The North American Zephyr™ Integral Blower Gas Burner, ideal for lower temperature applications.

4988 Zephyr Burners are ideal for lower temperature applications, up to 1200°F. Standard burners include an integral combustion air blower, pilot, spark igniter, flame rod, and other features that simplify installation and operation. Zephyr Burners have unmatched flexibility and adaptability to a wide variety of conditions.

Low or variable duct air velocities do not affect burner performance or stability.

High Turndown. 50 to 1 (and higher) by control of gas only. Advantages of high turndown include: (a) better oven temperature uniformity, (b) simplified burner selection because each burner can operate over a wide range of firing rates, and (c) simplified control circuitry. During process interruptions, burner can idle at very low fuel rates, eliminating need for burner shutdown and time-consuming restarts.

Low Gas Pressure Requirement. Only 3"w.c. above duct pressure at the burner. If burner is on suction side of recirculating fan, even less pressure is needed.

Variety of Mounting Arrangements. Any position inside duct or on exterior duct wall, as long as motor shaft is horizontal. When wall-mounted, burner protrudes into duct, preventing overheating of adjacent oven walls.

High Strength Construction. Burner housing is sturdy aluminized steel, rigidly assembled and braced to resist distortion and warping at operating temperatures. All parts in contact with flame are stainless steel.

Fuels. Zephyr Burners are designed for natural gas. They will burn vaporized propane (containing no propylene) or butane (containing no butylene). Internal modification of 4988-1000 through -6000 is required. 4988-9000-L burners require no modification. When ordering, specify fuel.

AIR HEATERS • DRYERS • OVENS

Zephyr Burners have nominal ratings of 1, 2.5, 4, 6, and 9 million Btu/hr. Three combustion air fan arrangements are available, all with the same burner body:

- **4988- -L** with low pressure blower: for installation on suction side of a recirculating fan.
- **4988- -H** (-1000 through -6000 only) with higher pressure blower: for use on discharge side of recirculating fan (where duct pressure is no more than 3.5"w.c. cold).
- **4988- -R** with no integral blower: for remote blower installations or those requiring blowers different from standard.

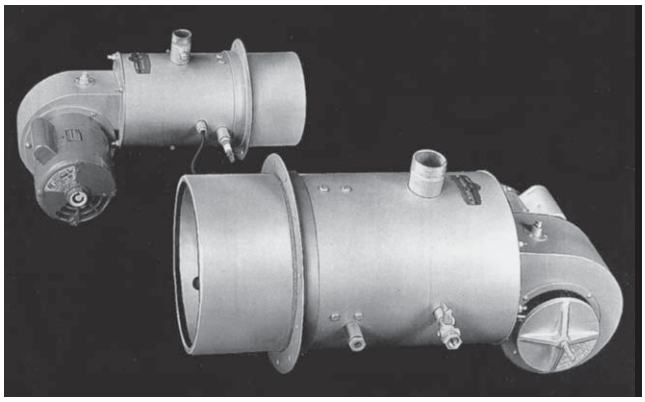

Figure 2. Two of the five sizes of 4988 ZEPHYR™ Gas Burners with integral blower. Construction is simple and durable. Installation is easy. There is convenient access to all components.

— For start-up instructions see Supplement 4988-4
— For spare parts see page 7

Flame Supervision and Ignition. All Zephyrs can be used with ultraviolet flame detection systems. A UV-based flame supervision system must be designed to ignore spark detection by use of an appropriate flame relay, or other code compliant means, to prevent interruption of the ignition sequence. Flame rods are suitable for all but the 4988-9000. Burners include special spark plug (4-5635-1) and 5′ of ignition cable. An ignition transformer with 6000 volt secondary is required. Pressure taps are provided on burner.

With propane or butane, carbon tends to form on flame rods, so scanner type flame detectors are recommended.

Installation. Zephyrs can be installed in any horizontal or vertical duct (but motor shaft must be horizontal). To promote even heating of duct air stream, position burner in a section of duct where air flow is reasonably straight((3 duct diameters). Avoid sharp turns, obstructions, or dampers immediately upstream of burner. Consult North American about supply of flame protection tube.

Installation can be made downstream of a circulation fan, but Zephyr blower and connection ductwork have to be selected carefully to overcome oven pressure (unless Zephyr blower is installed within the duct). Zephyr burners are not designed to fire into ducts above 3.5"w.c. pressure.

If duct air temperature is over 100°F, blower must be mounted outside duct. Dimensions of interconnecting air duct are important: Check with factory for recommended dimensions. Provide access doors for inspection and servicing burner. Sight ports or windows are necessary for observation of flame.