

- // Lightweight modular construction
- // Direct ignition and ionisation control
- // Low NO_x production
- // Capacities from 130,000 BTU/Hr to 17,000,000 BTU/Hr
- // Custom version for different gases
- // Multiple flame shapes
- // For air temperatures to 840° F (450° C)
- // Low maintenance
- // Direct firing or radiant tube
- // Furnace temperature to 2900° F (1600° C) with refractory tile
- // Furnace temperature to 1650° F (900° C) with alloy burner tube
- // Aluminium version (BIOA) available

Application

The BIO and ZIO burners are for use on gas fired industrial furnaces, ceramic kilns and ovens. They are for application in the iron and steel, non-ferrous metals, precious metals, ceramic, glass and food industries. The BIO and ZIO burners utilize an alloy burner tube as the combustion chamber. The burner can be extended to suit application requirements.

Specifications

Operating Limits

| | |
|--------------------------|--|
| Type of gas: | Natural gas, propane, propane/butane, butane, town gas, coke oven gas, other gases on request |
| Flame shapes: | Normal fast mixing (R), long (H) or flat flame (K) |
| Heating modes: | Direct and indirect |
| Control modes: | Proportional, Low/High/Off |
| Operating mode: | Ratio, excess air to 100%, (on specific models) excess fuel 20%, (on specific models) |
| Available burner length: | 2 to 39.37 inch (50 to 1000 mm) |
| Construction Material: | Housing – cast iron (BIO), aluminium (BIOA), welded steel (ZIO), Burner internals high temperature alloy |

Features

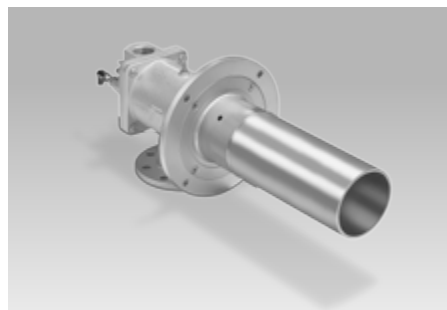
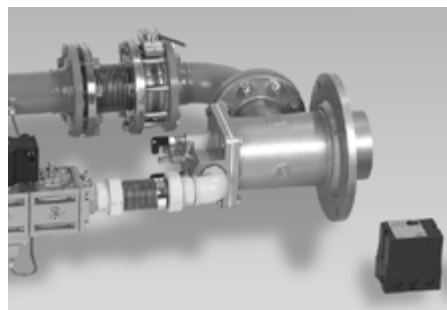
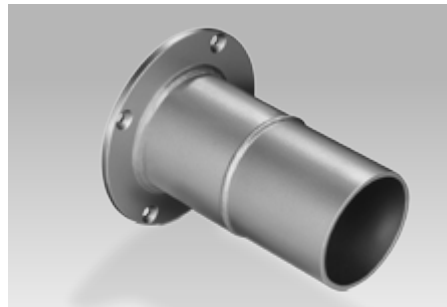
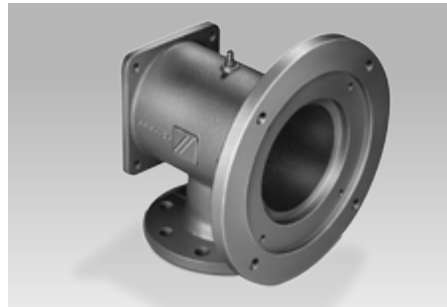
- Versatile
The BIO and ZIO burners are lightweight and modular allowing the burner to adapt to any furnace design by customizing the flame shape, flame length, fuel type and velocity.
- Ease of installation
Most burners are equipped with a built-in limiting orifice valve for gas flow adjustment, gas metering orifice for set-up and tuning, and ignition and ionization electrodes. In most burner models, the ignition and ionization electrodes can be interchanged. In the event of a failure, they can be replaced without burner removal.
- Reliable
The BIO and ZIO burners have a unique burner nozzles that mechanically mix the fuel and air at the nozzle providing very high flame intensity and eliminating the possibility of explosive mixtures in the piping.

