

4. A smart valve with hot surface ignition and flame rod is used to prove flame.
5. A dependable ceramic Nitride composite igniter is used to initiate combustion.

WIRING AND ELECTRICAL

1. The control circuit voltage is 115-1-60 and 24V grounded and 24V non-grounded. Control transformers are provided.
2. Wiring in control enclosures is in accordance with the National Electrical Code.
3. The unit is shipped complete with all items such as relays, starters, switches, and safety controls as required for proper operation. All factory-mounted controls are factory pre-wired to the unit control panel. All loose controls must be field installed and wired in accordance with the manufacturer's specifications and/or local codes.

CONTROL SYSTEM

The ARES sophisticated Micro Controller provides digital logic to the next level of temperature control. The ARES Micro Controller has been engineered with digital technology to provide accuracy of 99%. Burners 550 MBH and below have an approximate 30 to 1 turndown, 1,100 to 550 MBH have an approximate 60 to 1 turndown and units 1,650 to 1,100 MBH have an approximate 100 to 1 turndown. With the Micro Controller technology ARES unit is the cleanest burning direct fired unit manufactured.

The Micro Controller comes standard with a service switch, Off/Auto/Fan switch, and discharge set point slide 55°F to 100°F. The technology allows the Micro Controller to troubleshoot the complete system by referencing labeled LED's. These LED's show you immediately the reason for failure. The standard warning LED's on the Micro Controller are "Fan Enable", "Freeze Relay", "Burner Statues Relay" and optional "Cooling". The "COOLING" option is available only on one and two burner model. The Cooling option requires a relay to energize the ARES EVAP cooling system or DX coils provided by others.

An optional remote control station also provides labeled LED's. These LED's are "Fan On", "Heat On", "Freeze Shutdown" and optional "Clogged Filter". A low temperature room override option is available for the remote control station, (if the space temperature falls below room override t-stat setting, it will override the duct stat set point and drive the burner to high fire until the space temperature is satisfied).

The Micro Controller can be hard wired to any EMS system at no additional charge. If you would like to communicate with a specific EMS system you must contact factory for specific details.

The ARES Micro Controller intelligent programming cycles the burners on and off as needed. This allows maximum energy savings because it supplies the precise BTU's to provide the desired comfort. To provide this comfort and savings the Micro Controller monitors inlet air and discharge air temperatures checking them at 20 intervals a second providing a constant defined temperature. The signal from the Micro Controller is sent to the ARES exclusive amplifier, this amplifier processes the signal to control the modulating gas valve. On two and three burner units the processor sends a signal to an on/off valve controlling it as needed and modulating at least one burner to provide the precise BTU's for the desired comfort.

The ARES Micro Controller has two exclusive features, the first feature, **FREEZE PROTECTION**. If the discharge temperature drops to 40°F or less for four continuous minutes the unit will halt all its functions until it is reset. Reset is accomplished by positioning the selector switch to the "OFF" mode on the Micro Controller until the Freeze LED turns off. The second feature, **MILD WEATHER LOCKOUT**, will disable the burner when the ambient temperature is within two degrees below set point. The modulating burner will start again when the temperature is 5°F below set point.

STEPPED DIRECT IGNITION SYSTEM

1. Employs hot surface ignition with flame rectification to main burner.
2. High reliability with fewer gas handling parts (reduces possibility of leakage).

ENCLOSURERS AND WEATHER PROOFING

1. The ETL Listed unit is provided for outdoor or indoor installation, with factory mounted controls inside the unit casing and control enclosures. The unit construction is a fully weatherproof design.
2. The burner control vestibule includes full size, gasketed hinged access panels that require the use of a tool to open, to gain access to controls and gas train components.
3. The blower section includes a full size gasketed-hinged access panel that requires the use of a tool to open, to gain access to the blower, motor, and drives.
4. A roof curb can be provided, specifically designed for installation of the unit furnished to provide a fully weatherproof design.

FACTORY TESTS

All units are operated, tested and set at the factory using specified job site conditions for electrical and gas input. All operating and safety controls are tested and set at the factory. Adjustable sheaves are set for proper RPM at specified conditions. The gas pressure regulator is set for specified burning rate. NOTE: Since field conditions may vary from submitted specifications, the "Start up Check List" must be completed to insure proper operation and warranty validation at specified inlet pressure (this is found in the control cabinet shipped with the unit).