



# Atecpool Reg-X Filter

## Regenerative Filter

### INSTRUCTIONS, USE AND MAINTENANCE MANUAL



Supplier:	Atecpool S.L.
Model:	Reg-X Filter Regenerative Filter
Serial Number:	XXXXXX
Manufacture Year:	XXXXXX
Date:	XXXXXX



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## 1. GENERAL

This manual is supplied as documentation for the filter **RF-XXXX-XXXX**, with serial number **XXXXXXXXX**.

It will be considered valid as long as it is not modified by the client or third parties.

### 1.1 Description

Regenerative filter with micronized perlite filter medium for the maintenance and cleaning of large artificial bodies of water, sports lagoons, water parks, fountains, large swimming pools, spas or industrial applications, made of **Fiberglass Reinforced Polyester (FRP)**.

## 2. SAFETY PRECAUTIONS

Please strictly adhere to the following warnings:

	Please read these instructions carefully before using a Reg-X.
	It is strictly forbidden to climb on the Reg-X filters, as well as their connections.
	Keep the Reg-X filter out of the reach of children or people with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction.
	For all maintenance work, disconnect the power supply from the Reg-X filter using the disconnect switch located on the right side of the control panel.
	The Reg-X filter must only be operated by qualified and trained personnel.

### 3. TECHNICAL DATA

# RF-PRFV

Model	Height (mm)	Diameter (mm)	Filter Area (m <sup>2</sup> )	Perlite Load (kg)	In / Out	Flow Rates (m <sup>3</sup> /h) *
RF-PRFV-620	1.850	620	14,2	4	D125	36 - 64
RF-PRFV-750	1.900	750	21,8	6	D140	54 - 98
RF-PRFV-900	1.950	900	31,6	9	D160	79 - 142
RF-PRFV-1050	2.050	1.050	50,1	15	D200	125 - 225
RF-PRFV-1200	2.100	1.200	64,8	18	D250	162 - 292
RF-PRFV-1400	2.200	1.400	90,7	27	D315	227 - 408
RF-PRFV-1600	2.200	1.600	114,3	32	D315	286 - 514

\* Flow Rates at 2,5 and 4,5 m<sup>3</sup>/h/m<sup>2</sup> Filter Rates

Other Data:

Maximum Working Differential Pressure	0,7 kg/cm <sup>2</sup>
Maximum Working Pressure	2,0 kg/cm <sup>2</sup> (PN2,5)
Test Pressure	3,75 kg/cm <sup>2</sup>
Working Temperature	1°C – 40°C



# RF-316L

Model	Height (mm)	Diameter (mm)	Filter Area (m <sup>2</sup> )	Perlite Load (kg)	In / Out	Flow Rates (m <sup>3</sup> /h) *
RF-3xxL-400	1,800	400	6.0	2	D75	15 – 27
RF-3xxL-600	1,900	600	15.8	4	D125	40 – 71
RF-3xxL-800	1,950	800	30.9	9	D160	77 – 139
RF-3xxL-1000	2,050	1,000	52.0	15	D200	130 – 234
RF-3xxL-1200	2,100	1,200	68.2	18	D250	170 – 307
RF-3xxL-1400	2,100	1,400	93.0	27	D315	232 – 418
RF-3xxL-1600	2,200	1,600	120.0	32	D315	300 - 540

