

# User's Guide



**Version 2010-V**  
(with built-in Vacuum)



**Automatic Inkjet Cartridge Refilling Machine**



# Congratulations!

You have just acquired the Ready2Fill **TFTotalFlex** machine **Version V2010v**, a 100% professional product that allows you to refill black or tri-color ink cartridges. Ready2Fill has joined all technological resources it has gained during years on the market. A really advanced device, easy to operate and flexible enough to refill, not only almost any and all current printhead cartridges, as well as some of the cartridges yet to be marketed in the near future!

**We** are certain that we are providing you with a compact, light, sturdy product, without parallel in the market and thus we are merely repaying the confidence you have granted on our products.

**In** order to insure the adequate operation of your **TFTotalFlex** device, please read thoroughly the instructions printed on this User's Guide. In case there's any doubt, talk to your local dealer.



## Important!

Always use empty original cartridges and the original Ready2Fill inks, this will ensure that your cartridge has quality, efficiency and a larger number of refills. Remanufactured cartridges with improper systems or raw materials may contain residues of poor quality ink, liable to obstruct the printhead and leading to problems in the refilling process.

## CAUTION!!!

Some inks you may find in the market have a density or viscosity that causes difficult ink penetration through the cartridge printhead, thus forcing the machine's pump, connections and inner hoses, shortening the machine's useful life in addition to affecting its warranty. For an adequate operation, we recommend using our inks, specifically formulated and thoroughly tested at our labs.

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## 2. Important Hints

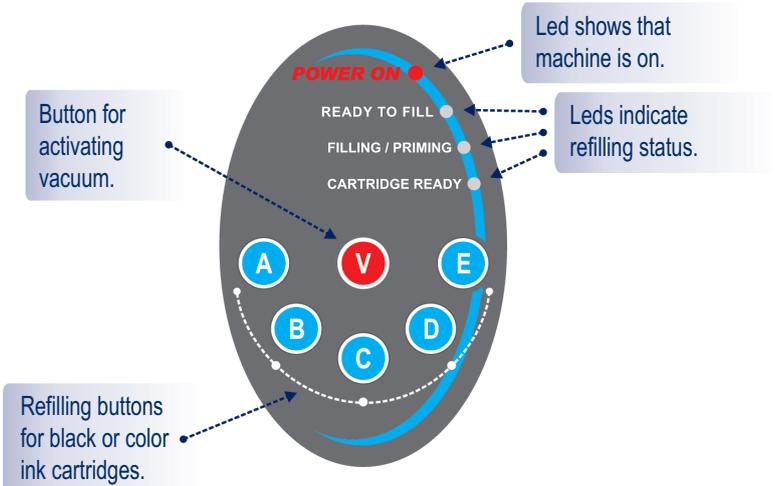
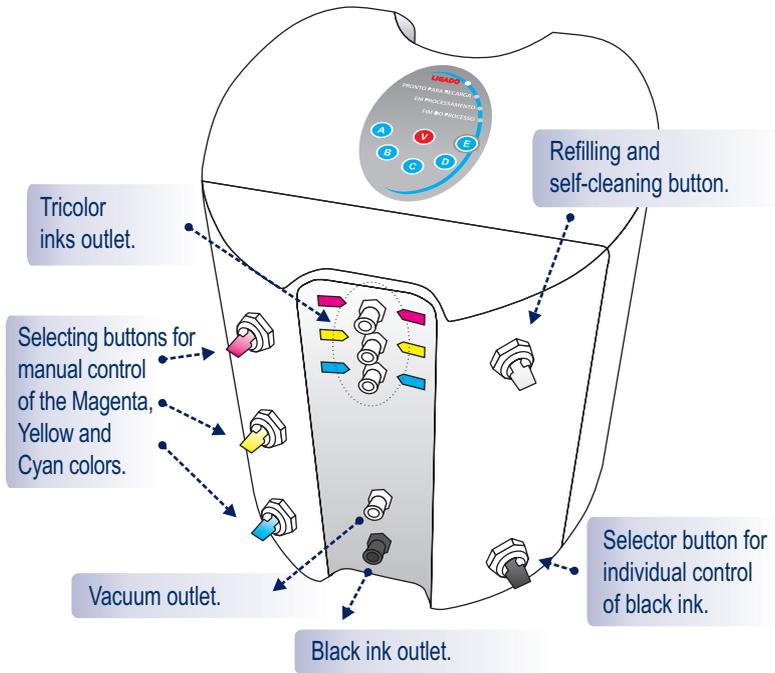
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### Attention

The machine was developed exclusively to be operated by professionals, and in case you are not one or if you are using the machine for refilling your own cartridges it is important to know that, during the refilling operation, leakage of ink is always a possibility, and that the ink has a very high density. In case of leakage or dropping of ink we do not take responsibility for ink spots on textiles such as clothes, carpets or furniture, etc., as removal is extremely difficult and in some instances effectively impossible, thus we caution you to operate the machine with care and, if possible, put it on a corner or any other appropriate place, always wearing latex gloves. In case it has any contact with eyes, wash them using a lot of water and look for medical attention.

