# captair®

# safety enclosures

FOR THE SAFE HANDLING OF YOUR HAZARDOUS AND SENSITIVE PRODUCTS





### **Gerlab ...The world leader!**

### **39 YEARS OF EXPERTISE** IN THE FILTRATION **OF CHEMICALS WITH CAPTAIR® FLEX® FUME HOODS** AND CAPTAIR® STORE STORAGE CABINETS

Founded in 1968, erlab® group developed the first Ductless Filtration Fume Hood in the world under the brand name **captair**® in 1970. The headquarter with manufacturing facilities and R&D laboratories is in France. Subsidiary companies are located in USA, China (second manufacturing facility), Spain and Malaysia. Branch-offices have been established in UK, Germany and Italy. Until today more than 80,000 captair® safety enclosures have been sold in more than 45 countries.





### **ERLAB R&D LABORATORIES**

Molecular filtration (filtration of chemical molecules with activated carbon) is a very complex filtration. With 39 years of experience in its R&D laboratories in France, USA and China, erlab® is the only company in the world which can claim to have capitalized years after years the know-how to filter efficiently a wide variety of chemicals and to deliver reliable and accurate information to the users in terms of filtration capacity, filter-life and detection of the filter breakthrough.



### **1** Filtration efficiency\*!

Concentration downstream filters: Class 1 cabinets: 1% of TLV max. Class 2 cabinets: 50% of TLV max.



### Filtration capacity\* !

To be published by Manufacturer at 1% of TLV max. and 50% of TLV max. for each chemical with a TLV



### **Enclosure containment** capacity\*!

Capacity to maintain chemicals vapors or particles within the enclosure without any propagation in the laboratory environment. (Max. 0,1 ppm of test gas SF6).

### 4 Air face velocity\*!

Dynamic barrier between the operator and the handling. (shall be between 0,4 and 0,6 m/s).



# **Captair**, a wide range of safety enclosures

### The Captair (100xx range Page Captair®flex® advanced technologies 4-5 Why use a captair®flex® fume hood? Captair®flex® S - M range of fume hoods Captair®flex® S - M - XLS optional equipment Captair®flex® XLS range of fume hoods "Valiquest®" captair®flex® questionnaire Erlab Safety Program (ESP)

### The "captair' store range

### DUCTLESS FILTERING STORAGE CABINETS



Benefits of captair®store cabinets	12
Range of captair®store cabinets	13
Shelf™ 812: individual ductless filtering storage enclosure	14
Ministore™ 822: small size ductless filtering storage cabinets	15
AVP 804: floor standing ductless filtering storage cabinets	16-17
AVP - R: floor standing ducted storage cabinets	18
"Valiquest®" captair®store questionnaire	19

MOBILE FUME HOODS WITH MODULAR FILTRATION COLUMNS

### The Captair blo range

### PCR WORKSTATIONS



Biocap™ RNA/DNA: vertical laminar flow PCR cabinet 20 Biocap™ DNA: cross-contamination free PCR cabinet

### The Captair flow range

The wcaptair pyramid range

### VERTICAL LAMINAR FLOW WORKSTATION



Flowcap™ 700: vertical laminar flow

**DISPOSABLE GLOVE BOX** 



Captair®pyramid™ 2200: disposable glove box

23

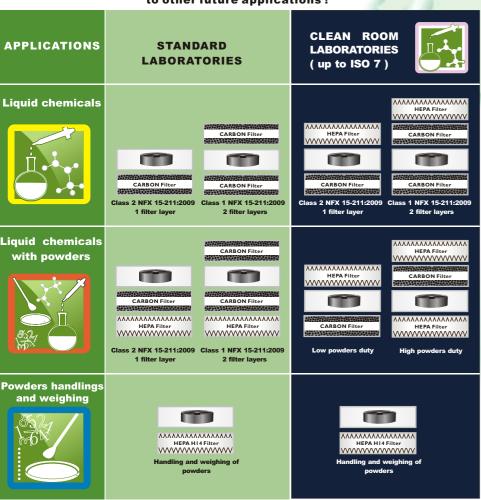
22

# **Captair flex** advanced technologies

### Flexible modular filtration column One fume hood for various applications

This revolutionnary innovation from the erlab® R&D laboratory offers onesize ventilation and filtration cartridges (Super Activated Carbon filters and HEPA filters) which can be stacked vertically to form a multi-layer filtration column, able to easily adapt itself to the various applications to be performed in the lab. The vertical stacking of the modular filtration column uses a foam sealing technology on the whole perimeter of the cartridges, which ensures, by gravity, the perfect airtightness of the filtration column.

> A single unit can evolve and be easily assigned to other future applications!





**Super activated** carbon filters

**Control panel** 

**Ventilation box** 

🕠 Working enclosure 🕢

**HEPA H14 high efficiency** particle filter

**Cables and hoses port** 

### **Patented filter revolving system**

2 identical molecular filters can be installed in a column; one above the ventilation box , one below the ventilation box . When the lower one is saturated, the chemicals are retained on the upper one. The upper fillter will replace the lower one when the lower one has reached its maximum retention capacity and a new filter is installed at the upper level. This system ensures that no chemical will penetrate the room even when the main filter at the lower level is saturated.

### **Computerized monitoring panel**



All the controls and safety information of the captair®flex® fume hood are grouped together in one single computerized panel which includes:

- The control of the fans operation and airflow volume, with an audible and visible alarm in case of malfunctioning.
- A Timer counting down 60 running hours after which a saturation detection test shall be performed.
- An optional solvent automatic detector (Molecode S) monitoring the saturation of the filter.
- The software for maintenance and repair.

### Sampling port for saturation detection



This sampling port allows for sampling the air in the ventilation box downsteam the main molecular filter (carbon filter), using colorimetric reactive tubes and a pump.

### **Tubular fluorescent lighting**



18 watts, 500 lux, IP 68 High quality tubular fluorescent lighting. From 1 to 3 tubes according to the size of the fume hood model. it Provides excellent brightness in the enclosure for safe and accurate handlings.

