

THE BAKER COMPANY

*ChemGARD® and ChemGARD®-RI (Radioisotope)
High Performance Fume Hoods Feature Continuous
Flow Bypass for Improved Performance.*

ChemGARD®



ChemGARD®, Model FH5C

The Baker ChemGARD® is the Industry's Only Fume Hood Which Carries the UL Classification.

Baker ChemGARD® high performance fume hoods have been developed by experts in containment technology. Both ChemGARD® fume hoods employ unique airflow characteristics within a streamlined, unobstructed work area to provide uniform, energy-saving operation, minimizing backdrafts, turbulence and eddy currents.

Features

ChemGARD® fume hoods are designed for unparalleled safety for critical laboratory applications.

- The continuous flow bypass design substantially reduces *roll effect*, minimizes lingering concentrations above and behind the viewscreen,

and reduces contaminant concentrations near the edge of the sash, reducing potential exposure hazard to personnel.

- Combination horizontal/vertical sash maintains optimum face velocity while reducing the amount of exhausted conditioned air to approximately one-half the air of conventional cabinets with vertical-only sashes, resulting in significant energy savings.
- Angled side-entrance, airfoil and radius work surface deliver undisturbed airflow to the work area with minimal turbulence.
- The Airwatch II airflow monitor can be custom configured to meet a variety of laboratory safety requirements.
- A mass airflow sensor monitors either face velocity or exhaust duct velocity, and activates an alarm if monitored flow drops below safe limits.
- ChemGARD®-RI includes structural and fabrication enhancements developed specifically for use with radioisotopes.
- Select from three optional base cabinets to suit any laboratory application.
- All ChemGARD® electrical and plumbing services are fully installed and ready for easy connection for simple, cost-effective installation and maintenance.



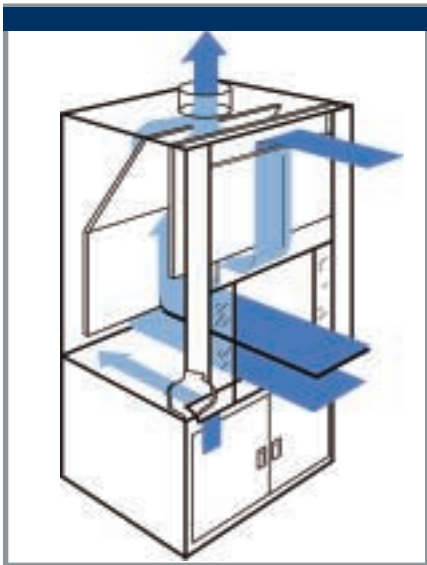
Underwriter
Laboratories
Classified



General Construction Features

The aerodynamic ChemGARD® design employs fixed air slots at maximum safety configuration to alleviate the need for cumbersome operator adjustments.

- ChemGARD® construction materials are fireproof.
- Top-suspended, 12" wide safety plate glass sash panels are easily removed for cleaning.
- Unique internal baffle location minimizes retained vapors in work area.
- ChemGARD® fits through standard doorways and, once installed, requires only a 2" aisle overhang.
- Radius bottom airfoil minimizes turbulence.



The continuous flow bypass design substantially reduces roll effect, minimizes lingering concentrations above and behind the upper viewscreen, and virtually eliminates contaminant concentrations near the edge of the sash, reducing potential exposure hazard to personnel.

ChemGARD® General Purpose Models

- Stainless steel bolted, 16-gauge, Type 304 stainless steel liner provides long-term durability, easy cleaning



ChemGARD® has been extensively tested in The Baker Company AirFlow Management Laboratory for performance assurance.

and resistance to corrosion (can be epoxy coated as an option).

- A molded, dished epoxy resin work surface confines spills.
- Recessed work surface encourages proper placement of potentially hazardous chemicals.

ChemGARD®-RI Radioisotope Models

- Formed radii, precision-engineered, 16-gauge, Type 304 stainless steel, coved corners, water-tight welded and polished seams.
- Coved corner stainless steel work surface, $\frac{3}{4}$ " deep, continuously welded to interior.
- Reinforced work surface accommodates lead shielding, supports minimum 200 lbs/sq.ft., total work surface weight of 1,000 lbs.
- Stainless steel provides long-term durability, easy cleaning and resistance to corrosion.

Airwatch II Airflow Monitor and Controls for Customized Operation

The microprocessor based Airwatch II airflow monitor is fully programmable, offering a range of features for safety,

convenience and easier integration into the overall laboratory safety plan.

