

## Design and Application Details

OVENPAK®-II Burners are nozzle-mixing gas burners for many industrial direct-fired applications where clean combustion and high turndown are required. They are simple and versatile for use on a variety of heating applications.

The Model "400" OVENPAK®-II Burner (shown at right) includes a face-mounted motor, blower with non-sparking paddle wheel-type impeller, pilot, spark ignitor, stainless steel discharge sleeve, mixing cone, self-contained internal air and gas proportioning valves, and provision for your flame safeguard sensor.

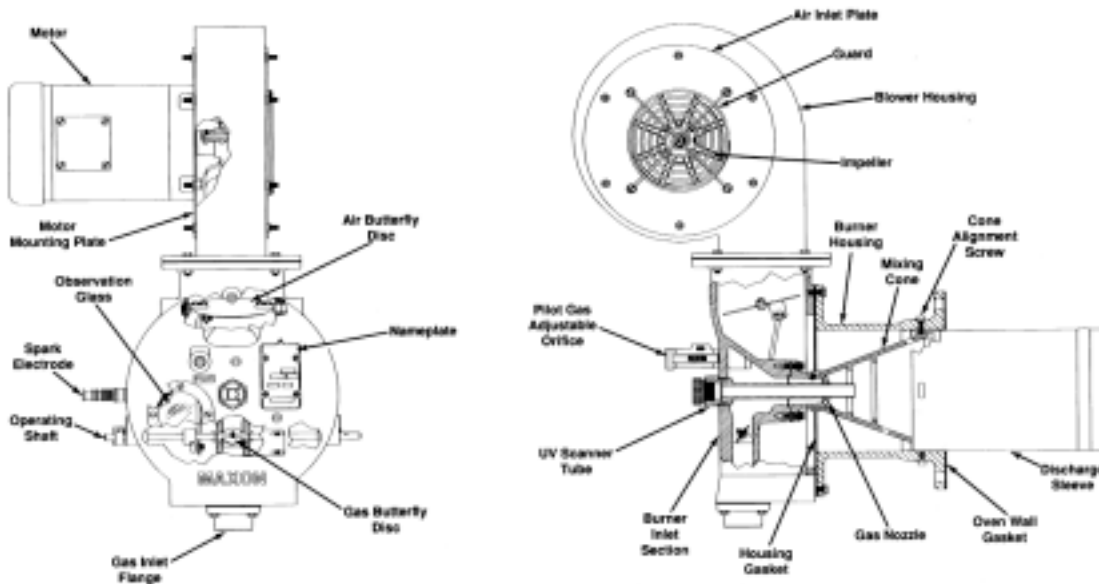
The blower housing can be rotated and mounted in three alternate locations in 90° increments around the burner air inlet center line. Control motor and low fire start switches may be mounted on either the right or left hand side of burner body.

### Principle of operation (illustrated below)

The OVENPAK®-II Burner is designed for industrial air heating applications. It is available in two basic versions: 1) packaged with integral combustion air blower, or 2) for use with an external blower. Both versions include a gas and air valve, internally linked together to control the gas-air ratio over the full operating range. The gas flows through the nozzle, then along the inside of the burner cone where combustion air is progressively and tangentially mixed with the gas. This produces a very wide turndown range and a highly stable flame under a variety of operating conditions.



Model 415 OVENPAK®-II Gas Burner with optional combustion air filter, high and low fire position switch set, spark ignitor, provision for customer's UV scanner and with connecting base and linkage for electrical control motor



Cross-sectional views of a Model "400" OVENPAK®-II Gas Burner

## Design and Application Details

Model "EB" (external blower) OVENPAK®-II Burners (shown in photos), like all OVENPAK® Burner assemblies, are designed to deliver heat through a patented mixing cone and stainless steel sleeve.

Flanged burner body design on all OVENPAK® Burner assemblies simplifies mounting and installation on your application. Burner can be installed in any position that does not conflict with your control motor or flame detector requirements.

Minimal torque requirements permit use of most electric or air operators in conjunction with the optional (Maxon supplied) connecting base and linkage assemblies.



Model EB-3 OVENPAK®-II Burner with large viewing port, spark ignitor, standard pilot gas adjustable orifice, optional low fire start switch arrangement, and connecting base and linkage for mounting customer's control motor



View into metallic cone of Model EB-3 OVENPAK®-II Burner, arranged for external blower source, with connecting base and linkage assembly to adapt customer's automatic control motor, and optional low fire start switch arrangement. Inlet air piping uses flexible connector set.

## Capacities and Specifications

**Standard Model "400" OVENPAK®-II Burner** includes a combustion air blower with face-mounted motor.

Maximum capacity of Model "400" OVENPAK®-II Burner is affected by the static pressure within the combustion chamber. Data shown assumes firing in the open, or into an airstream with enough oxygen to complete the combustion process. If burner is fired into an oxygen-starved chamber or airstream, capacities may be reduced as much as 25-30%. Do not attempt to operate beyond the duct static pressure range shown. For higher back pressure applications, select from Model "EB" OVENPAK®-II Burner options.

**All gas pressures are differential pressures** and are measured at the gas pressure test connection on the backplate of each OVENPAK®-II Burner. Differential pressures shown are approximate.

