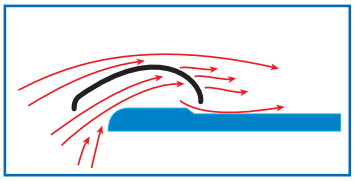
Protector® XStream® Laboratory Hoods

High Performance Hood offers enhanced containment combined with energy savings.

With its unsurpassed containment and substantial energy savings potential, the patented* **Protector XStream Fume Hood** delivers high performance unmatched in the industry. Features such as the upper dilution air supply, containment-enhancing sash handle, rear downflow dual baffle system and Eco-Foil™ work together to decrease turbulence and enhance containment. When operated at OSHA-approved 60 fpm face velocity, Protector XStream Laboratory Hoods provide an excellent economic payback when compared to traditional hoods running at 80 or 100 fpm. These fiberglass composite panel-lined hoods are immediately available in 4', 5', 6' and 8' widths. A remotely-located blower is required. See Blower Selection Guide on page 14. Choose from service fixture kits and other accessories on page 15 for customization.

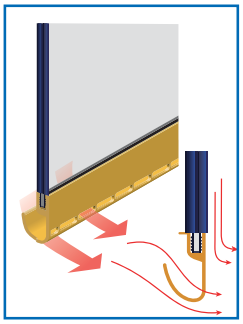
Eco-Foil™ Air Foil

The Eco-Foil reduces energy consumption by 7-10% compared to flat air foils while its aerodynamic curve allows air to sweep the work surface for maximum containment. Clean-Sweep openings pull inflow air from under the air foil forcing air into non-turbulent air streams. The curve is comfortable for arms resting on it while encouraging users to keep fume-generating items well within the hood's interior.

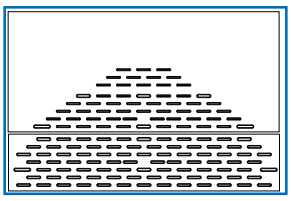


Clean-Sweep™ Sash Handle

The sash handle includes Clean-Sweep slots to bleed air into the hood chamber and direct chemical fume concentrations away from the user's breathing zone. The slim-line radiused sash handle sweeps airflow into the hood with minimal turbulence.



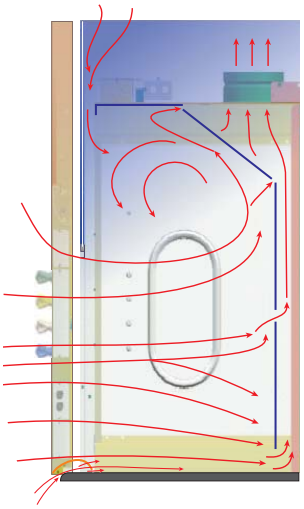
Opti-Zone™ Baffle



The Opti-Zone Baffle decreases the typical face velocity variations found with other baffles. The unique slot pattern and sizes increase velocities in the middle and at the work surface of the hood where it is needed while slowing velocities at the corners. This uniformity lowers the required average face velocity necessary for containment. Tapered slots decrease resistance to air entering the baffle.

Using the concepts of fluid dynamics, Labconco engineers designed the Protector XStream Laboratory Hood to produce **horizontal airflow, which reduces the tendencies for turbulence**. The innovative and aerodynamic design produces horizontal airflow patterns that significantly reduce concentrations of chemical contaminants throughout the work area, particularly near the operator's breathing zone and at the work surface. Depending on sash position, tendencies for air turbulence and **"the roll" frequently observed during traditional fume hood smoke tests are virtually eliminated.**

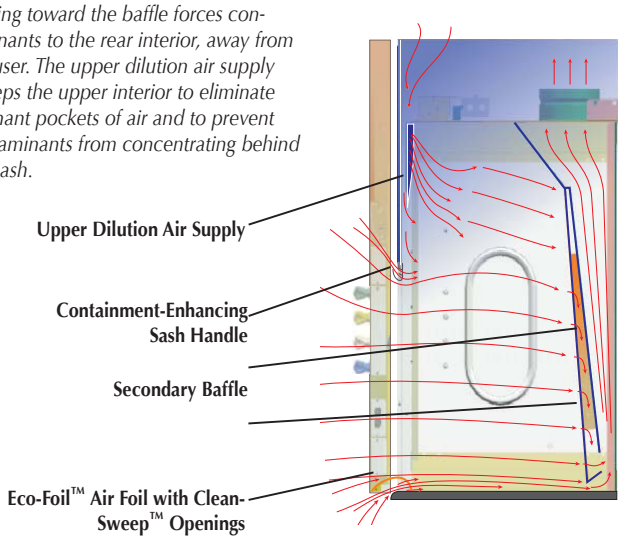
Traditional By-Pass Hood Design



Smoke tests on traditional hoods show the tendency for contaminants generated in the interior to roll forward producing high concentrations of contaminants behind the sash in close proximity to the user's breathing zone.