**Note:** This manual is subject to changes. Look always to the on-line manual that we keep on our site or directly at the link below, available to be downloaded: [www.tintafacil.com.br/manual\\_TFTotalFlex\\_HS\\_V2010v\\_english.pdf](http://www.tintafacil.com.br/manual_TFTotalFlex_HS_V2010v_english.pdf)

### 3. Getting to Know the Machine



## 4. Getting to Know machine's Levers and Buttons

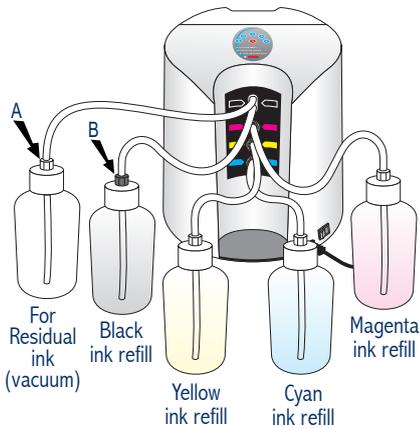
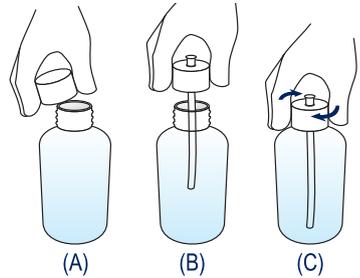
 White Lever – Down	 Cyan Lever - Up
 White Lever - Up	<b>A</b> 1 ml Black Ink and 0.33 ml Cyan, Magenta or Yellow ink
 Black Lever - Down	<b>B</b> 4.6 ml Black Ink and 1.66 ml Cyan, Magenta or Yellow ink
 Black Lever - Up	<b>C</b> 9,6 ml Black Ink and 2,4 ml Cyan, Magenta or Yellow ink
 Magenta Lever - Down	<b>D</b> 16 ml Black Ink and 5.8 ml Cyan, Magenta and Yellow ink
 Magenta Lever - Up	<b>E</b> 40 ml Black Ink and 6.6 ml Cyan, Magenta and Yellow ink
 Yellow Lever – Down	<b>V</b> Vacuum operation button
 Yellow Lever - Up	 White Lever moving down
 Cyan Lever – Down	<b>Positions:</b> "Down" = deactivated lever "Up" = activated lever

### ● Functions of Electrical Levers

Levers		Position
		Down = Machine does not obey any command. Up = Machine ready to operate. Moving from up to down = Executes Self-Cleaning and RAHS.
		Down = Prevents pumping of ink in same color as lever. Up = Allows pumping of ink in same color as lever.

## 5. Getting the Machine Ready to be Used

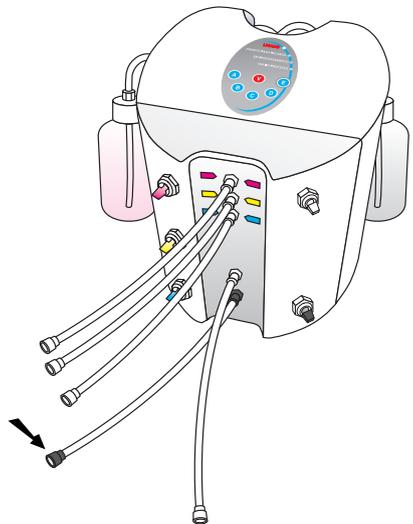
**1** - Take off the safety ink caps (A), replacing them by the ink collector caps (B) provided in the accessory kit of the machine.



**2** - Connect the “waste” bottle and ink refills to the rear of the machine, using the hoses and their connectors, considering colors marked in the rear picture. Fixed hoses differ by their connectors (“A” for white and “B” for black connectors)

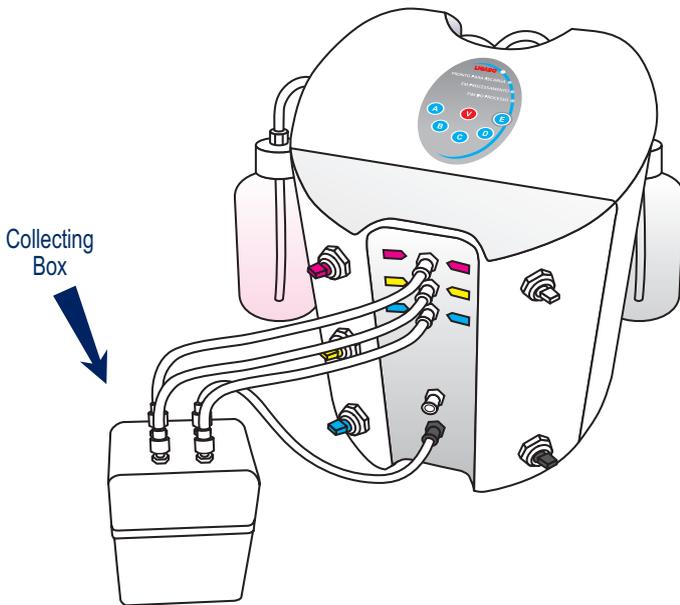
**3** - Connect the remaining hoses to the machine's **Front Connectors**.

**Note:** The hose with the widest caliber is to be connected to the machine's black ink connector.



## Getting the Machine Ready to be Used (continuation)

Together with the machine you receive an acrylic box with 4 connectors on its top (Collecting Box). Its purpose is to accommodate hoses during the machine's operation, in addition to storing possible ink drops during some procedures.