### Motor Voltages Available (60 Hz & 50Hz)

| Horsepower    | Type             | 60 Hz     | 115/208-230/1/60 | 208-230/460/3/60 | 575/3/60 |
|---------------|------------------|-----------|------------------|------------------|----------|
|               |                  | 50 Hz [1] | 190-200/1/50     | 380-415/3/50     | 500/3/50 |
| 1/3           | Totally Enclosed |           | X                | X                | X        |
| 3/4 & 1       | Totally Enclosed |           | X                | X                | X        |
| 1-1/2, 2, & 3 | Totally Enclosed |           | Not Available    | X                | X        |

[1] Possible net extra cost

**For operation on 50 Hz**, reduce OVENPAK®-II Burner capacities by 83% and pressures to 70% of those shown.

### Capacities and Operating Data

| OVENPAK®-II Burner Model   |                     | 405                     | 408         | 415                | 425          | 435            | 445          | 456          | 470          | 487          |               |
|--|---------------------|-------------------------|-------------|--------------------|--------------|----------------|--------------|--------------|--------------|--------------|---------------|
| <b>Motor Specification</b>   | Horsepower:         | 1/3                     | 1/3         | 1/3                | 3/4          | 3/4            | 1            | 1-1/2        | 2            | 3            |               |
|  | Frame Number:       | 56C                     | 56C         | 56C                | 56C          | 56C            | 56C          | 143TC        | 145TC        | 145TC        |               |
| <b>Maximum Capacities</b><br>(1000's Btu/hr)<br>with Natural Gas<br>Pressures<br>("wc) | <b>Duct Statics</b> | <b>-5.0 to -0.5" wc</b> | 550<br>2.8" | 880<br>3.4"        | 1650<br>1.7" | 2750<br>2.7"   | 3850<br>2.2" | 5175<br>3.4" | 6400<br>3.6" | 8050<br>3.7" | 10060<br>4.6" |
|  |                     | <b>±0" wc</b>           | 500<br>2.3" | 800<br>2.8"        | 1500<br>1.4" | 2500<br>2.2"   | 3500<br>1.8" | 4500<br>2.6" | 5600<br>2.8" | 7000<br>2.8" | 8700<br>3.4"  |
|  |                     | <b>+1.0" wc</b>         | 475<br>2.1" | 760<br>2.6"        | 1425<br>1.3" | 2375<br>2.0"   | 3325<br>1.6" | 4280<br>2.3" | 5340<br>2.3" | 6570<br>2.5" | 8400<br>3.2"  |
|  |                     | <b>+2.0" wc</b>         | 450<br>1.9" | 720<br>2.3"        | 1350<br>1.1" | 2250<br>1.8"   | 3150<br>1.4" | 4125<br>2.2" | 5200<br>2.4" | 6300<br>2.3" | 8200<br>3.0"  |
|  |                     | <b>+3.0" wc</b>         | ---         | ---                | ---          | ---            | ---          | ---          | 5000<br>2.2" | 5500<br>1.7" | 7500<br>2.5"  |
|  |                     | <b>+4.0" wc</b>         | ---         | ---                | ---          | ---            | ---          | ---          | 4600<br>1.9" | 5000<br>1.4" | 6200<br>1.7"  |
|  |                     | <b>+5.0" wc</b>         | ---         | ---                | ---          | ---            | ---          | ---          | 4100<br>1.5" | 4500<br>1.2" | 5500<br>1.4"  |
|  |                     | <b>+6.0" wc</b>         | ---         | ---                | ---          | ---            | ---          | ---          | ---          | 3500<br>0.7" | 5000<br>1.1"  |
| <b>Minimum Capacities</b><br>(1000's Btu/hr)   | Main plus pilot     | 15                      |             | 37                 | 60           | 87             | 110          | 125          | 150          | 175          |               |
|  | Pilot only          | 10                      |             | 20                 | 35           | 45             | 90           | 105          | 115          | 117          |               |
| <b>Required natural gas differential pressure to burner inlet ("wc)</b>                |                     | 2.8                     | 3.3         | 3.0                | 2.4          | 2.7            | 3.5          | 5.1          | 5.2          | 7.6          |               |
| <b>Approximate flame length in still air</b>   |                     | 1/2 to 1 ft.            |             | 2-1/2 to 3-1/2 ft. |              | 3-1/2 to 5 ft. | 4 to 6 ft.   | 5 to 7 ft.   | 6 to 8 ft.   | 8 to 10 ft.  |               |

## Capacities and Specifications External Blower (EB) versions

|  |   |  |            |            |            |            |            |            |            |             |
|--|---|--|------------|------------|------------|------------|------------|------------|------------|-------------|
| <b>EB-1<br/>OVENPAK®-II<br/>Burner</b> | <b>Combustion<br/>and Cooling Air<br/>Required</b>      | Differential Air Pressure ("wc)          | <b>3</b>   | <b>4</b>   | <b>5</b>   | <b>6</b>   | <b>8</b>   | <b>9</b>   | <b>10</b>  | <b>11</b>   |
|  |   | Volume (SCFM)                            | 150        | 170        | 190        | 210        | 240        | 255        | 270        | 280         |
|  | <b>Heat Releases<br/>(1000's Btu/hr)</b>                | <b>Maximum Capacity</b>                  | <b>460</b> | <b>580</b> | <b>715</b> | <b>780</b> | <b>870</b> | <b>910</b> | <b>960</b> | <b>1000</b> |
|  |   | Minimum & pilot                          | 60         | 60         | 60         | 60         | 60         | 60         | 60         | 60          |
|  |   | Pilot only                               | 45         | 45         | 45         | 45         | 45         | 45         | 45         | 45          |
|  | <b>Natural Gas<br/>Differential<br/>Pressures ("wc)</b> | At burner inlet                          | 2.1        | 3.4        | 5.1        | 6.1        | 7.6        | 8.3        | 9.2        | 10.0        |
|  |   | At burner gas test connection            | 2.0        | 3.1        | 4.7        | 5.6        | 7.0        | 7.6        | 8.5        | 9.2         |
| <b>Flame Lengths</b>                   | In still air  | 4" to 15" beyond end of discharge sleeve |            |            |            |            |            |            |            |             |

