

WEIL-McLAIN

an ISO 9001 Certified Company

GOLD



CGa

**GAS BOILER
for
Natural Draft
Venting**

Water Net Ratings:
38,000 to
177,000
Btu/Hr.

Applications:

- Residential
- Multiple Boilers
- Schools and Other Institutions
- Indirect-fired Water Heating
- Radiant Heating
- ... And Much More

- Easy to Install and Service
- High Efficiency
- Made with Weil-McLain Quality

Features ... Advantages ... Benefits

- **Weil-McLain Control Module and Ignition Control.** Designed for Weil-McLain ... mistake-proof wiring ... diagnostic indicator lights.
- **Compact design.** Saves valuable living space. Boiler is only 28 inches high, 23 inches deep.
- **Stainless steel burners.** For quieter ignition, longer life, and improved combustion.
- **Wiring harness.** Plug-in connectors that attach only one way to assure mistake-proof wiring for installation and component replacement.
- **Easy power hook-up.** J-box located on outside of boiler with pre-stripped wires.
- **Convenient servicing.** Accessible controls ... control module with diagnostic indicator lights ... simplified wiring ... vertical flueways ... top cleaning.
- **Factory-tested.** Every boiler is tested at the factory to assure reliable operation.
- **Improved parts kits.** Parts furnished in convenient kits.
- **Limited lifetime warranty.** Covers cast iron sections.
- **Multiple boiler systems.** Use two or more high-efficiency CGa boilers in place of one large-capacity boiler to meet the space-heating requirements of larger buildings.
- **Homeowner Protection Plan.** Covers labor and all Weil-McLain supplied parts for 5 or 10 full years. Available through participating installers.

Design Advantages

Cast Iron Sections with Elastomer Sealing Rings



Boiler sections are made of durable cast iron for strength, efficiency and long life. It's not uncommon for a Weil-McLain cast iron boiler to last 35 years or more.

The heat pins in the vertical flue passages cause the hot gases to swirl about, covering the entire surface of each section for maximum heat transfer. Radiation plates further increase heat transfer for maximum efficiency.

Modern elastomer sealing rings in the port openings assure a permanent water-tight seal. The flexibility and elastic memory of these seals (unlike metal push nipples) prevent leaks caused by thermal expansion and contraction.

A special high-temperature sealant between boiler sections assures tightness from gas leakage in the block.



Temperature & Pressure Gauge

All CGa boilers come with a large-faced temperature and pressure gauge, which installs in a tee in the boiler supply on the top of the boiler. Every T & P gauge comes with a spring-loaded immersion well that provides for easy installation and replacement without draining any water from the boiler or system. By installing the gauge in the system supply flow, a more accurate reading is provided. Also, the location of the gauge and the larger face provide for easy monitoring of boiler temperature and pressure.



Automatic Vent Damper

A tested and approved automatic vent damper with removable plug is furnished as standard equipment with the **SPDN**, **SPDL** and **PIDN** models. The damper prevents heat from escaping up the chimney to increase efficiency and save fuel when the boiler is not operating. A simple plug-in wiring harness assures mistake-proof wiring.

Weil-McLain Control Module and Ignition Control (PID only)

The control module has:

- five indicator lights — power, thermostat & circulator, limit, damper, and flame — that show proper operation and make troubleshooting easy without complicated add-on wiring.
- plug-in connectors that attach only one way to assure mistake-proof wiring.



The control module responds to signals from the room thermostat and boiler limit control to operate the boiler circulator, pilot burner, gas valve, and damper. The module controls all ignition, operating and safety-related functions. In addition, its microprocessor continually checks itself 60 times each second. If a situation such as electrical "noise" or low voltage is encountered, the control module restarts and retries, eliminating nuisance lockouts.

And Weil-McLain control module designs assure newer controls will always fit.

Convenient Servicing

The front top jacket panel and front door are easy to remove allowing access to the base assembly, burners and controls for servicing.

... and by simply removing the back half of the top jacket panel, the collector hood, radiation plates, and the flueways are exposed for easy cleaning.



