

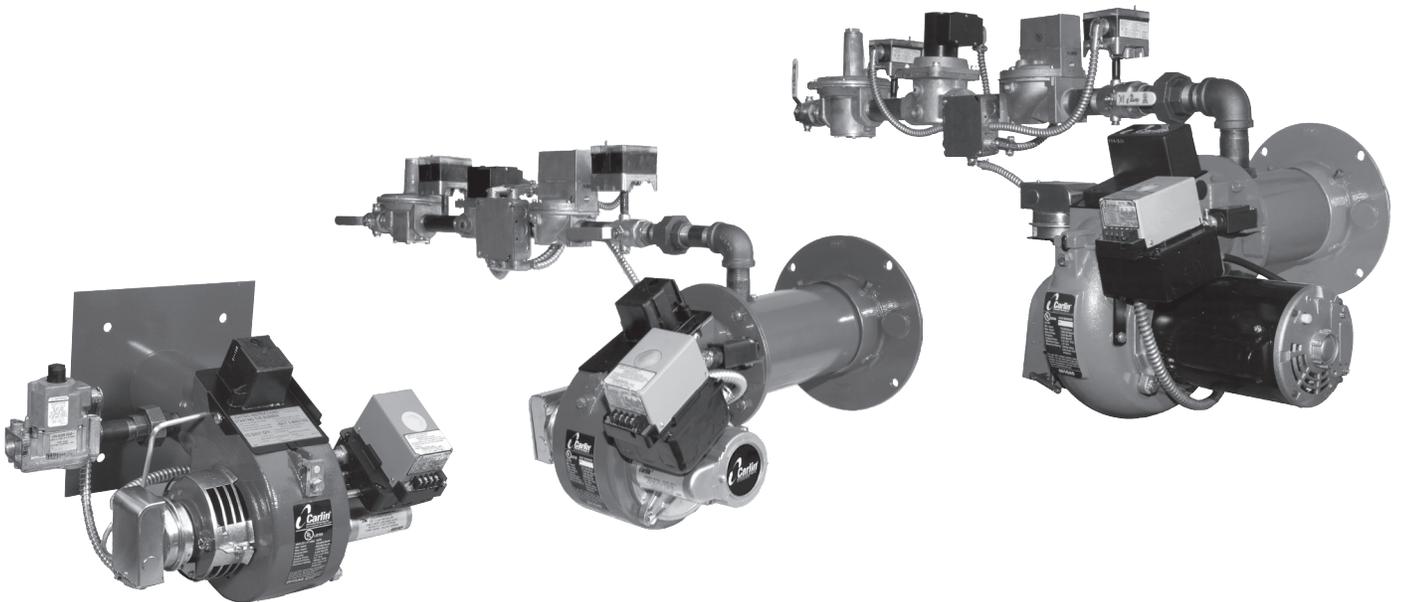
## Water & steam boilers

for use with Gas, Light Oil, & Gas/Light Oil - Fired Burners

### Burner Specification & Data sheet

**Carlin gas burners**  
201GAS, 301GAS, 601GAS

**Figure 1** Models 201GAS, 301GAS and 601GAS (301GAS and 601GAS available with straight (shown) or 90°-angled gas train)



Burner model	Burner used on boiler models:	Motor size H.P.	Motor electrical characteristics	Gas train size (inches)	Length (from mounting flange to label area on burner front)	Overall width (not including gas train)
201GAS	380	1/6	120/60/1	¾"	22.0	11.7
301GAS	480, 580, 680, 780	1/6	120/60/1	1"	29.2	20.9
601GAS	880 980, 1080	1/2	120/60/1	1" 1¼"	29.6	24.4



# Burner specifications and settings

**Table 1** Burner data

Boiler Model Number	Burner Input Gas MBH	Burner Model Number	Burner Air Tube	Positive Pressure in Firebox Inches w.c.		Burner Air Setting		Gas Manifold Pressure		Burner Motor 3450 RPM H.P.	Gas Pressure Required at Gas controls Inlet Inches w.c.*	
				Natural gas	Propane	Natural gas	Propane	Natural gas	Propane		Minimum	Maximum
380	346	201GAS	10" std	0.32	0.42	45%	50%	3.5	3.5	1/6	5	14.00
480	491	301GAS	"B"	0.34	0.39	70%	70%	3.2	3.8	1/6	5	14.00
580	639	301GAS	"B"	0.39	0.43	55%	65%	3.5	3.8	1/6	5	14.00
680	787	301GAS	"C"	0.35	0.36	55%	65%	3.5	3.5	1/6	5	14.00
780	935	301GAS	"C"	0.30	0.35	90%	90%	3.6	3.3	1/6	5	14.00
880	1082	601GAS	"C"	0.31	0.31	3.5	3.5	3.6	3.5	1/2	5	14.00
980	1230	601GAS	"D"	0.34	0.37	5.5	5.5	3.5	3.5	1/2	5	14.00
1080	1378	601GAS	"D"	0.35	0.33	7	7	3.5	3.5	1/2	5	14.00