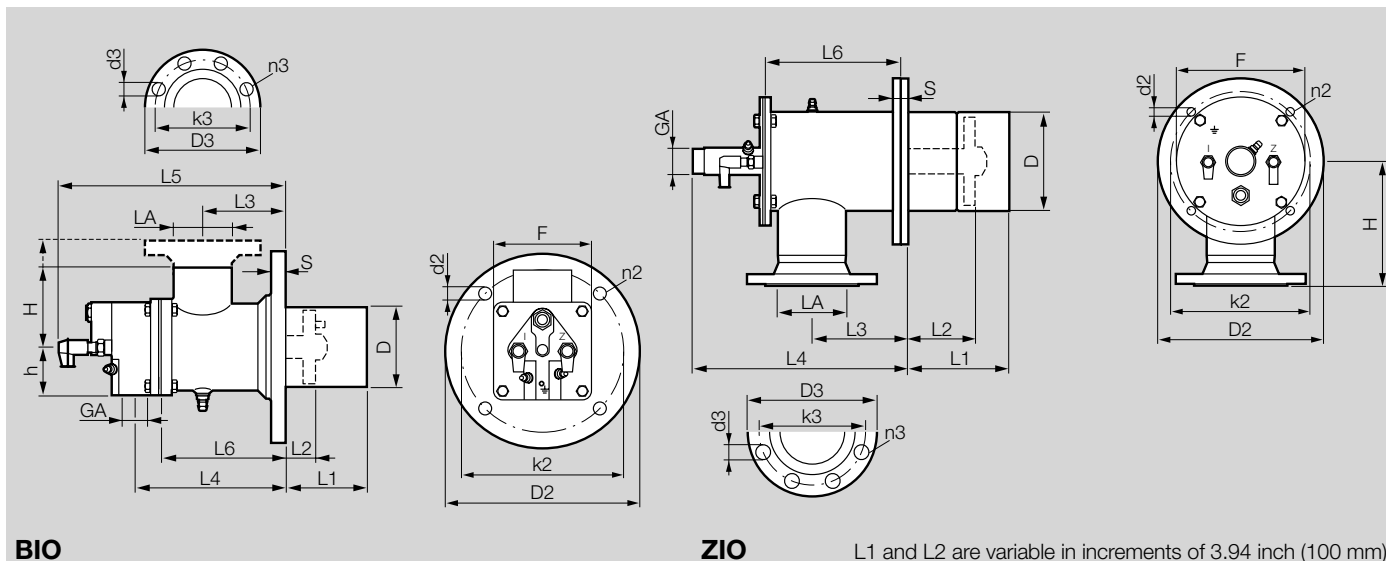
Additional features include

- Preheat air up to 842° F (450° C)
- Ionization control
- Direct spark ignition
- Electrode material Kanthal A1
- Maximum furnace temperature 2900° F (1600° C) with refractory tile
- Heat resistant aluminum paint
- Port for flame observation
- Ideal for frequency firing or proportional applications

Optional features

- Internal pilot with separate air and gas (L version)
- Turndown 650:1
- Control with UV sensor.
- Heat resistant steel tube extensions for indirect firing





Dimensions [inches]

| Type | Capacity 1000 BTU/h | Dimensions [inches] | | | | | | | | | | | | | | | | | | Hole n2 | F | D3 | k3 | d3 | Hole n3 | Weight LBS |
|---------|---------------------------|---------------------|--------|--------|------|------|------|------|-------|-------|-------|-------|-------|------|----|-------|-------|------|------|------------|------|----|----|----|------------|---------------|
| | | D | GA | LA | H | h | S | L3 | L4 | L5 | L6 | D2 | k2 | d2 | D3 | k3 | d3 | n3 | | | | | | | | |
| BIO 50 | 137 | 1.97 | 1/2" | 1 1/2" | 1.97 | 1.50 | 0.47 | 3.03 | 5.87 | 9.29 | 5.00 | 7.13 | 5.94 | 0.47 | 4 | 2.95 | - | - | - | - | 11.9 | | | | | |
| BIO 65 | 307 | 2.56 | 3/4" | 1 1/2" | 2.44 | 1.89 | 0.47 | 2.87 | 6.14 | 9.65 | 5.00 | 7.68 | 6.50 | 0.47 | 4 | 3.74 | - | - | - | - | 15.9 | | | | | |
| BIO 80 | 512 | 3.23 | 3/4" | 2" | 4.41 | 2.17 | 0.55 | 3.54 | 6.77 | 10.63 | 5.51 | 9.45 | 8.27 | 0.55 | 4 | 4.33 | - | - | - | - | 24.7 | | | | | |
| BIO 100 | 785 | 4.02 | 1" | 2" | 3.94 | 2.36 | 0.63 | 4.06 | 7.28 | 11.22 | 6.02 | 9.45 | 7.84 | 0.55 | 4 | 4.72 | - | - | - | - | 27.8 | | | | | |
| BIO 125 | 1092 | 5.00 | 1 1/2" | 2 1/2" | 5.31 | 2.87 | 0.71 | 4.72 | 10.00 | 13.98 | 4.41 | 10.63 | 9.45 | 0.55 | 4 | 5.71 | 7.23 | 5.71 | 0.71 | 4 | 47.8 | | | | | |
| BIO 140 | 1536 | 5.51 | 1 1/2" | 3" | 5.91 | 3.15 | 0.71 | 5.11 | 10.67 | 14.96 | 9.13 | 11.81 | 10.43 | 0.55 | 4 | 6.30 | 7.84 | 6.23 | 0.71 | 8 | 63.9 | | | | | |
| ZIO 165 | 2150 | 6.65 | 1 1/2" | 4" | 8.27 | - | 0.39 | 5.91 | 14.13 | - | 9.06 | 11.22 | 9.45 | 0.55 | 4 | 8.66 | 8.66 | 7.09 | 0.71 | 8 | 56.2 | | | | | |
| ZIO 200 | 3413 | 7.64 | 2" | 6" | 8.66 | - | 0.39 | 8.66 | 18.46 | - | 13.39 | 13.00 | 11.61 | 0.87 | 8 | 10.04 | 11.22 | 9.45 | 0.87 | 8 | 85.5 | | | | | |
| ZIO 240 | 5100 | 9.37 | 2" | 8" | 10.6 | - | 0.91 | 11.1 | 22.6 | - | 16.9 | 15.6 | 13.8 | 0.91 | 8 | 13.6 | 13.4 | 15.6 | 0.87 | 12 | 137 | | | | | |
| ZIO 270 | 10200 | 10.6 | 2 1/2" | 10" | 13.8 | - | 0.91 | 15.1 | 27.6 | - | 22.0 | 19.9 | 18.1 | 0.91 | 8 | 17.3 | 15.9 | 14.0 | 0.91 | 12 | 194 | | | | | |
| ZIO 320 | 17000 | 12.7 | 3" | 14" | 17.7 | - | 0.91 | 18.8 | 33.1 | - | 27.6 | 24.2 | 23.0 | 0.91 | 8 | 20.9 | 20.5 | 18.5 | 1.02 | 16 | 397 | | | | | |

