



North American Magna-Flame™ Burners - Gas Only



4795 Magna-Flame™ Burner - Gas Only

- Conventional forward flame pattern
- 8 to 56 million Btu/h HHV
- For furnaces, melters, steel reheat, soaking pits, dryers and air heaters

Product Overview | Magna-Flame™ Burner

FEATURES

- Gas-only burner
- Broad stability range
- Chambers up to 2200°F
- Excellent for low Btu fuels

4795 Magna-Flame™ Gas Burners are used on a wide variety of industrial heating applications. Flame lengths vary from 9 to 35 feet. Operation is quiet, and the flame is stable over a wide range of air/gas ratios: from more than 50% rich to 1000% excess air. Burners can be used in cold, sealed-in chambers running on stoichiometric ratio or lean.

CONSTRUCTION

Body is fabricated of heavy duty welded steel featuring a round mounting flange, a refractory ring and alloy air distribution disc in the front. Connections for pilot and flame detector are available in a variety of locations which are specified during ordering. See Dimensions, page 3.

CONTROL

Use either mass flow control or cross-connected regulator systems. Gas pressure requirement at the burner is approximately 0.6 times the air pressure.

IGNITION AND FLAME SUPERVISION

Magna-Flame burners should be pilot ignited ①. Pilot ignition must occur at 1" w.c. main air pressure or less. Appropriate 4014 gas-boosted pilots are to be used with this burner (sold separately), and are shown on the dimension table. Pilot operation must be interrupted to prevent overheating of the mounting. Self-checking UV scanners (sold separately) are recommended for flame supervision. See Bulletin 8832 for selection of UV adapters. It is possible for a UV scanner mounted on this burner to sight flame(s) of other burners in the same firing chamber. Consult North American for configuration guidance on multiple burner applications.

INSTALLATION

The burner does not include a tile. The tunnel shape shown on the dimension drawing (page 3) must be built into the combustion chamber wall. See Supplement DF-M1 for installation recommendations.

REPLACEMENT AND SPARE PARTS

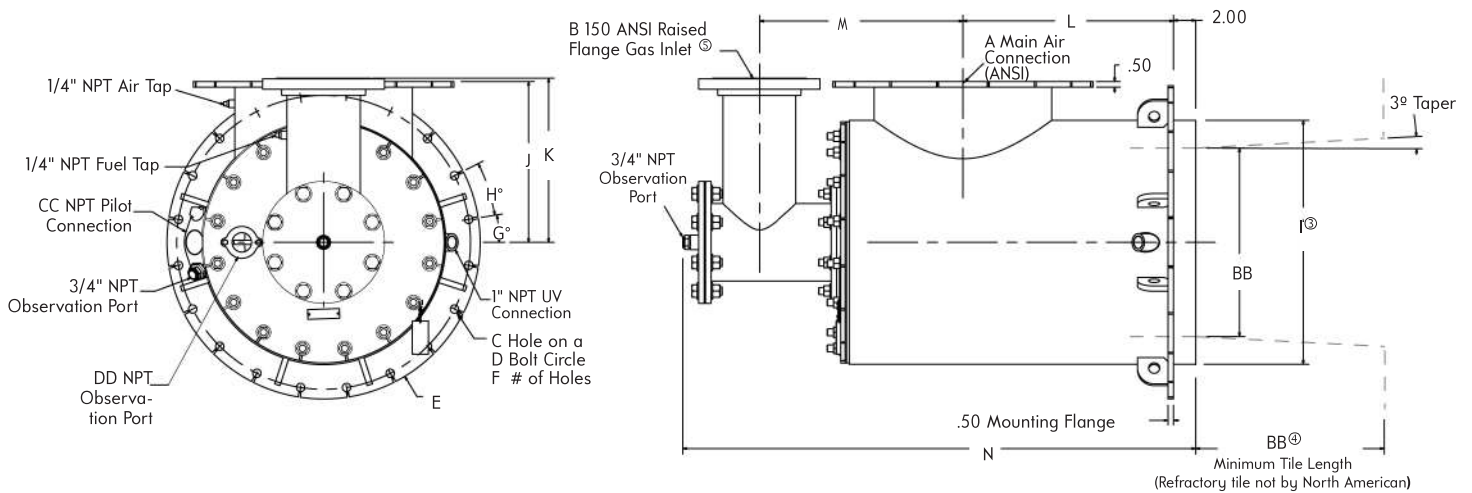
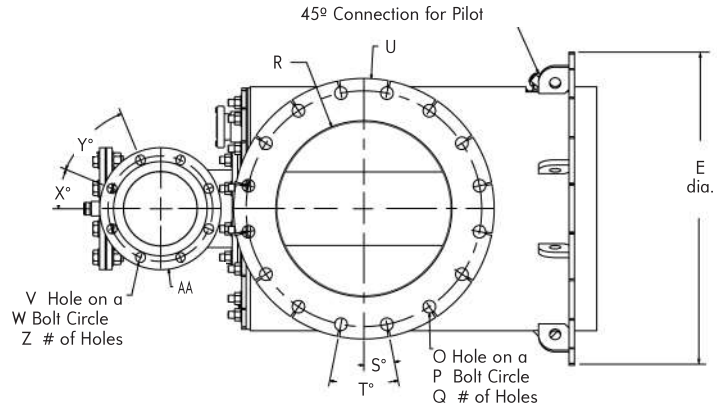
NOTE: In June, 2009, the 4795 burner was redesigned to change from a square mounting flange to round and replace the threaded gas connection with a flanged gas tee. When replacing burners, or ordering parts, please inform your sales professional of the complete part number, sales order and/or manufactured date. This information is stamped on a tag located on the burner back plate.

