

Operating instruction

Labopur® Fumes Hood – Range H

Models H200 - H300 - H400 - H500 - H1300 - H1500 - H2300

- H2500 - H3500

1. Technical specifications

1.1. Description / use:

1.1.1. Why shall we use an enclosure with recirculating air filtration system?

When you are using chemicals, your health might be in danger due to the emanation of harmful and toxic vapours. To protect yourself and your close environment, you must manipulate your products in an enclosure using recirculating air filtration (formerly Enclosure for Toxics using Recirculating Air Filtration or ETRAF) equipped with a molecular filter.

1.1.2. Why shall we choose an enclosure LABOPUR® with recirculating air filtration?

Following its wide experience with safety cabinets and storage of dangerous products, TRIONYX-leading manufacturer of safety cabinets-uses its entire technical knowledge to design and manufacture its fume hoods LABOPUR®. Made in EU, the fume hoods LABOPUR® stand out by a high manufacturing quality and finition. The entire process being controlled with the European standard ISO 9001 -2000.

Fume hoods LABOPUR® provide the user a secured work space for the repetitive manipulations of small chemicals quantities. The dangerous vapours are confined in the enclosure, then are cleansed while entering the actived charcoal filter. Finally, dangerous vapours are rejected in the atmosphere without danger for the environment. Thus, the user's health is protected.

The LABOPUR® filter system is made of quality actived charcoal according to your needs. It can be fit for a specific product. The actived charcoal filters replacement requires only a few minutes.

Fume hoods LABOPUR® also allow you to save energy. Indeed, compared with enclosures with outside rejections, it is not necessary to heat or cool the incoming air. Furthermore the air in the room is purified.

1.1.3. Mean Value of Exhibition (V.M.E.) / Value Exhibition Limit (V.L.E.):

A chemical compound concentration in the air being able to be inhaled by a person during a determined duration without danger for his/her health is represented by a limit value (V.L.E.). Beyond this limit of time the user's health is in danger.

Mean Value of Exhibition (V.M.E.) : The V.M.E indicates the maximal concentration admitted for a determined substance, in the workroom atmosphere where the user has to work on a basis on 8 hours per day.

Value Exhibition Limit (V.L.E.): The V.L.E. indicates the maximal concentration admitted for a determined substance, in the workroom atmosphere to which the user may be exposed for a short time period, lower or equal to 15 minutes (unless other indications).

The National Research and Safety Institute (I.N.R.S.) publishes a technical memo (n° ED 984) on the edge values of professional exposure to the chemical agents. This document is available, free of charge, on their website at the following address: www.inrs.fr

1.1.4. What does active charcoal mean?

The actived charcoal is a black powder with a porous structure. Manufactured from coconut shells, it has the property to occlude molecules emanating from dangerous products, due to

the size of its micropores (less than 2µm).

Activated charcoals manufacturing includes 2 steps:

- 1st. step: High temperatures burning and carbonization of the ingredients.
- 2nd. step: So called activation step, allowing to increase the coal absorption power.

Depending of the chemicals to be filtered, an "impregnation" can be added to improve the coal absorption ability. An impregnation for a determined chemical can lead to an excellent absorption for a certain product but a disappointing result for another type of chemical.

After use, the coal powder may be cremated or regenerated by water steam treatment or acid or alkaline washes.

1.2. Technical characteristics:

Fume hoods :

	H200	H300	H400	H500	H1300	H1500	H2300	H2500	H3500
External dimensions (approx.)									
Height (mm)	980	720	980	1200	1200	1200	1200	1200	1200
Width (mm)	610	800	800	900	1000	1000	1300	1300	1600
Depth (mm)	620	620	620	740	740	740	740	740	740
Internal dimensions (approx.)									
Height (mm)	700	440	700	920	920	920	920	920	920
Width (mm)	577	777	777	877	977	977	1277	1277	1577
Depth (mm)	580	495	495	700	700	700	700	700	700
Weight (kg)	34	33	44	55	60	61	78	79	97
Interior volume (m3)	0,23	0,17	0,32	0,5	0,68	0,68	0,9	0,9	1,1
Retention tank volume (l)	9	11	11	17	20	20	26	26	32