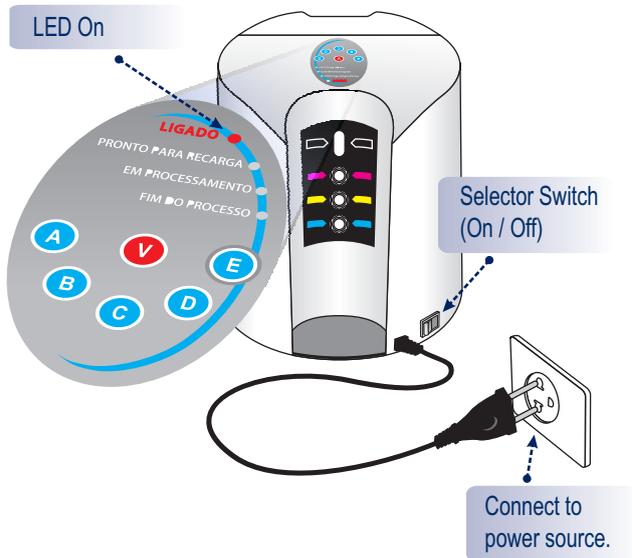


**4** - Connect front hoses of machine to the “Collecting Box”.

## 6. Connecting your Device

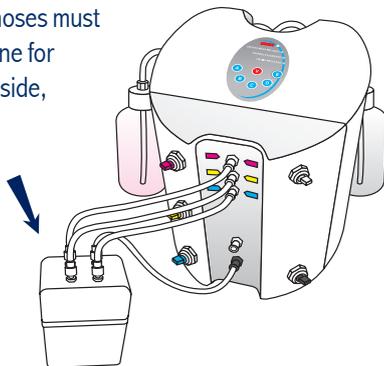
### ● Power Source

- 1 - Connect the cable to the power source.
- 2 - Activate the “On/Off Selector Switch”, located on lower rear part of the machine.
- 3 - Check if the “POWER ON” LED on the control keys located on the upper part of the device is lit.

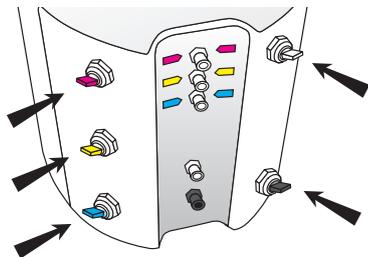


## 7. Removing the Air from the Hose System (RAHS)

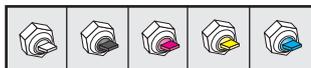
Before refilling the cartridges, machine's hoses must be full of ink. When you operate the machine for the first time or when hoses have air inside, this is how you'll fill them with ink.



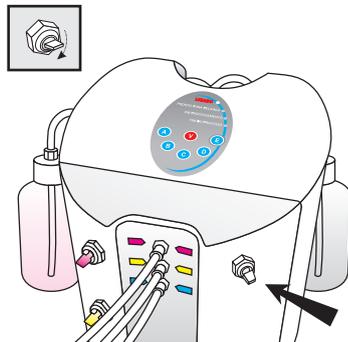
**1** - Make sure that the machine is on and that inks, hoses and the "Collecting Box" are connected.



**2** - Raise all 5 levers located on the front part of the machine to the up position.



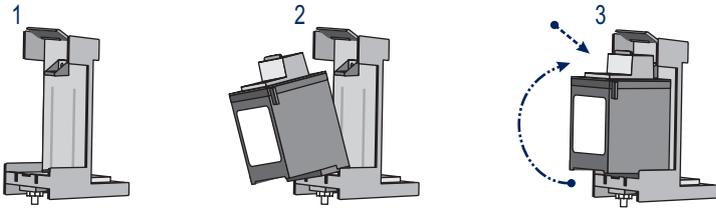
**3** - Following that, place the "White Lever" located on the right upper front part of the machine on the down position. (The "FILLING/PRIMING" LED on the panel must be blinking). Now the machine will begin a procedure for self-cleaning, after which it will pause for 5 seconds and following that it will begin the automatic filling of hoses with ink, thus expelling all air inside the system.



## 8. How to Insert Cartridges Into the Adapter

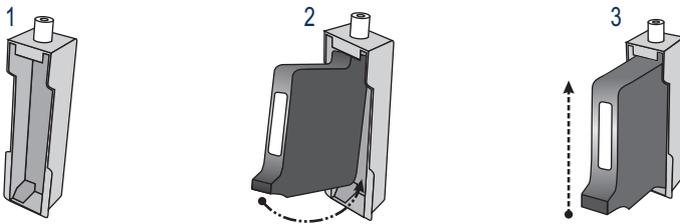
### ● More Updated Models (with internal sponge)

- 1 - Identify the model of the adaptor adequate to the cartridge.
- 2 - Insert the cartridge's printhead turned down.
- 3 - Press the upper part of the cartridge until it clicks into its vertical position.



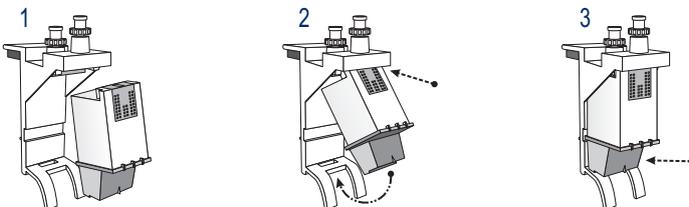
### ● Models HP 66(15), 516(40) and 516(45) - 15,40,45

- 1 - Make sure that the model of the adaptor is adequate to the cartridge.
- 2 - Insert the cartridge's printhead turned up.
- 3 - Press the lower part of the cartridge until it clicks in the vertical position.



### ● Models HP 6614(20), 516(26) and 516(29) - 20,26,29

- 1 - Insert cartridge following steps 1, 2 and 3, according to the figures below.



