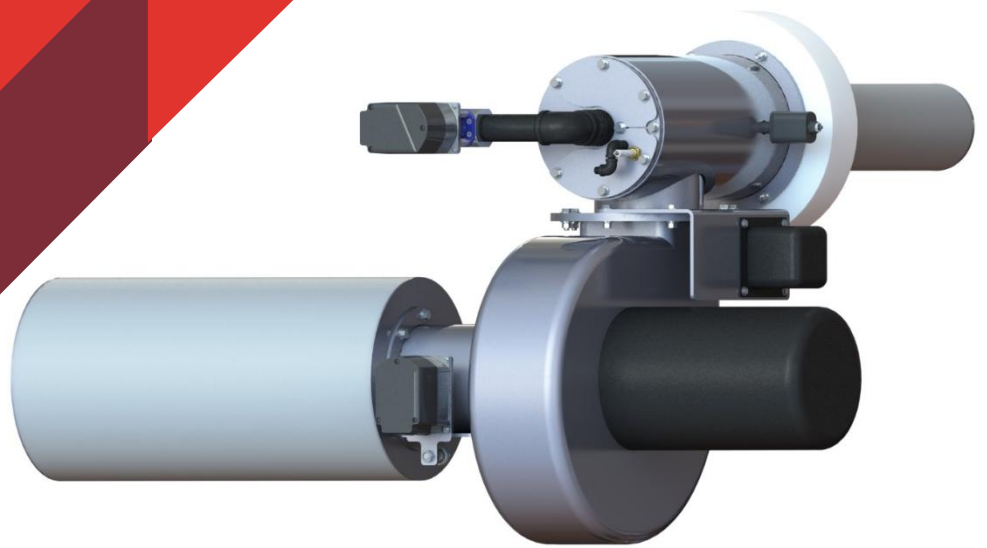


Environmental Burner Solutions



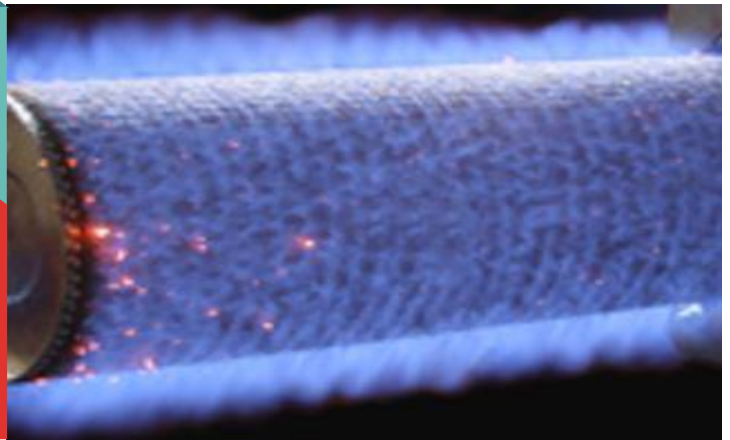
MODEL A BURNER

INDUSTRIAL BURNER DESIGN / ENVIRONMENTAL BURNER SOLUTIONS / AFTERMARKET PARTS / SERVICE


Alpha
Combustion, LLC

ENERGY EFFICIENCY LOW EMISSION FOOTPRINT

ALPHA COMBUSTION

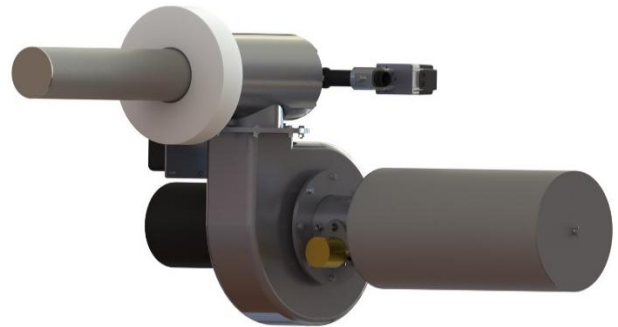


MODEL A

Alpha Combustion **Model A** Ultra-Low NO_x Package Burner utilizes surface stabilized combustion and achieves Sub 9 ppm NO_x emissions and near zero CO emissions when corrected to 3% O₂.