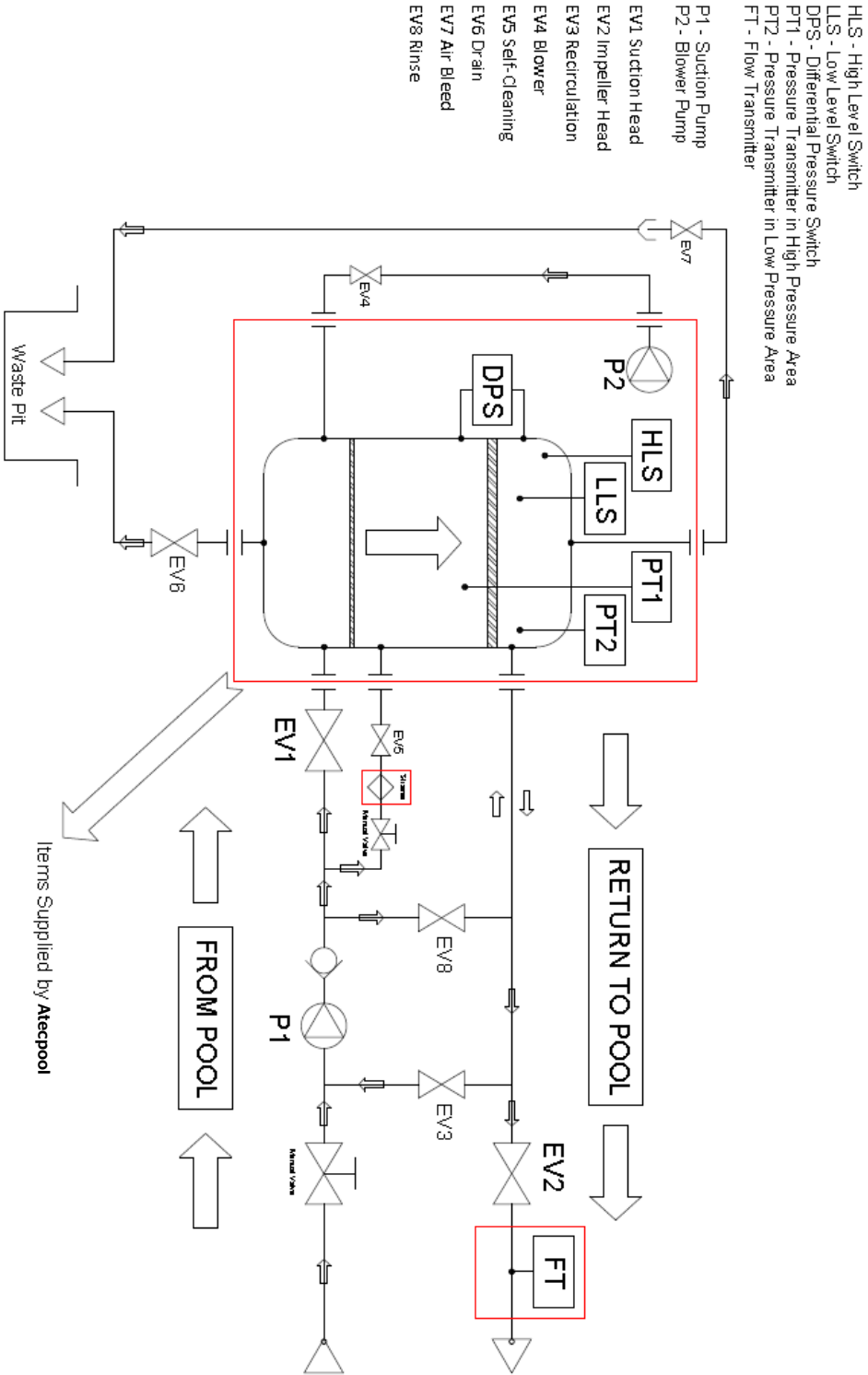
\* Flow Rates at 2,5 and 4,5 m<sup>3</sup>/h/m<sup>2</sup> Filter Rates

Other Data:

Maximum Working Differential Pressure	0,7 kg/cm <sup>2</sup>
Maximum Working Pressure	6 kg/cm <sup>2</sup> (PN6)
Test Pressure	9 kg/cm <sup>2</sup>
Working Temperature	1°C – 40°C



## 4. OPERATING SCHEME





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## 5. CONTENT

Carefully remove all items from the shipping box, and check against the packing list. You must have:

Documentation.

1 regenerative filter **RF-XXXX-XXXX**.

1 control panel.

1 display and control screen (HMI Siemens 7" in front of the panel)

2 analog pressure sensors (PT1 and PT2).

1 pressure switch (APS) (installed in the control panel).

1 level sensor (HLS and LLS).

1 triple effect suction valve.

1 flow sensor + clamp saddle + connection piece + cable (FT).

1 high performance blower pump + filter + PVC elbow.

1 vacuum machine + 2 hoses + 2 manual valves 1" with spikes.

