

# M-PAKT®

## Ultra Low NOx Burners



- Produces extremely low emissions of NO<sub>x</sub> and CO
- Burns natural gas or propane
- Flame contained almost entirely inside the discharge sleeve
- Compact packaged design with a variety of control methods
- Durable steel outer construction with stainless steel internals
- Optional discharge sleeve selections for use with low or high temperature applications

## Product description

Typical MAXON quality and reliability is found in the M-PAKT® Ultra Low NOx Burners, which provide the world's lowest levels of NOx and CO. NOx is typically single digits in most applications. The M-PAKT® low NOx burner is suitable for industrial air heating for ovens and dryers for paint finishing, paper making, food baking, textile production, grain drying, and make-up air heating. With optional sleeve materials, M-PAKT® burners substantially reduce emissions in oxidizers, incinerators, heat exchangers and process heaters.

## Available M-PAKT® burner sizes

| Typical burner data  |        |       |       |       |       |       |
|--|--------|-------|-------|-------|-------|-------|
| Fuel: natural gas at 60°F with 1000 Btu/ft <sup>3</sup> (st) HHV - sg = 0.6 (1)  |        |       |       |       |       |       |
| Combustion air: 60°F - 21% O <sub>2</sub> - 50% humidity - sg = 1.0 (1)  |        |       |       |       |       |       |
| Stated pressures are indicative. Actual pressures are a function of air humidity, altitude, type of fuel and gas quality |        |       |       |       |       |       |
| Packaged Burners   |        |       |       |       |       |       |
| Size   |        | 0.4M  | 0.9M  | 1.5M  | 2.5M  | 3.5M  |
| Maximum Capacity HHV (2)   | MBtu/h | 0.41  | 0.9   | 1.6   | 2.5   | 3.5   |
| Minimum Capacity HHV   |        | 0.07  | 0.128 | 0.2   | 0.37  | 0.5   |
| Turndown   | N/A    | 5.9:1 | 7:1   | 8.5:1 | 7:1   | 7.4:1 |
| Pilot Capacity   | scfh   | 20-80 | 20-80 | 20-80 | 20-80 | 20-80 |

(1) sg (specific gravity) = relative density to air (density air = 0.0763 lb/ft<sup>3</sup> (st) )

(2) Capacities listed require blower operation on 60 Hz. For 50 Hz operation, reduce capacity by 17%.

Contact MAXON for operating pressures for burners produced prior to 5/1/07.

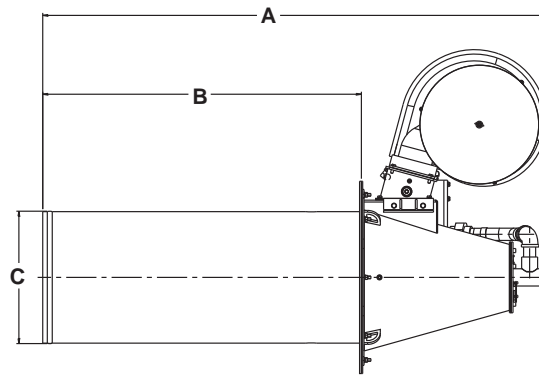
| Typical burner data  |        |        |        |        |        |        |       |
|--|--------|--------|--------|--------|--------|--------|-------|
| Fuel: natural gas at 60°F with 1000 Btu/ft <sup>3</sup> (st) HHV - sg = 0.6 (1)  |        |        |        |        |        |        |       |
| Combustion air: 60°F - 21% O <sub>2</sub> - 50% humidity - sg = 1.0 (1)  |        |        |        |        |        |        |       |
| Stated pressures are indicative. Actual pressures are a function of air humidity, altitude, type of fuel and gas quality |        |        |        |        |        |        |       |
| External Blower Burners  |        |        |        |        |        |        |       |
| Size   |        | EB2    | EB3    | EB4    | EB5    | EB6    | EB7   |
| Maximum Capacity HHV (1)   | MBtu/h | 0.8    | 1.7    | 2.7    | 4.5    | 5.8    | 8.4   |
| Minimum Capacity HHV   |        | 0.07   | 0.128  | 0.2    | 0.37   | 0.5    | 0.9   |
| Turndown   | N/A    | 11.4:1 | 13.3:1 | 13.5:1 | 12.2:1 | 11.6:1 | 9.1:1 |
| Pilot Capacity   | scfh   | 20-80  | 20-80  | 20-80  | 20-80  | 20-80  | 20-80 |

(1) sg (specific gravity) = relative density to air (density air = 0.0763 lb/ft<sup>3</sup> (st) )

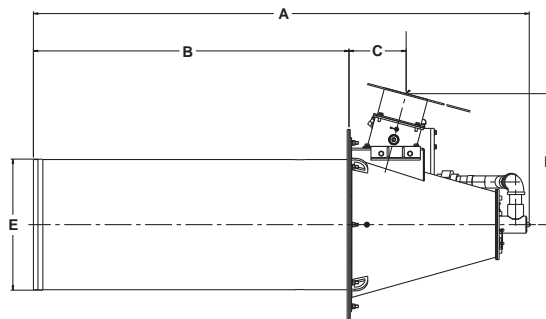
Contact MAXON for operating pressures for burners produced prior to 5/1/07.