In contrast, smoke tests on Protector XStream Hoods show contaminants removed in a single pass and a remarkable lack of turbulence. Horizontal air flowing toward the baffle forces contaminants to the rear interior, away from the user. The upper dilution air supply sweeps the upper interior to eliminate stagnant pockets of air and to prevent contaminants from concentrating behind the sash.

Protector XStream Hood Design



Protector® XStream® Laboratory Hoods

Protector XStream Laboratory Hoods are offered with a complete line of accessories.

Popular models of Protector XStream Laboratory Hoods, matching work surfaces, supporting base cabinets, blowers and accessories are available. Dished work surfaces with a left rear corner cutout and oval cupsink with cover fit VWR Contour or Labconco base cabinets and are sold separately. Fiberglass and Coated Steel Blowers in sizes matched to most installation requirements are also available. See Blower Selection Guide on page 14. **To place an order, call VWR at 1-888-624-2432 or visit www.vwr.com.**

Front and side panels may be easily removed for lamp replacement and access to electrical supply connections.

Fluorescent lighting illuminates the interior. The high efficiency, instant start, T8 fluorescent lights are located outside the hood interior for corrosion-resistance and easy replacement.

Durable and attractive exterior is glacier white powder-coated steel.

Requires Ductwork and Blower

Vertical-rising tempered safety glass sash is anti-racking for smooth operation.

Chemical-resistant fiberglass-reinforced composite panel liner surpasses all national codes for fire retarding abilities and has a bright white surface for excellent light reflectivity. Flame spread less than 25 per ASTM E84-09C.

Service access panels allow accessibility to plumbing from the front and inside of the hood. Panels are factory prepared for up to four service fixtures per side (sold separately).

High 37.5" sightline from the work surface to the header panel.

By-pass design restricts airflow allowing the hood to operate as a reduced air volume (RAV) system or a variable air volume (VAV) system with no modifications.

Performance tested to ASHRAE Standard 110.

Pre-wired electrical components. Fluorescent lights and switches are factory-wired to the hood's single point field wired box.

Sash stop located at 18" working height maximizes energy conservation by preventing the sash from being raised higher unless manually released.

Duplex GFCI electrical receptacles are provided on the right and left-side fixture panels to allow convenient and safe connections. Can accommodate up to 4 duplex receptacles 115V, 20A.

ETL-listed. Hoods carry the ETL mark signifying that they are certified to UL Standard 61010-1, UL-1805 and CAN/CSA C22.2 No.61010-1.

Ergonomic Eco-Foil™ Air Foil, with Cord-Keeper™ Slots on each side, has patented* Clean-Sweep™ airflow openings that pull inflow air from under the air foil so that clean air continually flows into the hood.

Exclusive Feature

**U.S. Patent No. 6,461,233*

Contact VWR at 1-888-624-2432 for technical information.

Protector® XStream® Laboratory Hoods

Protector XStream Laboratory Hood is shown with SpillStopper™ Work Surface, Protector Acid Storage Cabinet and Protector Standard Storage Cabinet. Blower, ductwork, work surface and base cabinets must be ordered separately.

Requires Ductwork and Blower

All models conform to the following regulations, standards or recommended practices:

- CFR 29, Part 1910
- SEFA – 1-2010
- NFPA – 45-2011
- ASTM-E-84-09C
- ASHRAE – 110-1995
- ANSI – Z9.5-2011
- UL 61010-1
- CAN/CSA C22.2 No. 61010-1
- UL 1805
- SEFA 8-2010, Cabinet Surface Finish Tests

All models require (not included):

- **Work Surface.** See page 13.
- **Base Cabinet.** See page 19.
- **Remote Blower.** See page 14.
- **Ductwork.** Contact VWR at 1-888-624-2432.