Trolley :

	TR20	TR34	TR50	TR135	TR235	TR335
External dimensions (approx.)						
Height (mm)	900	900	900	900	900	900
Width (mm)	610	800	900	1000	1300	1600
Depth (mm)	620	620	740	740	740	740
Weight (kg)	28	37	46	51	65	78

1.2.1. Advantages :

User's optimal protection:

- Our fume hoods have been approved within the standard NF X.15-211 by an independent laboratory.
- Vapours are confined in the manipulation enclosure after being eliminated through the molecular filter.
- A front sampling outlet allows you a fast and reliable control of the filter saturation.
- A warning lamp located in facade insures you of the good functioning of the system of ventilation/filtration.
- The silent electric fans included in our hoods are in accordance with the EU specifications.

- A front control window indicates immediately if the filter is in place and well adapted to your work.
- A retention tank integrated under the work-top allows to get back liquids in case of accidental droppings.

Confort of use:

- The transparent walls sides of the fume hood offer an optimal lighting of the work-top and a direct sight of the working products.
- The ergonomic hand traps allow secure and easy manipulations in the enclosure.
- Protective caps allow you to insert power cables of your devices into the fume hoods.
- Silent fans within our hoods allow a higher concentration for your work.
- Easy replacement of the active coal-based filter. Few minutes are enough.

Save time and energy :

- Our hoods are delivered ready to use (no assembly required). All you have to do is to plug them to a power supply device.
- No connecting evacuation, no civil engineering needed (if the hood is fitted with a filter).
- It is not necessary to heat or cool the air within the workroom.

1.2.2. Technical data :

- 15/10th steel construction.
- White epoxy painting RAL 9010 with high resistance against chemicals.
- Polycarbonate glazed walls.

1.2.3. Standard equipment:

Timer : The standard timer supplied with your hood indicates you, all the time, the total use duration of your hood. After programming, every 60 hours, a sound alarm invites you to check the saturation of the active coal filter.

Air velometer : According to the French standard NF X 15-211, your hood is supplied with an air velometer. It allows you to check permanently the velocity of the air in facade and verify that the fume hood works in depression guaranteeing the flow of vapours through the filter.

Sampling outlet : A front sampling outlet gives you the opportunity to check quickly and in a reliable way the saturation level of your active charcoal filter, thanks to the manual pump and reactive tubes.

Absorbed products booklet : Following the standard NF X 15-211, your hood is delivered with a CD-Rom information guide regarding the absorption capacity of the active coal filter in relation with various chemicals.

Protective Caps : All of our fume hoods are equipped with protective caps allowing to easily insert power cables supplies or gas for instance.

Transparent walls : Our fume hoods are delivered with transparent walls on every face offering you a light work surface. Suitable for exhibitions.

Work-Top : A work-top is supplied with every fume hood. Manufactured in H.P.L., it offers an excellent resistance to chemical attacks. A tempered glass work top is optional.

Retention tank : A retention tank is placed under each worktop being part of the fume hood. In case of leak or of accidental reversals, treated liquids are retained. To clean it, you just need to lift the work-top and use an "absorbent".

1.3. Certification:

Fume hoods LABOPUR® were approved to the NF X 15-211 norm, by an independent laboratory, MAPE. The MAPE laboratory is itself approved to the ISO CEI 17025 norm by the COFRAQ.

LABOPUR® fume hoods are controlled according to quality process and procedures defined by the repository of international quality standard ISO 9001-2000, at the end of the assembly line and before their shipping to the user in order to assure a perfect functioning and efficiency.

NF X 15-211 French norm (September 1996):

NF X 15-211 French norm is the most demanding regulation today. It guarantees to the user a full safety allowing him to focus on his manipulations.

Enclosures for toxic LABOPUR® using recirculating air filtration are classified according to 2 security levels.:

- class 1 : enclosure with safety reserve
- class 2 : enclosure without safety reserve, the most common

Enclosures LABOPUR® using recirculating air filtration belongs to the class 2.