The burner is ideal for fire-tube, water-tube, cast-iron and condensing boilers applications. Its small footprint and modular design make it ideal for retrofit locations, where space or speed of installation is of concern.

For added efficiency gains the burner can be operated with Flue Gas Recirculation (FGR).



HEAT RELEASE RANGE

MMBTU to 42MMBTU
0.26MW/hr to 10.96MW/hr

Ideal for heaters with input:
24HP to 1000HP
0.4 ton/hr to 16 ton/hr

FUEL

- Natural Gas (NG)
- Propane (LP)
- Propane Air Mix (LA)
- Town Gas (TG)
- Digester Gas (DG)

BURNER TURNDOWN

Up to 6 to 1 when firing NG

EXCESS AIR RANGE

No FGR Applications:
9 ppm (17mg) NO_x at 60%
excess air level.

With FGR
9 ppm (17mg) NO_x at 20%
excess air level.

BURNER MOUNTING OPTIONS

- Horizontal
- Vertical
- Up or down firing.

CONTROL PANEL MOUNTING OPTIONS

- Side of the burner above the blower motor (standard)
- Remote panel (option)



Our mission is to offer a low emission combustion technology at affordable price without sacrificing product quality or operational performance.

ALPHA COMBUSTION

Burner Model	Frame Size	Burner size		Boiler		Blower Motor HP	Furnace Pressure		Standard Gas Train Size	Gas Pres. Required	
		MMBTU HHV	MW/h LHV	HP 80% Eff.	ton/h 90% Eff.		[inch W.C.]	[mBar]		[PSI]	[mBar]
A10-0010-AXX	10	1	0.26	24	0.38	1.5	3	7	1	2	138
A10-0020-AXX	10	2	0.52	48	0.76	2	4	10	1	2	138
A10-0030-AXX	10	3.5	0.91	83	1.33	3	4	10	1.5	2	138
A14-0042-AXX	14	4.2	1.10	100	1.60	5	4	10	1.5	2	138
A14-0053-AXX	14	5.25	1.37	125	2.00	5	6	15	1.5	2	138
A14-0063-AXX	14	6.3	1.64	150	2.39	7.5	6	15	1.5	2	138
A22-0084-AXX	22	8.4	2.19	200	3.19	7.5	6	15	2	2	138
A22-0105-AXX	22	10.5	2.74	250	3.99	10	6	15	2	2	138
A22-0126-AXX	22	12.6	3.29	300	4.79	10	6	15	2	3	207
A22-0147-AXX	22	14.7	3.84	350	5.59	15	6	15	2	3	207
A30-0168-AXX	30	16.8	4.38	400	6.38	20	6	15	2.5	3	207
A30-0210-AXX	30	21	5.48	500	7.98	20	6	15	2.5	3	207
A30-0252-AXX	30	25.2	6.58	600	9.58	25	6	15	3	3	207
A40-0294-AXX	40	29.4	7.67	700	11.17	30	6	15	3	3	207
A40-0336-AXX	40	33.6	8.77	800	12.77	40	8	20	3	3	207
A40-0378-AXX	40	37.8	9.87	900	14.36	40	8	20	4	3	207
A40-0420-AXX	40	42	10.96	1000	15.96	50	8	20	4	3	207

Gas input is based on natural gas with 1,000 Btu/cu.ft. and 0.60 gravity.
 Motor HP is based on altitude of 2,000 feet or less. If altitude > 2,000 feet and < 8,000 feet, derate capacity 4% per 1,000 feet over 2,000. Consult Alpha Combustion for higher altitudes.

Burner Model Selection

A10-0010-AXX

- A-(Air), F-(FGR), XX-(Fuel Type: NG, LP, TG, DG)
- Input size: 0010-(1MMBTU)
- Burner Frame Size



ALPHA COMBUSTION

Offering more than just another Metal Fiber Burner

Fe-Cr-Al ALLOY

Metal Fiber Mat is made from layers of FeCrAl alloy fibers. The fibers are sintered in a high vacuum furnace allowing the mat to be high temperature resistant without oxidizing or thermal cracking. FeCrAl alloy mats have been used in boiler applications since 1999 and are a leading material choice for surface stabilize combustion.