1 polypropylene strainer of 2" for self-cleaning system.

1 differential pressure switch (DPS) (optional).

8 single effect pneumatic valves + gaskets + screws + nuts + washers (optional)

## 6. HANDLING INSTRUCTIONS

### 6.1 *Packaging*

Filters are usually supplied in 2 wooden pallets appropriate to the size of the filter and accessories, as standard in a vertical position. Some elements are wrapped in plastic protective film.

### 6.2 *Stock*

If the filter is not going to be installed in the short term, it should be kept in its original packaging and stored under cover, protected from the sun and inclement weather.

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### 6.3 Engine Room

The engine room must have a surface area large enough to allow an installation appropriate to the size of the filter and to facilitate the installation and handling of the auxiliary elements that make up the filtering system, as well as adequate maintenance.

The **ground** must be **perfectly level before placing the filter** in its final position.

It must have a drainage system to prevent flooding in the event of accidental water leaks in pipes, filters or pumps, as well as good ventilation.

**The filter is emptied by gravity**, so the engine room must have access to a drain with sufficient slope to allow the filter to be completely emptied along with the perlite and dirt it has retained. If connection to sanitation is not possible, the room must have a sump large enough to discharge the filter volume + 50% into it (self-cleaning system), as well as be equipped with a submersible gray water pump of proper flow to the equipment.

### 6.4 Placement in Engine Room

- Due to its weight and shape, the filter does not allow manual movement. Its transfer can be carried out with the use of suitable machinery for it and with the help of at least two people to monitor the stability of the structure during its transfer.
- Use a forklift or crane to load, unload and handle the filter.
- Use the eyebolts located on the upper manhole of the filter to lift it and transport it to the desired location. Use a cable or sling suitable for the weight of the filter. Any movement or handling of the filter must be done only with the filter empty of water and perlite.
- To move the filter, never grab it by the inlet or outlet connections, control panel, ventilation and cleaning connections, suction intakes or peephole.
- Never try to hook the filter inside to lift or pull it.
- Never roll the filter to transport it.
- Filters are built to withstand internal pressures, but are vulnerable to side impacts. Avoid hitting the filter.
- The filter **must be installed more than one meter from any enclosure or structure of the building** to avoid the transmission of noise and vibrations by these elements, as well as to be able to carry out commissioning and/or maintenance tasks.
- The filter will be placed in the corresponding position and it will be leveled before starting up.

- 
- To connect the filter to the piping system, only remove the protective plastic from the connection sockets. **Do not remove the protective plastic that wraps the filter body** until the installation works in the engine room are completely finished.
  - **Avoid the use of welding machines or radial saws** near of the filter. The particles expelled by these tools can contaminate the steel or cause damage to the FRP or PVC top coat.
  - **When you are going to place the filter in its final location, make sure that the ground surface is perfectly flat and clean. Make sure you have left enough space around the filter to facilitate checks and maintenance operations.**

## 7. INSTALLATION AND CONNECTION INSTRUCTIONS

During the entire installation and connection process, keep the power supply of the Reg-X filter disconnected through the disconnect switch located on the right side of the control panel.
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- The electrical installation will be carried out by the purchaser of the filter, and must be carried out in accordance with the provisions of this Manual, following the connection scheme provided by Reg-X.
- The installation will be carried out by an authorized installer and will comply with the current rules and regulations that apply to them in this matter.
- The electrical installation will be protected with the corresponding differential and magneto-thermal interruption devices, taking into account the power forecast demanded by the pumps installed according to the model and the sections of the conductors.
- - The installation will be carried out with an insulated conductor at 0.6/1 Kv, protecting the cable entry of the pumps terminal boxes, by means of a system that guarantees its tightness. The conductor must be arranged in an area not accessible to the passage of people.
- The installation must be protected by grounding the terminal box of the control panel, the pumps and the metallic structure of the filter, if applicable.
- The installer who carries out this installation must carry out a test in front of the client where the efficiency of both the power switch disconnecter and the emergency button is demonstrated.
- The electrical installation may undergo modifications with respect to the magneto-thermal protections and conduit section at the installer's discretion as long as it complies with the current Low Voltage regulations.