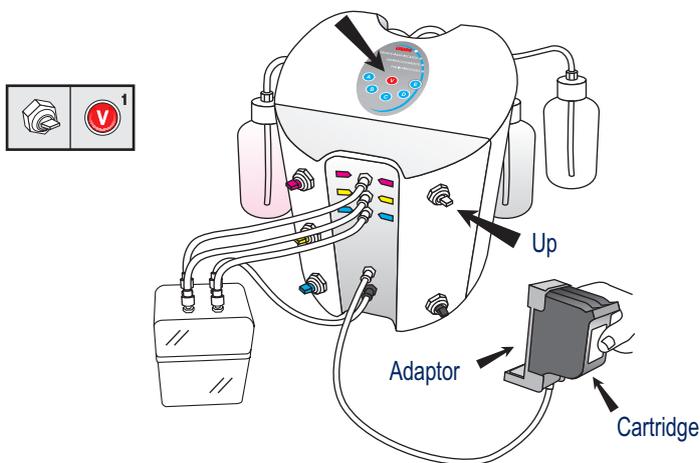
## 9. Getting the Cartridges Ready for Refilling

### Attention

Used cartridges contain ink residues inside. Before refilling, it is necessary to remove it. For that procedure we will make use of the “Vacuum Outlet”. If cartridge is clogged you may consider unclogging procedures using unclogging apparatus (ex.: Ultrasonic machine) before emptying routine.

### ● Emptying Cartridge Routine

Fit the cartridge to the adaptor and connect it to the “Vacuum Outlet”, according to the illustration. During that procedure, no matter what the cartridge’s model, it must ALWAYS have its the printhead turned down, while “White Lever” must be at the up position.



Press vacuum button at the control panel<sup>1</sup> and wait for the “Filling / Priming” LED stops blinking. If necessary, press it once more, repeating the operation until the cartridge is empty. During this procedure, if you cannot detect ink passing through the adaptor’s hose, it is possible that the cartridge is already empty or seriously clogged by dry ink on its printhead. At the end of this procedure if the cartridge is empty and unclogged, thus it’s ready to be refilled.

## Information Regarding the Refilling of Black Ink Cartridges

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There several manners for refilling cartridges, from the most simple one that uses syringes to the most sophisticated using machines from different brands that make use of different patents.

For that reason alone we have gathered some data that we felt useful for the refilling of black ink cartridges when using our **TFTotalFlex** machine.

Other useful information, such as advantages of the method used for refilling, compatibility standards, ink characteristics and several other may be found in our “Recycler’s Primer”, available at our site ([www.tintafacil.com.br](http://www.tintafacil.com.br)) or contacting directly our technical support.

### **There are two cartridge ink storing types:**

#### **1 - Sponge Cartridges**

This is the majority of the cartridges (about 95%) currently to be found in the market. Those cartridges have a sponge inside, which purpose is to store ink, and must be refilled with its printhead in the down position. There is no need to depressurize them after refill.

Except for the pouch cartridges, all cartridges listed in the refilling tables of herein manual have such characteristic. Sponge cartridges are more difficult to be fully emptied, as ink, when absorbed, flows together with the air that comes from the cartridge air entrance.

The longest suction cycle of the “Vacuum Outlet” takes 40 seconds and is sufficient to take out residues of cartridge ink, but in case cartridge is full or if it still carries a lot of ink, it is suggested that the procedure is repeated in order to make sure that the cartridge was effectively depleted.

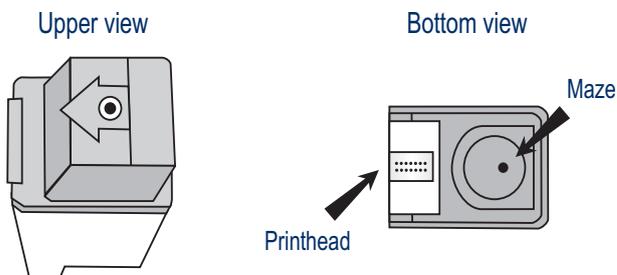
### 2 - Pouch Cartridges (require depressurization after refill)

These are cartridges that have an internal pouch, used either to store ink or balance the frame's inner pressure.

Those cartridges must be refilled with the printhead in the up position. In order to remove air residue and to generate a negative pressure inside the cartridge they have to be depressurized after being refilled thus avoiding any leakages or other problems.

#### Examples of pouch cartridges:

**Plastic pouch** - HP models 20, 26 and 29



Refilling of this cartridge consists of injecting ink through the maze. As this is a so-called “body closed” cartridge, during injection of ink it is necessary to apply, simultaneously, vacuum to the printhead, in order that the inner air leaks out and internal pressure does not increase.

The problem is that, because those cartridges have been initially developed to be used in the printers manufactured during the 90s, the best part of the cartridges currently found in the market are both old and have their printheads obstructed. In this case air cannot exit during refill, internal pressure increases excessively and, when you take the cartridge out of the adapter, after being refilled, it “expels” both air and ink trough the maze.

## Information Regarding the Refilling of Black Ink Cartridges

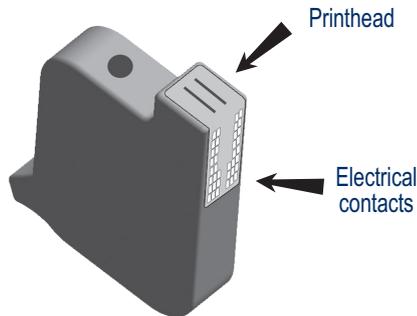
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In order to avoid such “mess”, one must be certain that the printhead is not clogged, but how?

