



North American Oxy-Fuel Jet Burners

Bulletin 5010-J

The 5010-J burner is designed for glass and aluminum melter requirements of no water cooling and low oxygen supply pressures. Benefits of oxygen/fuel firing are faster melting, low NOx emissions, and smaller volume of combustion gas which permits a smaller bag house when required. There are two burner sizes: the -J1 has four different capacity nozzles available and the J3 size has 7 nozzles.

OPERATION

A high velocity luminous flame is produced by this concentric pipe burner. Fuel flows through the center passage while low velocity oxygen flows through the outer annulus. The fuel tube can be easily removed from the back of the burner for inspection. An oil model is available.

The 5010-J burner does not have a standard pilot or spark electrode. The burner can be ignited with a torch or inserted when the furnace temperature exceeds 1400 F.

FLAME SUPERVISION

The burner has a rear connection that can accept a UV scanner. The connection is not available with oil models. Contact North American for application information. If a flame supervision system is not used, the burner should only be operated after the chamber temperature is above 1400 F.

FUEL/OXYGEN REQUIREMENTS

Burner models operate on natural gas (5010-J) or oil (5011-J). Contact North American for oil model details. Required pressures for oxygen and gas are listed in the data table on page two. Because required oxygen pressure is so low, optional balancing orifices are required to evenly distribute oxygen to all burners in a zone. Use of the orifice will raise required oxygen pressure to approximately one psig.

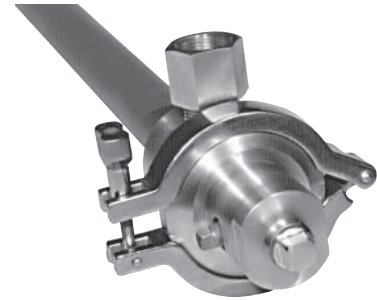
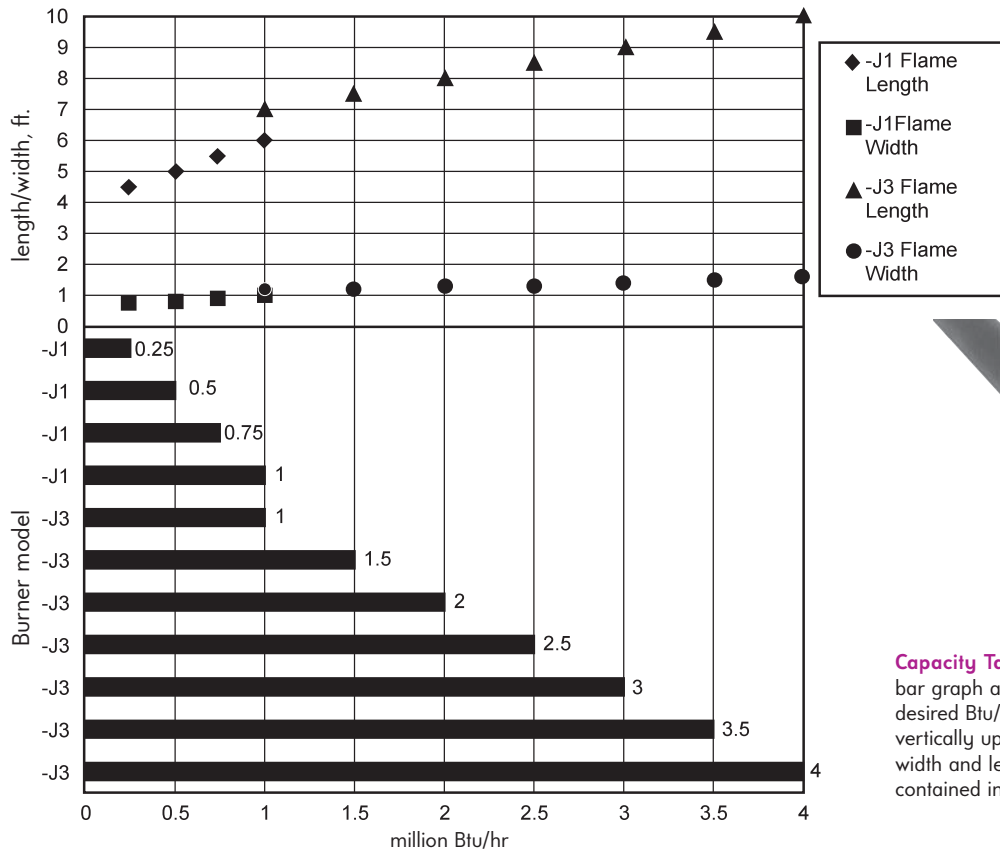
MOUNTING

The burner is available with either a fixed welded flange, or an adjustable set-screw held flange, for holding packing between the burner and furnace wall. The welded flange location should be specified at time of order. An optional mounting adapter allows angled or straight installation. Specify angle when ordering.

COOLING REQUIREMENTS

The burner is cooled by oxygen and fuel flows during operation. However, if the burner is going to be exposed to a hot furnace while not in operation, it must be pulled from the furnace. An air cooled mounting is available for special high temperature applications. Consult North American for details.