- The Airwatch II airflow monitor activates an audible alarm if operating conditions deviate from preset parameters.
- The programmable display can be set for analog and digital, or analog only readout.
- Airflow can be measured in feet per minute (FPM) or cubic feet per minute (CFM).
- The alarm probe monitors either face velocity or exhaust duct velocity; the face velocity probe is located at the front of the cabinet for easy access and improved accuracy with horizontal sash positions.
- Lock-out options for alarm setpoints and calibration eliminate unauthorized disabling of alarm system.
- Integrated controls include flush membrane switches which are easy to operate and easy to clean.
- Independent light and duplex electrical outlet switches are included on the main control panel.
- Remote alarm contacts allow integration with existing laboratory monitoring and safety systems.

Horizontal/Vertical Sash Offers Advantages

The ChemGARD® incorporates a combination horizontal/vertical sash designed for energy savings, operator safety and convenience.

- Combination horizontal/vertical sash provides a protective physical barrier with full vertical access to the work area when using either horizontal or vertical configuration.
- Full vertical access allows easy installation of experimental apparatus.
- Top suspended 12" wide safety plate glass panels are easily removed for cleaning.
- Side panels are flush with bell mouth inlet for streamlined airflow; the radiused bottom airfoil minimizes turbulence.
- Sliding glass panels can be positioned for increased operator safety.
- Ball bearing, top hung horizontal sash support provides smoother sash operation.
- Hood face opening is reduced 50% for energy savings.

Lighting and Electrical System

- A sealed, fluorescent light fixture is located above gasketed safety-plate glass; fluorescent lamps are replaced from the front.
- Solid-state lamp ballasts reduce heat output and improve efficiency.
- Two GFI duplex outlets are protected by a single 10-amp self-resetting circuit breaker to protect personnel and minimize tripping of breakers.
- ChemGARD® is the industry's only fume hood which carries the UL Classification for electrical and personal protection.

ChemGARD® Design Features

- 1 Combination horizontal/vertical sash enhances both operator safety and energy savings.
- 2 Sight-tight continuous bypass duct minimizes contaminant concentrations near the edge of the sash, reducing potential exposure hazard to personnel.
- 3 Airwatch II airflow monitor provides for customized alarm/monitor configurations.
- 4 Angled entrance, airfoil and radius work surface for undisturbed airflow into work area.
- 5 Color-coded service fixtures with convenient remote control valves, positioned outside the air stream.
- 6 Counterbalanced vertical sash for smooth, single-handed operation.
- 7 Recessed work surface confines spills.
- 8 All stainless steel construction for durability and easy cleaning.
- 9 Optional general purpose, solvent, or acid base cabinet provides storage area.



ChemGARD® FH5C

Utilities

- Color-coded service fixtures for air, gas, vacuum, cold or DI water and steam, include convenient remote control valves.
- The cabinet includes one fixture and one petcock standard, plus seven plugged penetrations for additional optional fixtures.
- Pre-studded exhaust outlet, 10" diameter, accepts flanged exhaust connection.
- Airwatch II airflow monitor.

Options and Accessories

For convenience, most options, accessories and modifications are factory installed and should be specified when ordering. Commonly requested options are listed below. For detailed information on accessories and modifications, contact The Baker Company.

- Additional service fixtures (air, gas, vacuum, cold or DI water, steam)
- Cold water gooseneck faucet
- Distilled/DI water gooseneck
- Vacuum breakers
- Aspirator
- Epoxy resin sink
- Base cabinet (see below)
- Stainless steel peg board
- Tubular base stand
- Vertical only sash
- Cupsink
- Stainless steel work surface

Base Cabinets

Choose From Three Cabinet Bases, Four Base Sizes.

General Purpose Base Cabinet

The general purpose base cabinet has removable front and side panels, plus a 10" deep chase at the rear to allow room for services.

Other features include:

- Reinforced shelf, adjustable on 1" centers.
- Dual panel doors, 1½" thick, secured with 3" wide continuous hinge, 3-point latch.

- 18-gauge, cold-rolled steel bottom pan, recessed 1½", liquid tight.
- 2½" riser with ⅜" leveling feet.
- 16-gauge, cold-rolled steel side panels.
- Epoxy powder coated throughout.

Acid Storage Base Cabinet

The acid storage base cabinet has an acid-resistant polypropylene drip tray, shelf liner and (optional) vent assembly with flexible polypropylene hose designed to "T" into the fume hood exhaust plenum.

