



XRRS Specification

Fire Ready Hood

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Provide Accurex Fire Ready model XRRS as shown on plans and in accordance with the following specification:

PART 1 - GENERAL

1.1 SUMMARY

This section specifies fully integrated, pre-engineered fire suppression range hood systems.

1.2 DEFINITIONS

- A. Range hood, unit, kitchen hood and hood system; for purposes of this specification section, these terms all have the same definition.
- B. Residential grade fire suppression: a hood suppression system that fulfills the 300A standard, being designed to protect a residential-grade cooking appliance that is used within a commercial space.
- C. Eyebrow, compensating, short circuit hood types are not allowed.

1.3 RELATED WORK

- A. Section 05 50 00, METAL FABRICATIONS: Duct & Supports for hood systems.
- B. Section 11 44 00, FOOD COOKING EQUIPMENT: Cooking Equipment.
Retain first paragraph below if required for project location.
- C. Section 23 34 00, HVAC FANS: Up-blast kitchen hood exhaust fans.
- D. Section 23 09 23, DIRECT-DIGITAL CONTROL SYSTEM FOR HVAC: Remote monitoring of the kitchen ventilation system.
- E. Section 26 05 21, LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES (600 VOLTS AND BELOW): Electrical Connections.

1.4 QUALITY CONTROL

- A. Installer Qualifications: Experienced in mechanical equipment installation or supervised by an experienced mechanical equipment installer.
 - 1. Where required to complete equipment installation, electrician and plumber shall be licensed in jurisdiction where project is located.
- B. NSF Compliance: Equipment bears NSF Certification Mark (when required)

- C. UL Listing: Equipment has been evaluated according to UL or ETL 300A and is labeled for intended use.
- D. Fire-Protection Systems: to be pre-engineered and factory integrated into the design of the hood
- E. Seismic Restraint:
 - 1. Comply with requirements in Section 13 05 41, SEISMIC RESTRAINT REQUIREMENTS FOR NON-STRUCTURAL COMPONENTS.
 - 2. Comply with applicable guidelines for seismic restraint of kitchen equipment contained in SMACNA's "Kitchen Ventilation Systems and Food Service Equipment Guidelines," Appendix A.
- F. In-Use Service: The manufacturer maintains that the system can be operated or maintained by any qualified maintenance technician. However, the manufacturer will offer web-based certification training by request. The manufacturer does not provide field service.

1.5 SUBMITTALS

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Manufacturer's Literature and Data:
 - 1. Include manufacturer's address and telephone number.
 - 2. Include catalog or model numbers, and illustrations and descriptions of ventilators and accessories.
- C. Installation Drawings: Show dimensions; method of assembly; and details of installation, adjoining construction, coordination with service utilities, and other work required for a complete installation.
- D. Field Test Reports: Indicate whether demonstration will be necessary, dates and times of tests and certify test results.
- E. Operating Instructions: Include operating instructions covering operation of all components and maintenance procedures covering proper cleaning and necessary lubrication or adjustments to controls.

1.6 WARRANTY

- A. Warrant equipment to be free from defects in materials and workmanship in accordance with requirements of "Warranty of Construction" article in FAR clause 52.246-21.

1.7 APPLICABLE PUBLICATIONS

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text by the basic designation only.
- B. ICC Evaluation Service Listing Criteria #1031 (LC1031)
- C. ICC Evaluation Services PMG Listing #1293 (PMG1293)
- D. UL or ETL Standard 300A

PART 2 – PRODUCTS

2.1 EXHAUST HOODS

- A. The hood shall be constructed of 18 & 20 gauge (type 304) polished stainless steel. Hood shall have fire suppression system factory installed into the hood system. Activation of the mechanical fire suppression system shall be by 212 or 280-degree fusible link (30" vs. 36" sizes). Fire suppression agent will be Amerex 660 Low PH wet chemical suppressant. Unit shall include centrifugal fan with air delivery of 380 to 610 cfm depending of calibration of unit. Unit shall include fuel shutdown option for Gas, Electric or Dual Element Devices. The hood system will also have multiple alarm and monitoring contacts factory installed into the hood.
- B. Designer to verify CFM and pressure drop with manufacturer.

Accurex Model	Width	Fan Type	Venting	CFM (at hood)	Duct Length (max)
XRRS-30-F-E	30	Internal	Recirculating	140	N/A
XRRS-30-F-G	30	Internal	Recirculating	140	N/A
XRRS-36-F-E	36	Internal	Recirculating	140	N/A

