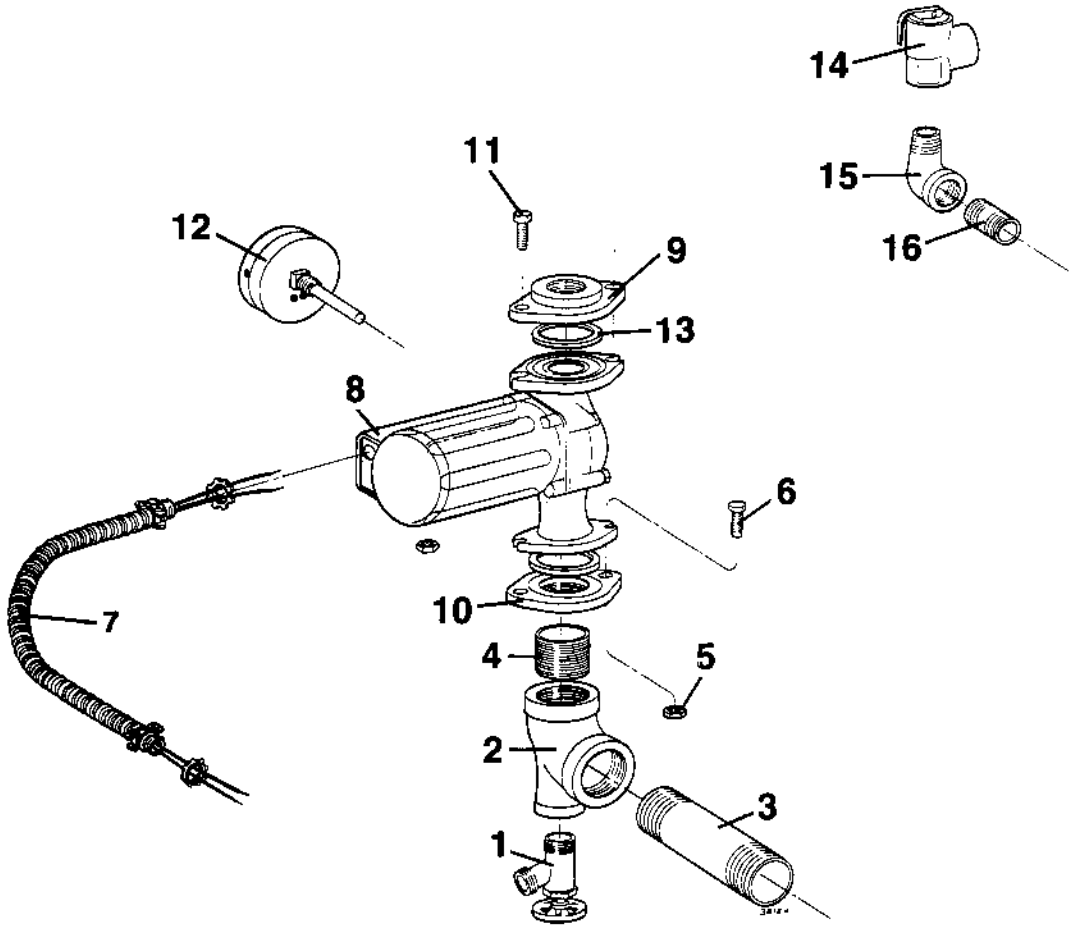
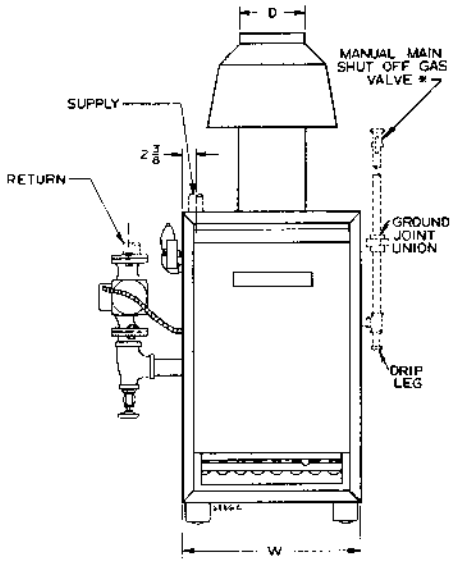