|  |   |   |            |            |             |             |             |             |             |             |
|--|---|---|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <b>EB-2<br/>OVENPAK®-II<br/>Burner</b> | <b>Combustion<br/>and Cooling Air<br/>Required</b>      | Differential Air Pressure ("wc)           | <b>3</b>   | <b>4</b>   | <b>5</b>    | <b>6</b>    | <b>8</b>    | <b>9</b>    | <b>10</b>   | <b>11</b>   |
|  |   | Volume (SCFM)                             | 220        | 250        | 280         | 310         | 355         | 375         | 395         | 415         |
|  | <b>Heat Releases<br/>(1000's Btu/hr)</b>                | <b>Maximum Capacity</b>                   | <b>750</b> | <b>980</b> | <b>1200</b> | <b>1330</b> | <b>1450</b> | <b>1500</b> | <b>1550</b> | <b>1600</b> |
|  |   | Minimum & pilot                           | 60         | 60         | 60          | 60          | 70          | 70          | 75          | 80          |
|  |   | Pilot only                                | 25         | 25         | 25          | 25          | 30          | 30          | 35          | 35          |
|  | <b>Natural Gas<br/>Differential<br/>Pressures ("wc)</b> | At burner inlet                           | 3          | 5.2        | 7.8         | 9.5         | 11.3        | 12.1        | 12.9        | 13.8        |
|  |   | At burner gas test connection             | 2.5        | 4.2        | 6.3         | 7.7         | 9.2         | 9.8         | 10.5        | 11.2        |
| <b>Flame Lengths</b>                   | In still air  | 12" to 30" beyond end of discharge sleeve |            |            |             |             |             |             |             |             |

|  |   |  |             |             |             |             |             |             |             |             |
|--|---|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <b>EB-3<br/>OVENPAK®-II<br/>Burner</b> | <b>Combustion<br/>and Cooling Air<br/>Required</b>      | Differential Air Pressure ("wc)            | <b>3</b>    | <b>4</b>    | <b>5</b>    | <b>6</b>    | <b>8</b>    | <b>9</b>    | <b>10</b>   | <b>11</b>   |
|  |   | Volume (SCFM)                              | 350         | 405         | 455         | 495         | 575         | 615         | 650         | 675         |
|  | <b>Heat Releases<br/>(1000's Btu/hr)</b>                | <b>Maximum Capacity</b>                    | <b>1620</b> | <b>1900</b> | <b>2120</b> | <b>2320</b> | <b>2670</b> | <b>2840</b> | <b>3000</b> | <b>3150</b> |
|  |   | Minimum & pilot                            | 90          | 95          | 105         | 115         | 130         | 140         | 150         | 155         |
|  |   | Pilot only                                 | 45          | 45          | 50          | 55          | 65          | 70          | 75          | 75          |
|  | <b>Natural Gas<br/>Differential<br/>Pressures ("wc)</b> | At burner inlet                            | 4.1         | 5.6         | 7.0         | 8.3         | 11.0        | 12.5        | 13.9        | 15.4        |
|  |   | At burner gas test connection              | 1.6         | 2.2         | 2.8         | 3.3         | 4.4         | 5.0         | 5.6         | 6.2         |
| <b>Flame Lengths</b>                   | In still air  | 2 to 3 feet beyond end of discharge sleeve |             |             |             |             |             |             |             |             |

|  |   |  |             |             |             |             |             |             |             |             |
|--|---|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <b>EB-4<br/>OVENPAK®-II<br/>Burner</b> | <b>Combustion<br/>and Cooling Air<br/>Required</b>      | Differential Air Pressure ("wc)                    | <b>3</b>    | <b>4</b>    | <b>5</b>    | <b>6</b>    | <b>8</b>    | <b>9</b>    | <b>10</b>   | <b>11</b>   |
|  |   | Volume (SCFM)                                      | 550         | 635         | 710         | 775         | 895         | 950         | 1000        | 1050        |
|  | <b>Heat Releases<br/>(1000's Btu/hr)</b>                | <b>Maximum Capacity</b>                            | <b>2320</b> | <b>2800</b> | <b>3230</b> | <b>3500</b> | <b>3950</b> | <b>4150</b> | <b>4330</b> | <b>4600</b> |
|  |   | Minimum & pilot                                    | 100         | 115         | 130         | 140         | 160         | 170         | 180         | 190         |
|  |   | Pilot only   | 40          | 40          | 40          | 45          | 50          | 55          | 55          | 60          |
|  | <b>Natural Gas<br/>Differential<br/>Pressures ("wc)</b> | At burner inlet                                    | 2.5         | 3.7         | 4.9         | 5.8         | 7.4         | 8.1         | 8.8         | 10.0        |
|  |   | At burner gas test connection                      | 1.9         | 2.8         | 3.7         | 4.3         | 5.5         | 6.1         | 6.6         | 7.5         |
| <b>Flame Lengths</b>                   | In still air  | 2-1/2 to 3-1/2 feet beyond end of discharge sleeve |             |             |             |             |             |             |             |             |

## Capacities and Specifications External Blower (EB) versions

|  |   |                                 |  |             |             |             |             |             |             |             |
|--|---|---------------------------------|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <b>EB-5<br/>OVENPAK®-II<br/>Burner</b> | <b>Combustion<br/>and Cooling Air<br/>Required</b>      | Differential Air Pressure ("wc) | <b>3</b>                                   | <b>4</b>    | <b>5</b>    | <b>6</b>    | <b>8</b>    | <b>9</b>    | <b>10</b>   | <b>11</b>   |
|  |   | Volume (SCFM)                   | 665  | 770         | 860         | 940         | 1080        | 1150        | 1210        | 1270        |
|  | <b>Heat Releases<br/>(1000's Btu/hr)</b>                | <b>Maximum Capacity</b>         | <b>2940</b>                                | <b>3500</b> | <b>3980</b> | <b>4420</b> | <b>5130</b> | <b>5450</b> | <b>5740</b> | <b>6000</b> |
|  |   | Minimum & pilot                 | 155  | 180         | 200         | 220         | 255         | 270         | 285         | 300         |
|  |   | Pilot only                      | 25   | 30          | 35          | 35          | 40          | 45          | 50          | 50          |
|  | <b>Natural Gas<br/>Differential<br/>Pressures ("wc)</b> | At burner inlet                 | 2.2  | 3.1         | 4.0         | 4.9         | 6.6         | 7.5         | 8.3         | 9.1         |
|  |   | At burner gas test connection   | 1.3  | 1.8         | 2.3         | 2.9         | 3.9         | 4.4         | 4.8         | 5.3         |
|  | <b>Flame Lengths</b>                                    | In still air                    | 3 to 5 feet beyond end of discharge sleeve |             |             |             |             |             |             |             |

