

# Guide Specification

## Fantech Commercial Heat Recovery Ventilator

### Ducted Indoor Model

### SHR6904 / 8004 / 11004 / 14104

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#### Part I – General

##### A. Product Specification

Heat Recovery Ventilator shall be as manufactured by "Fantech" or approved equal provided all specifications are met. Fantech SHR commercial series shall be used as the basis of design.

##### B. Requirements

1. Unit shall be CSA Certified to safety standards CSA C22.2 No. 113 Fans and Ventilators and UL 1812 Ducted Heat Recovery Ventilators.
2. Performance shall be as scheduled on plans.
3. Exhaust discharge and outside air intake shall be located on the same side.
4. The unit shall be capable of operating in winter and summer conditions without any loss of ventilation capacity.
5. The Heat recovery core shall be of aluminum fixed plate, cross flow construction, with no moving parts.

#### Part II – Product

##### A. Cabinet

1. Cabinet shall be constructed of G90 galvanized, 20 gauge steel sheet with lapped corners. All exposed surfaces shall be coated with baked powder paint. All seams shall be sealed, requiring no caulking at job site.
2. The unit shall be fitted with a full length drain pan for controlled condensate drainage including two drains spouts with 12.7mm (½ inch) barbed fittings for easy connection.
3. Unit casing shall be insulated with 25mm (1 inch) fiberglass with FSK facing or 25mm (1 inch) foil-faced high density polystyrene foam for condensation control. The flame spread index of the insulation material shall not be over 25 and its smoke developed index shall not be over 50 when tested in accordance with the Standard for Tests for Surface Burning Characteristics of Building Material, UL723. Insulation shall be secured to unit with waterproof adhesive and permanent mechanical fasteners.

##### B. Heat Recovery Core

1. The heat recovery Core shall be a fixed plate cross-flow heat exchanger using 1100 alloy aluminum and capable of transferring sensible heat between air streams. The heat recovery core shall be engineered with a turbulence inducing geometry in order to maximize heat transfer while allowing an effective evacuation of condensate. The plates shall be hemmed to avoid cross-contamination of airstreams. The flame spread index of the heat recovery core shall not be over 25 and its smoke development index shall not be over 50 when tested in accordance with the Standard for Tests for Surface Burning Characteristics of Building Material, UL723.

##### C. Frost Control

1. A preset frost control sequence is initiated if the outdoor air temperature falls below the set point of -5°C (23°F). During the initial stage, the supply blower shuts down & the exhaust blower switches into high speed to eliminate frost build-up in the core. The unit then returns to normal operation for the final stage of the frost control sequence at which time the sequence is repeated if the outdoor air temperatures is still below the set point.



**Fantech**

*Your Ventilation Solutions Company*

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#### D. Electrical

1. Electrical box shall be isolated from the airflows and all integral wires and connections protected.
2. All internal electrical components shall be factory wired for single point power connection.
3. All electrical components shall be UL Listed or Recognized and CSA Certified or Accepted where applicable and wired in compliance with the National Electrical Code.

#### E. Fan Sections & Motors

1. Fans shall be Ebm-Papst backward inclined motorized impellers.
2. Fan motor shall have maintenance-free permanently lubricated sealed ball bearings.
3. Fan motor shall be (TOP) thermal overload protected.
4. Fan motor shall be UL listed to UL1004 and/or UL2111, CSA C22.2 No. 77 and No.100.
5. Fan motor shall have IP protection class 44 according to DIN 40 050.
6. Separate fans for exhaust and supply blowers shall be provided.

#### F. Filters

1. The exhaust and fresh air streams shall both be protected by MERV1 washable filters constructed to meet UL Class 2.

### PART – III Execution

#### A. Serviceability

1. Unit shall have hinged and/or screwed access panels on front and back.
2. Cores, filters and motors shall be serviceable from either sides of the unit.
3. Fan assemblies shall be mounted on a removable sliding base. Heat recovery core and filters shall be mounted in slide-out rails for ease of inspection, removal, and cleaning.
4. Accessibility to the electrical box shall be maintained for any unit installation.

#### B. Installation

1. Unit shall be rod mounted or seated on a platform.
2. Flanged connection shall be provided for suitable ductwork connection.
3. Unit shall be adaptable for easy service of electrical components.

#### C. Warranty

The heat recovery ventilator shall be warranted to be free from defects in material, workmanship and on all parts for a period of 3 year from the purchase date. The heat recovery core shall be warranted to be free from defects in material and workmanship for a lifetime period under circumstances of normal use.



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