When you are undertaking the cartridge draining procedures (page 12), vacuum applied to the printhead inflates the 2 plastic internal pouches; if that does not occur or if they take too long to inflate, it means that the printhead is obstructed and if you are not able to clear it discard the cartridge.

**Aluminum pouch** - HP models 15, 40 and 45  
(requires depressurizing after refill)

Pouch cartridges are easy to be fully emptied, as ink(alone) flows out of the cartridge in a continuous manner until the end.



Refilling of this cartridge consists in injecting ink through the printhead. Despite is being a so-called “body closed” cartridge, simultaneous application or vacuum is not required.(only depressurization after refilling)

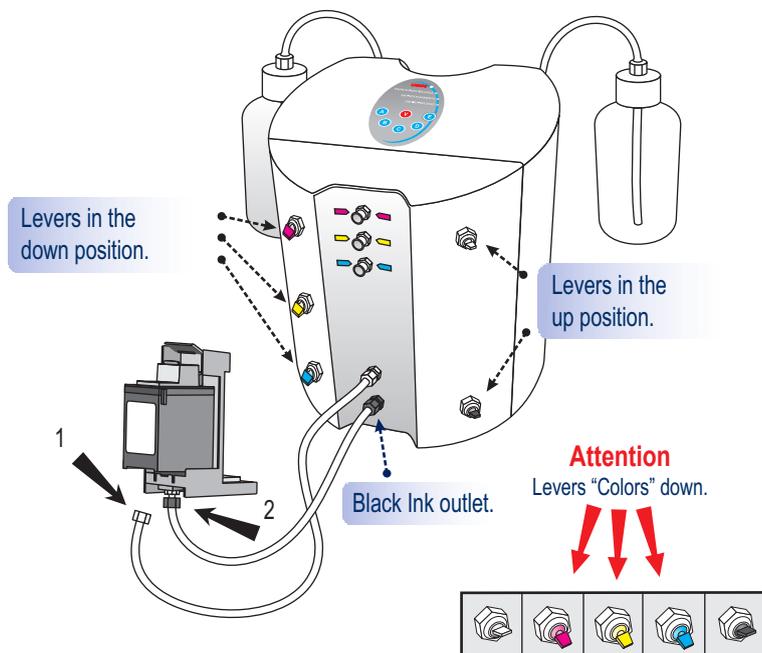
### Regarding the method for refilling cartridges:

Using our machine and its adapters, all BLACK INK cartridges mentioned in this manual are refilled using injection of ink through the printhead, except for the HP 20, 26 and 29 models, refilled using the maze.

## 10. Refilling Black Ink Cartridges

### ● Sponge Cartridges

Considering that the cartridge has just been emptied, and thus already connected to the adaptor, disconnect the adaptor from the “Vacuum Outlet”<sup>1</sup> and connect it to the large hose already connected to the machine’s “Ink Outlet”<sup>2</sup>.



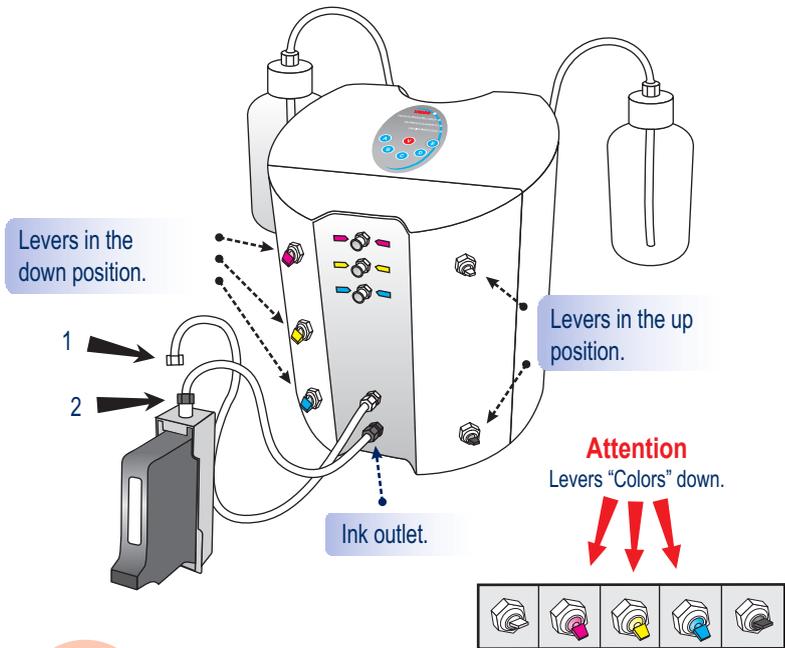
In this example we are using the Lexmark 70 cartridge, but all sponge cartridges must be refilled in the shown position (printhead turned down) and they use the same principles for being fitted into their respective adaptors.

Now follow the procedures for refilling on page 19. For cartridges with inner pouch, follow instructions on pages 17 or 18, according to the model.

### ● Pouch Cartridge

models HP 66(15), 516(40) and 516(45) - 15,40,45

Considering that the cartridge has just been emptied, and thus already connected to the adaptor, disconnect the adaptor from the “Vacuum Outlet”<sup>1</sup> and connect it to the large hose already connected to the machine’s “Ink Outlet”<sup>2</sup>.