Optional accessories for on-site installation include:

- **Service Fixture Kits.** See page 15.
- **Electrical Duplex Kits.** See page 15.
- **Guardian and Guardian Digital Airflow Monitor Kits.** See page 15.

All REDISHIP models feature:

- Ergonomic Eco-Foil™ air foil with patented aerodynamic Clean-Sweep™ airflow openings
- Upper Dilution Air Supply* design allows operation as RAV or VAV system with no modifications.
- Glacier white powder-coated steel exterior
- Chemical-resistant fiberglass-reinforced composite panel liner and pre-set Rear Downflow Dual Baffle System* with flame spread less than 25 per ASTM E84-09C.
- Opti-Zone™ Baffle* with tapered slots. Baffles are removable for cleaning
- 37.5" high sightline from the work surface to the header panel.
- Cord-Keeper™ Slots on left and right side of air foil
- Removable front and side panels and front and interior service access panels for access to plumbing and electrical wiring
- Pre-wired T8 fluorescent lighting, light and blower switches for 115 volt, 60 Hz operation
- Sash stop located at 18" sash opening position
- Powder-coated stainless steel, 12.8" ID exhaust connection(s)
- One duplex GFCI electrical receptacle provided on both the right and left-side fixture panels

** U.S. Patent No. 6,461,233*

Exclusive Feature

Protector® XStream® Laboratory Hoods

ASHRAE 110 tests show a 0.00 ppm average leak rate when tested at 4.0 lpm with OSHA-approved 60, 80, and 100 fpm face velocities and sash positions of 18" and 28". To ensure performance at 60 fpm, Labconco engineers challenged the Protector XStream Hood at less than ideal conditions such as 50 fpm cross drafts, modified ASHRAE test procedures and average face velocities of 40 fpm. Contact Labconco for specific ASHRAE test data.

Total Exhaust CFM and Static Pressure @ 18" Sash Opening (62.5% open)

Nominal Width	100 fpm	s.p.	80 fpm	s.p.	60 fpm	s.p.	CFM Savings at 60 fpm vs. a typical hood at 100 fpm	Total Average Annual Dollar Savings at 60 fpm vs. 100 fpm*
4 feet	440	0.10"	350	0.06"	265	0.04"	220	$1540
5 feet	580	0.12"	465	0.08"	350	0.05"	310	$2170
6 feet	720	0.16"	575	0.10"	430	0.06"	355	$2485
8 feet	1000	0.11"	800	0.07"	600	0.04"	480	$3360

Total Exhaust CFM and Static Pressure @ 28" Sash Opening (100% open)

Nominal Width	100 fpm	s.p.	80 fpm	s.p.	60 fpm	s.p.	CFM Savings at 60 fpm vs. a typical hood at 100 fpm	Total Average Annual Dollar Savings at 60 fpm vs. 100 fpm*
4 feet	705	0.26"	565	0.17"	425	0.09"	335	$2345
5 feet	930	0.32"	745	0.20"	560	0.12"	440	$3080
6 feet	1150	0.41"	920	0.26"	690	0.15"	560	$3920
8 feet	1600	0.29"	1280	0.19"	960	0.10"	750	$5250

**Based on average annual dollars per CFM usage of $7.00; fume hood operating 24 hours a day and 5 days per week (6240 hours per year).*

Protector XStream Laboratory Hoods and Accessories are available for immediate delivery through the VWR REDISHIP Program.

The REDISHIP Protector XStream Laboratory Hoods with left and right-sided duplexes are designed for operation on 115 volt, 60 Hz electrical service. 4', 5' and 6' models have a 12.81" ID exhaust collar; 8' models have two 12.8" ID exhaust collars.

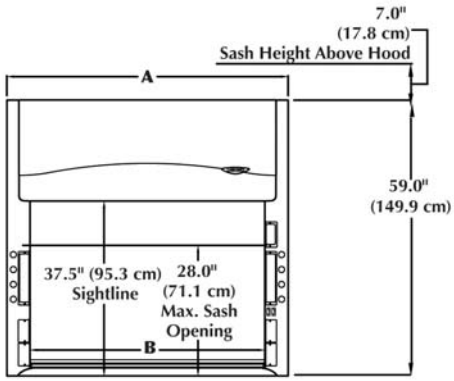
Description	Dimensions (w x d x h)	Shipping Weight (lbs.)	VWR Cat. No.
4-Foot Hood	48 x 37.7 x 59"	440	**89260-058**
5-Foot Hood	60 x 37.7 x 59"	525	**89260-060**
6-Foot Hood	72 x 37.7 x 59"	600	**89260-062**
8-Foot Hood	96 x 37.7 x 59"	770	**89260-064**

