

SPECIAL OPTIONS

Special options are available for Fireall burners for a nominal increase in price. These must be ordered with assistance from North American. Several of the more popular options are detailed on this page. Benefits from using these options can vary and often depend on factors other than the burner itself, such as the fuel delivery system, furnace size and temperature, and process variables.

Back pressure construction is available for applications up to several psi, such as found in fluidized beds. The special construction addresses leak paths to minimize this condition. The standard FireAll product is suitable up to approximately ¼ psi furnace back pressure.

Fast mix construction is available for most burner sizes. This reduces flame length by approximately 40%. It is not recommended for heavy oil applications, and in general, the modification will result in a reduction in performance limits (lighting, excess air, etc.).

Hinged burner construction is available for the -8-A size only. This allows the BO (burner only) portion to swing open from the mounting and tile assembly for easy access to burner internals.

Undersized atomizers for 5514 and 6514 burners are useful where extra turndown, preheated air, or consistently lean operation is required. Atomizer reduction is typically one size smaller, e.g., an -8-A atomizer in an -8-B burner. Under sizing the atomizer is not recommended for the 6514-10 burner.

High pressure atomizers 5622, 5623 or 5643 can be fitted to 5514 and 6514 burners for special applications such as incinerating waste liquids. Steam or compressed air (15 to 125 psig) is required at the atomizer for proper operation. Refer to Bulletins 5622/23 and 5643 for performance characteristics. In these instances, the existing low pressure atomizing air connection on the burner is used for additional main combustion air.

Special construction (welding) of the atomizing air nozzle and tube is recommended for hot applications (1800°F and higher) where the 5514 or 6514 burner is fired vertically down.

Spoked oil nozzles can be requested for light oil applications. This can improve atomization quality and reduce burner carboning. The standard 5514 and 6514 oil nozzle (not spoked) is recommended for all heavy oil applications.

Tile mountings can be specified with 1½" NPT connection to accept a 5025-1-3T direct spark oil pilot. This pilot is recommended for interrupted operation only. Good practice dictates mounting the oil pilot above the burner horizontal centerline to avoid possibility of oil running back into the pilot. An 8699-1-453 balancing orifice is suggested for the air supply to provide proper air flow for 8 osi and 0.85 gph rating.

Refractory burner tiles can be manufactured in a number of special ways including shortened length, with a choked exit, with expanded metal liners or sst needles. Contact North American for an explanation of benefits and availability of these options. Pre-fired tiles are no longer available as a special option.

ADDITIONAL ACCESSORIES

Oversized air connections. Nose castings for sizes -8-A and larger can be bored out for up to 30% additional main air capacity. Complete performance data is not available for burners with this modification. Most -8-B,-9, and -10 applications require an enlarged air connection flange.

Burner Designation	Oversized air connection (SW type)	
	Size	P/N
4514/5514/6514-8-B	8"	3-21995-1
4514/5514/6514-9	10"	3-21996-1
4514/5514/6514-10	12"	3-21997-1

Direct spark ignition is possible with a 4055-M igniter for gas only 4514 burners. The igniter has a ¾" NPT connection and can replace the 4025 pilot tip. Igniter extension is adjustable and optimal position is determined during field start up. The burner main air pressure should be less than 1 osi when attempting to light with direct spark.

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. Components in combustion systems may exceed 160°F (71°C) surface temperatures and present hot surface contact hazard. Fives North American Combustion, Inc. suggests the use of combustion systems that are in compliance with all Safety Codes, Standards, Regulations and Directives; and care in operation.

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