To be in accordance with this standard, fume hoods filtration LABOPUR have to meet multiple criteria (summary):

- the enclosure must be provided with a ventilation device to maintain the air speed with a rate between 0,4 m/s and 0,6 m/s.
- rejection, downstream the filter, of 50% of the VME (mean value of exhibition) of toxics treated in the enclosure in the duration of normal filter use.
- the enclosure must have been tested by an approved and independent laboratory.
- the class 2 enclosures have to allow to treat products having a VME index superior or equal to 10 ppm.
- the class 2 enclosures have to be equipped with a sound or visual alarm activated every working 60 hours and also a sampling outlet device.
- the class 2 enclosures must not reject more than 50% of the VME downstream the filter during the detection test.

2. Location

The fume hood must be settled on a leveling floor able to support the fully loaded weight of the fume hood and of the optional trolley. In order to know the weight of your fume hood and the weight of the trolley, please refer to technical characteristics chapter.

Please note that the fume hood should be settled up horizontally to avoid any falling down and to ensure a perfect use of the closing system (this system is checked before the shipping). The possible adjustment should be done by the user himself. The re-adjustment can be made by use of the varnished foots. The correct adjustment of your fume hood should:

- avoid any deformation of the fume hood,
- allow door(s) to be strictly parallel to the body of the fume hood,
- avoid scraping between the door(s) and the body of the fume hood.

The location of your fume hood must ensure that:

- the fume hood is not exposed to direct or indirect sources of heat,

- the fume hood is not exposed to the humidity and that the ambient temperature operates between -5°C and +40°C.

The optional trolley is equipped with the casters locking system. If your trolley is already located, you need to press the clips in order to lock the casters. Moreover, the trolley is equipped with a shelf. The shelf can be fixed on the appropriate height with the shelf supports included. It must be imperatively laid on 4 shelf supports.

C and D locations are recommended.
A and B locations are inadvisable.

3. Transport and handling

The fume hood has been transported in optimal conditions in order to be protected against all possible damages due to transport.

Your fume hood must only be moved on bottom-up by use of a suitable transport device. It must be transported in a vertical position. It is strictly forbidden to tilt the fume hood when it is lifted or transported. This could cause serious damages and affect the good working of the fume hood's equipments as well.

On the other hand, if the fume hood has to be moved, it is highly recommended to load and strap it on pallet in order to avoid any weighing.

4. Starting up

Your fume hood should be placed away from any air ducts (window, door, vents...).

Warning:

- Only the products subject to the Threshold Limit Value (TLV) can be handled in your fume hood. Please refer to products list (in appendix).
- Only the products with TLV superior to 10ppm can be handled in your fume hood of class 2.
- The doors of your fume hood must be imperatively closed before any handling inside. Do not handle any product if the doors are not closed correctly.
- During the handling, it is imperative to keep the doors of your fume hood closed.

4.1. On/off switch

Before activating the on/off switch equipped with a light signal, please refer to clock type meter chapter in order to schedule it.

The fume hood is delivered with an on/off switch equipped with a light signal, placed up left on the front of your fume hood.

To turn on your fume hood, please pull the switch. The light signal and the system of ventilation function. The clock type meter turns on automatically.

To turn off your fume hood, please pull the switch. The light signal and the system of ventilation interrupt. Your clock type meter turns off manually only: you need to press the **STOP** button.

Warning:

- It is mandatory to turn on your fume hood **before** placing any product inside.
- It is mandatory to turn off your fume hood **after** emptying it.

4.2. Clock type meter

During the first use of your fume hood and after every prolonged power cut, it is necessary to put right the clock type meter, placed up left on the front of your fume hood. To do it, please follow the procedure indicated hereafter:

- Press **PROG**, the number on the left is blinking,
- Press **+** or **-** to display 60,
- Press **PROG**, the number in the middle is blinking,
- Press **+** or **-** to display 00,
- Press **PROG**, the number on the right is blinking,
- Press **+** or **-** to display 00.

The clock type meter counts automatically since the on/off switch with the light signal and the ventilation/filtration system are in service.