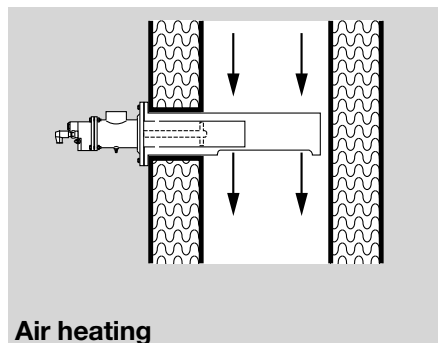
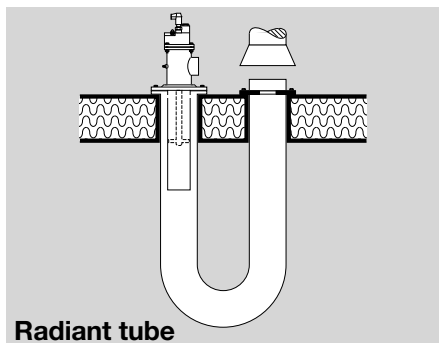
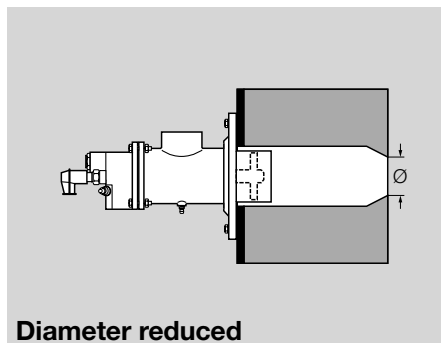
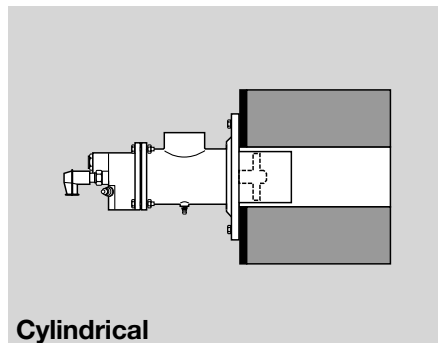
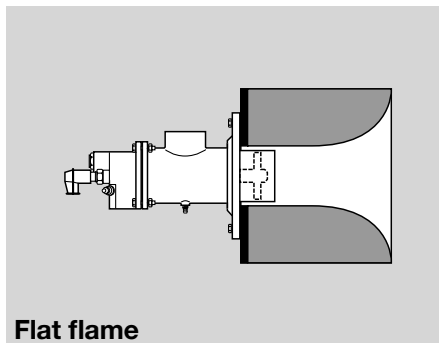
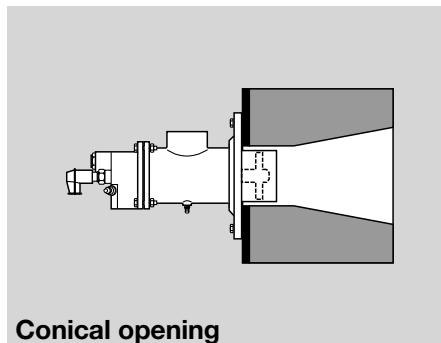
Dimensions [mm]