|  |   |                                 |  |             |             |              |   |              |              |              |
|--|---|---------------------------------|--|-------------|-------------|--------------|---|--------------|--------------|--------------|
| <b>EB-6<br/>OVENPAK®-II<br/>Burner</b> | <b>Combustion<br/>and Cooling Air<br/>Required</b>      | Differential Air Pressure ("wc) | <b>3</b>                                   | <b>5</b>    | <b>8</b>    | <b>11</b>    | <b>16</b>                                   | <b>18</b>    | <b>22</b>    | <b>24</b>    |
|  |   | Volume (SCFM)                   | 975  | 1260        | 1590        | 1870         | 2250  | 2390         | 2640         | 2760         |
|  | <b>Heat Releases<br/>(1000's Btu/hr)</b>                | <b>Maximum Capacity</b>         | <b>4710</b>                                | <b>6700</b> | <b>9500</b> | <b>11200</b> | <b>13500</b>                                | <b>14300</b> | <b>15800</b> | <b>16500</b> |
|  |   | Minimum & pilot                 | 335  | 390         | 490         | 575          | 695   | 735          | 815          | 850          |
|  |   | Pilot only                      | 100  | 100         | 100         | 115          | 140   | 145          | 165          | 170          |
|  | <b>Natural Gas<br/>Differential<br/>Pressures ("wc)</b> | At burner inlet                 | 2.8  | 5.6         | 11.3        | 15.7         | 22.8  | 25.6         | 31.3         | 34.1         |
|  |   | At burner gas test connection   | 2.0  | 4.0         | 8.1         | 11.2         | 16.3  | 18.3         | 22.3         | 24.3         |
|  | <b>Flame Lengths</b>                                    | In still air                    | 3 to 8 feet beyond end of discharge sleeve |             |             |              | 8 to 12 feet beyond end of discharge sleeve |              |              |              |

|  |   |                                 |  |             |             |              |   |              |              |              |
|--|---|---------------------------------|--|-------------|-------------|--------------|---|--------------|--------------|--------------|
| <b>EB-7<br/>OVENPAK®-II<br/>Burner</b> | <b>Combustion<br/>and Cooling Air<br/>Required</b>      | Differential Air Pressure ("wc) | <b>3</b>                                   | <b>5</b>    | <b>8</b>    | <b>11</b>    | <b>16</b>                                   | <b>18</b>    | <b>22</b>    | <b>24</b>    |
|  |   | Volume (SCFM)                   | 975  | 1260        | 1590        | 1870         | 2250  | 2390         | 2640         | 2760         |
|  | <b>Heat Releases<br/>(1000's Btu/hr)</b>                | <b>Maximum Capacity</b>         | <b>4710</b>                                | <b>6700</b> | <b>9500</b> | <b>11200</b> | <b>13500</b>                                | <b>14300</b> | <b>15800</b> | <b>16500</b> |
|  |   | Minimum & pilot                 | 335  | 390         | 490         | 575          | 695   | 735          | 815          | 850          |
|  |   | Pilot only                      | 100  | 100         | 100         | 115          | 140   | 145          | 165          | 170          |
|  | <b>Natural Gas<br/>Differential<br/>Pressures ("wc)</b> | At burner inlet                 | 1.8  | 3.6         | 7.3         | 10.1         | 14.8  | 16.6         | 20.2         | 22.1         |
|  |   | At burner gas test connection   | 1.0  | 2.0         | 4.1         | 5.6          | 8.2   | 9.2          | 11.2         | 12.2         |
|  | <b>Flame Lengths</b>                                    | In still air                    | 3 to 8 feet beyond end of discharge sleeve |             |             |              | 8 to 12 feet beyond end of discharge sleeve |              |              |              |

## Accessory Options

### Air filter assemblies and silencers

**Air filter assemblies** help to trap airborne particulate matter. They are offered with washable replaceable filter elements or with permanent metallic elements. Filters mount onto OVENPAK®-II Burner's blower housing and surround the combustion air inlet.

**Filter silencers** help reduce noise levels. They physically become a part of the OVENPAK®-II Burner's filter housing and enclose the combustion air inlet (as shown in photograph at right). They **must** be furnished in conjunction with a filter element assembly described above.

**Sound levels from actual tests** conducted at full-rated 60 Hz capacity are shown in table at right. Measurements are the average maximum at high fire for standard burner (natural gas, 8" discharge sleeve).

| Burner Size | Sound Level (dBA) |
|-------------|-------------------|
| 405         | 80                |
| 408         | 83                |
| 415         | 84                |
| 425         | 86                |
| 435         | 86                |
| 445         | 90                |
| 456         | 90                |
| 470         | 93                |
| 487         | 93                |

When accessories and/or options are added, use the following guidelines to calculate sound levels.

|                                  |                      |
|----------------------------------|----------------------|
| Filter (permanent)               | add 2 dB (3dB)       |
| Silencer (with permanent filter) | subtract 2 db (1 dB) |
| 12" discharge sleeve             | add 2 dB             |
| 50 Hz motor – 83% capacity       | subtract 2 dB        |
| Propane gas                      | add 4 dB             |

Combine the adds and subtracts for net change when calculating sound levels with more than one of these options/accessories. (Example: A burner with silencer and operating on propane would be 2 dB louder.)

Silencer includes filter element as standard.