Stainless Steel Burners

Stainless steel burners provide fixed primary air ... no air adjustment is required. These burners are designed to provide exceptional flame stability with natural gas or propane for quieter operation, longer life and improved combustion.

CGa-SPD Standing Pilot Control System

How the boiler works ...

When a room thermostat calls for heat, the circulator starts and the vent damper begins to open. After about 15 seconds, the vent damper is proven and the main gas valve opens to ignite the burners.

When the room thermostat is satisfied, the circulator stops, the gas valve closes and the damper is closed in approximately 15 seconds.



CGa-PID Electronic Pilot Control System

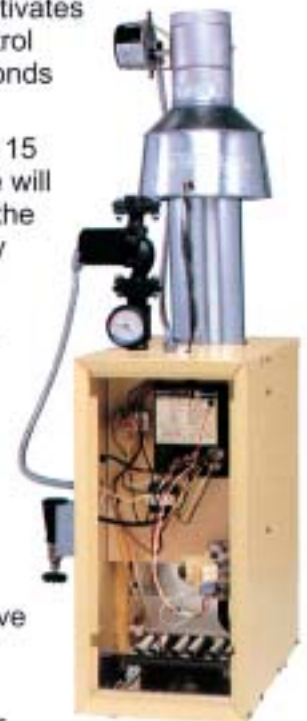
How the boiler works ...

When a room thermostat calls for heat, the control module starts the system circulator and activates the vent damper to open. When the vent damper has opened, the control module opens the pilot valve and activates pilot ignition spark. The control module allows up to 15 seconds to establish pilot flame.

If flame is not sensed within 15 seconds, the control module will turn off the gas valve, flash the flame lights and immediately start a new cycle. This will continue indefinitely until pilot flame is established or power is interrupted. Once pilot flame is proven, the control module opens the gas valve to allow main burner flame.

When the room thermostat is satisfied, the control module turns off the gas valve and deactivates the vent damper to close.

The control module indicator lights show normal sequence when the lights are on steady. When a problem occurs, the control module flashes a combination of lights to indicate the most likely reason for the problem.



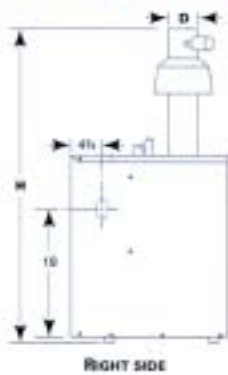
Ratings



Boiler Model (1)	Input MBH (2)	DOE Heating Capacity MBH (2)	Net I=B=R Water Ratings MBH (3)	DOE Seasonal Efficiency Percent (AFUE)			Approx. Shipping Weight (Lbs)	Boiler Water Content (Gal)	Chimney Size
				SPDN	SPDL	PIDN			
CGa-25	52	44	38	81.5	83.3	84.0	200	1.5	4" I.D. x 20'
CGa-3	70	59	51	81.6	83.7	84.0	200	1.5	4" I.D. x 20'
CGa-4	105	88	77	81.7	83.7	84.0	240	2.1	5" I.D. x 20'
CGa-5	140	117	102	81.8	83.7	83.5	280	2.7	6" I.D. x 20'
CGa-6	175	146	127	81.9	83.6	83.2	325	3.3	6" I.D. x 20'
CGa-7	210	175	152	82.0	83.6	83.0	370	3.8	7" I.D. x 20'
CGa-8	245	204	177	82.1	83.6	82.7	425	4.4	7" I.D. x 20'

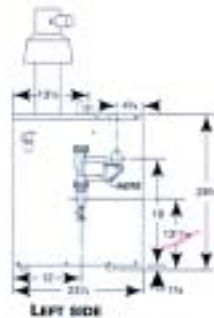
Notes: (1) Add "SPD" for boiler with standing pilot; "PID" for boiler with electronic ignition system. For SPD models, add "N" for natural gas, "L" for propane (propane not available for PID).
 (2) Based on standard test procedures prescribed by the United States Department of Energy.
 (3) Net I=B=R ratings are based on not installed radiation of sufficient quantity for the requirements of the building and nothing need be added for normal piping and pick-up. Ratings are based on a piping and pick-up allowance of 1.15. An additional allowance should be made for unusual piping and pick-up loads.
 CGa boilers are C.S.A. design certified for installation on combustible flooring. Tested for 50 psi working pressure.