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- The control panel must be placed and tied in the vicinity of the filter.
  - The **impulsion pumps** will be equipped with a **Variable Speed Drives**, with its corresponding maneuvering and motor protection equipment. The connections indicated in the supplied connection diagram must be connected to the electrical panel. Said drives must be capable of having two different speeds programmed, input for drive activation and activation indication output.
  - The electrical installation must have an emergency stop button located near the area where the machine is located.
  - The **blower pump** must be placed and tied close to the filter, above the top of the filter, and connected to the control panel according to the supplied connection diagram.
  - For the installation of the **pneumatic valves**, all of them must be **installed without the pneumatic actuator**. Once all the connection of pipes with their pertinent supports has been made, the corresponding pneumatic actuators will be placed.
  - Single acting pneumatic **actuators ARE ALWAYS CLOSED** if they do not have air pressure. When you are going to install them on the valves, make sure that **THE VALVES ARE ALSO CLOSED**.
  - All the valve solenoids will be connected to the control panel, according to the supplied connection diagram.
  - Place and tie the 2 perlite load manual valves.
  - Connect the level sensor to the control panel.
  - Place and tie the differential pressure switch (DPS) (if purchased) and the 2 pressure transmitters (PT1 and PT2) to the connectors located in the suction and discharge pipes of the filter. Connect them to the control panel.
  - Connect and fasten the flow sensor supplied after the Impeller Head valve (EV2). The location should be in a straight pipe zone, at least 5 nominal pipe diameters before and 3 nominal pipe diameters after any elbow or valve. Connect the flow sensor to the control panel.
  - Connect the ground connection of the filter casing to the electrical panel (only in stainless steel filters).
  - Connect the power connection of the control panel.

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## 8. START-UP

### 8.1 Hydraulic Test

Although the filter is tested and verified at the factory, it is advisable to test it again by starting up the installation with only water before filling it with the filter medium. This hydraulic test will detect any sealing problem that may have occurred both in the installation and in the filter. In addition, these tests will allow to calibrate the times of filling, emptying, cleaning, etc. during startup.

### 8.2 Leak Test

Before putting the filter into operation, the following checks must be made:

- Check the fastenings of the filter, verifying that it is properly anchored to the ground.
- Verify that all maneuvering equipment is perfectly connected.
- Check the connections of the electrical equipment and any sign of leaks in the hydraulic and pneumatic circuits.

Once the above has been verified, the start-up must be carried out by qualified and instructed personnel in the Reg-X regenerative filters.

To do this, first connect the power supply located on the right side of the control panel. Once the system is initialized, the "Start" button will appear.

After being sure that the emergency stop button located on the control panel is not pressed, the "Start" button on the touch panel must be pressed, with which the filtration system will begin to work, beginning to carry out STATUS 1: PRECOAT and filling the tank, activating valves EV5, EV7 and EV8, as well as the suction pump (or pumps).

Once the filter is full, the recirculation valve (EV3) will be open. From then on, once it has been verified that there are no water leaks through any joint, the process will be stopped using the "Stop" button on the touch panel.

Next, the filter will be emptied by pressing the "Self-Cleaning" button on the touch panel.

Once empty and clean, the filter will go back to STATUS 0: REST. From that moment, the perlite load can be carried out.

Once the micronized perlite load has been carried out in the filter, you can begin to filter your installation.