**NOTE:** Background may affect on-site measurements.



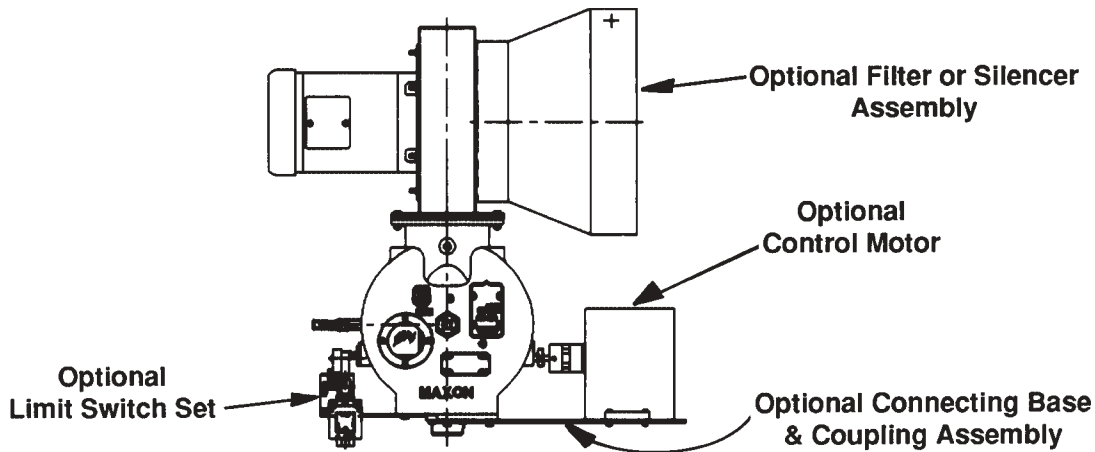
Model 415 OVENPAK®-II Burner assembly with combustion air filter assembly (including replaceable foam filter element). **Permanent metallic filter element** may be substituted for standard foam filter element at extra cost.



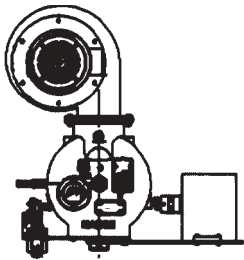


## OVENPAK®-II Burner Configurations

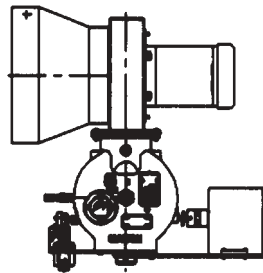
Maxon OVENPAK®-II Burner provides additional application flexibility with multiple component arrangements. The standard configuration illustrated in the center of this page may easily be switched to any of these other configurations to accommodate field-site space requirements.



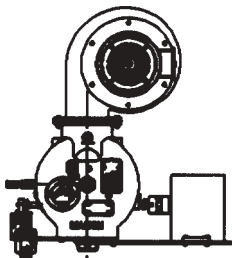
**Standard Configuration**  
(as shipped from factory)



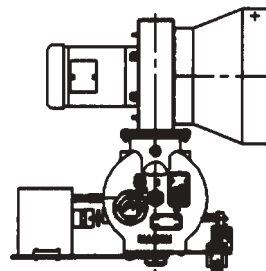
**Figure 1**  
Blower scroll case to  
LEFT with control motor  
on RIGHT



**Figure 2**  
Combustion air filter  
housing to LEFT with  
control motor on RIGHT



**Figure 3**  
Blower scroll case to  
RIGHT with control  
motor on RIGHT



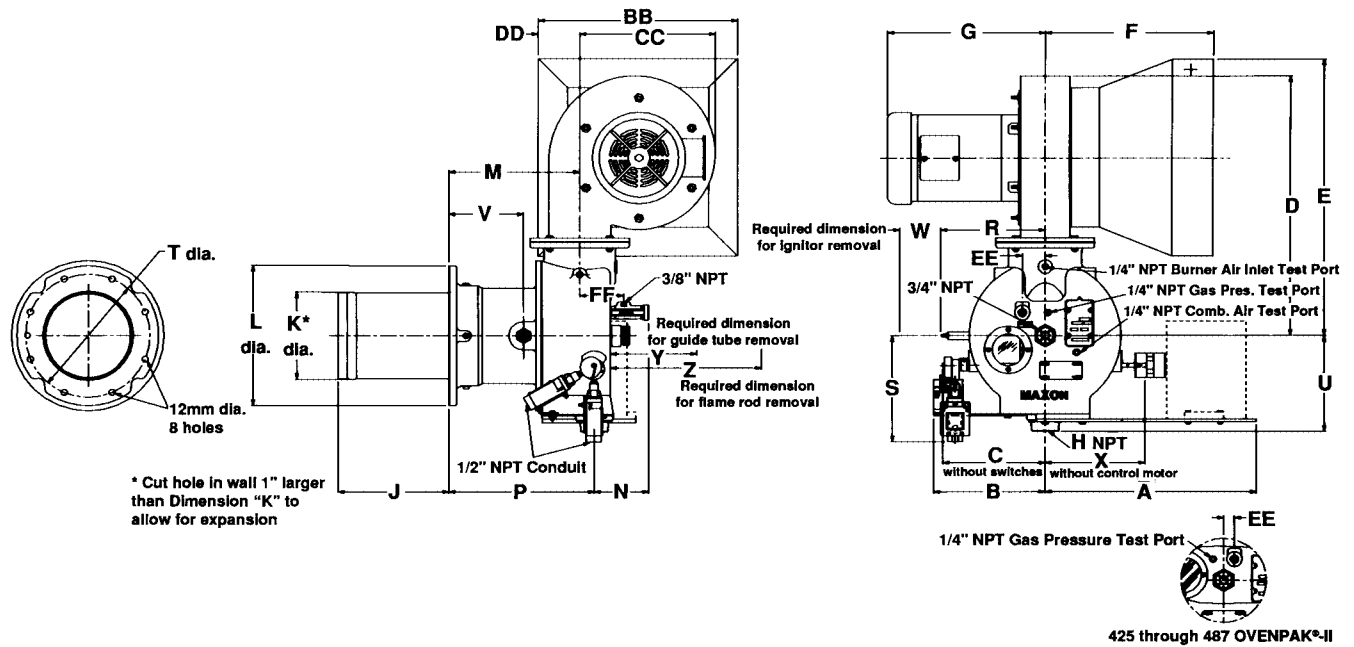
**Figure 4**  
Combustion air filter  
housing to RIGHT with  
control motor on LEFT

