

Supreme Air *IV*



LOW CONSTANT VOLUME FUME HOODS

KEWAUNEE[®]

...encouraging new discovery

Supreme Air LV Fume Hood

Low Velocity — Low Volume — Full Access





Hold-Open Catch for set-up sash position



Flush Mounted Convergent Airflow Airfoil



Cord access through sash handle



Stainless steel cable reinforced nylon sash belt and sprocket



Optional Air Alert 600 airflow alarm

Safe, Energy Efficient Design

Patent pending, self-closing sash to 18" for less exhaust volume and maximum protection.

Patented Dynamic Barrier bypass provides safe flow of clean air between experiment and user.

Unique interstitial, vertical slot baffles for exceptional turbulence free airflow and minimal upper vortex roll.

Spoiler shaped sash handle directs air away from user.

User Friendly Design

Flush sill airfoil allows obstruction free access to fume hood.

35 1/2" high safety glass sash for optimal unobstructed sight into fume hood.

Stainless steel cable reinforced, notched nylon belt and aluminum sprocket sash counterweight system for level, smooth, quiet sash operation.

28" sash opening with automatic hold-open latch for easy loading and unloading of hood.

Rear baffles removable for easy cleaning and hood maintenance.

Triangular shaped access panels with staggered service outlets for easy set-up and maintenance.

Unique rear outleted anti-splash cupsink mounts at front of hood worksurface without interfering with cabinet storage below.

Notched sash handle for neat and easy cord and hose management.

Available with recommended Air Alert 600 airflow alarm with digital readout, visual and audible alarms, and onboard data logging.

Tested Safe at all Sash Positions

Supreme Air LV fume hoods have been tested using the ANSI/ASHRAE 110-1995 procedure to verify compliance with ANSI/AIHA Z9.5-2003. In addition the hoods have been tested using severe dynamic challenges (including the walk-by simulation apparatus of EN 14175) to confirm their superior containment capability.



Unique Interstitial Vertical Slot Baffles, easily removed for cleaning and maintenance.



Unique triangular gasketed access panel and staggered service outlets for improved hose management



Unique rear outlet, anti-splash cupsink mounts at front of hood without intruding on under-hood storage space

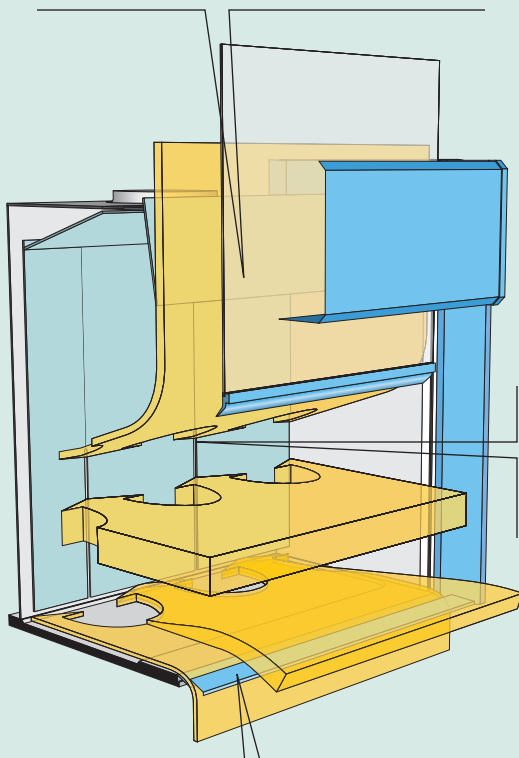


Turbulent Free Airflow

for Superior Containment at All Sash Positions

Self-closing sash to 18" above worksurface, flush sill airfoil, unique baffle configuration, and 35½" high unobstructed view into hood for ultimate safety, unsurpassed comfort, and improved exhaust air savings.

Dynamic Barrier Upper Bypass
for safe contaminate-free air behind sash with minimal upper vortex roll.



Vertical Interstitial Baffle Slots
for improved linear airflow through face opening.

Convergent Airflow Airfoil
flush mounted for easy access—provides sweeping airflow across the worksurface.



Sash at Set-up Position
Sash latched fully open with full containment at face velocities as low as 55 fpm .