- 2" diameter plugged penetrations in back wall, and removable side and rear panels with a 10" deep chase at the rear to allow for installation of the optional vent package.
- The vent package offers from 10 to 15 air changes per hour, depending on cabinet size.
- Reinforced steel shelf, adjustable on 1" centers.
- Dual panel doors, 1½" thick, secured with 3" wide continuous hinge, 3-point latch.
- 18-gauge, cold-rolled steel bottom pan, recessed 1½", liquid tight.
- 2½" riser with ⅜" leveling feet.
- 16-gauge, cold-rolled steel side panels.
- Epoxy powder coated throughout.

Solvent Storage Base Cabinet

The solvent storage base cabinet meets NFPA 30 and UL 1275 criteria for safety and performance.

- Double wall construction creates a minimum 1½" air gap throughout the cabinet.
- Interior back and side panels are 18-gauge stainless steel monolithic construction welded to top and bottom panels to form a unitized inner cabinet.
- The 18-gauge stainless steel bottom pan is recessed 2" and welded liquid tight.
- 2" diameter plugged penetrations in back wall, and two front removable rear panels provide access to the 10" deep chase at the rear to allow for installation of the (optional) vent package.
- Access panels are located at each end of the chase.
- An optional vent package offers from 10 to 15 air changes per hour, depending on cabinet size; the vent assembly with flexible hose is designed to "T" into the fume hood exhaust plenum.
- A reinforced T304 stainless steel shelf is adjustable on 1" centers.
- Dual panel doors, 1½" thick, with 3" wide continuous hinge, and secured with a 3-point latch; optional louver doors are available.
- 2½" riser with ⅜" leveling feet.
- 16-gauge, cold-rolled steel side panels, epoxy powder coated.

Base Cabinet Description and Model Numbers

Base Cabinet	Surface Material	3-foot	4-foot	5-foot	6-foot
General Purpose	epoxy resin	FHB3GP	FHB4GP	FHB5GP	FHB6GP
Acid Storage	polypropylene	FHB3ACID	FHB4ACID	FHB5ACID	FHB6ACID
Solvent Storage	stainless steel	FHB3SOL	FHB4SOL	FHB5SOL	FHB6SOL

To Order

For ordering information, terms and conditions of sale, contact The Baker Company or visit The Baker Web site at www.bakerco.com for the name of your authorized Baker Company representative.

Caution:

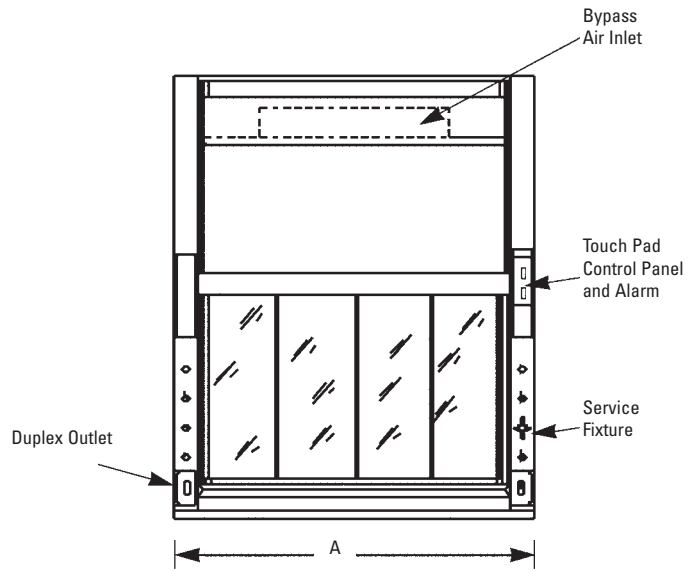
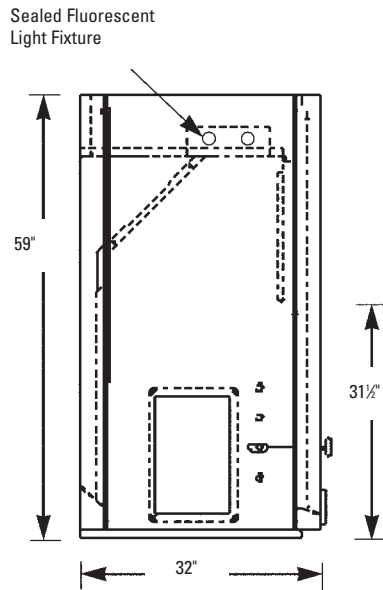
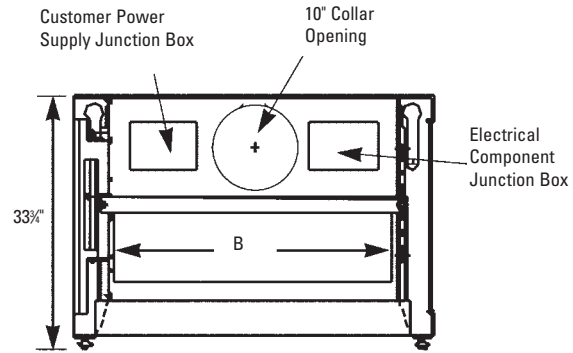
The adequacy of this containment cabinet for the user's personal safety, as with any containment cabinet, should be determined by an industrial hygienist or safety officer. Site preparation information, architectural drawings, detailed dimensions and purchase specifications are available.

