

SPECulations™



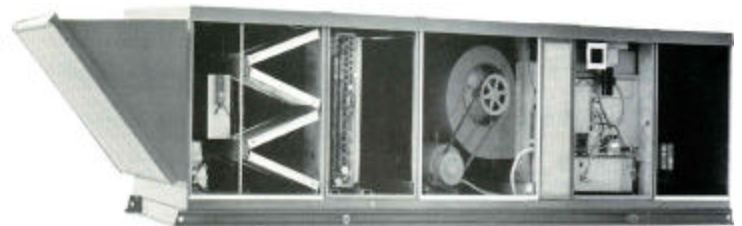
A Periodic Newsletter for Design Professionals
About Innovative Products and Ideas Worthy of Specification Consideration

June
1999

This
Issue



The Quality Answer For Engineered Make-up Air Packages and Unit Heaters



Introducing Sterling

For years now, you have probably been specifying another brand of gas heating equipment. Your reasons are most likely familiarity and lack of awareness of viable competing products. It may come as a surprise to learn that **Sterling** has been, for over 50 years, a leading producer of quality engineered and manufactured HVAC products. Their full line of direct and indirect-fired gas heating equipment is now the broadest the industry has to offer.

Why have you not heard more of **Sterling**? With manufacturing in North Carolina and headquarters in Massachusetts, **Sterling's** traditional strength has been in the east and mid-west. As part of the **Mestek** family of companies (whose HVAC brands include **Air Balance** and **American Warming & Ventilating**), **Sterling** is now positioned to take a leadership role in the west.

If you are intrigued by a better line of gas heating equipment that offers improved value and higher quality than your usual choice, read on! This issue of **SPECulations** will introduce **Sterling**, explain why their products deserve your specification consideration and highlight two of **Sterling's** more popular products – Engineered Make-up Air Units and Tubular Unit Heaters.

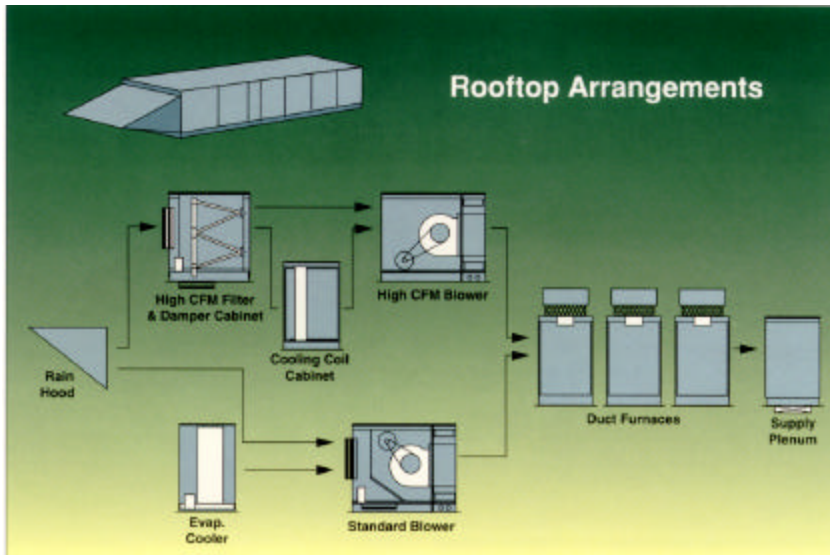
Engineered Make-up Air Units

The **Sterling** Engineered Products Rooftop is a packaged heating and cooling system, suitable for heating, cooling, ventilation and makeup air applications. Unit sizes range from 800 to 14,000 CFM with ½ to 15 HP motors and 100,000 to 1,200,000 BTU/Hr input. Duct furnaces are “AGA” and “CGA” certified for safety and performance with a range of 100,000 to 400,000 BTU/Hr input per duct furnace. Packaged units are also “ETL” and “CSA” certified for electrical safety in compliance with “UL-1995” Standard for HVAC Equipment. Engineered makeup units may be ordered as: individual duct furnaces only, air handler only, air handler with cooling, evaporative cooling only or packaged heating and cooling systems.

The mechanical configuration is determined by customer selection and may consist of any one of 17 standard arrangements. These arrangements may also include a downturn supply air plenum, outside air intake hood and a roof curb. All arrangements are rail mounted and available as direct fired.

In addition to a versatile array of mechanical features, **Sterling** units also offer a wide variety of factory installed options and controls. These include: manual dampers, modulating dampers, OA/RA controls, dry bulb and/or pressure sensing, enthalpy control, DDC interface, ASHRAE cycle control arrangements and a full range of mechanical or electronic gas controls.

Makeup Air Packages

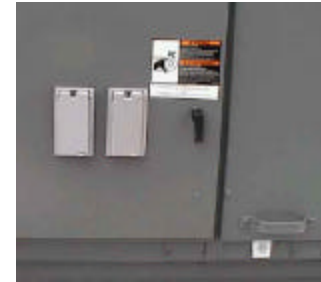


Sterling's Features and Options

- AGA and CGA certified duct furnaces
- ETL and CSA UL-1995 certified packaged units
- FM (Factory Mutual) compliant
- Natural or power vented furnaces available
- Draw-through heating or cooling coil cabinet can be used with DX, chilled water, hot water, steam or a combination of these
- Evaporative cooling with standard 8' or optional 12" media
- Insulated and/or vibration isolated roof curbs
- Available as a direct fired or indirect fired
- Single stage combination gas valve is standard and optional two stage or modulating valves are available
- Standard blower door safety interlock switch
- Solid state automatic pilot ignition control
- Solid state fan time delay
- 20 gauge aluminized steel heat exchanger (Stainless steel optional)
- Permanent or pleated disposable filters are available 1" or 2" thick