#### Attention

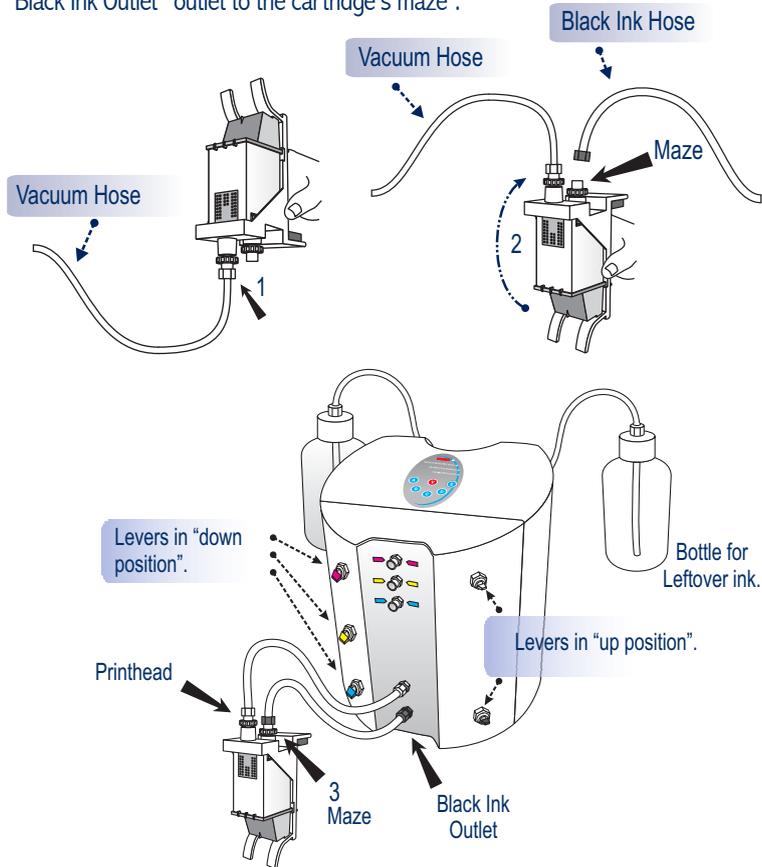
These cartridge models have to be depressurized after being refilled. Please follow instructions on page 20.

Cartridge is to be refilled as pictured (printhead in the up position). Using the largest hose, connect the adaptor to the machine’s ink outlet and follow procedures for refilling on page 19.

### ● Pouch Cartridge

models HP 6614(20), 516(26) and 516(29) - 20,26,29

Considering that the cartridge has just been emptied (through its printhead), this is already connected to the adaptor and that adaptor is connected to the “Vacuum Outlet”<sup>1</sup>, all you have to do is to invert the position of the cartridge<sup>2</sup> and connect the machine’s “Black Ink Outlet” outlet to the cartridge’s maze<sup>3</sup>.



Must be refilled in the position as illustrated (printhead in the up position). Follow procedures for refill in page 19.

### ● Filling Cartridges with Ink (Black cartridges)

Different cartridge models have different ink storage capacities. Table below describes the button to be pushed for refilling, in order that the cartridge gets the right amount of ink. After pressing the correct refill button wait until “CARTRIDGE READY” LED starts blinking.

Cartridge	Position of Levers			Press	Result
	White	Black	Colors		
HP 74/92					5 ml
HP 21/27/94/98					10 ml
HP 56/74XL/96					16 ml
HP 15/40/45					40 ml
HP 20/26/29					40 ml*
Lex 16/17					10 ml
Lex 50/70					40 ml
Canon BC-20					40 ml
Canon BC-02/BX					16 ml**

\* Refilling using maze and vacuum of “Vacuum Outlet” connected to the printhead.

\*\* Refilling using lateral duct. Remaining cartridges refilled using its printhead.

- Final ink volume in the “Result” considers the cartridge’s means for ink injection is working perfectly and that is fully unclogged.

- Final volume of ink pumped into the cartridge during a certain time interval may vary between those cases where ink penetrates through the printhead and where it penetrates the maze or duct, due to the difference in flow capacity found between those two means.

If you are refilling only the black cartridge do not forget to keep the COLOR levers in the DOWN position otherwise color inks will be also pumped according to the volume of the button listed in page 24.

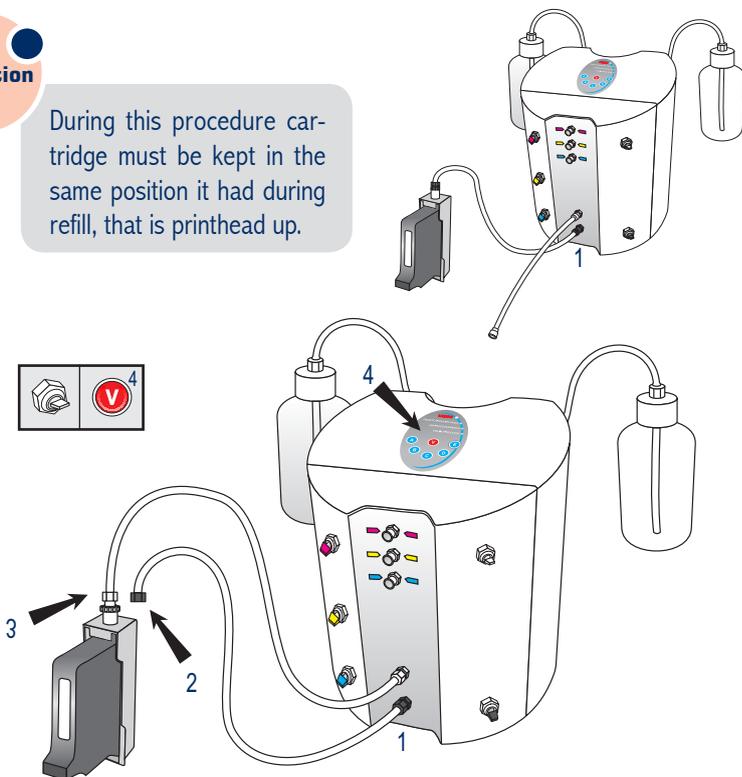
**Note:** HP Cartridges (15,40,45) and (20,26,29) have to be depressurized after refilling; learn how to do it on pages 20 and 21.