### **Anemometer for monitoring face velocity**



It controls permanently the air face velocity which must be between 0.4 and 0.6 m/s (in compliance with the AFNOR NF X 15- 211: 2009 standard requirements)

### **Modular filtration technology:**

### **Super Activated Carbon filters and HEPA H14 filters**

Derived from military gas mask technology, the **Super Activated Carbon filters** manufactured by **erlab**® are used to filter by **adsorption** noxious and odorous molecules emitted during chemical handlings. The Super Activated Carbon is tested in the erlab® laboratories according to the American Standard Test Method (ASTM) and then qualified according to high demanding results criteria. The performance of the carbon filters is scientifically proven by tests carried out in accordance with the AFNOR NFX 15-211:2009 standard (see page 2). HEPA filters (High Efficiency Particulate Air filters) are selected to filter chemical powders. erlab® offers HEPA H14 filters (according to EN 1822 standard) to trap particles with a diameter greater than 0,1  $\mu m$  with a 99,995% efficiency to the MPPS test ( Most Penetrating Particle Size test ) .

### captair® flex® filters

Organic vapors (acids secondary)	GF4 AS	
Acid vapors (organics secondary)	GF4 BE +	
Formaldehyde	GF4 F	
Amonia	GF4 K	
Powders	GF4 HP	

### **Ergonomical design for safety at work**

- The enclosure angled front sash offers the operator a comfortable and safe working position, and a perfect visibility to the handling.
- The arms openings, oblong, trapezoidal or total, are designed to allow the operator to easily maneuver within the entire volume of the enclosure and to have an easy access to all inserted elements. The central shield, in the oblong openings version, protects the operator against chemical spills.
- The worksurface with roll edge provides an area to rest forearms comfortably.



### Easy and economical set-up!

Delivered knocked down, it takes 30 minutes on average to assemble a captair® flex® . Plugged into a standard electrical socket, it is immediately operational.

### Protection at any workstation!

A captair®flex® is an autonomous machine which can be installed anywhere in the laboratory, providing safety to the chemist where he usually works. Since it does not exhaust outside the air of the room, it is possible to install as many **captair**®flex® as necessary without being obliged to increase the supply of fresh air into the lab. A captair® flex® can be moved easily at any time and optionally can be placed on a trolley to provide safety where it is temporarily required.

### No air-conditioned air consumption!

When installed in an air-conditioned room, a **captair**® **flex**® will help to save large quantities of energy, since the expensive airconditioned air is not exhausted outside. The yearly costs of filters used in a **captair**® **flex**® are much lower than the costs of the large quantities of air-conditioned air exhausted outside by conventional ducted fume hoods. The saving can be as much as 85% of the air-conditioned air costs!

Using **captair®** flex® fume hoods is a tangible contribution to the saving of valuable energy!

### Environmental friendly!

The handled chemicals are efficiently retained in the filter(s), thus avoiding to exhaust them outside. The use of captair® flex® allows to protect the environment outside the laboratory, such as the offices or housings nearby. With a reasonable level of discipline, the chemist can reduce as much as feasible the evaporation of chemicals and make it possible to perform a large number of handlings in a captair® flex®.

Using captair® flex® fume hoods is a tangible contribution to the protection of the environment!



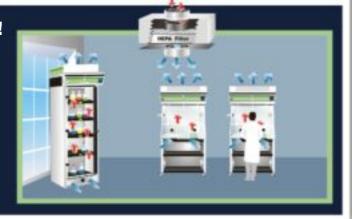






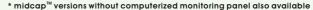
### Ideal for clean-room laboratories!

Clean room laboratories are working **necessarily** under positive pressure to avoid pollution from neighbour rooms. If chemistry experiments are performed in fume hoods which are ducted to outside, the negative pressure induced will damage the positive pressure conditions of the clean-room and will require the whole ventilation system to be much more complicated and expensive. Since **captair®** flex® fume hoods don't need any exhaust to outside and don't create negative pressure, they will help to keep stable the positive pressure in the lab, and to save high energy costs.





Length: 32 " or 800 mm L Dimensions (mm)  D (at worktop level)								
Model Applications	EXT	INT	EXT	INT	EXT	INT		
s 321* 🙇 🎇 🛂 🕵	800	764	557	483	1013 up to 1195	720		
M 321* 🔼 🔀 💆 💆	800	764	620	546	1158 up to 1340	866		
Technical specifications								
Class (according to NFX15-211:2009)	Class 1 (2 molecular filters per columm) or class 2 (1 molecular filter per columm)							
Volume of air treated	230 m³/h			Number of column(s)		1		
Average air face velocity	0,4 to 0,6 m/s			Total power consumption		27 - 46,1 W		
Voltage	External connection: 100 - 240 V Inside circuit: 24 - 26,5 V (low voltage		- 240 V	Max. amperage absorbed		1,13 - 1,74 A		
			ow voltage)	Noise level		52 dbA		
Frequency	47 - 67 hz			Door openings		Oblong holes		





Length: 39	' or 1000 r	nm L		Dimensio D (at workto		н		
Model App	olications	EXT	INT	EXT	INT	EXT	INT	
M 391 <sup>*</sup>	🕺 👱 💁	1000	897	620	522	1158 up to 1340	866	
Technical specifications								
Class (according to NFX15	i-211:2009)	Class 1 (2 molecular filters per columm) or class 2 (1 molecular filter per columm)						
Volume of air treated	t	230 m³/h			Number of c	1		
Average air face vel	ocity	0,4 to 0,6 m/s			Total power consumption		27 - 46,1 W	
Voltage	External connection: 1					age absorbed	1,13 - 1,74 A	
-		Inside circuit: 24 - 26,5 V (I					52 dbA	
Frequency			47 - 67 hz		Door opening	ngs	Oblong holes	

<sup>\*</sup> midcap™ versions without computerized monitoring panel also available