FIG. NO.	DESCRIPTION	VENDOR/ PART NUMBER	W-M SALES REF. NO.
1	Drain Valve, 3/4"		10C159■
2	Tee Black CGM-25 3/4×3/4×3/4		■
	Tee, Reducer Black CGM-3-8 1 1/4×3/4×1 1/4		■
3	Nipple, Black—CGM25 3/4×5 w/3/4× 1 1/4 Black Bushing	Taco 007 1 1/4×5 1/2	■
	CGM-3-8	B&G LR20 1 1/4×6 B&G100/Taco 110 1 1/4×5	■
4	Nipple, Close CGM-25-3/4 CGM-3-8-1 1/4		■
5	Nut, Hex 7/16-14		■
6,11	Screw, Cap Hex Hd. 7/16-14×1 1/4—SMALL PUMPS		■
	Screw, Cap Hex Hd. 7/16-14×1 1/2—LARGE PUMPS		■
7	Wiring Harness, Box to Pump		■
8	Circulator, SMALL	Taco 007 or B&G LR20	10C195■ 10C194■
	Circulator, LARGE	Taco 110 or B&G 100	10C197■ 10C196■
9	Pump Flange— CGM-25—3/4 NPT	B&G or Taco	■
	CGM-3-5—1 NPT	B&G or Taco	■
	CGM-6-7—1 1/4 NPT	B&G or Taco	■
	CGM-8—1 1/2 NPT	B&G or Taco	■

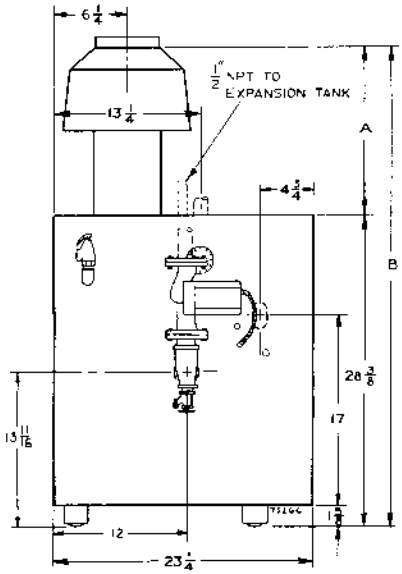
FIG. NO.	DESCRIPTION	VENDOR/ PART NUMBER	W-M SALES REF. NO.
10	Pump Flange— CGM-25—3/4 NPT	B&G or Taco	■
	CGM-3-8—1 1/4 NPT	B&G or Taco	■
12	Pressure-Temperature Gauge	Ametek Spec #135392 Short Shank	10C034■
13	Gasket	Taco—SMALL & LARGE PUMPS	■
		B&G LR 20	■
		B&G 100	■
14	Relief Valve, 30# Male or Female		■
15	Street Ell, 3/4 Black for Female Ell, 3/4 Black for Male		■
16	Nipple, 3/4×2 Black		■
***	Silicone Sealant—400°F	Dow 732 RTV	■
***	Boiler Cement		■