STAINLESS STEEL BODY

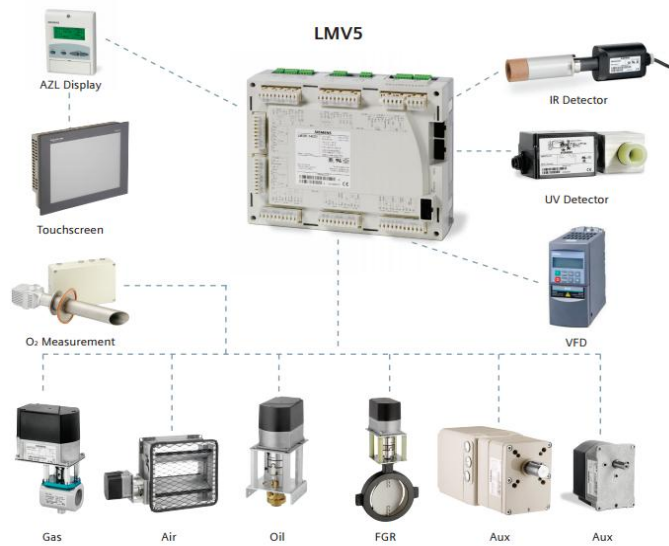
Model A burner uses the FeCrAl mat over a perforated stainless steel tube creating a unique burner combustion head. The perforated tube is specifically design for Alpha Combustion and ensures uniform mixture and even flame distribution along the entire length of the combustion head. The uniform distribution minimizes hot spots and potential stress zones.

FUEL/AIR MIXING

Air and Gas are mixed before entering the Metal Fiber combustion head using a proprietary to Alpha Combustion gas distribution spuds and air mixing diffuser. Alpha Combustion offers an optimal fuel and air mixture allowing for near zero CO emissions and single digit NOx emissions.

SELF COOLING

Model A burner offers a unique self or rapid cooling of the entire combustion head, especially cooling off the endcap. The cooling is accomplished by utilizing a reverse flow and high velocity flow in areas that are typically found as dead zones or low velocity zones. The dead zones are virtually eliminated with the Alpha Combustion unique self-cooling design.



SIEMENS

Linkageless Control System

ALPHA COMBUSTION

State of the Art Control for State of the Art Burners

LMV3

Standard on burners, up to 6.3MMBTU (2.4ton).

LMV3 offers:

- Single or dual fuel control.
- Simple programming, easy installation/commissioning.
- Password protection.
- Independent fuel and air actuator positioning.
- Actuator accuracy of 0.2 degree.
- Independent home, pre-purge, ignition and post-purge.
- Proof of closure.
- Gas valve leak test.
- 4-20mA firing rate control signal from any PID controller.
- VFD option.
- Modbus RTU Communications.

LMV5

Standard on burners larger than 6.3MMBTU (2.4ton).

LMV5 offers:

- Single or dual fuel control.
- Controls up to 6 independent actuators.
- Integrated PID Temperature/Pressure Controller with auto tune.
- VFD control with actual motor RPM speed sensor.
- Gas valve leak check.
- 900 highly repeatable points for each fuel-air ratio curve.
- Independent fuel and air actuator positioning.
- Actuator accuracy of 0.1 degree.
- Independent home, pre-purge, ignition and post-purge.

LMV5 (Continued)

- Real-time Modbus communication.
- Multi-level password protection.
- Digital positioning feedback from actuators.
- Annunciation of over 500 fault conditions.
- Adjustable Flame Failure Response Time.
- World-wide approvals and technical support.

LMV5 Optional Equipment

- Optional O₂ Trim (LMV52.2)
- Optional O₂ Trim for Ultra-low NO_x applications. (LMV52.4)
- Optional Flue Gas Recirculation Hold based on Stack Temperature/Time for reliable light off and burner operation.
- Optional Touchscreen control.
- Touchscreen has option for Chinese language characters' selection.



Contact Information:

918-851-1751

sales@alpha-combustion.com

www.alpha-combustion.com



2206 E 24th St
Tulsa, OK 74114

918-851-1751
www.alpha-combustion.com
sales@alpha-combustion.com