Length: 48 " or 1300	Dimensions (mm) D (at worktop level)							
Model Applications	EXT	INT	EXT	INT	EXT	INT		
M 481 <sup>*</sup> 🔁 🌠 🎉	1275	1172	620	522	1158 up to 1340	866		
Technical specifications								
Class (according to NFX15-211:2009)	Class 1	Class 1 (2 molecular filters per columm) or class 2 (1 molecular filter per columm)						
Volume of air treated		230 m³/h			column(s)	1		
Average air face velocity		0,4 to 0,6 m/s			Total power consumption			
Voltage	External connection: 100 - 240 V			Max. amperage absorbed		1,13 - 1,74 A		
-	Inside circuit	Inside circuit : 24 - 26,5 V (low voltage)				52 dbA		
Frequency		47 - 67 hz		Door openi	ngs	Oblong holes		

<sup>\*</sup> midcap™ versions without computerized monitoring panel also available



Length: 63 " or 1600		Dimensions(mm) D H (at worktop level)						
Model Application	s EXT	INT	EXT	INT	EXT	INT		
M 632* 🙀 🎇 🕍 🂆	1600	1497	620	522	1158 up to 1340	866		
Technical specifications								
Class (according to NFX15-211:2009)	Class 1 (	Class 1 (2 molecular filters per columm) or class 2 (1 molecular filter per columm)						
Volume of air treated		460 m³/h			Number of column(s)			
Average air face velocity		0,4 to 0,6 m/s			r consumption	54 - 92 W		
Voltage		External connection: 100 - 240 V			rage absorbed	2,25 - 3,48 A		
	Inside circuit	Inside circuit : 24 - 26,5 V (low voltage)				55 dbA		
Frequency		47 - 67 hz		Door openi	ngs	Oblong holes		

<sup>\*</sup> midcap™ versions without computerized monitoring panel also available

# Captair flex S-M-XLS Optional equipments

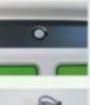
# **Ecaptair** flex XLS



### Molecode™ S

Large spectrum saturation detection alarm (required for Class 1 fume hoods acc. to AFNOR NFX 15-211:2009)

The Molecode™ \$ is the latest development of erlab® for the detection of filter saturation. It can detect with very high efficiency a large number of solvents. The system is equipped with 2 detection cells: One detection cell is located in the detection chamber and allows for the detection of filter saturation by solvents. Another detection cell controls the ambient air and prevent any «false alarm» due to the pollution in the laboratory room itself. It helps also the user to know when the air of the laboratory room is polluted.





### **High efficiency** pre-filter

Self-supporting media with high particle removal efficiency installed in the ceiling of the enclosure designed to protect the HEPA filter and to prolong its lifetime. Easy to change from

inside the enclosure without the need to dismantle the

### **Transparent** back panel

filters columns.



Made of crystal clear acrylic. Allows for a 360 degree visibility in the enclosure and optimizes luminosity.

### **Back panel** access door



Located on the enclosure back panel, it allows for an easy access to the rear of heavy and bulky instrumentations installed in the fume hood ( XLS models only )

### Work benches and shelves



Metallic shelf for Mobicap™ and Benchcap™

Made of tempered glass with very high chemical resistance to almost all chemicals (except Hydro-fluoric acid). It is built as a retaining tray thanks to an Polypropylene(PP) frame which prevent any liquid leakage.

### EXTRACTIBLE PHENOLIC RESIN WORKTOP

**Work surfaces** 

2 types of work surface available

EXTRACTIBLE GLASS WORKTOP



Made of high laboratory quality phenolic resin, built as a retaining tray thanks to an Polypropylene(PP) frame which prevent any liquid leakage. Ideal for powder



### Mobicap ™

Benchcap ™





Metallic rolling cart for captair® flex® M 321 and M 391

Metallic fixed work bench equipped with height adjusting jacks



Length:	39 " or 1000	mm L			ons (mm) o op level)	н	
Model	Applications	EXT	INT	EXT	INT	EXT	INT
XLS 392*	<u> </u>	1000	897	790	692	1313 up to 1495	1014
		Tech	nnical sp	ecificatio	ons		
	ass IFX15-211:2009)	Class 1 (2 molecular filters per columm) or class 2 (1 molecular filter per columm)			Number of	fan(s)	2
Volume of air to	reated	460 m³/h			Number of	2	
Average air fac	e velocity	0.4 to 0.6 m/s			Total power	r consumption	54 - 92 W
Voltage		External connection: 100 - 240 V		Max. amperage absorbed		2,25 - 3,48 A	
_		Inside circuit : 24 - 26,5 V (low voltage)			Noise level		55 dbA
Frequency		47 - 67 hz			Door openi	ngs	Total

midcap™ versions without computerized monitoring panel also available



Length: 48 " or 1300	mm L		Dimensio E (at workt		н	
Model Applications	EXT	INT	EXT	INT	EXT	INT
XLS 483* 🛃 🎇 🌠 🖺	1275	1172	790	692	1313 up to 1495	1014
	Tech	nnical sp	ecificatio	ons		
Class (according to NFX15-211:2009)	Class 1 (2 molecular filters per columm) or class 2 (1 molecular filter per columm)  Number of fan(s)			fan(s)	3	
Volume of air treated	690 m³/h			Number of column(s)		3
Average air face velocity	(	0,4 to 0,6 m/s		Total power consumption		64 - 120 W
Voltage	External cor		ection: 100 - 240 V Ma		age absorbed	2,71 - 4,54
-	Inside circuit : 24 - 26,5 V (low voltage)			Noise level		58 dbA
Frequency	47 - 67 hz			Door openi	nas	Total

midcap<sup>™</sup> versions without computerized monitoring panel also available



Model Applications EXT INT  XLS 633*	EXT 790 ecification	692 ons	1313 up to 1495	INT 1014							
			1313 up to 1495	1014							
Technical sp	ecificatio	ons									
			Technical specifications								
Class (according to NFX15-211:2009) Class 1 (2 molecular filters or class 2 (1 molecular filters)	Class 1 (2 molecular filters per columm) or class 2 (1 molecular filter per columm)			3							
Volume of air treated 690 m <sup>3</sup> /h	690 m <sup>3</sup> /h			3							
Average air face velocity 0,4 to 0,6 m/s	0,4 to 0,6 m/s			65 - 120 W							
Voltage External connection: 100	- 240 V	Max. amper	rage absorbed	2,71 - 4,54 A							
Inside circuit : 24 - 26,5 V (I	ow voltage)	Noise level		58 dbA							
Frequency 47 - 67 hz		Door openi	ngs	Trapezoid							