■ LISTED PART OR EQUIVALENT CAN BE PURCHASED AT LOCAL SUPPLY HOUSE.
*** NOT SHOWN

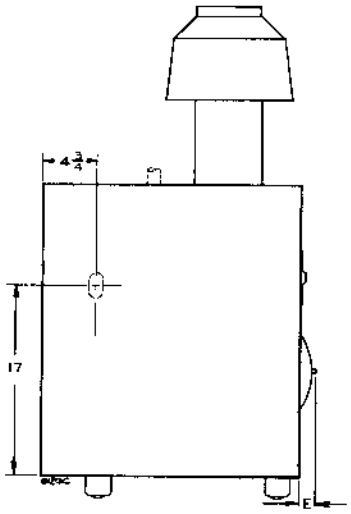
DIMENSIONS



FRONT



LEFT SIDE



RIGHT SIDE

Boiler Number	• Supply Outlet		Return Inlet		Gas Connection Pipe Size		Gas Manifold Pipe Size All Gases	Dimensions					
	No.	Pipe Size	No.	Pipe Size	Natural Gas	Propane Gas		A	B††	C	D	E	W
CGM-25	1	3/4"	1	3/4"	1/2"	1/2"	1/2"	11"	39 3/8"	18 1/4"	4"	1 1/2"	10"
CGM-3	1	1 1/4"	1	1"	1/2"	1/2"	1/2"	18 1/2"	46 7/8"	18 1/4"	4"	1 1/2"	10"
CGM-4	1	1 1/4"	1	1"	1/2"	1/2"	1/2"	20"	48 3/8"	21 1/4"	5"	1 1/2"	13"
CGM-5	1	1 1/4"	1	1"	1/2"	1/2"	1/2"	23"	51 3/8"	24 1/4"	6"	1 1/2"	16"
CGM-6	1	1 1/4"	1	1 1/4"	1/2"	1/2"	1/2"	26"	54 3/8"	30 7/8"	6"	4"	19"
CGM-7	1	1 1/4"	1	1 1/4"	3/4"	3/4"	3/4"	24 3/4"	53 1/8"	33 7/8"	7"	4"	22"
CGM-8	1	1 1/2"	1	1 1/2"	3/4"	3/4"	3/4"	27 1/2"	55 7/8"	36 7/8"	7"	4"	25"

†† Add 4 1/2" when automatic vent damper is used.
• Supply tapping size 1 1/4" in left end section. Bush down to 3/4" for CGM-25, increase to 1 1/2" for CGM-8.

RATINGS

DOE

Boiler Number	Input BTU/Hr.	D.O.E. Heating Capacity‡	NET I-B-R Ratings BTU/Hr.*	Boiler Water Content Gallons	Maximum Allowable System Water Content in Gallons with Standard Fill-Trol►	D.O.E. Seasonal Efficiency (A.F.U.E.)‡			Chimney and Breeching Size**
						Standing Pilot	PI	PI w/ damper	
†CGM-25	52,000	43,000	37,000	1.54	18	67.4	72.0	81.1	4" I.D. x 20'
†CGM-3	70,000	58,000	50,000	1.54	18	70.3	73.3	81.8	4" I.D. x 20'
†CGM-4	105,000	86,000	75,000	2.11	18	70.3	73.7	81.7	5" I.D. x 20'
†CGM-5	140,000	115,000	100,000	2.69	18	70.3	72.9	81.5	6" I.D. x 20'
†CGM-6	175,000	143,000	124,000	3.26	44	70.4	72.5	81.4	6" I.D. x 20'
†CGM-7	210,000	172,000	150,000	3.84	44	70.4	72.0	81.2	7" I.D. x 20'
†CGM-8	245,000	200,000	174,000	4.42	44	70.4	71.6	81.1	7" I.D. x 20'

† Add "PI" to designator for intermittent electronic ignition system; add "PI w/damper" to designator for intermittent electronic ignition system with automatic vent damper (example: CGM-3-PI w/damper).

► Includes boiler water volume. For piping systems which have a higher water content, additional compression tank capacity must be provided (see table, Page 6).

** In special cases where surrounding conditions permit, chimney height may be 10 ft.

* Net I-B-R 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. Ratings are computed on an allowance for factor of 1.15. For unusual piping and pick-up loads, consult your Weil-McLain representative.

‡ Based upon standard test procedures prescribed by the United States Department of Energy.

STANDARD EQUIPMENT

STANDARD EQUIPMENT

ASSEMBLED ON THE BOILER
Insulated Steel Jacket
Vertical Draft Hood (in separate carton except CGM-25)
Aluminized Steel Burners
Non-Linting Pilot Burner
Stainless Steel Radiation Plates (except CGM-25)
Combination Gas Valve
Built-in Air Eliminator
Combination Relay Receptacle and 40VA Transformer
High Limit Control for PI w/damper, PI, or 24V Standing Pilot Models
Dual Limit Control for MV Standing Pilot Model
Circulator (Taco 007 or B&G LR20)
30 PSI Relief Valve
Boiler Drain Valve
Combination Pressure—Temperature Gauge

Highest Efficiency Models—PI System and Automatic Vent Damper
High Efficiency Models—PI System
24V or MV Standing Pilot Models—Constant Burning, Thermally Supervised Pilot; Thermocouple

ADDITIONAL EQUIPMENT

Fill-Trol System (diaphragm-type expansion tank, fill and check valve, automatic air vent and fittings)—#109 Sizes 3 thru 5; #110 Size 6—shipped in separate carton.

WEIL-McLAIN Michigan City, Indiana 46360

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