

# M SERIES

1.4 TO 10.5 MM BTU/HR



**INDUSTRIAL  
COMBUSTION**

# Multi-Fuel Versatility.

## Forced draft dual fuel burner.

The Industrial Combustion M series burner forced draft design allows for tried and true trouble-free operation and superior efficiency on boiler, heater, furnace, kiln and dryer applications worldwide. The M series features low-pressure air atomization of #2-6 fuel oil and combination natural gas/oil in uncontrolled emissions configurations.

### The M series. Setting the *standard* for firing *alternative* fuels.



#### **Precise Air/Oil Metering**

An outstanding design feature on all IC air atomizing burners, the oil metering unit precisely meters light oil volume and is not affected by changes in oil temperature or viscosity.

#### **Air Compressor Module**

A remote air compressor module provides air for heavy oil models. The module includes IC's rotary vane, pressure lubricated air compressor, air/oil lubricating reservoir, oil level indicator, inlet air filter, air pressure adjusting valve and air pressure gauge.

#### **Cam Trim**

Cam trim is a standard feature on models M34-M105 that makes it possible to adjust the burner for consistent and precise fuel-to-air ratios throughout the firing range. Excess air is controlled to a minimum through the 14-point adjustment range.

#### **Combustion Air Impeller**

Highly efficient backward-curved aluminum impeller with the ability to maintain it's original balance by avoiding the dust collection that is common with forward curved blowers.

#### **Oil Nozzle**

The IC designed low-pressure air-atomizing nozzle achieves the best atomization of oil for each burner model and application. Air is purged through the large nozzle orifice after each burner cycle to prevent after-drip and fouling.

#### **Swing-Away Air Housing**

Provides easy access to the nozzle, scanner, pilot and diffuser for inspection or removal. No disconnection of fuel or power lines is required.

# The M Burner Explained:

The M series burner offers: natural gas, propane gas, air atomized #2-6 fuel oil and combination gas and oil fuel options from 1.4 to 10.5 MM BTU per hour. Full modulation operation is standard for optimum performance to meet load demand. The M burner is an excellent choice when firing alternative fuels such as digester, waste oil, and biodiesel.

## M Burner



**Low-pressure** air atomizing system on oil with rotary vane compressor

**Piston-type** positive displacement oil metering system for precise oil control

**Cam Trim** 14-point adjustment range standard on models M34 - M105

**Parallel Positioning** available for optimal control throughout the firing range

**Nozzle Line Electric Heater** standard on medium to heavy oil burners

**Hinged Air Housing** for easy access to internal components

**Gas Manifold** on oil burners standard for easy upgrade to combination units

**Combustion Air Impeller** provides adequate combustion air for various furnace pressures and high altitude applications

**UL & cUL** listed (except ME & MEG 14-30)

Emissions	Frame	Model Range	Boiler HP	Capacities		Mode of Operation	Fuel	Parallel Positioning
				MBH	GPH <sup>1</sup>			
Uncontrolled	Size 1 - 4	14 - 105	33 - 250	1,400 - 10,500	10 - 75	Full Modulation	Gas, Oil, Comb.	Optional

<sup>1</sup> Oil input (US gph) calculated for #2 Oil @ 140,000 Btu/gal

## Uncontrolled Emissions Configuration (MG, MM#2, MMG#2, MM, MMG, ME, MEG)

Burner Model Number & Frame Size	14-1	16-1	19-1	22-1	25-2	28-2	30-2	34-3	42-3	54-3	63-3	84-4	105-4
Gas Input (MBtu/hr)	1,400	1,680	1,960	2,200	2,500	2,800	3,150	3,500	4,200	5,600	6,300	8,400	10,500
Oil Input (US gph) #2 Oil @ 140,000 Btu/gal	10.0	12.0	14.0	15.7	18.0	20.0	22.5	25.0	30.0	40.0	45.0	60.0	75.0
Oil Input (US gph) #4-5 Oil @ 145,000 Btu/gal	9.6	11.6	13.5	15.2	17.4	19.3	21.7	24.1	29.0	38.6	43.5	58.0	72.4
Oil Input (US gph) #6 Oil @ 150,000 Btu/gal	9.3	11.2	13.1	14.7	16.8	18.7	21.0	23.3	28.0	37.3	42.0	56.0	70.0
Boiler HP @ 80% Eff.	33	40	47	52	59	67	75	83	104	133	150	200	250
Minimum Gas Pressure ("w.c.) <sup>1</sup>	10.9	15.7	8.8	10.3	10.1	12.0	14.9	19.0	9.2	16.1	20.3	18.0	16.0
Blower Motor HP "S Model" <sup>2</sup>	1/2	1/2	1/2	1/2	2	2	2	2	2	2	3	5	7 1/2
Blower Motor HP "P Model" <sup>3</sup>	-	-	-	-	-	-	-	2	2	3	3	7 1/2	7 1/2
MM, MMG, MM#2, MMG#2 Integral Oil/Air Unit Motor HP	3/4	3/4	3/4	3/4	3/4	3/4	3/4	1	1	1	2	2	2
ME, MEG Oil Metering Unit Motor HP <sup>4</sup>	-	-	-	-	-	-	-	1/2	1/2	1/2	1/2	1/2	1/2
ME, MEG Air Compressor Motor HP <sup>4</sup>	-	-	-	-	-	-	-	3	3	3	3	3	3
MM, MMG, ME, MEG Nozzle Line Heater (kW)	3	3	3	3	3	3	3	3	3	3	3	5	5
Shipping Weight	450	450	450	450	500	500	650	650	650	750	750	1,200	1,250

<sup>1</sup> Standard gas pressure only, consult factory for lower gas pressures

<sup>2</sup> Use model "S" up to 0.75" w.c. furnace pressure, consult factory for higher pressures

<sup>3</sup> Use model "P" up to 2.0" w.c. furnace pressure, consult factory for higher pressures

<sup>4</sup> Models ME & MEG 14-30 use the integral oil/air unit as standard. Models ME & MEG 34-105 use the oil metering unit and separate compressor as standard.

Input is based on fuel Btu content and 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 factory for higher altitudes. If furnace pressure exceeds listed value, derate capacity 5% for every 0.5" w.c. of pressure in excess of stated. Consult factory if derate exceeds 20%. Gas input is based on natural gas with 1,000 Btu/cu.ft. and 0.60 gravity. Consult factory for 50Hz. applications.



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