



SECTION: 04550 CHIMNEY FAN SYSTEM PART 1: GENERAL

1.01 DESCRIPTION OF WORK

A. Furnish and install a chimney fan and related equipment as shown on the drawings and as specified, complete, including the following:

1. Chimney fan, listed to UL378, Standard for Draft Equipment.
2. Electrical connections.
3. Stack connection.

1.02 CODES AND STANDARDS

A. The following published specifications standards, tests or recommended methods of trade, industry or governmental organizations apply to work in this section:

1. UL – Underwriters Laboratories.
2. National Electrical Code.

1.03 QUALITY ASSURANCE

A. All equipment and accessories to be the product of a manufacturer regularly engaged in its manufacture and shall be of a standard catalog product.

B. Draft system guaranteed to operate satisfactory and efficiently without objectionable smoke or odor.

C. Scheduled equipment performance is minimum capacity required.

D. Scheduled electrical capacity shall be considered as maximum available.

E. Equipment to be manufactured at ISO 9001 certified plant.

1.04 SUBMITTALS

A. System vendor shall coordinate equipment product data submittal sheets and shall provide a comprehensive set of interfaced drawings and chimney design calculations, which shall serve as the basis for system evaluation by architect.

B. Submit the following to the Owner's Representative.

1. Comprehensive set of mechanical venting calculations based on the Chimney Design Equation published in the ASHRAE Handbook. Calculations must show flue gas volumes, pressure losses and estimated temperatures in each section to assure compliance with fan temperature rating and prevent condensation, if appropriate.
2. Chimney fan descriptive literature, dimensional diagram and electrical diagram.
3. Control descriptive literature, dimensional diagrams and electrical diagrams.
4. Specification review with respect to submitted equipment identifying all areas of compliance and exceptions.
5. Certification of listing by recognized testing laboratory.

C. Manufacturers not named in these specifications, but those that have received prior approval by the consulting engineer as required within 10 days prior to bid date, shall be permitted one opportunity to receive formal submittal approval. If the architect does not grant this approval, the contractor shall submit on the manufacturer name in these specifications only or the contractor will be charged for the submittal review time for alternate manufacturers.

EXHAUSTO



1.05 OPERATING AND MAINTENANCE MANUALS

A. Provide to Owner's Representative complete Operation and Maintenance manuals with product literature on the chimney fan and controls, dimensional and wiring diagrams.

PART 2: PRODUCTS

2.01 MANUFACTURERS, CHIMNEY FANS

A. Furnish EXHAUSTO Chimney Fan(s), via Chimney Design Solutions, with design volume and design pressure as scheduled on the drawings and as specified.

B. Alternate manufacturers complying with plans and specifications must be submitted and approved by the consulting engineer within 10 days prior to bid date.

2.02 CHIMNEY FAN SYSTEM DESIGN

A. The chimney fan shall be of a clamshell design with horizontal discharge and manufactured in cast aluminum, type SAE331, with a minimum thickness of 3/16". Housing must be resistant to corrosion and be protected by at least one base coat of paint. The chimney fan must be listed for an operating temperature of 575°F (300°C) measured at the chimney termination point.

B. The axial vane shall be made of stainless steel and be completely in balance to assure low noise level and vibration-free operation.

C. The motor must be a variable speed motor with pre-lubricated and sealed ball bearings requiring no further maintenance. The bearings must be of the high temperature type with a minimum rating of 320°F (160°C). The motor shall be Class H insulated with a temperature rating of min. 356°F (180°C) and rated as shown on schedule. The motor must be totally enclosed, and if fan-cooled (TEFC) the cooling vane must be an integral part of the motor. An external cooling fan is not considered an integral part. To assure motor longevity the motor shall not operate at speeds above 1600 RPM.

2.03 STACK CONNECTION

A. Furnish a fiber isolation mat and steel chimney adapter as shown on drawings.

2.04 ELECTRICAL REQUIREMENTS

A. Power supply shall be:

1. To the fan speed control: 1x120V AC, 60 Hz.
2. To the chimney fan: 1x120V AC, 60Hz.

B. All wiring shall be in accordance with the National Electrical Code.

SCHEDULE

Unit Tag	Servicing	Manufacturer	Servicing	Design Conditions	Electrical Data			RPM	HP (kW)	Remarks
					Amps	Volts	Phases			
FF-1 thru 16	RD-42 Fireplaces	Exhausto	RS12	500CFM @ 0.3"W.C.	1.2	120	1	1600	1/10 (.08)	See Note 1 & 2

1. ETL listing #E109205550D



Footnote to Specifier: Fill in data

EXHAUSTO	Voltage *	Amps	Voltage *	Amps	RPM	HP (kW)
RS9	120/1/60	0.5	-	-	1600	1/30 (.025)
RS12	120/1/60	1.2	-	-	1600	1/10 (.08)
RS14	120/1/60	1.4	-	-	1600	1/7 (.1)
RS16	120/1/60	3.9	-	-	1600	1/3 (.25)

PART 3: EXECUTION

3.01 INSTALLATION

- A. Complete structural, mechanical, and electrical connections in accordance with manufacturers' printed instructions.
- B. Installing contractor shall install all chimney fan system components as indicated on drawings. The following must be ensured:
1. Allow satisfactory arrangement in the space available.
- C. Connecting to stack:
1. Install per plans and in accordance with manufacturer's printed instructions.

3.02 OPERATING INSTRUCTIONS

- A. Instruct Owner's Representative and designated personnel in the proper operation and maintenance of the packaged system.

3.04 MANUFACTURERS WARRANTY

- A. All equipment is to be guaranteed against defects in materials and/or workmanship for a period of 24 months from the date of installation, or 30 months from date of shipment, whichever occurs first. The warranty shall be provided by the equipment vendor and shall include the parts necessary to repair or replace all defective parts and materials.
- B. The chimney fan(s) is covered by a 10-year warranty against corrosion perforation.

Please contact EXHAUSTO or an authorized representative for system sizing and technical advice.