Length : 71 " or 180	0 mm L			ons (mm) O op level)	н			
Model Application	s EXT	INT	EXT	INT	EXT	INT		
XLS 714* 🕵 🌠 🕍	1800	1697	790	692	1313 up to 1495	1014		
Technical specifications								
Class (according to NFX15-211:2009)	Class 1 (2 moor class 2 (1 moo	Class 1 (2 molecular filters per columm) or class 2 (1 molecular filter per columm)			fan(s)	4		
Volume of air treated		920 m³/h			column(s)	4		
Average air face velocity	velocity 0,4 to 0,6 m/s Total power consumption			92 - 166 W				
Voltage		External connection: 100 - 240 V			age absorbed	3,84 - 6,28 A		
	Inside circuit	Inside circuit : 24 - 26,5 V (low voltage)				61 dbA		
Frequency		47 - 67 hz		Door openi	ngs	Total		
74								

<sup>\*</sup> midcap™ versions without computerized monitoring panel also available

# **Captair** ESP-the Erlab® Safety Program - Your safety is in good hands!

The  $captair^{\&}$  ESP is a comprehensive customer supporting program based on more than 38 years of expertise of  $erlab^{\&}$  with the filtration of chemicals in its unique R&D laboratories in France. it is activated with every sale of  $captair^{\&}$  equipment ( $captair^{\&}$  fume hoods or  $captair^{\&}$  store storage cabinets) and includes 3 major services:

# the ValiQuest ® questionnaire

Before selling a **captair**<sup>®</sup> **flex**<sup>®</sup> fume hood (or a **captair**<sup>®</sup> **Store** storage cabinet), we ask the chemist who shall use it, to fill in a Questionnaire (see page 10 and page 18) describing the intended application. Our experienced chemists in our Application Laboratory in France will check the application, using a unique database of information built up over 39 years of experiments performed with a very large variety of chemicals. If approved, they will deliver a **ValiPass** certificate. If not approved, the sale is not recommended unless the chemist can modify the application according to our suggestions.

The ValiQuest® procedure usually takes 1 to 2 days.





### the ValiPass Certificate

At the time of installation, the **ValiPass** certificate is placed in a transparent magnetic pouch to be affixed on the **captair**<sup>®</sup>. It reminds the chemist of the chemicals approved to be used, the expected life time of the filter and how to check the filter saturation. It also tells the user the Hotline Number to call for support and intended change of application.

### the ValiGuard monitoring

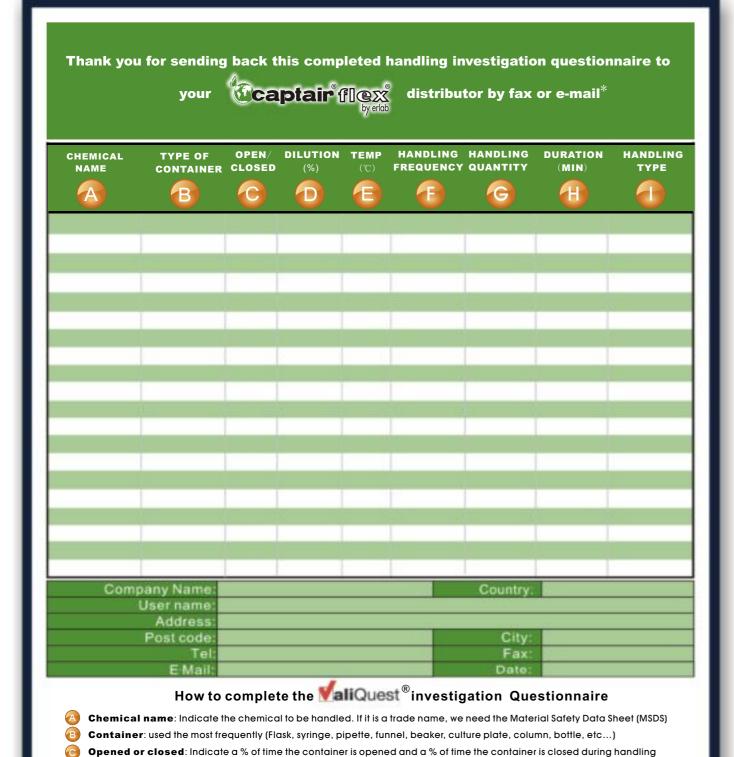
At regular intervals, our ESP specialist verifies on the phone with the **captair**® user if there is no change in the application and if the filter is properly checked in time. If the application has to be modified, the ESP specialist will activate again the **ValiQuest**® procedure to verify if the filter type is still suitable, if all chemicals will be effectively retained and if the lifetime of the filter is adequate.







Alternatively, the user can take benefit of our **asura maintenance™ Service**, with a regular comprehensive control on site of the **captair®** equipment operated by one of our experienced Service Engineers (chargeable maintenance contract).



The dilution: Indicate a mass concentration in %

Duration of the application: e.g. 2 mn, 25 mn, 90 mn, etc...

The temperature: Expressed in °C or °F. For room temperature, indicate 22°C.

Handling frequency: Indicate the number of handlings per month, e.g. 2 to 3/month, over 100/month, etc...

Type of handling: Specify the type of handling, e.g. Stirring, filtration, digestion, dilution, microscopy, centrifugation, etc...

Handling quantity: Indicate the average quantity of chemicals used per handling cycle in ml or g

\*This **Vali**Quest<sup>®</sup> questionnaire is also available on our website: www.captair.com

101

11





# YOUR is in HEALTH DANGER!

You may suffer nauseas, headaches, tiredness, vertigos if you breathe every day ordinary chemicals (e.g Ethanol, Methyl Alcohol, Hydrochloric acid, Acetic acid) released in small quantities from the chemical bottles

Protect your health by storing your chemical in a vented filtering storage cabinet



### Easy set-up!

Delivered knocked down, it takes 1 hour in average to assemble a **captair®store** cabinet. Plugged in a standard electrical socket, it is immediately operational.