Sash at Working Position
Hold-open latch released. Sash automatically closes to working position



Sash Fully Closed
Full 35½" high viewing area

Supreme Air LV Fume Hood

Low Constant Volume Vertical Rising Sash

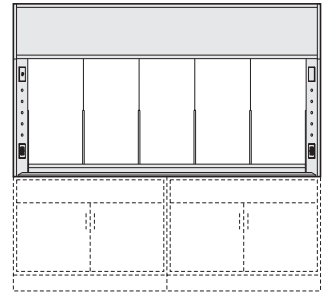
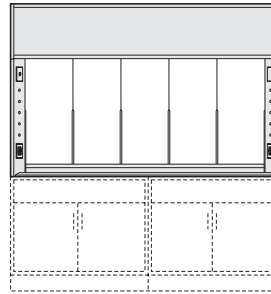
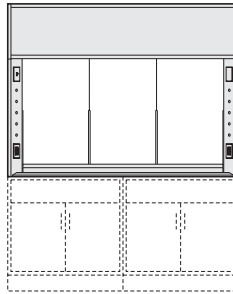
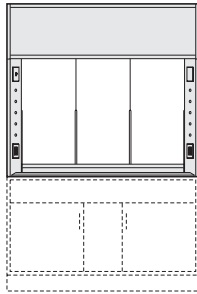
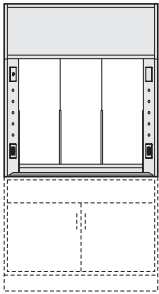
4'-0"

5'-0"

6'-0"

7'-0"

8'-0"



LV05_543448-00

LV05_543460-00

LV05_543472-00

LV05_543484-00

LV05_543496-00

Liner Options:

- K** = KMER
Kewaunee Modified Epoxy Resin
- G** = Kemglass
Fiberglass reinforced polyester
- S** = Type 304 Stainless Steel

The blank left in the fume hood catalog numbers is for designating the desired lining.

Example: LV05**K**543448-00 would designate a 4' hood with a KMER lining.

DIMENSIONS	HEIGHT	LENGTH					DEPTH
Overall Dimension	89 ³ / ₄ " *	48"	60"	72"	84"	96"	36 ¹ / ₄ "
Work Top	37" *	39"	51"	63"	75"	87"	24"
Clearance (sash up)	103" *	

* Subtract 1" in height if wood base cabinets are used.

Airflow Requirements

Overall Hood Length	55 FPM at 28" Sash Opening 84 FPM at 18" Sash Opening				66 FPM at 28" Sash Opening 100 FPM at 18" Sash Opening			
	Sash Height	Opening Sq. Ft. *	CFM	Static Pressure	Sash Height	Opening Sq. Ft. *	CFM	Static Pressure
4'-0" / 48"	28"	7.85	432	.15	18"	5.15	515	.20
5'-0" / 60"	28"	10.27	565	.15	18"	6.73	673	.20
6'-0" / 72"	28"	12.69	698	.20	18"	8.31	831	.25
7'-0" / 84"	28"	15.10	831	.10	18"	9.90	990	.15
8'-0" / 96"	28"	17.52	964	.15	18"	11.49	1148	.20

* Includes free area contributions from sash clearance spaces and bypass opening.

Static pressures shown are for the pressure drop through the hoods only. The total pressure drop through the hood and the duct system must be calculated to select the proper exhaust fan.

Accessories Include: Two 120 volt AC 20 amp GFI receptacles, single-tube, T-5 fluorescent light fixture with 20 amp light switch. **No wiring for the electrical fixtures is included unless H-Option is added to part number. Hoods with H-Option are UL listed.**

Optional Accessories: Each front post and interior end liner is punched for up to five (5) remote control service fittings. **Service fittings, fan, fan switch, work top, cupsink, and base units must be ordered separately.**

Add On Options:

Electric & Plumbing Options:

- G** = Front Load Fixtures
- H** = Pre-Wired to Top of Hood
UL Listed

Interior Lighting Options:

- K** = Vapor Proof Light
- L** = Explosion Proof Light

Sash Options:

- 3** = Tempered Glass Sashes

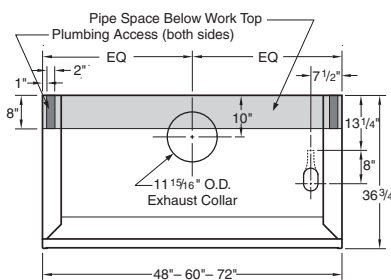
Other Options:

- D** = Distillation Rack
- E** = Fire Extinguisher
- M** = Air Alert 600 Alarm
- O** = St. Steel Airfoil
- 6** = Tissue Screen
- 7** = St. Steel Duct Collar

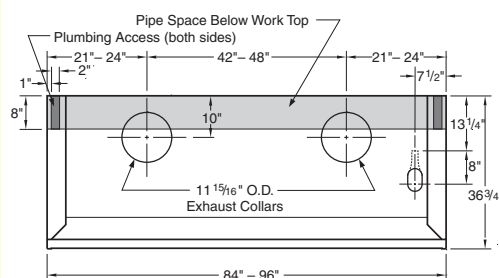
To specify option, add option letter or number to the end of the part number.

Example: LV50**K**543448-00**H**.

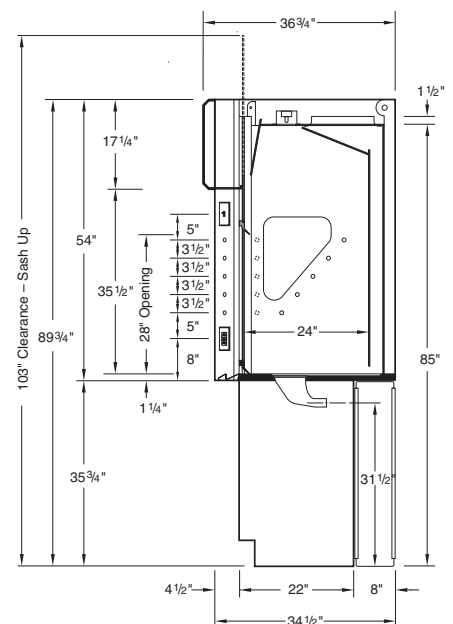
Rough-In for 4' - 5' - 6' Hoods



Rough-In for 7' - 8' Hoods



Vertical Section



Section 11610 – Supreme Air LV Fume Hood (abbreviated)

1.01 SUMMARY AND SCOPE

Based on Kewaunee Scientific Corporation's Supreme Air LV Series fume hood design, furnish and install all fume hoods, work tops, and understructures. Furnishing and installing all filler panels, knee space panels and scribes as shown on drawings.

1.02 REQUIREMENTS

Fume hoods shall be of LV aerodynamic entry design to insure maximum operating efficiency. Sash and air entry framework of the hood shall minimize eddying of air currents at low velocities and vertical slot rear baffle system shall minimize turbulence in all portions of the hood interior.

1.03 SUBMITTALS

The fume hood shall be factory tested per ANSI/ASHRAE 110-1995. Provide certification that the fume hood meets ANSI Z9.5 criterion of AM 0.05ppm plus SME maximum not to exceed 0.05ppm.

2.01 MANUFACTURER

The basis of this specification is the Supreme Air LV fume hood as manufactured by Kewaunee Scientific Corporation, 2700 West Front Street, Statesville, North Carolina.