SpillStopper™ Work Surfaces for Protector XStream Laboratory Hoods

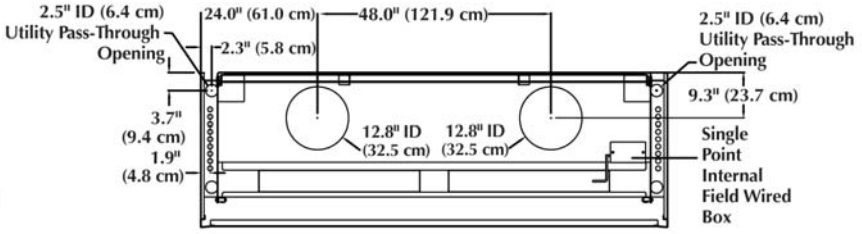
The one-piece SpillStopper work surface is molded from a special formulation of epoxy resins that withstand chemicals. It is dished and contoured to conform to the interior liner of the Protector XStream Laboratory Hood to contain spills. The radiused front edge enhances containment. A 6" x 3" cutout and is located in the left rear corner of the work surface (**requires installation**). The work surface includes the oval cupsink and a cupsink cover.

Description	Dimensions (w x d x h)	Shipping Weight (lbs.)	VWR Cat. No.
4-Foot Work Surface	48 x 36 x 1.25"	120	**89260-074**
5-Foot Work Surface	60 x 36 x 1.25"	160	**89260-076**
6-Foot Work Surface	72 x 36 x 1.25"	220	**89260-078**
8-Foot Work Surface	96 x 36 x 1.25"	250	**89260-080**

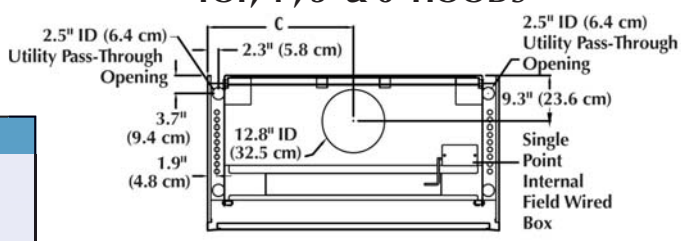
FRONT



TOP, 8' HOODS



TOP, 4', 5' & 6' HOODS



Description	A	B	C
4' Hood	48.0" (121.9 cm)	38.1" (96.8 cm)	24.0" (61.0 cm)
5' Hood	60.0" (152.4 cm)	50.1" (127.3 cm)	30.0" (76.2 cm)
6' Hood	72.0" (182.9 cm)	62.1" (157.7 cm)	36.0" (91.4 cm)
8' Hood	96.0" (243.8 cm)	86.1" (218.7 cm)	—

Protector® Premier® & XStream® Laboratory Hoods

Blower Selection Guide

The following chart lists Coated Steel and Fiberglass Blowers for 4', 5', 6' and 8' Protector Premier and Protector XStream Hoods. Calculations are for equivalent duct runs up to a maximum of 100 feet. Equivalent resistance in feet of straight duct includes all factors such as elbows and transitions. Contact VWR for blower recommendations and sizing assistance.

Hood Model	Hood Size	Sash Opening	Face Velocity	Airflow Volume	Coated Steel	Shipping Weight (lbs.)	Fiberglass
Premier 89260-050	4'	100%	100 fpm	725 cfm	**82006-748**	90/96	**82006-786**
XStream 89260-058	4'	100%	60 fpm	425 cfm	**82006-740**	92/92	**97019-806**
XStream 89260-058	4'	62.5%	60 fpm	265 cfm	**82006-740**	92/92	**97019-806**
Premier 89260-052	5'	100%	100 fpm	955 cfm	**82006-750**	96/100	**82006-788**
XStream 89260-060	5'	100%	60 fpm	560 cfm	**82006-748**	90/96	**82006-784**
XStream 89260-060	5'	62.5%	60 fpm	350 cfm	**82006-740**	92/92	**97019-806**
Premier 89260-054	6'	100%	100 fpm	1180 cfm	**82006-750/751/752***	92/100/100	**82006-790**
XStream 89260-062	6'	100%	60 fpm	690 cfm	**82006-748**	90/96	**82006-786**
XStream 89260-062	6'	62.5%	60 fpm	430 cfm	**82006-748**	90/96	**82006-784**
Premier 89260-056	8'	100%	100 fpm	1640 cfm	**82006-752/753//754***	100/100/114	**82006-792**
XStream 89260-064	8'	100%	60 fpm	960 cfm	**82006-748/749/750***	90/96/100	**82006-788**
XStream 89260-064	8'	62.5%	60 fpm	600 fpm	**82006-748**	90/96	**82006-784**