## 11. Depressurizing HP 15, 40, 45 Cartridges

Considering the fact that the cartridge has just been refilled and thus still connected to the machine's "Ink Outlet"<sup>1</sup>, withdraw the connector coupled to the adaptor<sup>2</sup> and connect the "Vacuum Outlet"<sup>3</sup> hose. Press the  panel button<sup>4</sup>. After 10 seconds, your cartridge is fully depressurized and ALL LEDs in the control panel start blinking during the "3 seconds window time" witch is the time you have to remove the cartridge from the adapter. Then machine will continue vacumm procedure for another 20 seconds witch must be ignored.

### Attention

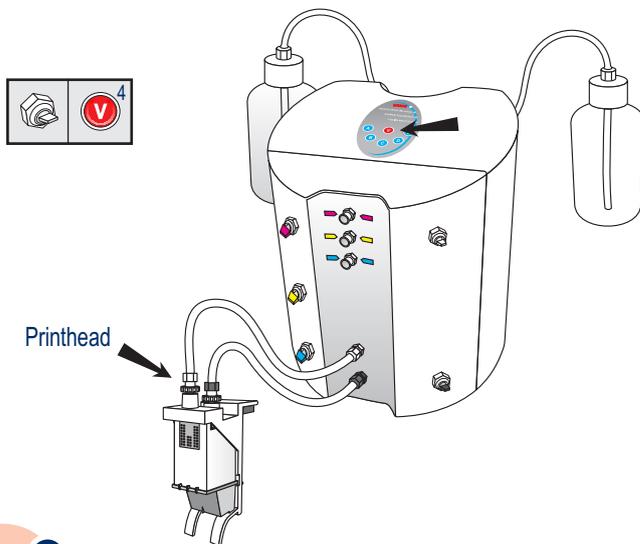
During this procedure cartridge must be kept in the same position it had during refill, that is printhead up.



Depressurization takes air from the inside of the cartridge, as well as a little portion of ink, thus creating negative pressure inside the cartridge. In case you have not verified passing of ink through the hose at "Vacuum Outlet" until the depressurization is finished, repeat the procedure.

## 12. Depressurizing HP 20, 26, 29 Cartridges

Considering the fact that the cartridge has just been refilled, thus still connected in the same manner, now press the  panel button<sup>4</sup>. After 10 seconds, your cartridge is fully depressurized and ALL LEDs in the control panel start blinking during the “3 seconds window time” witch is the time you have to remove the cartridge from the adapter. Then machine will continue vacumm procedure for another 20 seconds witch must be ignored.



### Attention

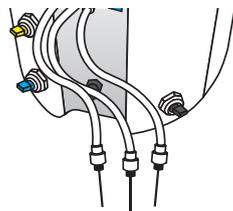
During this procedure the cartridge must be kept in the same position that it was occupying during refill, that is, printhead up.

Depressurization takes air from the inside of the cartridge, as well as a little portion of ink, thus creating negative pressure inside the cartridge. In case you have not verified passing of ink through the hose at “Vacuum Outlet” until the depressurization is finished, repeat the procedure.

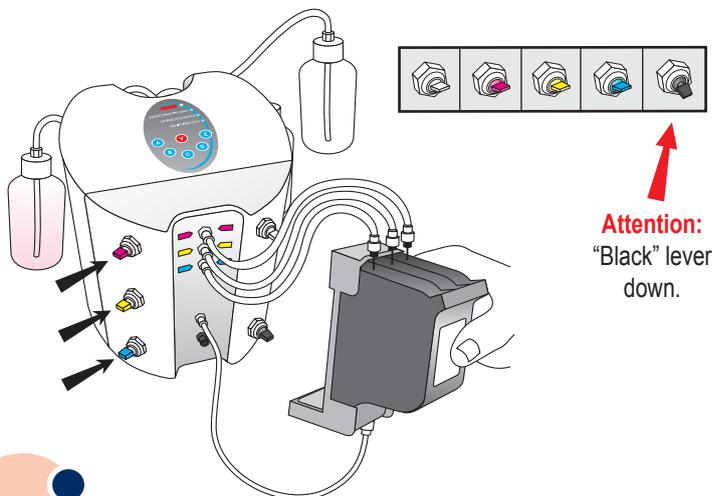
## 13. Refilling Color Cartridges

**1** - Connect the front hoses to the needles used for the refilling of the cartridge, according to the Table below:

Small Needle	HP 22, 28, 57, 93, 95 e 97 Lex 26 e 27
Medium Needle	HP 25 e 49 Lex 17G, 60, 80 e 120
Large Needle	HP 17, 23, 41 e 78



**2** - Considering the fact that the cartridge just now has been emptied and thus already coupled to the adaptor, and the adaptor to the “Vacuum Outlet”, drill sponges introducing the needles(see next page) and keep up levers “White, Magenta, Yellow and Cyan” and lever “Black” down. Then press the refill button related to the cartridge model according to Table on page 24.