Once the on/off switch and the pilot lamp turned off in order to stop the fume hood, you need to press the **STOP** button to stop the counting. Your clock type meter turns off only manually. According to the French regulation (NF X 15-211) you have to check the saturation of your active coal-based filter every 60 hours. The clock type meter will warn you every 60 hours, by a sound signal that you have to check the saturation of your filter.

Warning:

- We recommend to not wait for 60 hours (indicated by the regulation) to check the saturation of your active coal-based filter. Check in a regular way the saturation of your filter by use of the manual pump and of the tubes for reagents adapted. To find tubes for reagents adapted to the products which you wish to measure, please contact us.

4.3. Filter alarm (optional)

Your fume hood can be equipped with an optional Filter alarm if you want. The Filter alarm is placed up left on the front of the fume hood. The Filter alarm turns on automatically by pulling the on/off switch.

The Filter alarm allows measuring the frontal velocity of the air during the passage in the filter. It informs you about the containment of fumes in your fume hood. Any abnormality of airflow is indicated by a sound signal. The Filter alarm also allows revealing a possible filtration clogging. The Filter alarm is pre-set in factory with a frontal velocity of the air included between $> 0,4$ and $> 0,6$ m/s.

In case of normal working, the green diode is lit. In case of dysfunction, the red diode is lit and a sound signal ring to indicate you that a dysfunction was detected. To cut the sound signal, you need to press the button with sound symbol and resolve the problem.

Warning:

- It is mandatory to leave a space of at least 15 centimeters between the wall and the sensor of the Filter alarm, placed up left on the back transparent wall.

4.4. Active coal-based filter

Before handling products in your fume hood, you must imperatively check if the fume hood is equipped with an active coal-based filter adapted to the handled products. Coal-based filters of type ORG and COR are dedicated to manipulations generating gazes or vapors. It is strictly forbidden to use it for any manipulations generating fumes or liquid sprays.

Warning:

- It is strictly forbidden to handle your chemicals in the fume hood non-equipped with an active coal-based filter adapted. It can be hazardous to your health.
- Please refer to the booklet delivered with your fume hood in order to determine an active coal-based filter adapted to your chemicals.

In order to verify that your fume hood is equipped with an active coal-based filter, you must to check the control window of filter presence placed up left on the front of your fume hood. To know if your coal-based filter is compatible with handled chemicals, please refer to products list (in appendix).

4.5. Anemometer

The fume hood is equipped with an anemometer to indicate the air flow velocity in your fume hood.

The anemometer is placed up left inside the fume hood. According to the French regulation (NF X 15-211) the airflow velocity should be included between 0,4 and 0,6 m/s. Please, make sure that the anemometer of your fume hood respects this regulation.

4.6. Cable tunnels

The fume hood is equipped with a cable tunnels, placed down on the back (small and big models) and on the side walls (big models only). To introduce electric equipment for example, you have to put the cables of this equipment by use of these tunnels.

4.7. Trolley

The fume hood can be equipped with an optional trolley. In that case your fume hood is delivered directly settled on the trolley. To remove the fume hood you need to unscrew 4 varnished foots, fixed up to your trolley.

To place your fume hood on the trolley, you need to unscrew 4 varnished foots placed under the fume hood, put the fume hood right on the trolley and re-screw 4 varnished foots by interior of the trolley.

Warning:

- It is strictly mandatory to wear anti-pinch gloves during settlement of your trolley.
- Your trolley is equipped with a casters locking system. If your trolley is already located, you need to press the clips in order to lock the casters.

5. Safety maintenance

First of all, it is highly recommended to have a record sheet for each fume hood that you use. It is necessary to clarify the quantities and the profile of chemicals handled in the fume hood. We recommend to verify the good condition of your fume hood before every handling and to make a detailed check every month.

We recommend to not wait for 60 hours, indicated by the French regulation (NF X 15-211) to

check the saturation of your active coal-based filter by use of the tubes for reagents.