### Installation close to the user

Easily movable, a **captair®store** cabinet can be installed right at the chemist's workstation. After usage, the chemical bottles can be immediately stored back in the cabinet. The large transparent doors allow for a permanent inventory of the available chemicals.



### 24 hours air cleaning function

a **captair®store** cabinet helps not only to clean the residual vapours released from the bottles stored inside, but it will also clean permanently the air of the laboratory room. For example, in a room of 90 m3, an **AVP 804** completely cleans the air of the lab 1 time per hour and a **ministore™ 822** or a **shelf™ 812** does it in 2 hours.



# VENTED STORAGE CABINETS Captair Store

for the storage of noxious and odorous chemicals

RANGE OF DUCTLESS MODELS WITH FILTER



shelf™ 812

Individual filtering storage enclosure

ministore<sup>™</sup> 822

Small size filtering storage cabinets

**AVP 804** 

Floor standing filtering storage cabinets

RANGE OF DUCTED MODELS WITHOUT FILTER



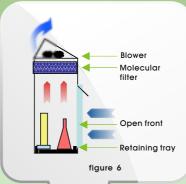
**AVP - R** 

Floor standing ducted storage cabinets

121

shelf™ 812

Capacity: 10 bottles of 1 liter



Individual filtering storage enclosure for the daily use

### Standard equipment







molecular filter

Intake of air flow



Rewritable sticker for reminding the date of filter's



1 X 2 liters with absorption mat

### to collect spillages.

Every possible emission of chemicals in the lab should be eliminated right at the source. Small quantities of chemicals emitted may look harmless at first sight, but inhaled every day and for many years, they can provoke severe illn According to an American study (OSHA, 29 CFR Part 1910 -January 31st, 1990 Final rules from page 3303), laboration workers have at least, a 10 years shorter life exp

Why use a shelf™ 812?

Inexpensive and easy to accommodate, the **shelf<sup>TM</sup> 812** fully protects the user right at his workstation from the chemical containers used during the day. Since the front part of the **shelf**<sup>TM</sup> **812** is not closed by any door, the chemicals containers should be moved to a closed storage cabinet at the end of the day (ministore TM 822 or AVP 804).



### shelf™ 812

A shelf<sup>™</sup> 812 storage enclosure is equipped with a blower and a molecular filter (figure 6) capable to retain the vapours escaping from chemical bottles in use. It offers a large opened front allowing the user to place inside easily the bottles during the day. The blower (extremely silent, only 45 dbA), takes the air of the room to the storage enclosure. The induced air flow carries along the chemical vapors to the molecular filter where they are safely eliminated (filtration according to class 2 of the NFX 15-211, see page 4). After filtration, the purified air returns into the room. A shelf<sup>™</sup> 812 can be installed immediately at any workstation and just needs to be connected to a standard electrical socket to be in service. It can be either installed directly on the bench top, or on leg supports or fixed to the wall.

The **shelf**<sup>TM</sup> **812** is made of galvanized steel, coated with chemical resistant epoxy-polyester paint.







Placed on the benchtop Ref.: 812 A



Placed on a base Ref.: 812 B



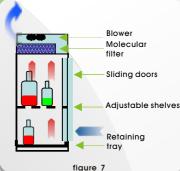
Mounted to the wall Ref.: 812 C

shelf<sup>™</sup> 812C

# captair store

ministore<sup>™</sup> 822

Capacity: 45 bottles of 1 liter



**Small size** filtering storage cabinet for the medium term storage





Partition wall to separate non compatible chemicals



Manual detection kit includes pump and tubing to test filter saturation with optional reactive tubes from the air exhaust



Rewritable sticker for reminding the date of filter installation



**Adjustable** shelves 2 shelves.



Spill tray 2 X 2 liters with absorption mat to collect spillages.

Available

Organic vapors

Acid vapors

filters



Sliding doors with lock



A ministore™ 822 cabinet is equipped with a blower and a molecular filter (figure 7) designed to retain the vapours escaping from chemical bottles stored inside. It includes 2 acrylic sliding doors, lockable, 2 adjustable shelves and 2 compartments allowing the user to separate non compatible chemicals. The blower (extremely silent, only 45 dBA), takes the air of the room to the storage enclosure. The induced air flow carries along the chemical vapours to the molecular filter where they are safely eliminated (filtration according to Class 2 of the NFX 15-211, see page 4). After filtration, the pure air returns into the room. A ministore™ 822 can be installed immediately at any workstation and just needs to be connected to a standard electrical socket to be in service. It can be either installed directly on the bench, on leg supports, fixed to the wall or placed under the benchtop.

The ministore 822 is made of galvanized steel, coated with chemical resistant epoxy-polyester paint.

The body of **ministore<sup>™</sup> 822 PP** is made of polypropylene and the filter-housing is made of galvanized steel, coated with chemical resistant epoxy-polyester paint.







Ref.: 822 C



Placed under the benchtop Ref.: 822 D

Star	
	Type F2
Available filters	Gas or vapors
Organic vapors (acids secondary)	F2 AS
Acid vapors (organic secondary)	F2 BE



L D H INT 738 x 188 x 348 EXT 821 x 280 x 582

**Specifications** 

Tests and marking (€

### Range of models



		1	
( mm)	L	D	Н
INT	738 x	188	x 348
EXT	821 x	295	x 582

Noise level	45 dBA
Volume of air treated	$75 \text{ m}^3/\text{h}$
Air exchange	25 times/min
Voltage/frequency	According to the country of delivery
Power consumption	20 Watt
Amperage	0, 17 A

### ministore<sup>™</sup>822A ministore<sup>™</sup>822A/PP

Type F2

Gas or

F2 AS

F2 BE



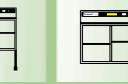
753 x 322 x 519 EXT 819 x 354 x 725

Tests and marking ←

### ministore<sup>™</sup>822B ministore<sup>™</sup> 822C ministore<sup>™</sup>822B/PP ministore<sup>™</sup>822C/PP

753 x 322 x 519

EXT 819 x 435 x 911



Range of models





1	( mm)		U	н
19	INT	753	x 322	x 519
05	EXT	819	x 354	x 725

15

**Specifications** 

Noise level Volume of air treated Air exchange 9 9 times/min Voltage/frequency According to the country of delivery Power consumptio 20 Watt Amperage 0.17 A

INT



**AVP 804** 

midcap™ AVP 804 without Fan Failure Alarm also available

### Standard equipment





Fan Failure Alarm alarm system notification in case of ventilation failure.