**Attention**

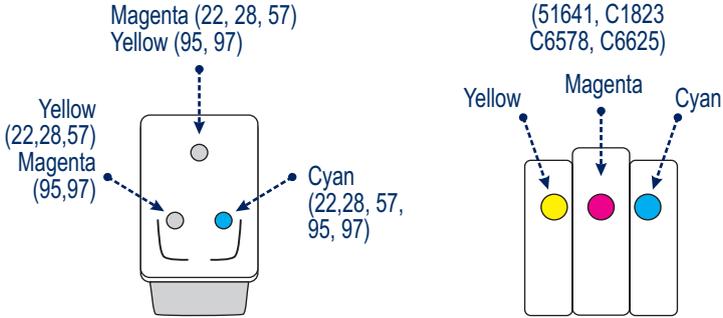
Watch very carefully the position regarding cartridges' colors, not to refill compartment with the wrong color.

## Refilling Color Cartridge (continued)

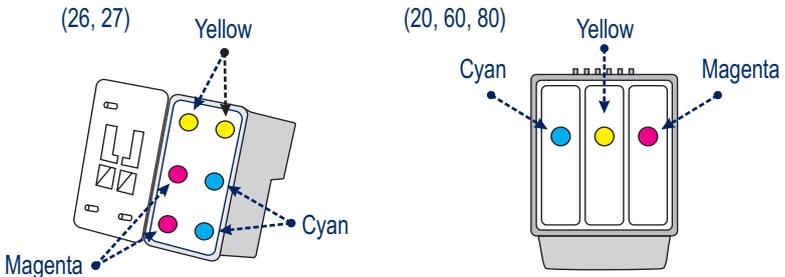
### Ink Color Positioning

Below you will find references regarding the colors cartridge positioning to be followed when placing needles, depending on the model of cartridge you wish to refill.

#### ● HP Cartridges



#### ● Lexmark Cartridges



### ● Filling Cartridges with Ink (Color cartridges)

Different models of cartridges have different capacities for storing ink. Table below describes the sequence of buttons to be pressed at the time of refilling, in order that the cartridge gets the correct amount of ink. After pressing the correct refill button wait until “CARTRIDGE READY” LED starts blinking.

Cartridge	Position of Levers			Press	Result
	White	Black	Colors		
Brand / Model	White	Black	Colors	Button	Volume
HP 60/75/93 Lex 27					5 ml
HP 22/28/95/75XL HP 60XL - Lex 26					7,2 ml
HP 25/49/57/97 Lex 20/25/60/80					17 ml
HP 17/23/41/78					20 ml

EAC connected to the printhead trough the original Ready2Fill adapter.

Final ink volume, as indicated on column “Result” takes into consideration cartridges' loss of ink resulting from EAC's simultaneous vacuum, and assumes that cartridge's printhead is perfect and not obstructed in any manner.

#### Attention

After refilling disconnect IMMEDIATELY the cartridge from the adaptor, as its permanence will cause color contamination.



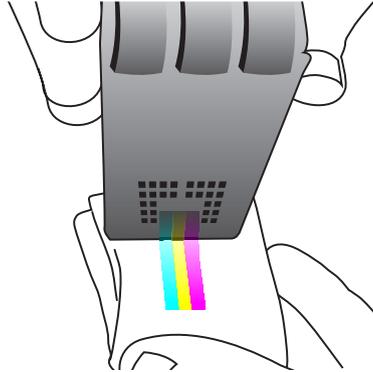
Clean the printhead using wet towel paper. Try the 3-color test, by pressing the printhead against humid towel paper.

Movement of inks must be always in the same direction as ink stripes.

# 15. Self-Cleaning System

Self-cleaning of hoses, recommended in cases where the machine is not to be used for a long period of time\* or has its front hoses disconnected because of any reason. (Such as transportation).

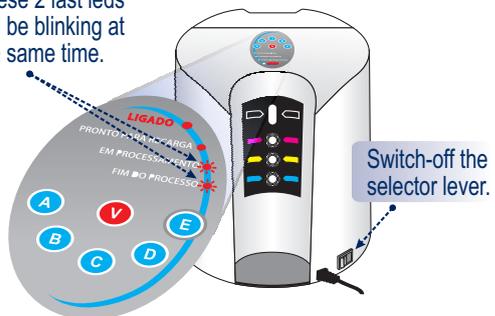
Leave front hoses connected to the “Collecting Box” and the 5 front levers up.



**1** - Lower the “White Lever” . The “FILLING / PRIMING” LED on the panel will blink and inks will be pumped towards the ink refills for 15 seconds. After that, pumping will be interrupted and during 5 seconds(window time) the “CARTRIDGE READY” LED will be also blinking.

**2** - The 5 seconds is the time you will have to switch-off the machine, or RAHS\*\* procedure will run and you'll have to start once more the Self-Cleaning operation. (Item 1)

These 2 last leds will be blinking at the same time.



\* At least once a month.

\*\* RAHS - Removing Air from Hose System.

## Get to Know Other Ready2Fill Products



**TF900**  
AUTOFLEX

### Professional Line

Fully automatic and micro-processed, TF900AUTOFLEX has 6 independent programs and does not require any interference regarding refilling on the part of the operator. Each program takes the exact time for refilling required for each cartridge model.

**TFTRI**  
COLOR

### Professional Line

TFTriColor is a machine designed specially for the professionals in the refilling area, as it refills all color ink cartridges in the market!



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For additional data call  
Easy Group LLC  
4981 Irwindale Ave, Suite 200  
Irwindale, CA, 91706  
Tel: 213-784-4955  
Fax: 213-232-3670  
Email: [contact@easygroup.us](mailto:contact@easygroup.us)

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