

Water & Steam Boilers – Series 3
Burner Specification and Data Sheet

Beckett gas burners

Models **CG25 & CG50**

Flame retention type, for gas firing



Burner Model Number	Motor Size H.P.	Standard Motor Electrical Characteristics	Optional Motor Electrical Characteristics	Length (from mounting flange to back of burner)	Overall Width
CG25	3/4	120/60/1	208-230/60/1, 208-230/60/3, 480/60/3	29.2	20.9
CG50	2	230/60/1	208-230/60/1, 208-230/60/3, 480/60/3	29.6	24.4



Burner specifications and settings

Table 1 Burner data

Boiler Model Number	Burner Input Gas Mbh	Burner Model Number	Beckett Burner Part Number For Ordering	Approximate Starting Air Settings		Starting Head Setting	Positive Pressure In Firebox Inches W.C.	Burner Motor 3450 Rpm H.P.	Gas Manifold Pressure (High Fire) Inches W.C.	Gas Pressure Required At Gas Controls Inlet Inches W.C.*	
				Low Fire	High Fire					Min	Max
588	1288	CG25	CG252	13	31	2	2.3	3/4	3.62	5.50	14.00
688	1600	CG25	CG253	25	65	3	2.5	3/4	3.94	6.57	14.00
788	1920	CG50	CG502	13	45	2	2.5	2	4.00	5.11	14.00
888	2240	CG50	CG504	19	45	3	2.7	2	3.90	5.62	14.00
988	2564	CG50	CG505	28	50	4	2.4	2	3.40	5.50	14.00
1088	2870	CG50	CG505	25	58	5	2.6	2	4.00	6.00	14.00

*Gas pressures shown are for standard gas train arrangement. Contact Weil-McLain for alternate gas trains to support other gas pressures.

Table 2 Gas train components and flame safeguards

Standard Gas Control Components and Sizes in Inches				
Boiler Model Number	Manual Hand Valve (Field Gas Train Connection)	Combination Diaphragm Operating Gas Valve And Regulator	Safety Gas Valve	Manual Checking Gas Valve
588 & 688	1-1/4	1-1/4	1-1/4	1-1/4
788-988	1-1/2	1-1/2	1-1/2	1-1/2
1088	2	2	2	2

Flame Safeguard Provided with Listed Control Systems by Code									
Boiler Model Number	UL/ CSD1			FM			IRI		
	OO or LFS	LHL	MOD	OO or LFS	LHL	MOD	OO or LFS	LHL	MOD
588-1088	--	RM7897C	RM7840L	--	RM7897C	RM7840L	--	RM7897C	RM7840L

Additional control suppliers are available

Notes for Table 1 and Table 2

- Standard motor voltage is 120/60/1 for CG25 and 230/60/1 for CG50.
 - Direct Spark Ignition is standard on all models.
 - CG25 and CG50 are available as: LHO Low-high-off or LHL Low-high-low operation. Two position air controlled by linkageless damper actuator.
 - Must be wired with 2nd boiler temperature or pressure control switch for LHL operation.
 - Full modulation w/135ohm-0-10VAC or 4-20ma inputs available.
 - Standard for Low-high enable switch, power and fuel on light.
 - Modulation control drives combustion air damper and fuel metering valve in response to boiler demand. Fixed damper pre-purge for RM 7897C.
 - Open damper pre-purge for RM7840L. (Optional)
4. Burner capacities listed for elevations up to 2,000 feet. For higher elevations, consult local Weil-McLain distributor/agent or sales office.