Summary Specification and Site Preparation

ChemGARD® and ChemGARD®-RI High Performance Fume Hood

ChemGARD® General Purpose, High Performance	ChemGARD®-4	ChemGARD®-5	ChemGARD®-6	ChemGARD®-8
ChemGARD® Radioisotope Model, High Performance	ChemGARD®-RI4	ChemGARD®-RI5	ChemGARD®-RI6	
Overall Dimensions (Nominal)	48"W x 33 $\frac{3}{4}$ "F-B x 59"H	60"W x 33 $\frac{3}{4}$ "F-B x 59"H	72"W x 33 $\frac{3}{4}$ "F-B x 59"H	96"W x 33 $\frac{3}{4}$ "F-B x 59"H
Optional Base Cabinet Dimensions	48"W x 29"F-B x 35 $\frac{3}{4}$ "H(min.)	60"W x 29"F-B x 35 $\frac{3}{4}$ "H(min.)	72"W x 29"F-B x 35 $\frac{3}{4}$ "H(min.)	96"W x 29"F-B x 35 $\frac{3}{4}$ "H(min.)
Combination Sash, Maximum Opening				
Vertical	40 $\frac{1}{2}$ "W x 27"H	52 $\frac{1}{2}$ "W x 27"H	64 $\frac{1}{2}$ "W x 27"H	88 $\frac{1}{2}$ "W x 27"H
Horizontal	16 $\frac{1}{4}$ "W x 25 $\frac{3}{8}$ "H	16 $\frac{1}{4}$ "W x 25 $\frac{3}{8}$ "H	28 $\frac{1}{4}$ "W x 25 $\frac{3}{8}$ "H	40 $\frac{1}{4}$ "W x 25 $\frac{3}{8}$ "H
Vertical Sash, Maximum Opening				
Vertical	40 $\frac{1}{2}$ "W x 28 $\frac{1}{2}$ "H	52 $\frac{1}{2}$ "W x 28 $\frac{1}{2}$ "H	64 $\frac{1}{2}$ "W x 28 $\frac{1}{2}$ "H	88 $\frac{1}{2}$ "W x 28 $\frac{1}{2}$ "H
Exhaust Requirements, Combination Sash				
100 FPM with vertical sash at maximum height	808 CFM @0.42 in H ₂ O	1047 CFM @0.70 in H ₂ O	1286 CFM @0.85 in H ₂ O	1754 CFM @0.52 in H ₂ O
100 FPM with horizontal sash at maximum width	374 CFM @0.11 in H ₂ O	405 CFM @0.11 in H ₂ O	644 CFM @0.25 in H ₂ O	900 CFM @0.16 in H ₂ O
Exhaust Requirements, Vertical Sash				
100 FPM with vertical sash at maximum height	808 CFM @0.42 in H ₂ O	1047 CFM @0.70 in H ₂ O	1286 CFM @0.85 in H ₂ O	1754 CFM @0.52 in H ₂ O
Weight	400 lbs	500 lbs	600 lbs	800 lbs
Illumination (Foot-Candles)	50	50	60	50
Electrical	115V, 60Hz	115V, 60Hz	115V, 60Hz	115V, 60Hz
Total Running Amps	11.1	11.1	11.2	12.1
GFI Duplex Outlets	2 w/10 amp breaker	2 w/10 amp breaker	2 w/10 amp breaker	2 w/10 amp breaker
Auxiliary Switch Rating	20 amps @115V, AC	20 amps @115V, AC	20 amps @115V, AC	20 amps @115V, AC
	10 amps @250V, AC	10 amps @250V, AC	10 amps @250V, AC	10 amps @250V, AC
Plumbing	$\frac{3}{8}$ " female brass fittings	$\frac{3}{8}$ " female brass fittings	$\frac{3}{8}$ " female brass fittings	$\frac{3}{8}$ " female brass fittings

