NMG
Nozzle Mix Gas Burners

Burns most gaseous fuels
Sealed-in capability
Stable flame over entire operating range
Preheated air to 800°F (425°C)
Direct spark or pilot ignition option
Wide turndown
Low maintenance
Hauck’s NMG nozzle mix gas burners are designed for applications requiring a general purpose, long life, low maintenance burner.

**Operation.** Combustion air and fuel are channeled into the burner nozzle separately, permitting wide turndown. Since the burner nozzle is sealed into the refractory tile, all combustion air is supplied through the burner. The NM series burners couple a uniform flame front with flame stability over the entire operating range.

NM burners are available for preheated air operation up to 800°F (425°C) for high temperature furnace applications. Atomizing air is maintained at ambient conditions during preheated air operation.

The burners can be controlled manually or automatically. Automatic control normally employs a ratio regulator for each control zone or burner to maintain air-fuel ratio. An alternate system uses control valves in each of the fuel and air lines, linking the valves to a single motor controller.

Use of the NM in recuperative systems results in an economical approach to energy savings.

**Construction.** With no moving parts, the burner is virtually maintenance free. Parts subject to heat are constructed of either heat resistant cast iron or stainless steel. Special refractory materials and jacketed tiles can be supplied upon request.

**Mounting.** The burner, mounting plate and refractory tile are shipped as an assembled unit. The burner can be mounted to fire in any position - horizontal, vertical up or vertical down. The air connection can be rotated to any of three other positions.

Each NM burner is equipped with companion flanges on the main air connections to permit easy burner installation and removal and allow the mounting of an orifice plate for reduced air flows, if required.

**Ignition.** Direct spark ignition is available on the NMG 215 through 240 burners, while gas pilot ignition is available on all size burners.

**Pilot.** The burner mounting plate includes a port for the gas pilot/ignition system. The pilot is required for initial burner ignition only and is not required to maintain ignition.

**Flame Supervision.** The NM mounting plate is provided with a port for monitoring the pilot and main flame using a UV scanner or other suitable device.
### NMG NOZZLE MIX GAS BURNERS

#### NMG CAPACITY TABLE

<table>
<thead>
<tr>
<th>NMG BURNER NO.</th>
<th>AIR CFM</th>
<th>BTU CAP. IN 1000 BTU/HR</th>
<th>AIR CFM</th>
<th>BTU CAP. IN 1000 BTU/HR</th>
<th>AIR CFM</th>
<th>BTU CAP. IN 1000 BTU/HR</th>
<th>AIR CFM</th>
<th>BTU CAP. IN 1000 BTU/HR</th>
<th>AIR CFM</th>
<th>BTU CAP. IN 1000 BTU/HR</th>
<th>AIR CFM</th>
<th>BTU CAP. IN 1000 BTU/HR</th>
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<td>114</td>
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<td>136</td>
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Capacities based on natural gas 1040 Btu/Cu. Ft. Minimum gas pressure required at burner inlet 6 "wc.

#### TABLE 1

### NMG-H CAPACITY TABLE

(Air Flow @ 16 osig)

<table>
<thead>
<tr>
<th>NMG BURNER NO.</th>
<th>COMBUSTION AIR TEMP., °F</th>
<th>MIN. FLOW</th>
<th>EXCESS AIR, %</th>
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</table>

(OVER)
1. Fuel capacity based on natural gas at 1040 Btu/cu. ft.
2. Natural gas flows shown for 10% excess air. 6 "wc minimum gas pressure required at burner.
3. Combustion air capacities at 16 osi total pressure. Air flows at lower pressures proportional to $\sqrt{P/16}$. Air flows at intermediate temperature proportional to $\sqrt{\frac{860}{T+460}}$ times the flow at 400°F.
4. Include sensible heat of preheated air when computing total burner heat output. Sensible heat Btu/hr = scfm x 1.11 x $\Delta T(\text{°F})$.
5. Excess air % maximums (approx.) shown for 16 osig secondary air pressure.
6. To size pipe for preheated air, compute acfm = scfm $\left(\frac{T+460}{520}\right)$.
7. When supervising flame, provide approximately 16 osig ambient purge air (1-1/2 – 2 cfm) to special scanner purge assembly.
8. Flame lengths are shown in Hauck Application Sheet GJ58.
9. When sizing blower, consider application and operation so as to prevent overloading the blower motor at ambient scfm.
NMG NOZZLE MIX GAS BURNERS
NMG 210 - 240

DIMENSIONS

NMG-3

NOTES:
1. ALL PRESSURE TAP CONNECTIONS ARE 1/8" NPT.
2. NMG 210-220 HAS NO PRESSURE TAP ON AIR INLET PNEUM.

(Metric Dimensions on Reverse Side)

(Y3100)

(NOT TO SCALE)

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5/07

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NMG NOZZLE MIX GAS BURNER
DIRECT SPARK IGNITION
NMG210 - NMG240

In accordance with Hauck's commitment to Total Quality Improvement, Hauck reserves the right to change the specifications of products without prior notice.

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NOTES:
1. ALL PRESSURE TAP CONNECTIONS ARE 1/8 NPT.
2. NMG 220-255 HAS NO PRESSURE TAP ON AIR INLET FLANGE.

(Metric Dimensions on Reverse Side)