5010-J CAPACITIES vs. FLAME LENGTH/WIDTH



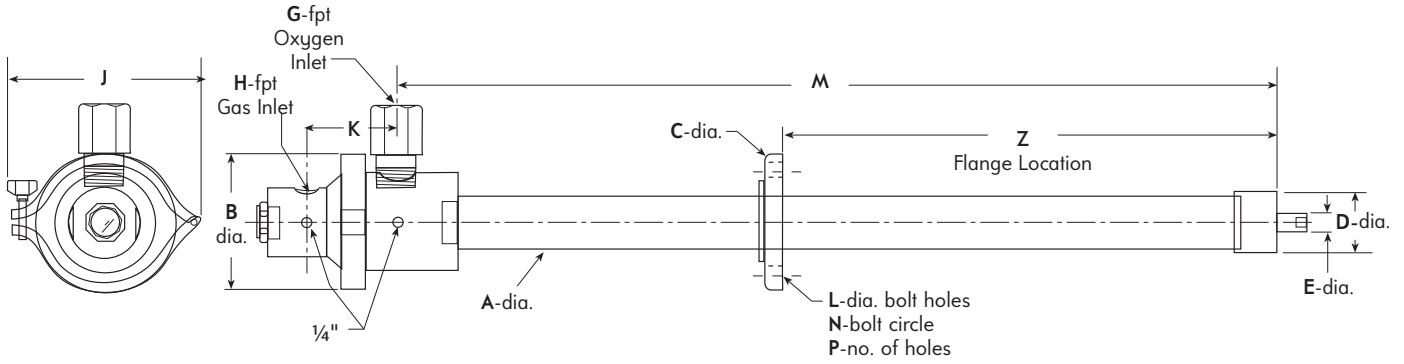
Capacity Table Instructions: Start with the lower bar graph and select the burner model with the desired Btu/hr capacity. Follow that capacity line vertically up to the second graph to read flame width and length. This and additional information is contained in the data table on page 2.

Model	Capacity mm Btu/h	Gas Nozzle Bore (")	Oxygen Balancing Orifice (")	Flame Shape, approx. (ft)		Pressures ('wc)	
				Length	Width	Gas	Oxygen
5010N-J1	0.25	0.199	0.339	4.5	0.75	27.7	0.8
	0.50	0.281	0.469	5	0.8	27.3	2.8
	0.75	0.344	0.578	5.5	0.9	29.6	6.0
	1.0	0.397	0.672	6	1.0	33.0	10.6
5010N-J3	1.0	0.438	0.672	7	1.2	11.0	0.1
	1.5	0.563	0.828	7.5	1.2	12.0	0.3
	2.0	0.625	0.953	8	1.3	13.1	0.5
	2.5	0.688	1.063	8.5	1.3	15.6	0.7
	3.0	0.750	1.172	9	1.4	18.3	1.0
	3.5	0.813	1.266	9.5	1.5	21.4	1.3
	4.0	0.875	1.359	10	1.6	25.1	1.7

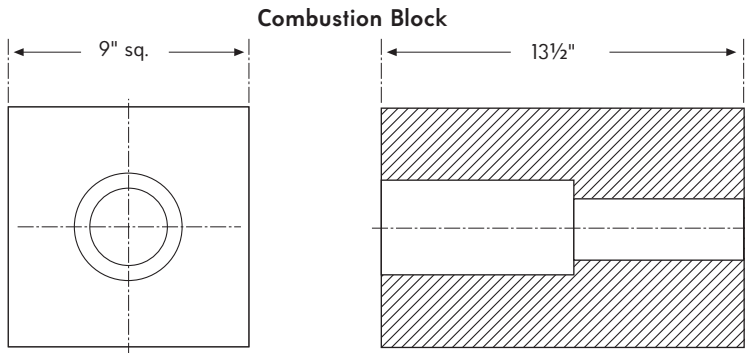
WARNING: All equipment and pipe used with oxygen must be made of suitable materials and properly cleaned for oxygen service. Operating personnel should be trained in oxygen safety procedures. Failure to do so could result in accidental injury or death. Contact your oxygen supplier and Fives North American Combustion, Inc. for information.

WARNING: Situations dangerous to personnel and property may exist with the operation and maintenance of any combustion equipment. The presence of fuels, oxidants, hot and cold combustion products, hot surfaces, electrical power in control and ignition circuits, etc., are inherent with any combustion application. Parts of this product may exceed 160F in operation and present a contact hazard. Fives North American Combustion, Inc. urges compliance with National Safety Standards and Insurance Underwriters' recommendations, and care in operation.

DIMENSIONS inches



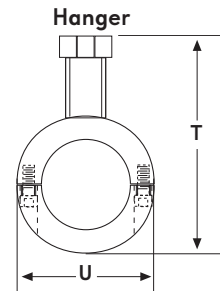
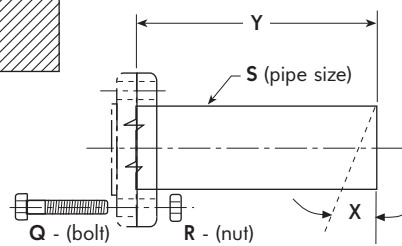
Burner Designation	A	B	C	D	E	F	G	H	J	K	L	std. M dim.	N	P
5010N-J1	1 1/4	4	6	1 3/4	1 1/16	1	1	1/2	6 5/8	2 7/8	3/4	30	4 3/4	4
5010N-J3	2 1/2	5 3/8	8 1/2	3 1/8	1 1/3	2	1 1/2	3/4	7 5/16	3 5/8	3/4	30	7	8



Outside block dimensions are the same for both the J1 and J3 burners.

Burner Designation	Mounting Adapter			Hanger	
	Q	R	S	T	U
5010N-J1	5/8	5/8	2	5.7	3
5010N-J3	5/8	5/8	3 1/2	7	4.5

Mounting Adapter
Customer specifies adapter length "Y" and mounting surface angle "X."



Dimensions shown are subject to change. Certified prints are available. Burner dimensions Z, and L (if not standard length) are specified by customer. (See "Order 5010" for details.) **Ordering Information:** See: Order 5010.



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