**NOTE:** Optional switch sets are always on opposite side from mounted control motor



## Dimensions (in Inches)

### Model "400" OVENPAK®-II Burners



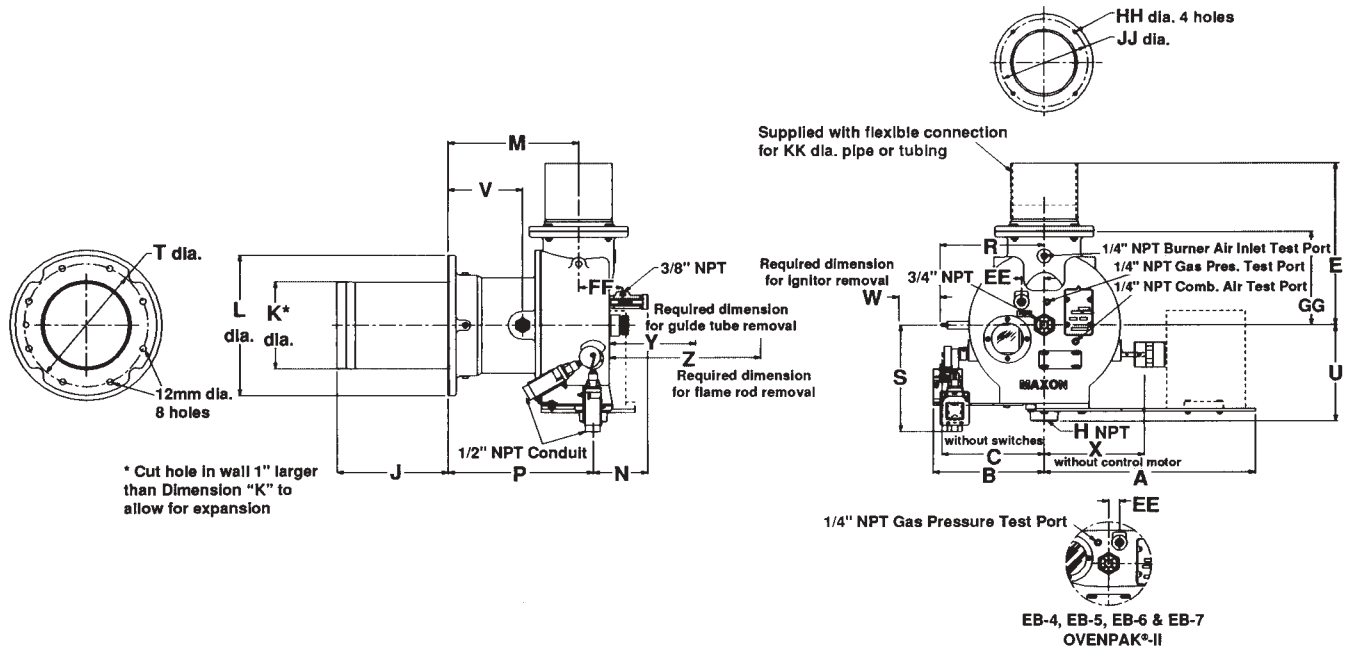
| Model | A     | B    | C    | D     | E     | F     | G     | H     | J    | K     | L     | M     | N    | P     |
|-------|-------|------|------|-------|-------|-------|-------|-------|------|-------|-------|-------|------|-------|
| 405   |       |      |      |       |       |       |       | 1     |      | 6.25  | 10.0  | 9.38  |      | 10.38 |
| 408   | 15.25 | 7.88 | 7.25 | 18.62 | 19.75 | 11.75 | 11.19 | 1-1/4 | 8.0  | 8.31  | 12.0  | 9.31  | 4.00 | 10.31 |
| 415   |       |      |      |       |       |       |       |       |      |       |       |       |      |       |
| 425   | 16.25 | 7.81 | 7.88 | 23.3  | 27.4  | 17.25 | 11.44 | 1-1/2 | 7.85 | 10.25 | 13.31 | 10.94 | 6.06 | 11.94 |
| 435   |       |      |      |       |       |       |       | 2     | 7.62 | 12.25 | 16.25 | 15.56 | 6.44 | 16.56 |
| 445   | 15.06 | 6.69 | 6.81 | 26.7  | 30.0  | 17.38 | 14.44 |       |      |       |       |       |      |       |
| 456   |       |      |      |       |       |       | 15.38 |       |      |       |       |       |      |       |
| 470   |       |      |      | 28.9  | 31.2  |       | 16.44 | 3     |      |       |       |       |      |       |
| 487   |       |      |      |       |       |       | 17.31 |       |      |       |       |       |      |       |

| Model | R     | S    | T     | U    | V    | W    | X    | Y    | Z     | BB   | CC    | DD   | EE   | FF   |
|-------|-------|------|-------|------|------|------|------|------|-------|------|-------|------|------|------|
| 405   | 8.25  |      | 8.75  |      | 5.31 | 3.12 |      |      |       | 14.0 | 8.5   | 2.81 | 1.62 | 3.31 |
| 408   |       | 8.81 |       | 6.81 |      |      | 7.25 | 5.88 | 13.06 |      |       |      |      |      |
| 415   | 7.5   |      | 10.5  |      | 5.25 | 3.88 |      |      |       |      |       |      |      |      |
| 425   | 8.81  | 7.81 | 12.31 | 7.19 | 5.31 | 4.31 | 7.88 | 8.31 | 17.62 | 23.2 | 11.31 | 6.06 |      | 4.31 |
| 435   |       |      |       |      |      |      |      |      |       |      |       |      |      |      |
| 445   |       |      |       | 6.38 |      |      |      |      |       |      | 13.44 | 5.5  | .75  | 4.69 |
| 456   | 10.56 | 9.69 | 14.75 |      | 8.88 | 3.69 | 6.81 | 9.88 | 23.6  | 25.1 |       |      |      |      |
| 470   |       |      |       |      |      |      |      |      |       |      | 17.38 | 4.31 |      |      |
| 487   |       |      |       | 6.94 |      |      |      |      |       |      |       |      |      |      |