**Manual detection kit** includes pump and tubing to test filter saturation with optional reactive tubes from the



Retaining trav mat to collect

Rewritable sticker for reminding the date

of filter change



Adjustable shelves 5 standard shelves.

Magnetic labels of the types of chemicals.



1 x HCL box for the storage of aggressive acids.

Door lock





erico e

Optional equipment



40 cm wide each, for AVPS / AVPSD











to U. V. ravs.

Make your storage

cabinet AVP 804

Additional **HCL** box



An AVP 804 cabinet is equipped with a blower and a molecular filter (figure 8) designed to retain the vapours escaping from chemical bottles stored inside. The blower (extremely silent, only 49 dBA), takes the air of the room to the storage enclosure through a vent placed at the base. The induced air flow takes the chemical vapours to the molecular filter where they are safely eliminated (filtration according to Class 2 of the NFX 15-211, see page 4). After filtration, the purified air returns into the room. The large transparent door allows for a permanent inventory of the available chemicals. The AVP 804 cabinets can be equipped with a partition panel to separate non compatible chemicals (AVPS 804). They can be doubled to store larger quantities of chemicals (up to 200 bottles of 1 liter for AVPD 804 and AVPSD 804).

The AVP 804 is made of galvanized steel, coated with chemical resistant epoxy-polyester paint.

**AVP 804** 

<b>Specifications</b>	Noise level	49 dBA
Tests and marking $C \in$	Volume of air treated	90 m <sup>3</sup> /h
	Air exchange	180 times/min.
	Voltage/frequency	According to the country of delivery
	Power consumption	48 Watt
	Amperage	0, 30 A



Floor standing filtering storage cabinets for the medium term storage of chemicals

Range of ductless storage cabinets AVP 804

### **AVP 804**

midcap™ AVP 804\*



( IIIIII)	L	U	п	
INT	700 >	425	x 1730	
EXT	800	505	x 2150	
Storage vol	ume: 0,	51m <sup>3</sup>		
Spill tray vo			orbent mo	at)
Volume of o	oir 90	$m^3/h$		

1 large compartment

Capacity: 100 bottles of 1 liter

### **AVPS 804**

midcap™ AVPS 804\*



( mm)	L	D	Н	
INT	700 x	425	1730	
EXT	800 x	505	2150	
Storage vol	ume: 0,	51m <sup>3</sup>		
Spill tray vol			rbent ma	t)
Volume of o	ıir 90	m <sup>3</sup> /h		
Shelf weigh	25	Kg		

2 separate small compartments

Capacity: 100 bottles of 1 liter

### **AVPD 804**

midcap™ AVPD 804\*



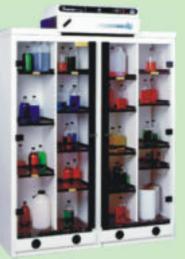
( mm)	L		D	Н	
INT	2x 70	00 x	425	x 17	73
EXT	160	00 x	505	x 21	5
Storage v	/olume:	1, 0	3m <sup>3</sup>		
Spill tray	volume:			s orbent	m
Volume of treated:	of air	90 r	m <sup>3</sup> /h		
Shelf wei		50 I	(g		

2 separate large compartments

Capacity: 200 bottles of 1 liter

### **AVPSD 804**

midcap™ AVPSD 804\*



( <b>mm</b> )	L	D	н		
INT	2x700	x 425	x 1730		
EXT	1600	x 505	x 2150		
Storage volume: 1, 03m <sup>3</sup>					
Spill tray v			s orbent mat)		
Volume of treated:	air 91	0 m <sup>3</sup> /h			
Shelf weig	ht o	5 Kg			

4 separate small compartments

Capacity: 200 bottles of 1 liter

\* midcap™ AVP 804 models are not equipped with the Fan Failure Alarm

NUMBER OF



AVP - R



The captair® store AVP can also be offered as a unit to be ducted (figure 9) Those models are equipped with a 330 m3/h blower incorporated in the top-housing, 3,3 meter / 10" of flexible duct with a 100 mm / 4" diameter collar.

### Standard equipment



with absorption mat to collect



Adjustable shelves



Magnetic labels of the types of chemicals



ror the storage of agaressive acids.



### **Specifications** Tests and marking $C \in$

62 dBA Noise level

Voltage/frequency According to the country of deliver Power consumption 85 Watt Amperage 0, 38 A



Floor standing ducted storage cabinets for the medium term storage of chemicals

### Optional equipment

Double doors 40 cm wide each for AVPS / AVPSD models only.



Black door for the comple









### Range of ducted storage cabinets AVP - R



700 x 425 x 1730

800 x 505 x 2150



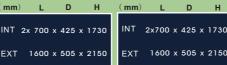


800 x 505 x 2150

AVP - R







# INT 2x 700 x 425 x 1730 INT 2x700 x 425 x 1730 700 x 425 x 1730

EXT 1600 x 505 x 2150

# TaliQuest<sup>®</sup>questionnaire for Captair<sup>®</sup> store ductless fume hoods

captair® ESP (Erlab® Safety Program, see page 11), applies also for the sales of captair® store ductless filtering storage cabinets. In order to make sure that all the chemicals to be stored will be effectively retained in the appropriate filter(s) and to determine any incompatibility, we kindly ask you to fill in the following ValiQUest® questionnaire. Transferred to our Application Laboratory in France, it will help us to determine the suitable filter and the suitable storage cabinet. This ValiQuest® procedure takes usually 1 to 2 days.