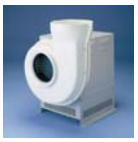
*Smaller blower for 25 foot duct runs; larger blower for 50-100 foot duct runs.

Blowers for Protector Premier and XStream Laboratory Hoods

The Fiberglass Blower is designed for fume hood exhaust systems in moderate to highly corrosive conditions. The housing is made from molded fiberglass reinforced polyester for durability and long life. The Coated Steel Blower is recommended for low to moderately corrosive applications. Impeller and housing are phenolic coated. Both blowers feature adjustable sheaves for performance adjustments and a powder-coated base and weather cover for protection in extreme weather.

	HP	Electrical Requirements	CFM Range @ Static Pressure	Inlet	Outlet	Shipping Weight (lbs.)	VWR Cat. No.
Fiberglass	1/6	115V/60Hz/1Ø	325 @ .12" to 305 @ .38	10.38" OD	10.75" ID	92	**97019-806**
	1/4	115V/60Hz/1Ø	520 @ .25" to 350 @ .50"	10.38" OD	10.75" ID	100	**82006-778**
	1/6	115V/60Hz/1Ø	370 @ .12" to 450 @ .25"	12.38" OD	12.75" ID	96	**82006-784**
	1/4	115V/60Hz/1Ø	720 @ .12" to 550 @ .38"	12.38" OD	12.75" ID	96	**82006-786**
	1/2	115V/60Hz/1Ø	900 @ .25" to 710 @ .62"	12.38" OD	12.75" ID	100	**82006-788**
	3/4	115/230V/60Hz/1Ø	1200 @ .25" to 1000 @ 1.25"	12.38" OD	12.75" ID	100	**82006-790**
	1.5	115/230V/60Hz/1Ø	1640 @ .38" to 1100 @ 1.25"	12.38" OD	12.75" ID	114	**82006-792**
Coated Steel	1/6	115V/60Hz/1Ø	370 @ .12" to 308 @ .38"	10.88" ID	5.5 x 10" OD	92	**82006-740**
	1/4	115V/60Hz/1Ø	540 @ .25" to 430 @ .75"	10.88" ID	5.5 x 10" OD	92	**82006-742**
	1/3	115V/60Hz/1Ø	760 @ .38" to 500 @ 1.00"	10.88" ID	5.5 x 10" OD	86	**82006-744**
	1/2	115V/60Hz/1Ø	825 @ .50" to 555 @ 1.25"	10.88" ID	5.5 x 10" OD	88	**82006-746**
	1/3	115V/60Hz/1Ø	540 @ .12" to 550 @ .38"	12.25" OD	7 x 13.5" OD	90	**82006-748**
	1/2	115/230V/60Hz/1Ø	900 @ .25" to 710 @ .62"	12.25" OD	7 x 13.5" OD	96	**82006-750**
	3/4	115/230V/60Hz/1Ø	1305 @ .38" to 830 @ .88"	12.25" OD	7 x 13.5" OD	96	**82006-752**
	1.0	115/230V/60Hz/1Ø	1680 @ .50" to 1000 @ 1.25"	12.25" OD	7 x 13.5" OD	100	**82006-754**
	1.5	115/230V/60Hz/1Ø	1840 @ .75" to 1100 @ 1.50"	12.25" OD	7 x 13.5" OD	114	**82006-756**

If purchasing a Coated Steel Blower, a Blower Transition Adapter will be required. The powder-coated steel adapter connects to the rectangular exhaust outlet on the blower. Nominal size PVC duct fits inside the adapter opening. To discharge air away from the building, Zero Pressure Weathercaps are also recommended. These products are not in REDISHIP inventory but are available through VWR with short lead times.