**NOTE: All OVENPAK®-II Burners use ISO standard (metric) fasteners**  
 Pipe threads on this page conform to NPT (ANSI Standard B2.1)

## Dimensions (in Inches)

### Model "EB" OVENPAK®-II Burner



| Model | A     | B    | C    | E     | H     | J    | K     | L     | M     | N    | P     | R     | S    |       |       |      |
|-------|-------|------|------|-------|-------|------|-------|-------|-------|------|-------|-------|------|-------|-------|------|
| EB-1  | 15.25 | 7.88 | 7.25 | 11.5  | 1     | 8.0  | 6.25  | 10.0  | 9.38  | 4.06 | 10.38 | 8.25  | 8.81 |       |       |      |
| EB-2  |       |      |      |       | 1-1/4 |      | 8.31  |       |       |      | 12.0  |       |      | 9.31  | 10.31 | 7.5  |
| EB-3  |       |      |      |       | 1-1/2 |      | 7.85  |       |       |      | 10.25 |       |      | 13.31 | 10.94 | 6.06 |
| EB-4  | 16.25 | 7.81 | 7.88 | 15.5  | 2     | 7.62 | 12.25 | 16.25 | 15.56 | 6.44 | 16.56 | 10.56 | 9.69 |       |       |      |
| EB-5  |       |      |      |       | 3     |      |       |       |       |      |       |       |      |       |       |      |
| EB-6  |       |      |      |       | 3     |      |       |       |       |      |       |       |      |       |       |      |
| EB-7  | 15.06 | 6.69 | 6.81 | 16.56 | 3     |      |       |       |       |      |       |       |      |       |       |      |

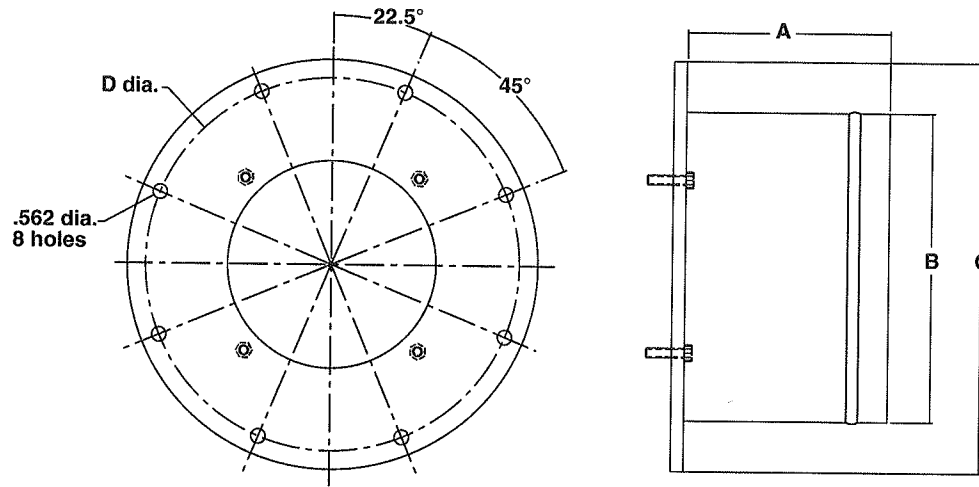
| Model | T     | U    | V    | W    | X    | Y    | Z     | EE   | FF   | GG   | HH   | JJ    | KK   |      |  |
|-------|-------|------|------|------|------|------|-------|------|------|------|------|-------|------|------|--|
| EB-1  | 8.75  | 6.81 | 5.31 | 3.12 | 7.25 | 5.88 | 13.06 | 1.62 | 3.31 | 6.69 | 7mm  | 6.25  | 4.5  |      |  |
| EB-2  |       |      | 5.25 | 3.88 |      |      |       |      |      |      |      |       |      |      |  |
| EB-3  |       |      | 10.5 |      |      |      |       |      |      |      |      |       |      |      |  |
| EB-4  | 12.31 | 7.19 | 5.31 | 4.31 | 7.88 | 8.31 | 17.62 | .75  | 4.31 | 8.50 | 12mm | 8.25  | 6.62 |      |  |
| EB-5  |       |      |      |      |      |      |       |      |      |      |      |       |      |      |  |
| EB-6  |       |      |      |      |      |      |       |      |      |      |      |       |      | 6.38 |  |
| EB-7  | 14.75 | 6.94 | 8.88 | 3.69 | 6.81 | 9.88 | 23.6  |      | 4.69 | 9.50 |      | 10.25 | 8.62 |      |  |

**NOTE: All OVENPAK®-II Burners use ISO standard (metric) fasteners**

Pipe threads on this page conform to NPT (ANSI Standard B2.1)