5.1. Sampling

In order to check the saturation of your active coal-based filter, you need to use the manual pump and the tubes for reagents adapted (contact us to determine right tubes). Concerning the use of the pump and the tubes for reagents, please follow the instruction in the user guide.

Warning:

- It is imperative that you replace the active coal-based filter as soon as the indication showed by the tube for reagents reaches the 50 % of the TLV (Threshold Limit Value).
- The first pollutant salted out by the filter is the one whose molecular mass is the weakest. In equal molecular mass, it is the one who has the lowest boiling point.

5.2. Base trough

Your Labopur® fume hood is delivered with a base trough. Please, lift the working top set on your base trough in order to check if there are any leaks in. To facilitate the task your base trough was equipped with a hole, in the right corner of the front, allowing you to lift it.

If liquids spilled in the base trough, the base trough must be emptied and cleaned as soon as possible by use of adapted equipment (industrial absorbing mat). Once the base trough is cleaned, reposition the working top on the base trough.

Warning:

- During the cleaning of your coal-based filter, it is mandatory to wear an adapted mask and gloves.
- Do not stop the ventilation/filtration system of your fume hood during the cleaning of the base trough.

5.3. Active coal-based filter

According to the lasted regulation (NF X 15-211) you have to check the saturation of your active coal-based filter every 60 hours. The clock type meter will warn you every 60 hours by a sound signal that you have to check the saturation of your filter.

When your coal-based filter is saturated, it is mandatory to replace it before any handling. If you handle chemicals in your fume hood when the active coal-based filter is saturated, your health is in danger. The more the filter is close to the saturation, the more the increase of the concentration of discharge, downstream to the filter, is fast.

To replace your active coal-based filter you need to lift the superior cover of the fume hood by using of the blue handle. Once the cover lifted, to maintain it opened, you have to use the metallic stalk situated on your right. To remove the filter, you have to lift it upward by use of handles set for it. Set up then your new filter by taking care of not making it slide horizontally to not damage the low-placed joint.

Warning:

- During the replacement of your coal-based filter, it is mandatory to wear a mask and gloves adapted.
- When you store new active coal-based filters or filters which you use, it is mandatory that you store them safe from a source of humidity and from any source of chemical fumes. A new active coal-based filter in his original package keeps preserved during a

period of one year.

- Please, verify weekly the quality of joints equipping the active coal-based filter. If the joint is damaged, do not use your fume hood. It could be hazardous to your health. Set up a new filter with new joints.

5.4. Transparent walls

It is necessary to check if the transparent walls are not damaged. It is important in a way that the continual airflow in your fume hood should not escape and that the exhaustion towards the active coal-based filter is correct. If one of the walls of your fume hood is damaged, you have to replace it necessarily. To know the references of the elements that you need, please refer to spare parts chapter.

To replace a transparent wall, you need a cross-screwdriver. You must unscrew T-square fences and remove the transparent wall. Then you need to place a new transparent wall and screw the T-square fences to lock the wall.

Warning:

- To clean your transparent walls, please use a soft duster soaked with window cleaner. Do not use any abrasive duster to not damage the surface of the wall.
- Please, wear a mask and gloves during any intervention.
- It is strictly forbidden to use your fume hood without even 1 transparent wall.

5.5. Anemometer

The anemometer indicates constantly the airflow velocity in your fume hood. It should be included between 0,4 and 0,6 m/s. When your active coal-based filter saturates, the velocity reduces. If the velocity is lower than 0,4 m/s, you should imperatively replace your active coal-based filter. To know how to do it, please refer to active coal-based filter chapter.

Warning:

- It is strictly forbidden to use your fume hood if the flow air velocity is lower than 0,4 m/s.
- If your anemometer is damaged, it is mandatory to replace it as soon as possible. Please refer to accessories chapter.

The checks should be done by your maintenance department. For any request, please contact your usual retailer.

It is recommended to clean your fume hood with some soap water in order to not damage it. An equipment of individual protection is highly recommended.