Fiberglass Blower

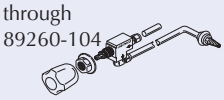
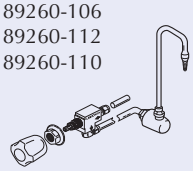
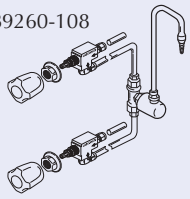
Coated Steel Blower

Description	Shipping Weight (lbs.)	VWR Cat. No.
Blower Transition Adapter for use with 10" duct	6	**82006-958**
Blower Transition Adapter for use with 12" duct	6	**30186-002**
Zero Pressure Weathercap 72" high	40	**30185-000**
Zero Pressure Weathercap 48" high	30	**26674-520**

Protector® Premier® & XStream® Laboratory Hoods

Service Fixture Kits for Protector Premier and XStream Laboratory Hoods

Service Fixture Kits, Electrical Receptacle Kits and Guardian Airflow Monitor Kits are now available in REDISHIP inventory for your convenience in customizing a hood to fit your specific needs.

Description		Knob Color	Valve	Tubing	Shipping Weight (lbs.)	VWR Cat. No.
89260-086 through 89260-104 	Cold Water Service Fixture Kit (CW)	Green	1/4" brass	copper	4	**89260-086**
	Vacuum Service Fixture Kit (VAC)	Yellow	1/4" brass	copper	4	**89260-090**
	Air Service Fixture Kit (AIR)	Orange	1/4" brass	copper	4	**89260-088**
	Nitrogen Service Fixture Kit (NIT)	Brown	1/4" brass	copper	4	**89260-102**
	Steam Service Fixture Kit (STM)	Black	1/4" brass	copper	4	**89260-100**
	Hot Water Fixture Kit (HW)	Red	1/4" brass	copper	4	**89260-096**
	Argon Fixture Kit (ARG)	Gray	1/4" brass	copper	4	**89260-094**
	Gas Service Fixture Kit (GAS)	Blue	1/4" brass	brass	4	**89260-092**
	Distilled Water Service Fixture Kit (DI)	White	1/4" stainless	stainless	4	**89260-098**
	Oxygen Service Fixture Kit (OXY)	Light Green	1/4" brass	copper	4	**89260-104**
89260-106 89260-112 89260-110 	Cold Water Gooseneck Faucet Kit with green powder-coated brass rigid/swivel gooseneck (CW)	Green	3/8" brass	copper	10	**89260-106**
	Cold Water Gooseneck Faucet Kit with gray PVC rigid gooseneck (CW)	Green	3/8" brass	copper	10	**89260-112**
	Deionized/Distilled Water Faucet Kit with gray PVC rigid gooseneck (DI)	White	1/4" stainless	stainless	10	**89260-110**
89260-108 	Hot/Cold Mixing Gooseneck Faucet Kit with white powder-coated brass rigid/swivel gooseneck	Red/Green	2 each, 1/4" brass	copper	11	**89260-108**

Electrical Receptacle Kits for Protector Premier and XStream Laboratory Hoods

Description	Volts	Hz	Amps	Shipping Weight (lbs.)	VWR Cat. No.
 Duplex Receptacle Kit (includes wires)	115	60	20	4	**89260-114**
 GFCI Duplex Receptacle Kit (includes wires)	115	60	20	4	**89260-116**
 Duplex Receptacle Kit (includes wires)	230	60	20	4	**89260-118**

Guardian™ Airflow Monitor Kits for Protector Premier and XStream Laboratory Hoods

Description	VWR Cat. No.
 Airflow monitors include face plate with circuit board, electrical power pack, probe, vinyl tubing and wiring connections. For 115 volt, 50/60 Hz operation. **Installation is required.**	
Guardian Airflow Monitor Kit, monitors and alerts operator to low airflow conditions. Shipping weight 6 lbs.	**89260-082**
Guardian Digital Airflow Monitor Kit, provides digital display of face velocity, audible alarm. Shipping weight 6 lbs.	**89260-084**

NOTE: Airflow monitors for Protector XVS Ventilation Stations are also available. Contact VWR for ordering information.

Supporting Base Cabinets for Protector Premier and XStream Laboratory Hoods

See information about Protector Acid, Solvent and Standard Storage Cabinets on pages 18 and 19.