## Dimensions and Weights



| Dimensions in inches unless stated otherwise |       |       |       |             |
|--|-------|-------|-------|-------------|
| Packaged Burners                             |       |       |       |             |
| Burner Size                                  | A     | B     | C Ø   | Weight (lb) |
| 0.4M   | 52.2  | 28.75 | 10.4  | 175         |
| 0.9M   | 52.2  | 28.75 | 10.4  | 185         |
| 1.5M   | 69.37 | 44.0  | 18.24 | 260         |
| 2.5M   | 69.37 | 44.0  | 18.24 | 325         |
| 3.5M   | 69.37 | 44.0  | 18.24 | 345         |



| Dimensions in inches unless stated otherwise |      |       |      |       |       |             |
|--|------|-------|------|-------|-------|-------------|
| External Blower Burners                      |      |       |      |       |       |             |
| Burner Size                                  | A    | B     | C    | D     | E Ø   | Weight (lb) |
| EB2  | 49.2 | 28.75 | 6.0  | 13.75 | 10.4  | 120         |
| EB3  | 49.2 | 28.75 | 6.0  | 13.75 | 10.4  | 125         |
| EB4  | 69.0 | 44.0  | 7.95 | 18.23 | 18.24 | 195         |
| EB5  | 69.0 | 44.0  | 7.95 | 18.23 | 18.24 | 250         |
| EB6  | 69.0 | 44.0  | 7.95 | 18.23 | 18.24 | 275         |
| EB7  | 69.0 | 44.0  | 7.95 | 18.23 | 20.24 | 275         |

## Typical emissions

The M-PAKT® Ultra Low Emissions Burner produces NOx and CO emissions up to 95% less than conventional burners. Without exotic alloys or fragile ceramics, the burner reduces NOx with a patented, advanced flame stabilization. The M-PAKT®'s advanced anchoring of the flame reduces prompt NOx while thermal NOx is suppressed with an extremely uniform mixture.

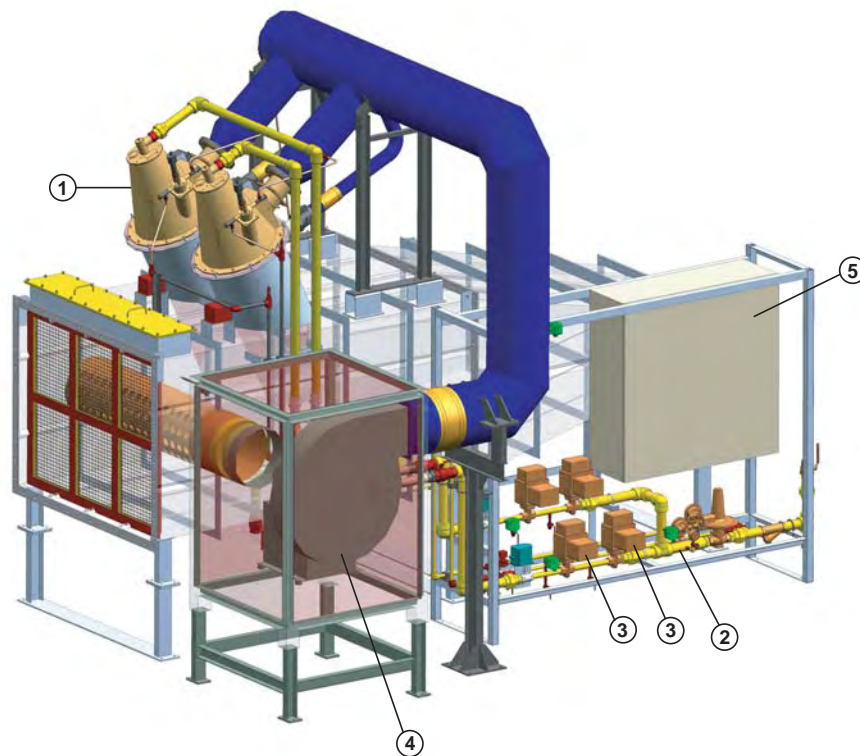
In application, the M-PAKT® Ultra Low Emissions Burner produces single digit NOx corrected to 3% oxygen. In most installations, CO production is limited to extremely low levels. Exact emissions performance may vary in your application. Contact MAXON for information on installation specific estimates or guarantees. No guarantee of emissions is intended or implied without specific written guarantee from MAXON.

Factors that can affect emissions:

- Process air direction, temperature and velocity
- Process stream constituents, especially nitrogen bearing compounds
- Combustion air quality, relative humidity and filtration
- Burner location and installation
- Fuel quality and heating value
- Emissions instrument calibration and testing protocol

## Application example of M-PAKT® gas burner

- 1) M-PAKT® Ultra Low NOx Burner
- 2) Pipe train constructed for required codes and authorities
- 3) MAXON 5000 Series Shut-off Valves
- 4) Combustion air blower
- 5) System control panel



A typical air heater incorporating M-PAKT burners

Read "Specifications of M-PAKT® Burner" for correct and complete information on M-PAKT® Burners.