\*Gas pressures shown are for standard gas train arrangement. Contact Weil-McLain for alternate gas train sizes 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 (point of field connection)	Combination Diaphragm Operating Gas Valve and Regulator	Gas Pressure Regulator	Primary Gas Valve	Secondary Gas Valve	Manual Gas Valves	High & Low Gas Pressure Switches
380	—	¾	—	—	—	—	No
480	1	—	1	1	1	(2) 1	Yes
580	1	—	1	1	1	(2) 1	Yes
680	1	—	1	1	1	(2) 1	Yes
780	1	—	1	1	1	(2) 1	Yes
880	1	—	1	1	1	(2) 1	Yes
980	1-1/4	—	1-1/4	1-1/4	1-1/4	(2) 1-1/4	Yes
1080	1-1/4	—	1-1/4	1-1/4	1-1/4	(2) 1-1/4	Yes

### Flame Safeguard

All models use Carlin 60200FR flame rod primary control

### Massachusetts Installations

Specify Massachusetts Code approval when required. Burners may require special components. Contact factory for information.



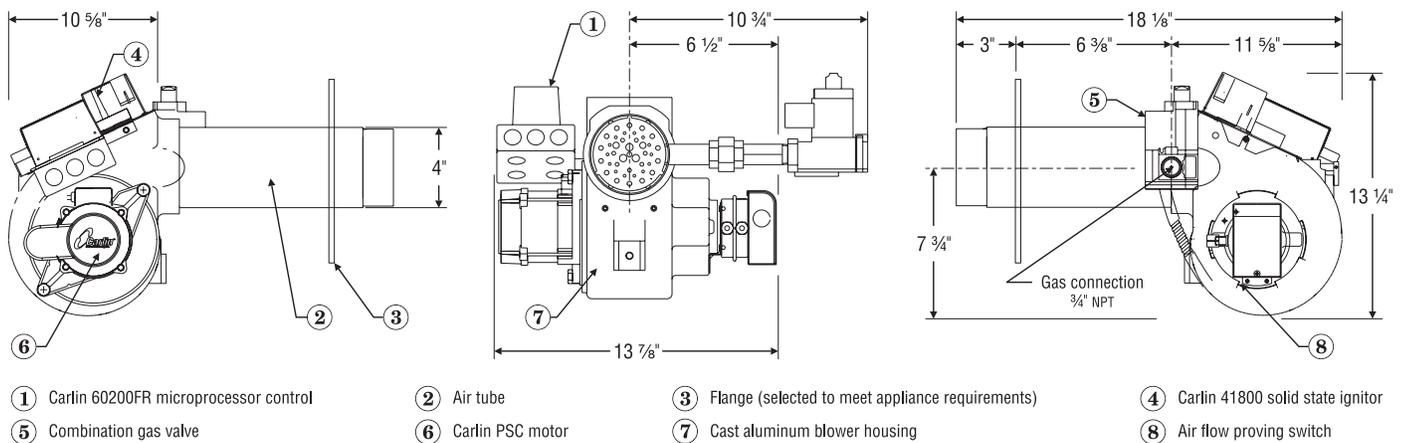
# Burner specifications and settings *(continued)*

## Notes for Table 1 and Table 2

1. Standard motor voltage is 120/60/1.
2. Direct Spark Ignition is standard on all models.
3. All 201GAS, 301GAS and 601GAS burners are available only with ON/OFF firing.
4. Burner capacities listed are for elevations up to 2,000 feet. For higher elevations, consult local Weil-McLain distributor/agent or sales office.
5. Gas ratings are based on natural gas with heating value of 1,000 Btu per cubic foot and specific gravity of 0.60.
6. Boiler-burner unit must be adjusted to achieve 0.10 inches W.C. pressure at flue collar, resulting in positive pressure in firebox as listed in Table 1.
7. Minimum gas pressures listed are subject to variations due to job conditions. Gas trains 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. Burners listed by Underwriters Laboratories, Inc., Canadian Gas Association, state of Connecticut, Fire Marshal state of Massachusetts (when specified), city of New York MEA, and others.
10. Special controls can be provided to meet other code requirements not listed. Consult your local Weil-McLain distributor/agent or sales office.

