fives

PROCESS TECHNOLOGIES

ENERGY | COMBUSTION

North American Fire•All™ Dual-Fuel™ Burners

Instructions 6422

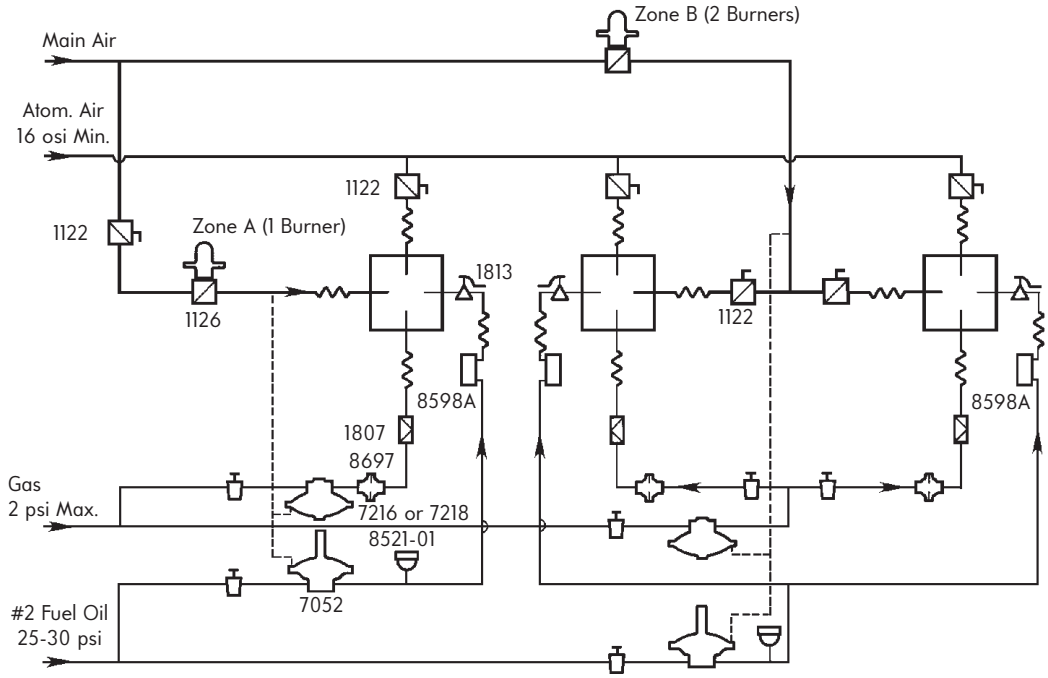

Figure 1. Suggested piping arrangement for 6422 and 6514 Burners for gas and/or light oil.

INSTALLATION

1.Requirements:

a) Maximum allowable inlet pressure to the air/gas ratio regulator (Bul. 7216 or 7218) is 32 osi. If greater than 32 osi, an upstream pressure regulator (not shown) must be used.

b) Gas supply pressure to the air/gas ratio regulator should be at least 2 osi greater than the high fire burner air pressure. If less, a bleeder (Bul. 8654/8655) must be installed in the impulse line. See Figure 2.

c) Fuel oil must be supplied to the air/oil Ratiotrol™ (Bul. 7052) at 25-30 psi. Oil should be supplied from a circulating system controlled by a diaphragm relief valve.

d) Atomizing air pressure at burner must be at least 14 osi.

e) Consult your insurer or your local Fives North American Combustion, Inc. field engineer for automatic shutoff and flame supervision requirements.

2.Burner Mounting:

a) Burners should be mounted with air, gas, pilot, and UV connections on the top or side to prevent oil dripping into them.

b) WARNING: Burners cannot be rotated with respect to the mounting plate as the pilot and flame detector ports must align with notches in the plate.

c) To minimize leaks around the tile and to prevent tile damage from thermal expansion of the wall, follow the instructions on Supplements DF-M1 and DF-M2.

3.Piping:

a) Minimize piping pressure losses. Use a minimum of elbows. Substitute 45 elbows for 90 elbows when possible. Do not use street elbows. Use pipe (not tubing) for pilot air and gas lines. ⅜" tubing may be used for impulse lines up to 8′ long, ½" tubing or larger for longer runs.

b) Pipe air and fuel lines in a manner similar to that shown in Figure 1. Flexible connections (Bul. 8770) are recommended in air and fuel lines to minimize strain from piping and thermal expansion.

c) Pilot air, pilot gas, and atomizing air supply connections must be made upstream of primary burner controls so they are not affected by the zone air control and gas shutoff valves.

d) Connect impulse piping as shown in Figure 1 (or as in Figure 2 if a bleeder is used). These piping arrangements are designed to keep air and gas flows on desired ratio at all firing rates. (Ref: Bulletin 7216, Instructions 7218 and Bul. 8654/8655.)

e) Ratio regulator impulse line connections must be located between the zone control air valve and the manual burner air valve for multiple burner zones and downstream of the manual burner air valve for single burners.