Dimensions



RIGHT SIDE

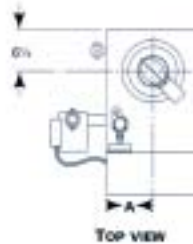
NOTE: Boiler circulator is shipped loose. Circulator may be mounted on either boiler supply or return piping. See dimension chart for pipe size of circulator flange provided.



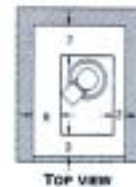
LEFT SIDE



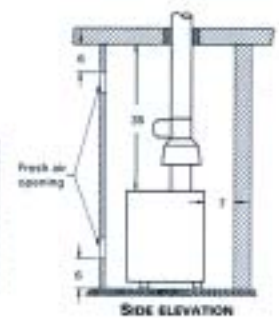
FRONT



TOP VIEW



TOP VIEW



SIDE ELEVATION

Boiler Model	Dimensions Inches				Supply Piping In. (1)	Return Piping In. (1)	Nat or LP Gas Connection Size Inches	Crate Dimensions (Outside Measurements - In.)		
	A	D	W	H				Length	Width	Height
CGa-25	5	4	10	45 3/8	3/4	3/4	1/2	27	27 1/2	31 1/2
CGa-3	5	4	10	52 3/8	1	1	1/2	27	27 1/2	31 1/2
CGa-4	6 1/2	5	13	54 3/8	1	1	1/2	27	27 1/2	31 1/2
CGa-5	8	6	16	57 7/8	1	1	1/2	30	27 1/2	31 1/2
CGa-6	9 1/2	6	19	60 7/8	1 1/4	1 1/4	1/2	33	27 1/2	31 1/2
CGa-7	11	7	22	62 1/2	1 1/4	1 1/4	3/4	36	27 1/2	31 1/2
CGa-8	12 1/2	7	25	64 7/8	1 1/2	1 1/2	3/4	42	27 1/2	31 1/2

Notes: (1) Circulator flange supplied with boiler is same size as recommended pipe size. For supply and return boiler tapping size, see installation manual.

Standard and Additional Equipment

Standard Equipment:

Factory Tested
 Two-Piece Top Jacket Panel
 Insulated Extended Steel Jacket
 Cast Iron Sections with Built-in Air Separator
 Radiation Plates
 Vertical Draft Hood
 Automatic Vent Damper
 Combination Gas Valve for 24 Volt
 Wiring Harness
 Non-Linting Pilot Burner
 Stainless Steel Burners
 Electrical Junction Box
 Rollout Thermal Fuse Element
 High-Limit Temperature Control
 Circulator (when ordered)
 Spill Switch

30 PSI ASME Relief Valve (boiler sections tested for 50 PSI working pressure)
 Combination Pressure-Temperature Gauge
 Drain Valve

HIGH EFFICIENCY MODEL - SPD

Constant Burning, Thermally-Supervised Pilot System

Thermocouple
 Combination Relay Receptacle and 40VA Transformer
 Plug-in Circulator Relay

HIGHEST EFFICIENCY MODEL - PID

Integrated Boiler Control Module with Intermittent Electronic Ignition System & Indicator / Diagnostic Lights
 40VA Transformer
 Plug-in Connector and Wiring

Additional Equipment:

Taco 110 Circulator
 B&G 100 Circulator
 Expansion Tank Package (expansion tank, fill & check valve, auto air vent and fittings):
 #109 - sizes 25 thru 5; #110 - sizes 6 thru 8.
 Shipped in separate carton.
 W-M 5 & 10 Year Homeowner Protection Plan
 W-M Indirect-fired Water Heaters
 W-M Maxiflo® Pool Heaters
 W-M Radiant Heating Products
 W-M Baseboard Units

In the interest of continual improvements in product and performance, Weil-McLain reserves the right to change specifications without notice.



Locate our Sales Offices by visiting our website:
www.weil-mclain.com

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