Sterling's Unique Benefits

- 1) A package can include a direct expansion, hot water or chilled water coil. Competitive brands use a separate coil unit that requires the contractor to build a duct transition from the air handler to the coil.
- 2) Sterling features hinged, handle locking, double wall constructed access doors with a safety locking arm for simple and secure servicing. This eliminates the possibility of a service tech not replacing all the screws on a non-hinged panel when the service is complete. Also, unsecured doors allow the blower to draw in air through the cracks of the door, bypassing the filters, return air ducts and coil.
- 3) Utility access holes are built right into the unit allowing utilities to enter in through the curb. No outside-the-curb penetrations are required (no roof leaks!). This improves aesthetics and saves the contractor time and money.
- 4) Sterling prevents headaches down the road by factory mounting the GFI and disconnect switch. This eliminates the possibility of an electrician mounting the switches in an inaccessible or hard to spot location.



GFI Convenience outlet and Fused Disconnect

Benefits to the Engineer

- ◆ **Options** Sterling makeup air units offer an unequalled selection of over 27 factory-installed control options, including DDC controls. Over 22 air control and damper arrangements are available, including ASHRAE cycle I, II and III.
- ◆ **Precision Control** Dual and triple furnaces facilitate staging for more precise temperature control, an important consideration in sensitive commercial applications.
- ◆ **Coil Options** Draw-through cooling coils are standard in single and dual circuits with 4 or 6 row configurations for DX or chilled water. Also available are 8" or 12" CELdek or GLASdek evaporative cooling sections, and steam or hot water heating coils.
- ◆ **Motor Choices** Sterling offers an unparalleled selection of motors from ½ to 15 horsepower with options including: two-speed (single or double winding), ODP, TEFC and/or high efficiency, and contactors or magnetic starters.

Benefits to the Owner/Contractor

- ◆ **Built to Last** Long life is achieved by featuring duct furnaces which use 20-gauge aluminized heat exchangers that are 42% thicker than competitive 24-gauge models. Optional 321 and 409 stainless steel heat exchangers provide added resistance to corrosion. Also available are 409 stainless steel burners and flue collectors.
- ◆ **Curb Duct Adapter** The duct work can be connected to the curb prior to installation of the makeup air unit. This feature saves the contractor time and money.
- ◆ **Convenient** Sterling features a GFI 110 volt outlet located on the outside of the unit for a convenient power source.
- ◆ **High Efficiency** Draw-through coil design, unlike blow-through coil arrangements, utilize the entire coil surface, resulting in higher operating efficiencies and energy savings to the owner.

Tubular Gas-Fired Unit Heater

Tubular Unit Heater Overview

For decades, the industry standard for unit heaters has been the clam shell heat exchanger design. Significant drawbacks of this design include poorer efficiency and reduced heat exchanger life due to tack welding, which leads to early metal fatigue and failure. The preferred design today is the Tubular style.

The **Sterling** model TF gas-fired tubular heat exchanger has been designed to provide maximum and uniform heat transfer. The low pressure drop associated with this design enables heated air to be evenly distributed to the conditioned space. The curved, non-welded serpentine design experiences less thermally induced stress; making it highly durable for significantly longer service life. All **Sterling** tubular heat exchangers are constructed of heavy duty 20-gauge aluminized steel. Combining key features such as power venting and over 80% thermal (combustion) efficiency, the **Sterling** Tubular TF series is the highest quality unit heater available today.



The **Sterling** Tubular Unit Heater features a hot surface ignition (HSI) and power venting for about the same price as a clam shell design with gravity venting.



Brighter Ideas Make Better Products



Power Venting

Power venting is standard on all Tubular Unit Heaters. Its narrower flue vent (5" or 6" vs a 12" B-vent for gravity venting) is easier to install, far less expensive, requires a smaller roof penetration and uses a less obtrusive vent cap. Horizontal venting through a side wall becomes an option.

Improved Louver Design

The **Sterling** TF Tubular Gas-Fired Unit Heater features painted louvers for durability and good looks. They are also individually removable and adjustable. For applications that require optimal control of air movement, various configured downturn nozzles are also available.

Standard Features And Benefits

High Efficiency

Standard energy saving features, like the **HSI** (hot surface ignition) pilot and power venting, reduces standby losses and offers improved seasonal efficiencies. The Model TF unit is certified by **AGA** and **CGA** as providing over 80% thermal (combustion) efficiency.

Hot Surface Pilot Ignition

The **Sterling** Model TF utilizes a hot surface pilot ignition system which features a ceramic composite hot surface element. This highly reliable and efficient ignition system does not permit pilot gas to flow unless the hot surface element is present and powered. The low-voltage hot surface element lights the pilot quickly for fast heat delivery. All wiring is 24 volt with no line voltage present in the burner area.

Control Accessibility

Designed with the service person in mind, every component is easily accessible. Ignition and fan controls are located in one centrally located control panel. The hinged access door provides control isolation as well as a pleasing exterior appearance.

Vertical or Horizontal Venting

The **Sterling** Model TF unit heater is **AGA/CGA** certified in accordance with categories I and III venting requirements. Category I enables the unit to be vented vertically with either single or double wall venting material. Category III allows for horizontal venting, utilizing single wall venting material. This venting flexibility makes installation easier and more cost effective by allowing the installer to utilize existing venting components.

10-Year Warranty

Sterling warranties the heat exchanger, flue collector and burners of the Model TF to be free from defects in materials and workmanship for a period of 10 years from the date of manufacture.

Additional Standard Features include:

- In-shot burner design
- 20-gauge steel jacket with baked enamel finish
- Hinged access control panel
- Single stage combination gas valve
- 115/1/60 volt fan motor with internal overload protection

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