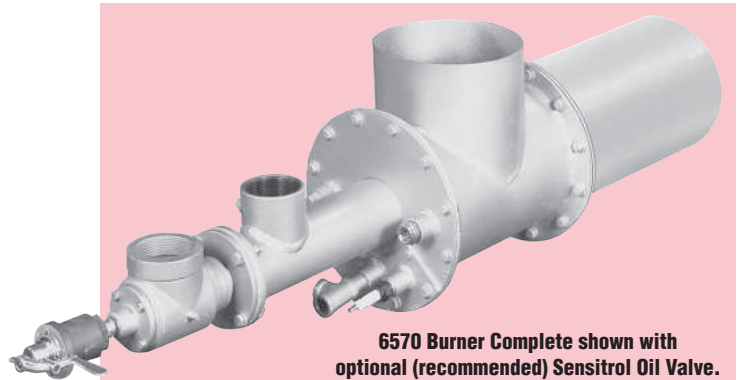


- HIGH VELOCITY
- GAS AND/OR LIGHT OIL
- LIGHTWEIGHT ALL-METAL CONSTRUCTION
- WIDE CAPACITY RANGE
- HIGH EXCESS AIR CAPABILITY



APPLICATION

HiVAMs are a natural for installations requiring a portable burner to heat large volumes of air.

Their high excess air ratio capabilities and lightweight all-metal construction make them ideal for such applications as drying refractory-lined furnaces and vessels, for permanent or temporary mounting on rotary dryers and calciners, and for other jobs where a self-contained portable burner or air heater avoids need for expensive mounting, installation, sealing, etc.

OPERATION

HiVAM Burners must be operated with at least 50% excess air at all firing rates.

Light oil operation requires 20 osi atomizing air pressure at the burner. For widest stability limits on gas, 14 osi "atomizing air" is required for the 6570-9, and 10 osi for the 6570-12.

Main air and fuel can be modulated together using cross-connected fuel regulators; or fuel only control (with constant air) can be used for maximum thermal turndown.

Main flame ignition is normally by a 4021-16 spark ignited pilot tip furnished as an integral part of the burner. Customer supplies a 4031 Pilot Mixer, regulator, and shutoff valves.

4570 Gas Burners are available with either direct spark ignition or spark ignited pilot. They require "atomizing air" for best flame characteristics--see Table 2 for scfh and pressure ratings (which differ from 6570's operating on gas). Gas pressure requirements are 8 osig (or less) for natural gas (0.6 sp gr) at design capacity.

6570 Dual-Fuel Burners use the spark ignited pilot. Direct spark ignition is not available for the 6570.

FLAME SUPERVISION

6570 Dual-Fuel HiVAM Burners use two UV detectors. One sights the pilot through the pilot mixture tube and the other sights the main flame, gas or oil. 4570 Burners equipped with spark ignited pilot also use two UV detectors. 4570 Burners equipped with direct spark ignition require only one UV detector. See Sheet 4000-2 for general details concerning direct spark ignition.

On 6570 (or 4570 with pilot), pilot and/or pilot scanner must be cut off after main flame is established.

TABLE 2. Capacities in scfh not burning
(for sizing blowers)

| Air Burner designation | Main Air at 16 osi | Atomizing Air on Gas | Atomizing on Oil at 20 osi |
|------------------------|--------------------|----------------------|----------------------------|
| 4570-9 | 96 000 | 5600 at 14 osi | 3550 |
| 6570-9 | 96 000 | 2600 at 14 osi | |
| 4570-12 | 186 000 | 4600 at 8 osi | |

TABLE 3. Maximum Excess Air Percentages
(with flame supervision and without pilot)

| Burner designation | Main air pressure drop across the burner in osi | | | |
|--------------------|---|------|------|------|
| | 1 | 9 | 16 | |
| 4570-9 | 2000 | 1500 | 1000 | |
| 6570-9 | Gas | 1000 | 1200 | 1000 |
| | Oil | 200 | 1200 | 850 |
| 4570-12 | 1500 | 1600 | 1200 | |
| 6570-12 | Gas | 1000 | 1300 | 1500 |
| | Oil | 125 | 850 | 1300 |

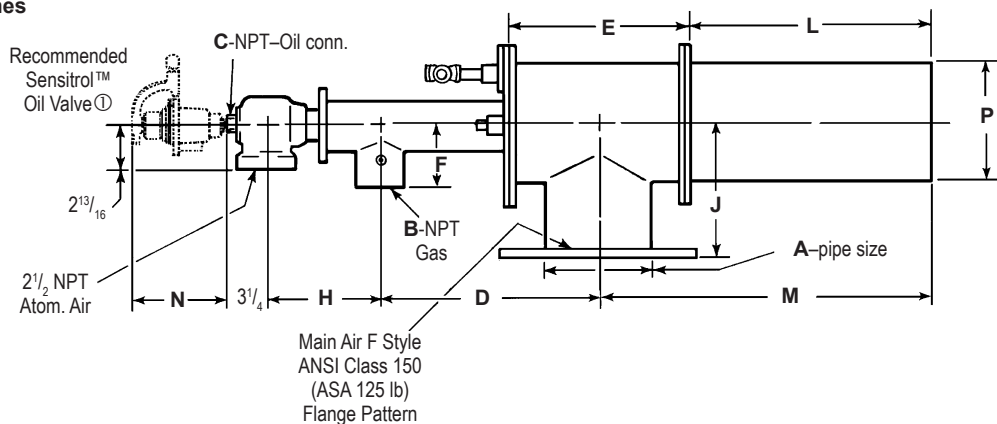
TABLE 1. Main Air Capacities--scfh
Burning with 50% excess air, which is the rich limit.
Therefore, for maximum Btu/hr, divide by 1.5 and multiply by 100.

