



# Johnson Air Rotation® Systems

## “Cooling Only” Guide Specification

The cooling system shall consist of a Johnson Air Rotation® System custom designed and manufactured by Johnson MarCraft of St. Louis, Missouri. The equipment shall be located per agreement between Johnson MarCraft and the end user.

### GENERAL INFORMATION

The entire unit assembly shall be approved, listed and labeled by Underwriter's Laboratories (UL®). The Air Rotation® units shall be tested by the manufacturer and incorporate the following:

### AIR MOVER AND INLET MODULE

The Air Base includes custom designed cooling coils, filters, and stainless steel drain pans to suit the individual unit location.

The unit shall have a 25" x 39" lockable access door. A "Warning Placard" shall be affixed at the access door indicating that the unit is to be shut off before opening the door and entering the fan compartment.

The air fans shall be equipped with dual belt drives with the drives selected for not less than 400% of the horsepower rating. All belts on the unit shall be of the industrial grip notch type selected for extended service life.

The unit manufacturer shall conduct sound testing in its manufacturing facility and certify said testing is at 80 decibels or less.

Cooling coils and drain pans shall be mounted at floor level for ease of maintenance and inspection. Cooling coils shall use 0.020" copper tubes and 0.0075" aluminum fins. Standard: ARI 410 rated DX Type or Chilled Water Type Cooling Coils. Coil casings shall be 16-gauge galvanized steel. The drain pans shall be triple pitched for complete drainage and be constructed of all welded 304 stainless steel. Intermediate drain pans shall have a copper downspout to the lower drain pan. The drain pan connection shall be a minimum of 6" (152 mm) above the unit base for trapping. Face velocity of cooling coils shall not exceed 500 fpm. The floor-level drain pan shall have a steel, walk-in grate used for cleaning, service and maintenance purposes.

Filters: (Type 1): Pleated type, average efficiency of 25% - 30%, with average arrestance of 90% - 92% in accordance with ASHRAE 52 Test Standard. Maximum Face Velocity: 500 fpm (2.54 m/s). Depth: 2" (51 mm) deep. UL Classification: Class 2. Filters: Non-woven cotton and synthetic fabric type manufactured by Farr, American Air Filter or Continental Filters. Filters shall be mounted in slide tracks at ground or floor level for ease of inspection and changing without access doors or other restrictions.

Filters: (Type 2): Washable aluminum mesh. Maximum Face Velocity: 600 fpm (3.05 m/s). Depth: 2" (51 mm) deep. Filters shall be mounted in slide tracks at floor or ground level for ease of inspection and changing without access doors or other restrictions.

### **POWER AND CONTROL PANELS**

There shall be a power panel containing 3-phase wiring.

The power panel shall have a locking dead front main power cabinet with disconnect and containing necessary fuses, sub-circuits, magnetic starters with 3-leg protection, relays and contactors requiring only single 3-phase connection.

The control panel shall contain a fan control switch allowing selection of continuous multiple fan operation in either ventilation, cooling, or off positions.

### **AIR OUTLET MODULE**

The Air Outlet Module shall be custom designed by Johnson MarCraft to ensure appropriate air discharge at the designated location using both horizontal and vertical, adjustable louvers, to direct discharge.

The discharge shall include turning vanes to minimize static loss within the unit and to assist in the directional discharge. Turning vanes shall be designed to direct air toward the applicable sides of discharge.

The unit shall be supplied with outlet extensions, which will be shipped to the jobsite as four flat panels to be bolted together at the jobsite. The outlet extensions will be designed to elevate the unit outlet as shown on the drawings, or above any obstructions in the space.

### **GENERAL COMMENTS**

All flat panels used in unit manufacture shall be 18-gauge steel.

All solid panel portions of the air mover and inlet module shall have sound insulation installed.

All unit modules shall be assembled with flat bar screwed in place and either grill or solid panel. The grill and solid panel sections are easily removed to allow access to the interior of the unit. Combustible materials may be placed or stored as close as 18 inches from the entire unit assembly.

The unit manufacturer shall conduct sound testing in its manufacturing facility and certify that the sound result is at 80 decibels or lower.

### **TECHNICAL FIELD SERVICE**

Incidental to the sale of this equipment, the services of a factory trained Field Engineer will be provided at no added cost to supervise placing the System in operation and good adjustment. The Field Engineer will instruct the owner's personnel in equipment operation, and review maintenance procedures with the owner's qualified personnel or qualified representatives.