

PART I - GENERAL

- 1.01 Work included:
- A. Chemical laboratory fume hood.
 - B. Perchloric laboratory fume hood.
 - C. Radioisotope laboratory fume hood.
 - D. High temperature process hood.
- 1.02 Work not included:
- A. Biological safety cabinets: Provided by user
 - B. Industrial-type fume or heat removal equipment (process fume hoods) under Division 23.
- 1.03 Quality assurance:
- A. Manufacturers: Companies specializing in manufacture of laboratory fume hood, with minimum five years experience.
- 1.04 Provide at least one ADA accessible hood in each instructional classrooms and in research labs as required by UAF.
- 1.05 Basis of Design: Variable Volume Fume hoods
- A. Where appropriate for the intended application, variable volume fume hoods with restricted bypass shall be used. Other types may be approved by UAF FS/DDC
 - B. Appropriate VAV exhaust terminal and VAV control system must be applied, see Division 25 51 00
 - C. Specific project input needed from laboratory design to Division 23 and 25.
- 1.06 Energy Savings: Provide fume hoods with occupancy sensor for sash control. Set sensor to close sash after 15 minutes of no activity

PART 2 - PRODUCTS

- 2.01 Acceptable laboratory fume hood manufacturers limited to:
- A. Kewaunee Scientific Equipment Corporation
 - B. Labconco

- C. Fisher Hamilton Industries.
- D. Jamestown

2.02 General:

- A. Fume hood: Integrate control system specified in Division 25 51 00
- B. Division 25 shall provide controller with an LED display showing the face velocity measured at the sash.
- C. Select sash velocities in accordance with ACGIH and equipment manufacturers' recommendations for the application. Required average face velocity is 100 fpm at all sash opening ranges, with no single reading greater than 120 fpm or less than 80 fpm at full extension. Normal operations: 0 – 18 inch; Full opening up to 28 inch.
- D. Determine the need to operate individual hoods 100% of time due to the nature of items stored. In most cases, design with reduced flows when sash is closed or to provide ventilation of integral storage cabinets.
- E. Design fume hood exhaust system in conjunction with Division 23 and Division 25 to ensure compliance with NFPA 45.
- F. Duct hood vertically unless specifically approved by UAF FS. Stainless steel ducting shall be specified at least to the connection with the room general exhaust.

2.03 Fume hoods - chemical resistant:

- A. Construct of appropriate acid resistant materials.
- B. Provide ventilated acid storage base cabinets as required; ventilate cabinet through hood exhaust.
- C. Provide with acid resistant waste and vent for cup sinks only as specifically applicable to the lab. Fume hoods without waste and water are preferred to prevent accidental chemical discharge.
- D. The chemical laboratory fume hood is the standard hood for use in laboratories. Use with all standard laboratory chemicals.
- E. Electrical power: Minimum of two 120 V. AC, 20 amp rated GFCI receptacle. Optional 208 V. AC, 30 amp rated receptacle, per Facilities Services request.
- F. Lights: Minimum 80 foot-candles.
- G. Service fixtures and fittings: Electrical power connections, sinks or cup sinks, potable water, R.O. water, vacuum, air, or gas connections will vary. Coordinate these options

with the Facilities Services and AHJ.

- H. Service Fixture Handles to meet specification for Laboratory Equipment.
- I. No fire protection system required.

2.04 Fume hoods - perchloric acid (Only allowed with Facilities Services and AHJ approval.):

- A. All components acid resistant.
- B. Special considerations necessary for safe and 100% effective removal and drainage of washdown water.
- C. Specific project input needed from laboratory design professional.
- D. Fume hood for exclusive use with perchloric acid. Face velocity of 125 fpm required. Dedicated exhaust duct system for perchloric fume hoods, provided with manually-operated wash-down system. Install all fans on exterior of building to ensure negative air pressure in interior exhaust ductwork.

2.05 Fume hoods - explosion proof:

- A. For use with highly flammable chemicals.
- B. Specific project input needed from laboratory design professional.

2.06 Prohibited fume hoods:

- A. Compensating or "add air" type fume hoods not allowed.

2.07 Radioisotope laboratory fume hood:

- A. Radioisotope fume hood. Face velocity of 125 fpm required. Dedicated exhaust duct system for radioisotope fume hoods, provided with filter racks, as room allows, for a 2-stage filter unit (1 pre-filter; 1 HEPA filter; located as close to the fumehood exit as possible). Coordinate with UAF FS for filter selection. Filter rack is for future use only. Install all fans on exterior of building to ensure negative air pressure in interior exhaust ductwork.
- B. Specific project input needed from laboratory design professional.

2.08 High temperature process hood:

- A. High temperature hood. Face velocity of 125 fpm. These hoods required for use with exhaust temperatures in excess of 150 deg F. Customized design construction.

PART 3 – EXECUTION (NOT USED)