LIQUID(L)

CHEMICAL NAME

	<b>(A)</b>	POWDER (P)	CONTAINER	THE CONTAINER	CONTAINERS
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
-11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
C	ompany Name:			Country:	

Company Name:	Country:
User name:	
Address:	
Post code:	City:
Tel:	Fax:
E-mail:	Date:

### How to complete this Questionnaire

- Chemical name: Indicate the chemical to be stored. If it is a trade name, we need the Material Safety Data Sheet (MSDS)
- Liquid L/Powder P: Indicate if the chemical if a liquid L or a powder P
- Type of container: Indicate the type of container: Bottle, Flask, closed beaker, etc...
- ndicate the capacity: Indicate the capacity of the container: e.g 0,5 I, 1 I, 5 I....
- Number of containers: Indicate the quantity of identical containers to be stored

\*This **Vali**Quest®questionnaire is also available on our website: www.captair.com

### biocap™ RNA DNA

### Standard equipment

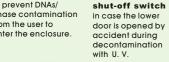








**Protection shield** to prevent DNAs/ from the user to enter the enclosure





**Energy ports** energy cables and



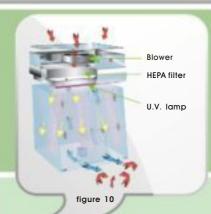
U.V. lamp automatic

to close completely the enclosure for with U. V.

### What is a HEPA filter?



"HEPA" stands for High Efficiency Particulate Air. The H14 filter is a glass and polymer fiber blend, and is pleated to provide more filter material. This type of filter provides a filtration efficiency of 99,995% for particles larger than 0,3  $\mu$ . Installed in a biocap<sup> $\mathrm{IM}$ </sup>, it is utilized to filter the room air from any unwanted DNAs or Rnases and to guarantee that the filtered air in the enclosure is of ultraclean quality (ISO 14644 standard or Class 100).



PCR<sup>\*</sup> workstation to protect against **DNAs/RNases** contamination from the operator, from the room, from the previous experiment



### Optional equipment

2 types of rolling carts



Mobicap™

Mobiframe™

with foot rest



Fluorescent lighting (11 watt) adjustable for targeted lighting and may be

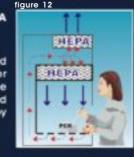
Designed to protect a RNA or DNA sample from cross-contamination, contamination from the room and from the operator during its amplification, the biocap™ RNA/DNA is equiped with a blower and a H14 HEPA filter (see figure 10). It works as a vertical laminar flow: the air from the room is blown into the enclosure through the H14 filter, preventing any DNAs or Rnases present in the room to contaminate the DNA or RNA sample. This air is ejected towards the operator, preventing contamination from the operator even when he introduces his hands into the enclosure. A U.V. lamp controlled by a timer is used to decontaminate the enclosure with C.U.V. rays between 2 successive PCR\* experiments to avoid crosscontamination (see figure 14).

Using a BSC (Biological Safety Cabinet class II, figure 12) is not ideal for PCR, since a BSC is designed to protect the sample and the operator. But for PCR the main problem is to protect the sample against the operator (See figure 11). Using a BSC may provoke a contamination of the DNA sample by the DNAs or Rnases of the operator.



### biocap™ RNA/DNA

The airflow ejected towards the user pushes back the possible DNAs and RNases emitted by the operator



**BSC** (Biological safety Cabinet Class II)

The airflow entering the enclosure may carry along the **DNAs and RNases** emitted by the operator into the working enclosure

### **Specifications**

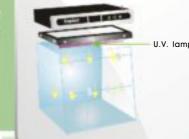
Tests and marking ( Filter type H14HFPA Filter (99, 995 % for 0, 3 u.) Volume of air treated Average face velocity 0.53 m/s Internal volume at the enclosure 0, 2 m<sup>3</sup> Total power consumption 73 Watt Maximum Amperage absorbed 0, 30 A According to the country of delivery Voltage/Frequency Blower 1 turbine type 55 dBA

### **Dimensions**

D H 601 x 585 x 600 EXT 653 x 610 x 785



biocap™ DNA



**PCR** workstation to protect against **DNAs** contamination from the previous experiment (cross-contamination)

### Standard equipment



**Ruilt-in timer** for a precise control of the desired U.V. exposure time



II.V/lamn rapidly can be easily cleaned or replaced.



Protection shield to prevent unwanted DNAs Rnases contamination from the user to enter the enclosure.



U.V. lamp automatic

shut-off switch

in case the lower

door is opened by

accident during

decontamimator

**Energy ports** energy cables and



to close completely the enclosure for with U. V.

# Standard

Designed to protect a DNA sample from cross-contamination, the biocap™ DNA is a static enclosure (no ventilation, no filter see figure 13). It is to be used when the operator has a large number of DNA samples to amplify and when the only major contamination risk comes from the DNAs amplified during the previous experiment. Before proceeding to a new DNA amplification, the enclosure shall be exposed to C. U. V. rays which will neutralize the DNAs from the previous experiment. The exposure time is controlled by a timer (up to 60 mn). During this decontamination process, the lower door is kept down to avoid any harmful U.V. rays to escape from the enclosure . If by accident, the operator opens the lower door during the decontamination time, a switch will automatically shut-off the UV lamp.

### Optional equipment

2 types of rolling carts



Mobicap™ with shelf Mobiframe™ with foot rest

Fluorescent lighting (11 watt) targeted lighting and either side of the



### **Decontamination by U.V** radiation



Exposure to powerful U.V. rays (C.U.V. rays in this case) leads to cross-linking of double stranded DNA by introducing pyrimidi dimers (figure 14 in violet), inhibiting enzymatic recognition and making them non

amplifiable. U.V. Radiation clearly appears as a powerful decontamination method. It is also important to make sure that the operator is protected from radiation. This is why **biocap™** DNA and biocap™ RNA/DNA enclosures are made of 10 mm thick acrylic panels designed to stop any U.V. leakage. It also offers an excellent protection against  $\beta$  radiation

### An ergonomy of quality!

The front panel is slanted to allow the operator a good vision of the handling being performed. The work surface also features a front rounded edge allowing forearms to rest comfortably during manipulations.