| Type | Capacity kW | Dimensions [mm] | | | | | | | | | | | | | | | | | | Hole n2 | F | D3 | k3 | d3 | Hole n3 | Weight kg |
|---------|----------------|-----------------|--------|--------|-----|----|----|-----|-----|-----|-----|-----|-----|----|----|-----|-----|-----|----|------------|------|----|----|----|------------|--------------|
| | | D | GA | LA | H | h | S | L3 | L4 | L5 | L6 | D2 | k2 | d2 | D3 | k3 | d3 | n3 | | | | | | | | |
| BIO 50 | 40 | 50 | 1/2" | 1 1/2" | 50 | 38 | 12 | 73 | 149 | 236 | 127 | 181 | 151 | 12 | 4 | 75 | - | - | - | - | 5.4 | | | | | |
| BIO 65 | 90 | 65 | 3/4" | 1 1/2" | 62 | 48 | 12 | 73 | 156 | 245 | 127 | 195 | 165 | 12 | 4 | 95 | - | - | - | - | 7.2 | | | | | |
| BIO 80 | 150 | 82 | 3/4" | 2" | 112 | 55 | 14 | 90 | 172 | 270 | 140 | 240 | 210 | 14 | 4 | 110 | - | - | - | - | 11.2 | | | | | |
| BIO 100 | 230 | 102 | 1" | 2" | 100 | 60 | 16 | 103 | 185 | 285 | 153 | 240 | 200 | 14 | 4 | 120 | - | - | - | - | 12.6 | | | | | |
| BIO 125 | 320 | 127 | 1 1/2" | 2 1/2" | 135 | 73 | 18 | 120 | 254 | 355 | 212 | 270 | 240 | 14 | 4 | 145 | 185 | 145 | 18 | 4 | 21.7 | | | | | |
| BIO 140 | 450 | 140 | 1 1/2" | 3" | 150 | 80 | 18 | 130 | 271 | 380 | 232 | 300 | 265 | 14 | 4 | 160 | 200 | 160 | 18 | 8 | 29.0 | | | | | |
| ZIO 165 | 630 | 169 | 1 1/2" | 4" | 210 | - | 10 | 150 | 359 | - | 230 | 285 | 240 | 14 | 4 | 220 | 220 | 180 | 18 | 8 | 25.5 | | | | | |
| ZIO 200 | 1000 | 194 | 2" | 6" | 220 | - | 10 | 220 | 469 | - | 340 | 330 | 295 | 22 | 8 | 255 | 285 | 240 | 22 | 8 | 38.8 | | | | | |
| ZIO 240 | 1500 | 238 | 2" | 8" | 270 | - | 23 | 283 | 575 | - | 430 | 395 | 350 | 23 | 8 | 345 | 340 | 395 | 22 | 12 | 62 | | | | | |
| ZIO 270 | 3000 | 268 | 2 1/2" | 10" | 350 | - | 23 | 383 | 701 | - | 560 | 505 | 460 | 23 | 8 | 440 | 405 | 355 | 23 | 12 | 88 | | | | | |
| ZIO 320 | 5000 | 322 | 3" | 14" | 450 | - | 23 | 478 | 841 | - | 700 | 615 | 585 | 23 | 8 | 530 | 520 | 470 | 26 | 16 | 135 | | | | | |

Dimension L1 will vary according to wall thickness,

Burner applications

Refractory by customer



Order Information

| | |
|---|---|
| BIO, ZIO | Burners for gas |
| 50, 65, 80, 100, 125, 140, 165, 200, 240, 270, 320 | Burner size |
| T | T-Product |
| R | Flame shape: normal |
| H | long |
| K | flat |
| B | Type of gas: natural gas |
| G | propane, propane/butane |
| M | butane, butane/propane, propane |
| D | town gas |
| -0, -50, -100, -150... | Length of the burner tube in mm (L1) |
| /35, /85, /135, 185... | Length from mounting flange to face of burner head in mm (L2) |
| (X) | Contact sales office for burner head number |
| X | Contact sales office for construction stage |

Warning:

Situations dangerous to personnel and property can result from the misapplication and incorrect operation of combustion equipment. Kromschroder advises compliance with the National Fire Protection Association standards that apply for related equipment and Insurance Underwriters recommendation, and care of operation.

We reserve the right to make technical changes designed to improve our products without prior notice. For current product information, visit our website at www.kromschroder.com.