## Dimensions (in Inches)

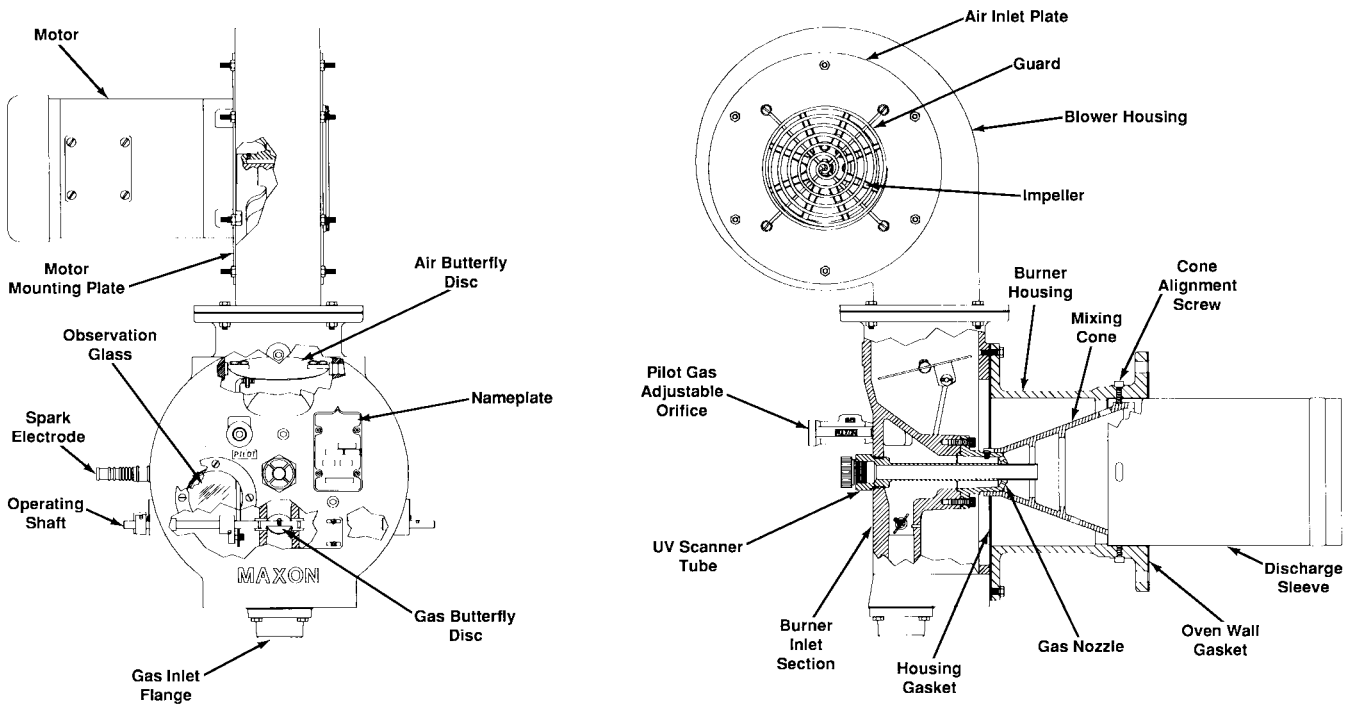
### Refractory Lined Discharge Sleeve



| Burner Size          | A    | B     | C     | D dia. |
|----------------------|------|-------|-------|--------|
| 405, 408<br>EB1, EB2 | 7.88 | 10.25 | 14.06 | 12.63  |
| 415<br>EB3           | 7.88 | 12.12 | 15.94 | 14.5   |
| 425, 435<br>EB4, EB5 | 7.88 | 14.18 | 18.0  | 16.53  |
| 445-487<br>EB6, EB7  | 7.88 | 16.18 | 20.0  | 18.53  |

Note: Install refractory-lined sleeve so that metal sleeve is fully covered with insulation.

# Component Identification



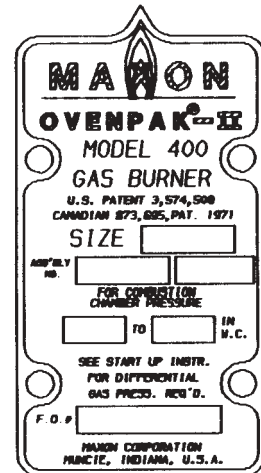
### Suggested spare parts

- Spark Ignitor
- Flame Rod, if used
- Motor
- Impeller
- Gas/Air Valve Linkage Kit
- Discharge Sleeve
- Oven Wall Gasket
- Filter Elements, if used
- Mixing Cone

To order parts for an existing OVENPAK®-II Burner assembly, list:

1. Name(s) of part(s) from above illustration
2. Quantity of each required
3. OVENPAK®-II Burner nameplate information:
  - size of burner
  - assembly number and date
  - Factory Order number

### Nameplate



## Suggested Maintenance/Inspection Procedures

### Discharge sleeve and cone alignment

The mixing cone is self-centering within the burner housing and discharge sleeve to provide a small annular opening for the flow of some cooling combustion air along the discharge sleeve wall. We SUGGEST periodic inspection from the discharge side of the burner to assure that this clearance is maintained.

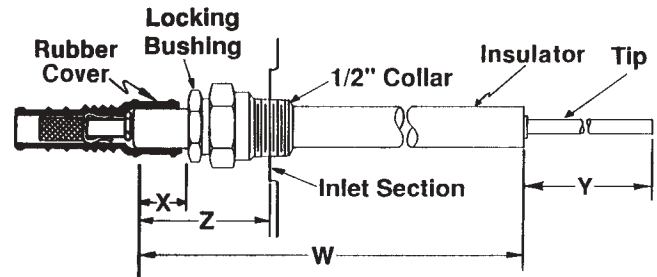
**Blockage of the annular opening will lessen burner service life.**

**Filters** should be inspected regularly and cleaned, using a vacuum to remove loose/dry accumulations, then washing and/or degreasing as appropriate for the filter type used.

### To replace flame rod or spark ignitor:

1. Check Table 1 at right for dimension Y and cut tip to length shown.
2. Insert 1/2" NPT collar into burner and snug into position.
3. Insert insulator through collar into burner.
4. Check table for dimension X, position accordingly, and tighten locking bushing until insulator is held firmly.

**WARNING: Over-tightening locking bushing may damage ceramic insulator.**



**Table 1: Flame rod and spark ignitor dimensions for all Model "400" OVENPAK®-II Burners**

| Burner Model | Spark Ignitor Dimensions (in inches) |     |     | Flame Rod Dimensions (in inches) |      |     |
|--------------|--------------------------------------|-----|-----|----------------------------------|------|-----|
|              | X                                    | Y   | W   | X                                | Y    | Z   |
| EB-1<br>EB-2 | 405<br>408                           | 2   | 5.5 | .9                               | 6    | 3.2 |
| EB-3         | 415                                  | 1.2 |     |                                  |      |     |
| EB-4<br>EB-5 | 425<br>435                           | 1.8 | 6.5 | .9                               | 10.8 | 3.2 |
| EB-6<br>EB-7 | 445<br>456<br>470<br>487             | 2.4 |     |                                  |      |     |

## Notes