6. Spare parts

6.1. Active coal filter

	H200	H300	H400	H500	H1300	H1500	H2300	H2500	H3500
Active coal filter for « organic » vapours	ORG200	ORG300	ORG400	ORG500	ORG1300	ORG1500	ORG2300	ORG5500	ORG3500
Active coal filter for « corrosive »	COR200	COR300	COR400	COR500	COR1300	COR1500	COR2300	COR2500	COR3500

Operating instruction
Labopur® Fumes Hood – Range H
Models H200 – H300 – H400 – H500 – H100 – H1000 – H1100 – H1200

vapours									
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6.2. Accessories

	H200	H300	H400	H500	H1300	H1500	H2300	H2500	H3500
Manual pump	PMAF	PMAF	PMAF	PMAF	PMAF	PMAF	PMAF	PMAF	PMAF
Reactive tubes	Contact-us	Contact-us	Contact-us	Contact-us	Contact-us	Contact-us	Contact-us	Contact-us	Contact-us
Lighting	LU20	LU34	LU34	LU50	LU135	LU135	LU235	LU235	LU335
Labopur® trolley	TR20	TR34	TR34	TR50	TR135	TR135	TR235	TR235	TR335
Tempered glass work-top	PL20	PL34	PL34	PL50	PL135	PL135	PL235	PL235	PL335
Air velometer	ANEMO	ANEMO	ANEMO	ANEMO	ANEMO	ANEMO	ANEMO	ANEMO	ANEMO

6.3. Spare parts

	H200	H300	H400	H500	H1300	H1500	H2300	H2500	H3500
Right transparent wall	PLD200	PLD300	PLD400	PLD500	PLD1300	PLD1500	PLD2300	PLD2500	PLD3500
Left transparent wall	PLG200	PLG300	PLG400	PLG500	PLG1300	PLG1500	PLG2300	PLG2500	PLG3500
Back wall	PA200	PA300	PA400	PA500	PA1300	PA1500	PA2300	PA2500	PA3500
Front wall (hight)	PAH200	PAH300	PAH400	PAH500	PAH1300	PAH1500	PAH2300	PAH2500	PAH3500
Front wall (bottom - with hand traps)	PAB200	PAB300	PAB400	PAB500	PAB1300	PAB1500	PAB2300	PAB2500	PAB3500
2 Protective caps (to insert power cable)	OPL	OPL	OPL	OPL	OPL	OPL	OPL	OPL	OPL
Airproofness seal for active coal filter	JTEFA	JTEFA	JTEFA	JTEFA	JTEFA	JTEFA	JTEFA	JTEFA	JTEFA
Timer	Timer	Timer	Timer	Timer	Timer	Timer	Timer	Timer	Timer

7. Destruction and recycling

Your fume hood can be completely dismantled. Individual components (sheet of metal, polycarbonate transparent walls, electric components...) can be recycled. National and local disposal regulations must be observed. To preserve resources, the fume hood components must not be disposed off as domestic waste.

8. Guarantee

Your fume hood is under guarantee for a period of 24 months, against any construction defect and in normal use conditions, from the date indicated on your delivery note.

Our guarantee applies exclusively in case of imperfection resulting from a defect of conception or from a latent defect. It covers exclusively the replacement of the equipment or the defective recognized details by our quality and technical services, the only one to judge it. This guarantee is strictly limited to the repair of the device in our manufactory. Spare parts are guaranteed 3 months after their implementation.

The present guarantee cannot be valid in the case:

- when the equipment was not stored, not used or not maintained by the user according to the manners as well as to any instruction of use,
- of deterioration of the equipment by the user or any other person,

- when the equipment was modified or repaired by the user or any other person without our written agreement,
- of normal wear, or in case of no-payment for whole equipment or some part.

The implementation of the guarantee will not extend the duration. Our guarantee stops if the buyer does not inform us about the defect during 7 days from the date of defect emergence (this date should be proved).

The guarantee is excluded in the following hypotheses:

normal wear of product,

- modifications or incompatibility with other equipments,
- abnormal or not corresponding use of product braking the specifications or negligence of the customer in the storage or in the maintenance,
- bad installation of product,
- any damages caused by corrosion.

Our guarantee do not cover the active coal filters.