2.02 MATERIALS AND CONSTRUCTION

- A. Fume Hood Frame: Steel angle rigid frame construction for independent support of interior and exterior components.
- B. Side Walls: Double wall ends, maximum 4.5" wide, with interior end panels and sash track flush with the fascia.
- C. Airfoil: Flush convergent z-cross section airfoil mounted to the worktop, 12 gauge painted steel. (Optional: stainless steel.)
- D. Duct Collar: 12" diameter polyethylene bell-mouthed duct collar.
- E. Lighting: Single-tube T-5 fluorescent light fixture.
- F. Vertical Sash: Frameless vertical sash of 1/4" laminated safety glass with 28" opening and 35 1/2" interior viewing height.
- G. Sash System: Vertical opening of 18" programmed into toothed belt-drive sash system such that openings greater than 18" will gently and precisely return to 18" when sash released. Sash lockout at 28" for set-ups. Stainless steel cable reinforced notched belt-drive counterweight system.
- H. Baffle system: Interstitial vertical slots and lower horizontal slot. Back baffle panels shall be easily removable.
- I. Fume Hood Electrical Services: The hood superstructure shall be pre-wired and be UL listed. Electrical services shall consist of two 20 amp, 120 volt AC, GFI duplex receptacles and a 20 amp light switch. Cover plates shall be stainless steel.
- J. Hood Worksurface: Epoxy resin hood worksurface shall be 1 1/4" thick molded epoxy resin made in the form of a watertight pan, not less than 3/8" deep to contain spillage with a 6" wide safety ledge across the front edge. The worksurface and cupsink shall be available in either black or grey.
- K. Cupsink: Anti-splash design, 3 1/2" x 5 1/2" oval, with horizontal rear outlet not extending more than 7" below worksurface.
- L. Service Fittings: (Choose one)
 1. Front Mounted Remote Control Fittings: Service fitting valves shall be mounted on the fascia with the working components of the valve accessible from the hood exterior. Valves shall be furnished with 2 1/4" diameter, 2" high, round handles with color-coded index buttons and color-coded service outlets.
 2. Rod Type Remote Control Fittings: Service fitting valves shall be mounted to the hood side liners with extension rods to the front fascia. Valves shall be furnished with black four-arm handles with color-coded index buttons and color-coded service outlets.

- M. Access Opening: The interior end liner panels shall be furnished with a triangular gasketed opening that provides access to the service piping and valves to facilitate installation and maintenance. Valve outlets shall be mounted on a line parallel to the rearward-facing angled edge of the access panel.
- N. Fume Hood Finish: After the metal component parts have been completely welded together and before finishing, they shall be given a five-stage metal preparation water treatment consisting of: a caustic rinse, a water rinse, iron phosphate treatment, a water rinse, and a deionized water rinse. After this treatment, the metal shall be dried at 325 degrees Fahrenheit. The steel surfaces shall be coated with a corrosion-resistant powder coat finish 0.0023" inches thick which shall then be fused in an oven at a temperature of 375 degrees Fahrenheit for 20 minutes. Any liquid-based paint system is unacceptable due to VOC's and other environmental issues.
- O. Fume Hood Liners: (Choose one)
 1. KMER Epoxy Resin Lining: Interior liner panels shall be 1/4" thick epoxy resin sheets of a white color. Interior liner panels shall be fastened using stainless steel screws with plastic covered heads. Flame spread of material as measured by ASTM E84 shall be 6.2 or less. Fiberglass reinforced plastics or polyesters shall not be acceptable substitute liner material for epoxy resin.
 2. Stainless Steel Lining: Interior liner panels shall be 16 gauge Type 304 stainless steel with a No. 4 finish. Interior liner panels shall be fastened using stainless steel screws.
 3. Kemglass Reinforced Polyester Lining: Interior liner panels shall be 1/4" thick fiberglass reinforced polyester sheet. Panels shall be fastened using stainless steel screws with plastic covered heads.
- P. Fume Hood Bypass System: All bypass air shall pass through a front-to-back unperforated dynamic barrier bypass. Laboratory air shall always be the source of bypass air.
- Q. Digital Face Velocity Alarm System: (Optional) Fume hoods shall be provided with an alarm system to detect low hood face velocities. The system shall have an air velocity sensor mounted on the interior side liner of the hood connected to a perforated averaging tube running across the entire front interior of the hood. The velocity monitor shall have a digital display indicating the actual air velocity through the hood face in feet per minute. The alarm signals shall activate any time the face velocity falls below the low velocity alarm set point or rises above the high velocity alarm set point. There shall be both visual and audible alarm signals. The audible alarm shall have a mute. Low alarm contacts shall be provided for remote monitoring. A scroll-type recorded read-out of alarm events for the past 60 minutes will also be displayed.

Supreme Air LV fume hoods are covered by one or more of the following United States and Canadian patents:

4,856,420	1,275,847	5,241,788	Des. 346,437
5,407,389	5,718,626	5,797,790	6,290,202 B1
6,350,194 B1	6,450,875 B1	2,192,879	5,447,468
5,582,472	Des. 388,986	5,951,133	5,994,644
6,047,838	6,112,913	6,113,199	6,301,837 B1

For full specifications, visit Kewaunee's web site.



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