Accurex Model	Width	Fan Type	Venting	CFM (at hood)	Duct Length (max)
XRRS-36-F-G	36	Internal	Recirculating	140	N/A
XRRS-30-R-E	30	Internal	Rear	250	N/A
XRRS-30-R-G	30	Internal	Rear	250	N/A
XRRS-36-R-E	36	Internal	Rear	250	N/A
XRRS-36-R-G	36	Internal	Rear	250	N/A
XRRS-30-T-E-D	30	Duct In-Line	Top	470	35 Feet
XRRS-30-T-G-D	30	Duct In-Line	Top	471	35 Feet
XRRS-36-T-E-D	36	Duct In-Line	Top	472	35 Feet
XRRS-36-T-G-D	36	Duct In-Line	Top	473	35 Feet
XRRS-30-T-E-W	30	Wall Mount Fan	Top	150	20 Feet
XRRS-30-T-G-W	30	Wall Mount Fan	Top	150	20 Feet
XRRS-36-T-E-W	36	Wall Mount Fan	Top	150	20 Feet
XRRS-36-T-G-W	36	Wall Mount Fan	Top	150	20 Feet
XRRS-30-F-E-N	30	Internal	Recirculating	500	N/A
XRRS-30-F-G-N	30	Internal	Recirculating	500	N/A
XRRS-36-F-E-N	36	Internal	Recirculating	500	N/A
XRRS-36-F-G-N	36	Internal	Recirculating	500	N/A
XRRS-30-R-E-N	30	Internal	Rear	500	N/A
XRRS-30-R-G-N	30	Internal	Rear	500	N/A
XRRS-36-R-E-N	36	Internal	Rear	500	N/A
XRRS-36-R-G-N	36	Internal	Rear	500	N/A
XRRS-30-T-E-D-N	30	Duct In-Line	Top	510	35 Feet
XRRS-30-T-G-D-N	30	Duct In-Line	Top	510	35 Feet
XRRS-36-T-E-D-N	36	Duct In-Line	Top	510	35 Feet
XRRS-36-T-G-D-N	36	Duct In-Line	Top	510	35 Feet
XRRS-30-T-E-W-N	30	Wall Mount Fan	Top	550	20 Feet
XRRS-30-T-G-W-N	30	Wall Mount Fan	Top	550	20 Feet
XRRS-36-T-E-W-N	36	Wall Mount Fan	Top	550	20 Feet
XRRS-36-T-G-W-N	36	Wall Mount Fan	Top	550	20 Feet

- C. Hood system include commercial-grade grease extractor type, high efficiency cartridge style baffle filters of adequate number and sizes to ensure optimum performance in accordance with manufacturer's published information. The filter housing shall terminate in a pitched, full-length grease trough, which shall drain into a removable grease container.
- D. Shatter proof light fixtures shall be included in the hood system. Wiring shall conform to the requirements of the National Electrical Code (NEC #70).
1. Pre-Installed Fire protection system to provide duct entry, plenum, and surface protection for hood system and equipment located below ventilator.
 2. System interconnected with included shunt trip breaker and/or gas solenoid valve of equipment located below ventilator for power and fuel shutoff during system actuation.
- E. Environmental Monitoring / Internal Monitoring / Pre-Suppression
1. Two temperature sensors are located on the inner face of the hood; one at a medium set point, the other at high. Under cooking conditions, when the medium set point is reached, the fan is turned on high. This feature dissipates the heat from the area but also draws it into the unit, past the fusible links in the system. If temperatures continue to rise and the high temperature set point is reached, the system reacts by shutting down power to the range

prior to suppression system release. When this occurs, the unit's internal alarm is activated so that occupants are notified that the system is working to prevent further escalation of a potential fire. This is considered two stages of pre-suppression, where the unit is interacting with the cooking environment - working to minimize the risk of a fire event

Should temperatures continue to rise, fire is present. The fusible links will melt, mechanically actuating the suppression system and releasing a low PH wet chemical agent across the cook-top. At actuation, the system will also make a second attempt to shut down power to the range; in the event of a flash-fire, or something that happens too quickly to register with the temperature sensors. The system will continue to sound its internal alarm while also communicating a "fire code" back to a monitored alarm panel.

The PLC Self-Monitoring-System also monitors the entire suppression assembly for completeness and continuity. If the suppression system is ever compromised through a loss of pressure or broken connection, or tampering of any kind, the unit reacts by shutting down power to the range. In this case the suppression system is compromised therefore the range shouldn't be in use. Under this condition, the system communicates a separate "maintenance code" saying that the unit is down and needs service. When preemptive shutdown occurs, the system and the cooking equipment will not come back on-line until the XRRS is reset.

F. Options

1. Manual Pull Station (MPK) – Mechanical assembly allowing the fire suppression system to be actuated manually normally located at the point of egress.
2. The CLOCKBOX (CLBX)– Cooking Element Time-Out System allowing for separate control functionality over when the appliance is used.
3. NSF (NSF) – The hood system can be upgraded to the NSF Standard
4. Handicapped Accessible Controls (ADA) – Separate control system designed to mirror the front-end controls of the hood, to be installed at under counter-top height.
5. Powder Coating (PC) – The hood system can be powder coated in a variety of standard colors, the manufacturer can also color match.
6. NFPA101 Upgrade (NFPA101) – Combines MPK, CLBX and an upgraded fan to deliver >500cfm in order to comply with the requirements of the NFPA Life Safety Code.

PART 3 – EXECUTION

3.1 INSTALLATION

- A. Install hood system level and plumb with access clearances required for operation, maintenance and cleaning and in accordance with the manufacturer's published documentation.
Show on drawings overhead or rear support for equipment specified in this section. Specify requirements for support in Section 05 50 00.
- B. Coordinate installation of ventilators with overhead supports; see Section 05 50 00, METAL FABRICATIONS.
- C. Interconnect ventilators to service utilities.
Paragraph below if required for project location.
- D. Install seismic restraints for equipment if required.

3.2 FIELD TESTING

- A. Functional Test: using manufacturer-supplied procedure, short internal sensors to demonstrate shutdown and communication features.
- B. Puff Test: using manufacturer supplied test cylinder, replace suppressant cylinder in system with test (nitrogen only) cylinder. Replace fusible links in line with a "test link". Cut the test link and allow the system to actuate, performing all of its standard functions.

3.3 CLEAN-UP

- A. At completion of the installation, clean and adjust equipment as required to produce ready-for-use condition.

- B. Where stainless-steel surfaces are damaged during installation procedures, repair finishes in order to match adjoining undamaged surfaces.

3.4 INSTRUCTIONS

Instruct personnel and transmit operating instructions in accordance with requirements.