### Enclosures large enough to receive all PCR\* equipment.

The size of both Biocap enclosures has been especially chosen to receive large size apparatuses commonly used during PCR handlings (minicentrifuges, tube racks, automatic pipettes, thermocyclers. . . ). Access to the entire volume of the enclosure is possible while offering a front protective shield.



### **Specifications**

biocap" DNA

rests and marking CC						
Internal volume af the enclosure	0, 2 m <sup>3</sup>					
Total power consumption	26 Watt					
Amperage	0, 30 A					
Voltage/Frequency	According to the country of deliver					

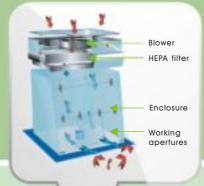
### **Dimensions**

	( <b>mm</b> )	L	D	Н
	INT	601 :	x 565 x	600
l	EXT	653	x 610 x	730



### flowcap™ 700

midcap™ flowcap™ versions without Fan Failure Alarm also available



Vertical laminar flow cabinet for the protection of the handling (not the operator)

### Standard equipment



captair flow



Air flow meter

Indicates ejection

air speed and

prefilter/ filter

Fan failure Alarm monitors the ventilation system



**Energy ports** electrical cables

Standard work surface designed with

ergonomic rounded optimum comfort.



Central protective shield against handling

from the room

Door folds back completely to allow equipment andsamples to be placedinto the



flowcap<sup>™</sup> 700 Its small size helps for easy installation!

The flowcap™ 700 cabinet is equipped with a blower and a H14 HEPA filter (see figure 9). The blower takes the air of the room through the H14 HEPA filter where all possible particles are filtered with an efficiency of 99,995% for particles larger than 0,3  $\mu$ m. The ultra-clean air entering the enclosure is of Class 100 quality (i.e. less than 100 particles larger than 0,3  $\mu$  per cubic foot EN ISO 14644 Standard). The product handled inside the cabinet is thus protected against any particulate contamination.



"HEPA" stands for High Efficiency Particulate Air. The HEPA filter is a glass and polymer fiber blend, and is pleated to provide more filter material. This type of filter provides a filtration efficiency of 99,995% for particles larger than 0,3  $\mu$ . Installed in a flowcap  $^{\text{TM}}$ , it is utilized to filter the room air from any contaminating particles and to guarantee that the filtered air in the enclosure is of ultra-clean quality (ISO 14644 standard or

### Optional equipment

2 types of rolling carts





Mobicap™

Mobiframe<sup>1</sup> with foot rest

Clear back panel for better visibility in the enclosure of



Fluorescent Lighting (11 watt)

adjustable for targeted attached to either side

Applications:

he flowcap™ 700 cabinet allows the

user to perform handlings in an ultra-

clean, dust-free environment. Since the

airflow of the cabinet ages out from the

cabinet through the working apertures in

direction of the user, such a cabinet shall

be used with non-pathogenic or non-

harmful materials, such as non-

pathogenic cell culture, in vitro culture

Electronics, pharmaceuticals,

Cosmetics laboratories, etc...

ectronics, optics, etc...

Biology, botany,





Serial number

gloves Assembled by high frequency welding for perfect air-tightness.

### Air tightness factory tested

The air-tightness

of each **pyramid™** enclosure is factory tested. Each enclosure is inflated with pressure of 2,5 mm Hg. If the air-tightness is satisfactory, the pyramid™ will get a serial number affixed on top of the unit and a

package.





pyramid™ 2200



pyramid<sup>™</sup> 2200

pyramid™ 2200 is a multi-function

disposable glove box, made of high

quality transparent PVC. Assembled in a

few seconds, it can be used anywhere

(indoor or outdoor), the slanted shape of

the enclosure provides a very ergono-

mic working position to the operator.

Light, mobile and disposable, the

pyramid<sup>™</sup> 2200 is an ideal flexible

protection tool which can suit many

specific protection requirements in each

Complete unit with support rods

2200ANM/M

2200ANM/XL

**Disposable** glove box for the protection of the user and sensitive products

### Standard equipment



Top mounted O-Ring easy carriage



valve collection and inert gas insertion.



Enclosure

5 seconds to

support rods

keep the Pyramid

Zipper opening fastener with double lip zip mechanism for perfect air-tightness.



**PVC** medical



# equipment

**Working station** for immobilizing the pyramid™ and avoid the pyramid<sup>TM</sup> to move on the work surface

Optional

### Applications

Opening of suspicious packages ings under inert gas atr On site sample collection (material evidence,...) Fingerprint analysis (biopsy, etc. . . ) Product protection from dust or humidity



opening. 2-Close tightly

the Zipper

the Zipper

3-Using the pyram gloves, you can now open the package.

Protection of oxidizible products

1-Introduce the product into the the Zipper 2-Close tightly

the Zipper.

3-Inflate the neutral gas (e. g. Nitrogen)

4-Using the pyrami

M (medium)

laboratory.

External	Lenght L	Width W	Height H	
dimensio ns	860mm/33, 86 inch.	560mm/22, 05 inch.	725mm/28, 54 inch.	
Zip per lenght	600mm			
O-Ring diam	eter: 16mm			

**Specifications** 

Blue PVC 0,4 mm thickness
Krystal clear PVC 0,3 mm thickn
Rigid white PVC
Rigid PVC diam: 115 mm.
Medical PVC
-25 °C to + 45 °C
1,55 kg

### Technical specification flowcap™ 700 and midcap™ flowcap™ 700

Dillie						
( mm)	L		D		н	
INT	608	x	565	x	560	
EXT	645	x	600	x	803	

**Specifications** Tests and marking ←

Type of filter	H14 HEPA
Volume of air treated	$175 \text{ m}^3/\text{h}$
Air exchange	9. 6 times per/minute.
Voltage/frequency	According to the country of delivery
Power consumption	49 Watt
Amperage	0, 31 A
Internal volume of enclosure:	0. 305m <sup>3</sup>
Average face velocity:	0. 5m/s
Noise level	55 dBA



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