| Burner Designation | Combustion Air Capacities (scfh) | | | | Maximum % Excess Air | | | Flame Dimensions | |
|--------------------|-------------------------------------|---------|---------|------------------|----------------------|------|------|--------------------------------|----------|
| | Multiply by 100 to get Btu per hour | | | | Air pressure in osi | | | @ 8 osi main air and 10% XSair | |
| | 1.0 | 5.0 | 6.0 | 8.0 ^② | 0.2 | 4.0 | 8.0 | Length | Diameter |
| 4795-9-A | 29 000 | 65 000 | 71 000 | 82 000 | 840 | 1090 | 1090 | 9' | 3' |
| 4795-9-B | 36 000 | 80 500 | 88 000 | 102 000 | 840 | 1150 | 1100 | 9' | 3' |
| 4795-10 | 47 500 | 106 000 | 116 000 | 134 000 | 800 | 1100 | 1150 | 11' | 4' |
| 4795-12 | 70 000 | 157 000 | 172 000 | 198 000 | 800 | 1100 | 1150 | 15' | 5' |
| 4795-14 | 95 500 | 214 000 | 234 000 | 270 000 | 800 | 1100 | 1300 | 20' | 5' |
| 4795-16 | 121 000 | 269 000 | 295 000 | 340 000 | 800 | 1000 | 1400 | 25' | 5' |
| 4795-18 | 155 000 | 346 000 | 380 000 | 438 000 | 800 | 1100 | 1400 | 30' | 6' |
| 4795-20 | 200 000 | 447 000 | 490 000 | 565 000 | 800 | 1100 | 1500 | 35' | 6' |

① Because of a positive pressure in the burner, it is difficult to light with a torch unless the air is turned very low and a strong pressure torch is used.

② Maximum recommended pressure.

Dimensions | Magna-Flame™ Burner



DIMENSIONS SHOWN ARE SUBJECT TO CHANGE. PLEASE OBTAIN CERTIFIED PRINTS FROM FIVES NORTH AMERICAN COMBUSTION, INC. IF SPACE LIMITATIONS OR OTHER CONSIDERATIONS MAKE EXACT DIMENSION(S) CRITICAL.

| Size Designation | Dimensions in inches and degrees | | | | | | | | | | | | | | | | |
|------------------|----------------------------------|---|------|------|-------|----|-------|------|----------------|------|-------|-------|-------|-------|------|-------|----|
| | A | B | C | D | E | F | G° | H° | I ^③ | J | K | L | M | N | O | P | Q |
| 4795-9-A, B | 8 | 3 | 0.75 | 18.5 | 20.25 | 16 | 11.25 | 22.5 | 14 | 9.5 | 9.25 | 11 | 10.94 | 29.75 | 0.88 | 11.75 | 8 |
| 4795-10 | 10 | 4 | 0.75 | 20.5 | 22.25 | 16 | 11.25 | 22.5 | 16 | 11 | 14.75 | 12.75 | 13.06 | 34.12 | 1 | 14.25 | 12 |
| 4795-12 | 12 | 4 | 0.75 | 22.5 | 24.25 | 16 | 11.25 | 22.5 | 18 | 12.5 | 14.75 | 15 | 14.44 | 37.75 | 1 | 17 | 12 |
| 4795-14 | 14 | 6 | 0.75 | 24.5 | 26.25 | 16 | 11.25 | 22.5 | 20 | 13.5 | 14.81 | 18 | 17.38 | 44.31 | 1.13 | 18.75 | 12 |
| 4795-16 | 16 | 6 | 0.75 | 26.5 | 28.25 | 20 | 9 | 18 | 22 | 14.5 | 14.81 | 19 | 18.38 | 46.31 | 1.13 | 21.25 | 16 |
| 4795-18 | 18 | 6 | 0.75 | 28.5 | 30.25 | 20 | 9 | 18 | 24 | 15.5 | 14.81 | 19.5 | 18.88 | 47.31 | 1.25 | 22.75 | 16 |
| 4795-20 | 20 | 8 | 0.88 | 30.5 | 32.25 | 20 | 9 | 18 | 26 | 16.5 | 14 | 19.63 | 21.13 | 50.81 | 1.25 | 25 | 20 |