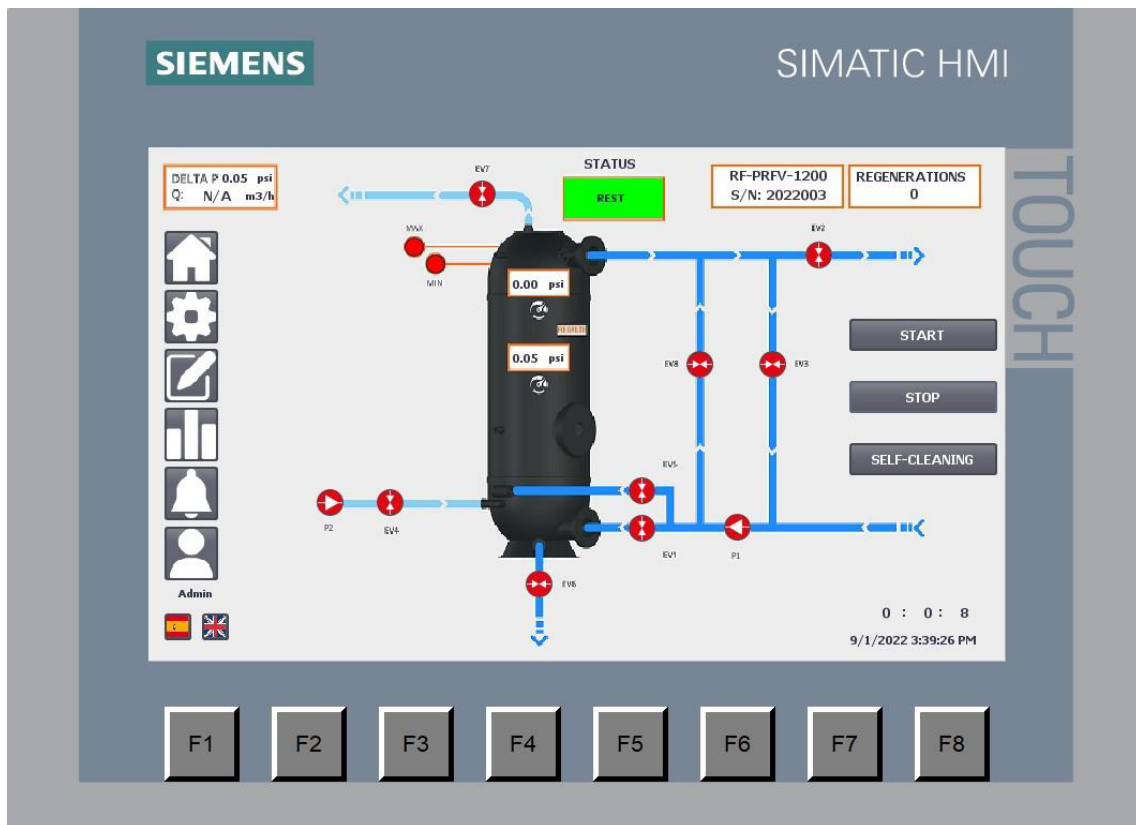
Use a recommended filter medium according to the technical information provided in the filter characteristics.

## 9. EQUIPMENT OPERATION

The operation of the Reg-X filters is fully automatic (except perlite loading), so the operator will not have to worry about following a sequence of steps or manually activating various valves to carry out the filter operation. Reg-X follows an automatic scheme of states, which will be explained below.