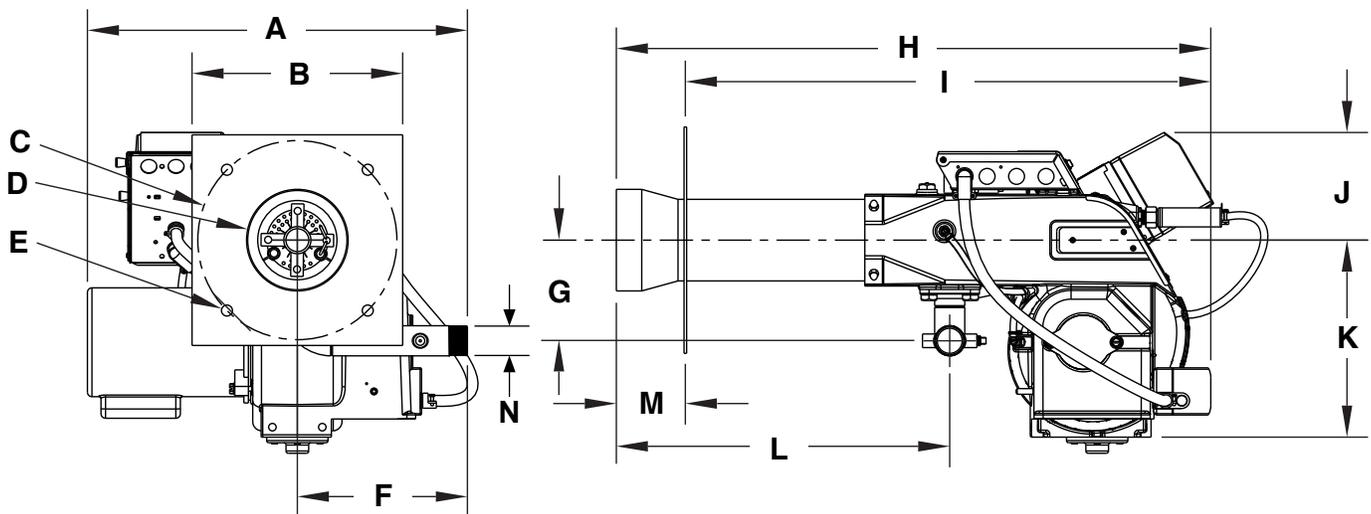


Burner specifications and settings *(continued)*

Notes for Table 1 and Table 2 *(continued)*

5. Gas ratings based on natural gas with heating value of 1,000 btu per cubic foot and specific gravity of 0.60.
6. Boiler-burner unit to be adjusted to achieve +0.10 inches W.C. pressure at flue collar, resulting in positive pressure in firebox as listed.
7. Minimum gas pressures listed are subject to variations due to job conditions. Gas burners for other gas pressures are available. Consult local Weil-McLain distributor/agent or sales office.
8. Gas manifold pressures shown are for initial start-up. Final pressure should be determined after checking actual gas flow and combustion readings.
9. Combustion Controls:
 - a. RM7897 flame safeguard control uses ultraviolet electronic flame detector to monitor gas or oil burner flame and provides pre-purge programming. "A" models provide intermittent pilot; "C" models provide interrupted pilot and RUN/TEST switch. "C" models also provide 10 second main flame establishing period.
 - b. RM7840L flame safeguard control monitors the gas burner flame, provides pre-purge and post-purge programming, provides switching necessary to allow firing rate motor to be driven to both low fire start and high fire positions, prevents start-up if preignition interlock circuit or running interlock circuit does not "prove", system will lock out on safety. Ultraviolet sensitive electronic flame detector is standard.
10. Burners listed by Underwriters Laboratories, Inc., Canadian Gas Association, state of Connecticut, Fire Marshal state of Massachusetts, city of New York MEA, and others.
11. Special controls can be provided to meet other code requirements not listed. Consult your local Weil-McLain distributor/agent or sales office.

Beckett burner dimensions



Beckett Models CG25 & CG50

Dimensions, In Inches														
Burner Model Number	A	B	C	D	E	F	G	H	I	J	K	L	M	N
	Overall Width	Square Flange Width & Height	Bolt Circle	Maximum Tube O.D.	Number of Bolt holes	Centerline to end of manifold	Tube centerline to manifold centerline	Overall Length (Max.)	Burner Length	Centerline to top of burner	Centerline to bottom of burner	Centerline of manifold to end of tube	Insertion Depth (Max.)	Pipe thread
CG25	20.90	12.00	10.25	6.9	4	9.3	6.8	33.2	29.2	4.1	12.8	17.8	4.0	2 NPT
CG50	24.4	12.00	10.25	7.7	8	10.5	7.5	33.6	29.6	4.1	14.6	17.4	4.0	2-1/2 NPT