| Size Designation | R | S° | T° | U | V | W | X° | Y° | Z | AA | BB | CC | DD | Pilot Assembly | lbs. |
|------------------|-------|-------|------|------|------|-------|------|----|---|------|-------|------|-----|----------------|------|
| 4795-9-A, B | 8.25 | 22.5 | 45 | 13.5 | 0.75 | 6 | 45 | 90 | 4 | 7.5 | 10 | 1.25 | 3/4 | 4014-1-T | 190 |
| 4795-10 | 10.25 | 15 | 30 | 16 | 0.75 | 7.5 | 22.5 | 45 | 8 | 9 | 11 | 1.5 | 3/4 | 4014-2-T | 250 |
| 4795-12 | 12.25 | 15 | 30 | 19 | 0.75 | 7.5 | 22.5 | 45 | 8 | 9 | 12.5 | 1.5 | 3/4 | 4014-2-T | 300 |
| 4795-14 | 13.88 | 15 | 30 | 21 | 0.88 | 9.5 | 22.5 | 45 | 8 | 11 | 14.75 | 2 | 3/4 | 4014-3-AT | 410 |
| 4795-16 | 15.88 | 11.25 | 22.5 | 23.5 | 0.88 | 9.5 | 22.5 | 45 | 8 | 11 | 17 | 2 | 2" | 4014-3-AT | 460 |
| 4795-18 | 17.88 | 11.25 | 22.5 | 25 | 0.88 | 9.5 | 22.5 | 45 | 8 | 11 | 19.25 | 2 | 2" | 4014-3-AT | 505 |
| 4795-20 | 19.88 | 9 | 18 | 27.5 | 0.88 | 11.75 | 22.5 | 45 | 8 | 13.5 | 21.5 | 2 | 2" | 4014-3-BT | 630 |

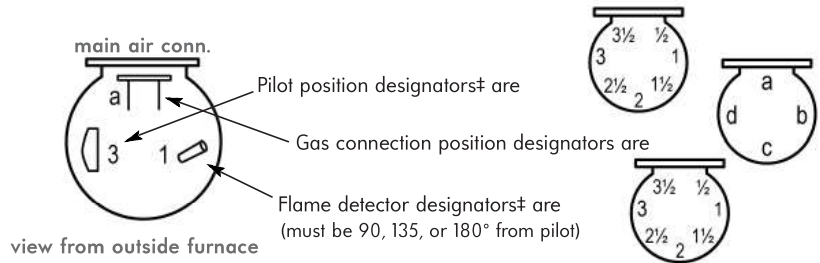
③Furnace opening should be 1/2" larger than dimension I for -9 thru -16, and 3/4" larger than dimensions I for -18 and -20.

④After a length of 1.2 X BB flare out the tile at a 30° angle all around (60° included angle).

⑤Flat face ANSI flange available upon request.

Designators | Magna-Flame™ Burner

Arrangement Designators are specified relative to the main air connection at 12 o'clock and should be listed for **pilot, gas connection, and flame detector** in that order.



‡ Good practice dictates that neither pilot nor flame detector be below the centerline of a horizontally-mounted burner.

ORDER MUST SPECIFY: (1) Burner designation (such as 4795-14); (2) Arrangement designation for pilot, gas connection and flame safety positions in that order such as: 4795-14, arrangement 3a1 (for the arrangement shown above).

WARNING: Situations dangerous to personnel and property may exist with the operation and maintenance of any combustion equipment. The presence of fuels, oxidants, hot and cold combustion products, hot surfaces, electrical power in control and ignition circuits, etc., are inherent with any combustion application. Components in combustion systems may exceed 160°F (71°C) surface temperatures and present hot surface contact hazard. Fives North American Combustion, Inc. suggests the use of combustion systems that are in compliance with all Safety Codes, Standards, Regulations and Directives; and care in operation.

CONTACT

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