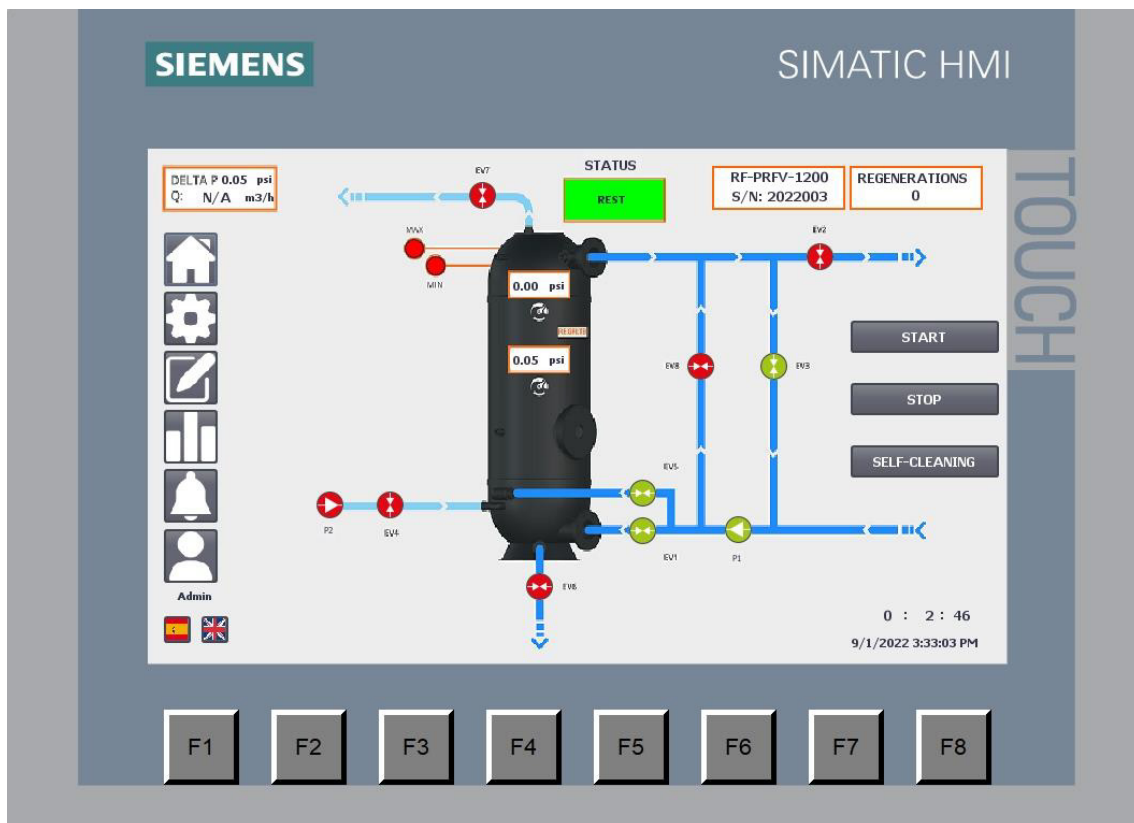
### 9.1 STATUS 0: REST

In this status, the filter is waiting to start filtering or emptying the tank, with all auxiliary systems and equipment prepared and on standby, and all valves closed.