Drawing Dim.	A (Ext. Width)	B (Int. Width)
ChemGARD-4 ChemGARD-RI4	48"	38 $\frac{5}{8}$ "
ChemGARD-5 ChemGARD-RI5	60"	50 $\frac{5}{8}$ "
ChemGARD-6 ChemGARD-RI6	72"	62 $\frac{5}{8}$ "
ChemGARD-8	96"	86 $\frac{5}{8}$ "



Purchase Specifications ChemGARD®

- Every fume hood design shall have a certified copy of the ANSI/ASHRAE-110 Fume Hood Performance Test available at the request of the purchaser.
- The fume hood liner shall be constructed of 16-gauge, Type 304 stainless steel and can be epoxy powder-coated as an option.
- The front columns shall have an ideal 40° angle with an aerodynamic shape on the airfoil, bottom edge of sash and the front edge of the 1" thick molded epoxy resin work surface.
- Rear baffle shall be front removable with fixed rear exhaust slots.
- The side wall and front columns shall be seamless, one-piece construction. The continuous bypass inlet shall be sight-tight.
- Service fixture(s) shall be color coded with chemical resistant coating and have a remote control valve.
- The sash shall be a combination horizontal/vertical type with a vertical sash as an option.
- The light fixture shall be front accessible, located external to the hood, and sealed from the interior by gasketed safety plate glass.
- The hood shall be pre-wired and pre-plumbed unless otherwise specified by the purchaser.
- Each fume hood shall be equipped with the Airwatch II airflow monitor and alarm system.
- Every fume hood shall have a front removable continuous bypass duct to reduce the *roll effect*.
- Every fume hood shall have a recessed, dished epoxy resin work surface.
- The exhaust outlet shall be pre-studded to accept a flanged exhaust duct.

Purchase Specifications

ChemGARD®-RI

1. Every radioisotope fume hood design shall have a certified copy of the ANSI/ASHRAE-110 Fume Hood Performance Test available at the request of the purchaser.
2. The fume hood interior shall be constructed of 16-gauge, Type 304 stainless steel.
3. The front columns shall have an ideal 40° angle with an aerodynamic shape on the airfoil, bottom edge of sash and the front edge of the 1" thick stainless steel work surface.
4. Rear baffle shall be front removable with fixed rear exhaust slots.
5. The side wall and front columns shall be seamless, one-piece construction. The continuous bypass inlet shall be sight-tight.
6. Service fixture(s) shall be color coded with chemical resistant coating and have a remote control valve.
7. The sash shall be a combination horizontal/vertical type with a vertical sash as an option.
8. The light fixture shall be front accessible, located external to the hood, and sealed from the interior by gasketed safety plate glass.
9. The fume hood shall be pre-wired and pre-plumbed unless otherwise specified by the purchaser.
10. Each fume hood shall be equipped with the Airwatch II airflow monitor and alarm system.
11. Every fume hood shall have a front removable continuous bypass duct to reduce the *roll effect*.
12. The work surface shall be water-tight, radiused, 3/4" dished, stainless steel.
13. The interior shall contain no unwelded or unground seams.

14. The interior work area (i.e. work surface, side, rear, and top walls) shall be monolithic construction, with all continuous welds, ground smooth, polished, with coved corners and radiused seams to provide a continuous surface.
15. The exhaust outlet shall be pre-studded to accept a flanged exhaust duct.
16. The work surface shall be capable of supporting 200 lbs/sq. ft. minimum, up to 1,000 lbs per fume hood.

Warranty

The Baker Company, Inc., expressly represents and warrants all goods (a) to be as specified (and described) in The Baker Company catalogs and literature, and (b) to be free under normal use, service and testing (all as described in The Baker Company catalogs and literature) from defects in material and workmanship for a period of twelve months from the invoice date.

The exclusive remedy for any breach or violation of this warranty is as follows: The Baker Company, Inc., will F.O.B. Sanford, Maine, furnish without charge repairs to or replacement of the parts or equipment which proved defective in material or workmanship. No claim may be made for any incidental or consequential damages.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE UNLESS OTHERWISE AGREED IN WRITING SIGNED BY THE BAKER COMPANY. (THE BAKER COMPANY SHALL NOT BE RESPONSIBLE FOR ANY IMPROPER USE, INSTALLATION, SERVICE OR TESTING OF THE GOODS.)

THE BAKER COMPANY

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