# Burner dimensions *(continued on next page)*

**Figure 2** Carlin model 201GAS

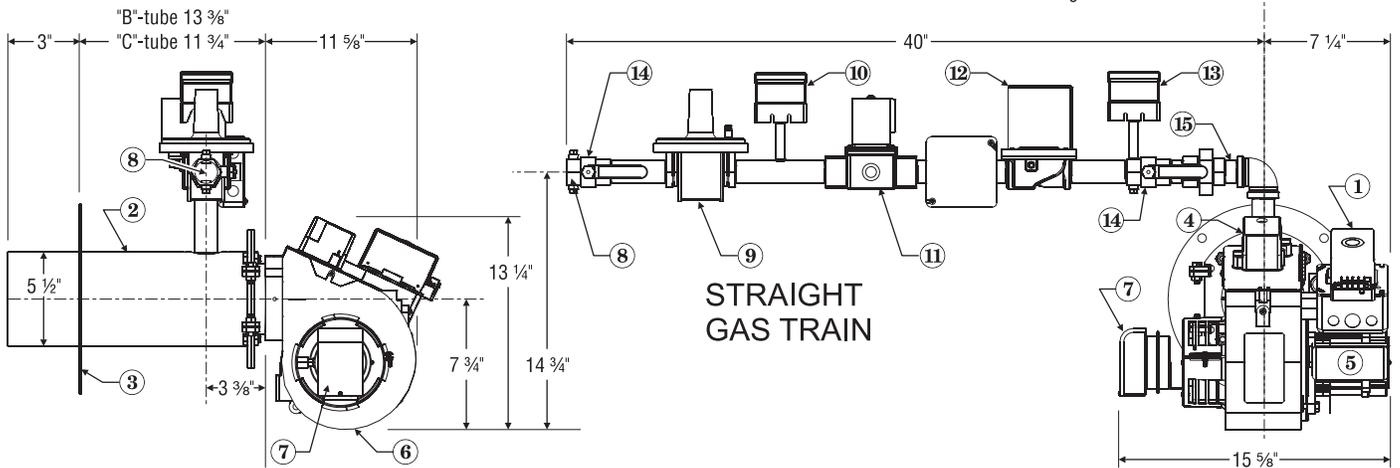




# Burner dimensions *(continued)*

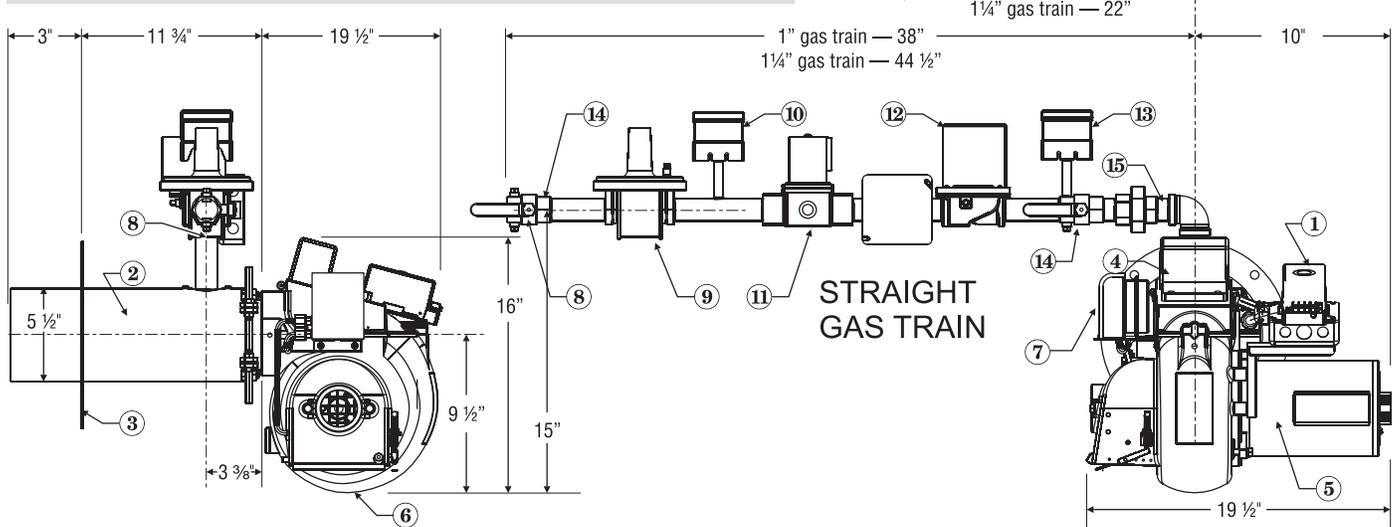
**Figure 3** Carlin model 301GAS

- |                         |                            |                             |
|-------------------------|----------------------------|-----------------------------|
| 1 Carlin 60200 primary  | 6 Cast aluminum housing    | 11 Secondary gas valve      |
| 2 Air tube              | 7 Air flow switch          | 12 Primary gas valve        |
| 3 Flange (welded shown) | 8 Gas connection, 1" NPT   | 13 High gas pressure switch |
| 4 Carlin 41800 ignitor  | 9 Gas pressure regulator   | 14 Manual gas cocks         |
| 5 Carlin PSC motor      | 10 Low gas pressure switch | 15 Orifice nipple           |



**Figure 4** Carlin model 601GAS

- |                         |                                    |                             |
|-------------------------|------------------------------------|-----------------------------|
| 1 Carlin 60200 primary  | 7 Air flow switch                  | 11 Secondary gas valve      |
| 2 Air tube              | 8 Gas connection, 1" or 1 1/4" NPT | 12 Primary gas valve        |
| 3 Flange (welded shown) | 9 Gas pressure regulator           | 13 High gas pressure switch |
| 4 Carlin 41000 ignitor  | 10 Low gas pressure switch         | 14 Manual gas cock          |
| 5 Motor                 |                                    | 15 Orifice nipple           |
| 6 Cast aluminum housing |                                    |                             |



Weil-McLain  
 500 Blaine Street  
 Michigan City, IN 46360-2388  
<http://www.weil-mclain.com>