| Burner designation | | Main air pressure drop across burner in osi | | | | |
|--------------------|-----|---|--------|--------|---------|---------|
| | | 0.2 | 1 | 4 | 9 | 16† |
| 4570/6570-9 | Gas | 9 000 | 13 500 | 39 300 | 59 000 | 80 000 |
| 6570-9 | Oil | 10 300 | 21 000 | 42 500 | 63 500 | 83 000 |
| 4570/6570-12 | Gas | 20 100 | 45 500 | 81 500 | 122 000 | 170 000 |
| 6570-12 | Oil | 20 400 | 45 600 | 87 500 | 127 000 | 169 000 |

† 16 osi air is the maximum firing rate.

"T" Connection, F Style

DIMENSIONS in inches



"Y" Connection, SW Style

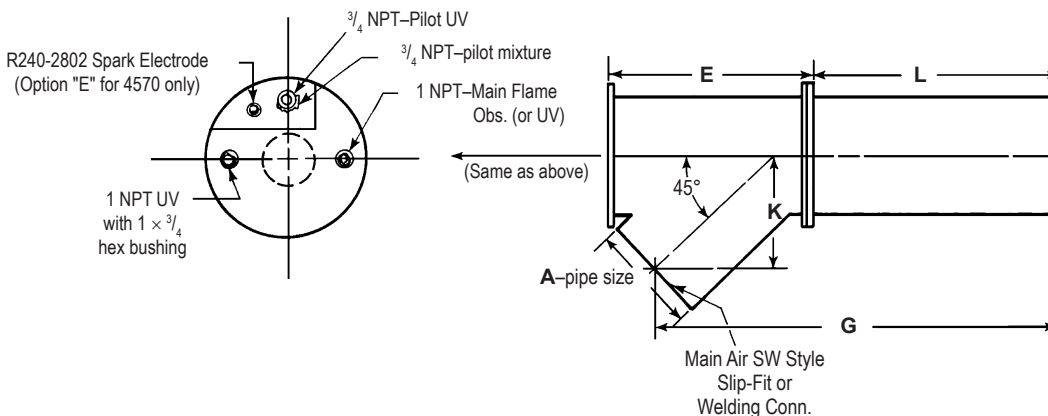


TABLE 4. Flame dimensions with 50% excess air length x diameter

| Burner designation | | Main air pressure drop across burner, osi | | |
|-------------------------|-----|---|-------------|--------------|
| | | 1 | 9 | 16 |
| 4570/6570-9 6570-9 | Gas | 3 1/2' x 1' | 4' x 1' | 3 1/2' x 1' |
| | Oil | 4' x 1' | 5 1/2' x 1' | 5 1/2' x 1' |
| 4570/6570-12 6570-12 | Gas | 7 1/2' x 1 1/2' | 8 1/2' x 2' | 8' x 2' |
| | Oil | 6' x 1 1/2' | 10' x 2' | 10 1/2' x 2' |

OPTIONS

- 45° or 90° main air connection.
- Flanged or slip-on main air connection.
- When ordering, specify choice of options as follows:
 - (P) for spark ignited pilot
 - (E) for direct spark ignition (4570 only)
 - (Y) for 45° air connection
 - (T) for 90° air connection
 - (F) for flanged air connection
 - (SW) slip-on or welding air connection

Example: 6570-12-PTF Burner complete
1813-01 Sensitrol Oil Valve □

4570 HiVAM™s for gas only have the same dimensions (except for "N" and "C", which do not apply) and practically the same weights as 6570 HiVAMs since the gas burners also have an "atomizing air" connection for greater flame stability.

| Burner designation | dimensions in inches | | | | | | | | | | | | | Sensitrol™ Recommended net weight Oil Valve | Approx. lb | |
|--------------------|----------------------|-------|-----|----------|----------|-------|----------|-------|----|----------|----------|--------|--------|---|---------------|-----|
| | A | B | C | D | E | F | G | H | J | K | L | M | N | | | P |
| 6570-9 | 8 | 2 1/2 | 3/8 | 16 1/16 | 15 13/16 | 3 3/4 | 29 15/16 | 7 7/8 | 8 | 11 5/16 | 15 13/16 | 23 7/8 | 4 1/8 | 8 5/8 | 1813-02-D | 125 |
| 6570-12 | 12 | 3 | 1/2 | 19 13/16 | 21 5/16 | 4 3/4 | 42 13/32 | 8 | 12 | 14 27/32 | 23 13/16 | 34 5/8 | 5 1/16 | 11 3/4 | 1813-01 | 200 |

① Optional (recommended) Sensitrol Oil Valve is not included as part of the burner assembly, and must be ordered separately.

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.

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. Parts of this product may exceed 160F in operation and present a contact hazard. Fives North American Combustion, Inc. urges compliance with National Safety Standards and insurance Underwriters recommendations, and care in operation.

Fives North American Combustion, Inc. - 4455 East 71st Street - Cleveland, OH 44105 USA - Phone 216.271.6000
Fax 216.641.7852 - email: fna.sales@fivesgroup.com - www.fivesgroup.com/fivesna