

ARES DIRECT FIRED MAKE-UP AIR SPECIFICATION
ARES DIRECT FIRED MODEL NUMBERS

- * 9
- * 15
- * 20

(NOTE: Some additional model numbers & letters are necessary when design conditions. Consult factory for modified model number.)

GENERAL

The ARES Direct Fired Series Heated Make Up Air Unit is an ETL Listed direct-fired gas-burning unit for use in tempering make-up air for installations requiring frequent air changes. The units conform to ANSI Z83.4a – 2001 / CSA 3.7a - 2001 standards, and produce from 16,000 BTU/hour to 1,650,000 BTU/hour depending on energy requirements. Units are ETL listed for natural gas and liquid propane applications. The heaters are intended for indoor or outdoor installations in commercial kitchens, factories, foundries, and similar commercial and industrial occupancies where unvented open-flame combustion equipment is permitted. They are intended to be installed and used in accordance with the Standards of the National Fire Protection Association, NFPA No. 54 and the National Fuel Gas Code.

The unit is ETL Listed for horizontal unit with horizontal, down or top discharge air direction and in combination with centrifugal upblast exhaust fan (by others). Each unit is equipped with controls having the capabilities of stand-alone operation, or interfacing with the total integrated system controls. Units consist of a casing with a gas burner or burners suspended approximately in the center, which burns directly in the outside air stream. The products of combustion mix with the make-up air, which is introduced into the heater intake directly from outside the building, and a centrifugal-type blower forces the resultant mixture into the building. Units are provided with a hot surface-ignited burner. In the event of flame outage, all gas is shut off to the main burner.

Units are factory assembled, tested, and shipped as a complete package, consisting of the following.

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| a. | Gas burner | h. | Optional external service disconnect with integrated auxiliary contacts for control circuit (when required) |
| b. | DWDI Centrifugal blower AMCA Certified | i. | Optional intake hood with birds screen (maybe shipped separate for field mounting by others) |
| c. | Motor and adjustable drive assembly | j. | 1" thick, UL Listed, Class 2 washable filter |
| d. | Fuel burning safety equipment | | |
| e. | Temperature control system | | |
| f. | Gas piping | | |
| g. | Contact, and overload (for three phase application, when required) | | |

CASING

1. Units are constructed of G-90 galvanized, 20-gage steel.
2. All casing panels are attached with sheet metal screws.
3. Units are built with drop-over support frame 12 and/or 14 gage G90 galvanized, suitable for mounting on roof curbs.
4. An observation port is located on the exterior of the unit to observe the main flame.
5. Access panels are gasketed hinged and lift off, with drawdown tight locks, water resistant access panels provides access to all internal components. Hinged and easily removable access panels are provided to allow servicing of the blower/motor/drives, and manifold/electrical components.
6. Insulation is UL Listed Class 1, 1" 1-1/2 pounds foil face fiberglass insulation (optional).

BLOWER AND DRIVES

1. Blowers are forward curved, belt driven, double width, double inlet, and class II centrifugal type and contain cast iron pillow block lubricated Stainless Steel ball bearings (150,000 hours average life). Blowers are constructed of galvanized steel covered with an enamel finish. Motor sheaves are adjustable for balancing. Blower sizes are 9" 15" and 20" DWDI FC.
2. Blowers are factory tested and set at rated speed after installation in the factory-assembled unit. Blower shafts are equipped with keyways.

MOTOR

1. UL recognized motors have thermal or amperage protection and are high efficiency open drip proof type with adjustable drives and motor mount. Adjustable pulleys and heavy-duty belt(s) are standard.

BURNER

1. The gas burner is a direct-fired draw through type, and is sized to provide desired output using natural gas at an inlet supply pressure to the unit of 13.5" water column max, or 11" for propane.
2. The gas burner has a maximum discharge temperature of 100°F natural gas and 90°F liquid propane. The flame extends the entire length of the burner at all times when the system is in operation.
3. The burner consists of non-clogging stainless steel combustion baffles attached to a cast iron gas supply section with no moving parts. The burner is capable of 100% thermal efficiency with a maximum turndown ratio of 100 to 1 per 3-burner unit (1,650 MBTUH).