

## BDCR-HPRA Specification

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### TYPICAL SPECIFICATIONS

**Model:** BDCR-HPRA

**Description:** Fan shall be a spun aluminum and G90 Galvanized, roof mounted, belt driven downblast centrifugal exhaust ventilator. Fans up to and including models with a 24" nominal wheel and a 2HP (Single Phase) or 3 HP (Three Phase) motor are suitable for wall mounting.

**Certifications:** Models 7 thru 30 shall be ETL Listed and comply with UL705 (electrical) Standards and CSA Std C22.2, No 113, Models 36 thru 50 shall be listed by Underwriters Laboratories (UL 705). Fan shall bear the AMCA certified ratings seal for sound and air performance.

### Construction:

#### Housing

The fan discharge apron shall be constructed of heavy gauge aluminum and shall be spun on an automatic lathe to provide consistent dimensions. Heavy gauge galvanized steel braces shall provide a sturdy support for the motor and drive assembly. The discharge apron shall have a rolled bead for added strength.

#### Base

The base shall be constructed of galvanized steel for improved rigidity. Base corners shall be welded to provide strength and to prevent leakage into the building.

#### Wheel

The fan wheel shall be centrifugal backward inclined and non-overloading. Wheels shall be balanced in two planes and done in accordance with AMCA standard 204-96, *Balance Quality and Vibration Levels for Fans*. The wheel blades shall be aerodynamically designed to minimize turbulence, increase efficiency and reduce noise. The wheel blades shall be welded to the wheel inlet cone. In the event that balancing weights are required they shall be riveted to the blades or wheel. The wheel inlet shall overlap the fan base inlet for maximum performance and efficiency. The wheel shall be firmly attached to the motor shaft with two set screws.

#### Motor & Motor Compartment

Motors shall be heavy duty ball bearing type, mounted out of the airstream and furnished at the specified voltage, phase and enclosure. Motor mounting plate shall be constructed of heavy gauge galvanized steel and isolated from the fan structure with vibration isolators. The motor compartment shall be cooled by outside air drawn through louvers in the cap. The motor compartment shall be of a two-piece construction with the top cap having quick release clips to provide quick and easy access to the motor compartment. An integral electrical conduit running from the fan base to the motor compartment is provided for ease of installation.

#### Shaft & Bearings

Shafts shall be precision ground and polished. Heavy duty, pre-lubricated bearings shall be selected for a minimum (L10) life in excess of 200,000 hours of operation at maximum cataloged operating speed. They shall be designed for, and individually tested specifically for use in air handling applications.

#### Belts & Drives

Belts shall be oil and heat resistant, non-static type. Drives shall be cast type, precision machined and keyed and securely attached to the fan and motor shafts. Drives shall be sized for a minimum of 150% of the installed motor horsepower. Fan operating speed shall be factory set using adjustable pitch motor pulleys; motors over 2 HP will come standard with double groove pulleys.

#### Safety Disconnect Switch

A safety disconnect switch shall be standard on all BDCR-HPRA units with open drip proof motors. Switches shall be installed in a NEMA1 enclosure and mounted in the motor compartment of the fan.

**Product:** Fan shall be model BDCR-HPRA as manufactured by RUPP Air Systems.