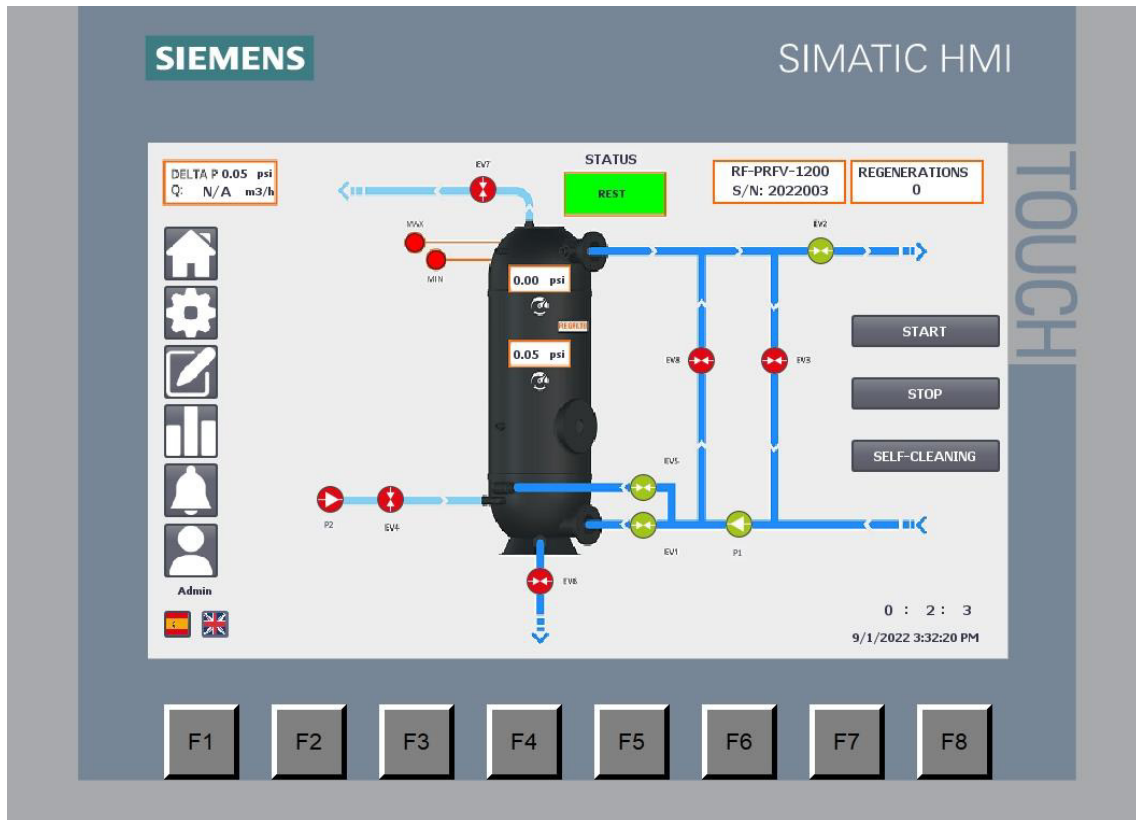
## 9.2 STATUS 1: PRECOAT

Once the "Start" button is pressed, the filter will start to work, carrying out a process of coating the inner hoses with the filter medium. This process can take between 5 and 10 minutes approximately.



### 9.3 STATUS 2: FILTRATION

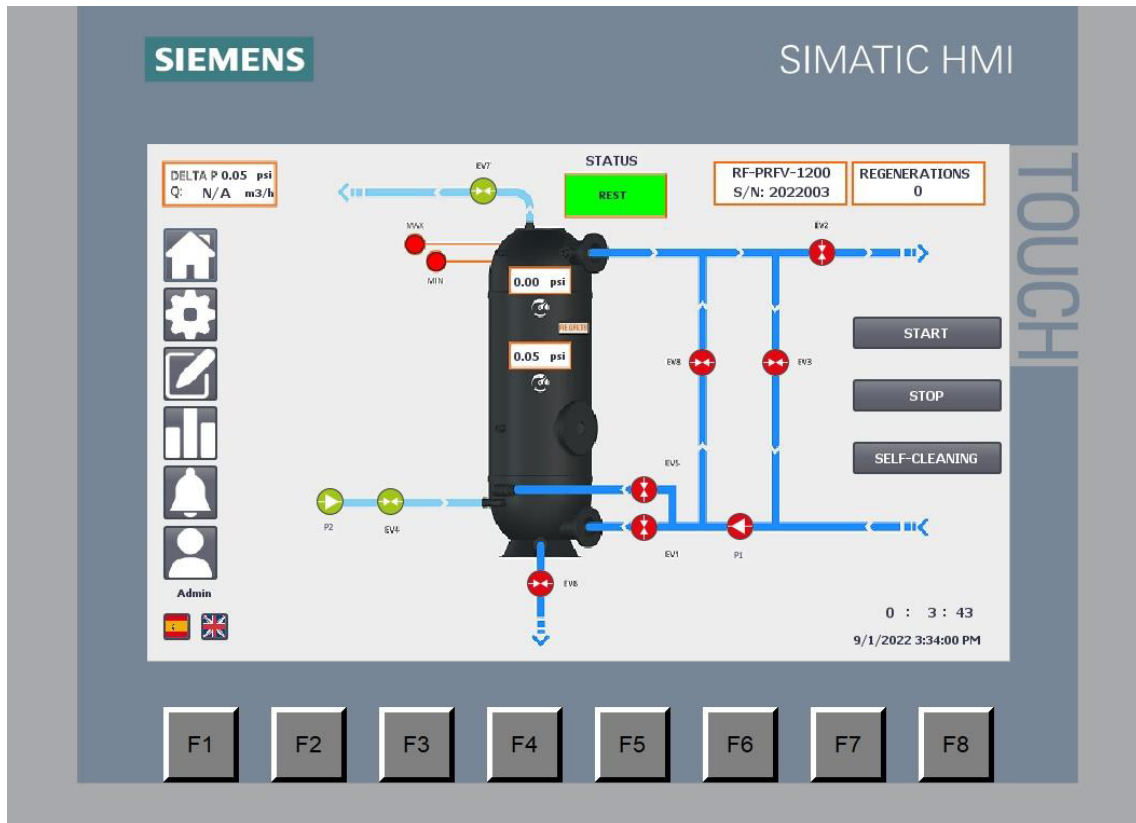
Once the hoses have been covered with the filter medium, the equipment begins to filter the water.





### 9.4 STATUS 3: REGENERATION

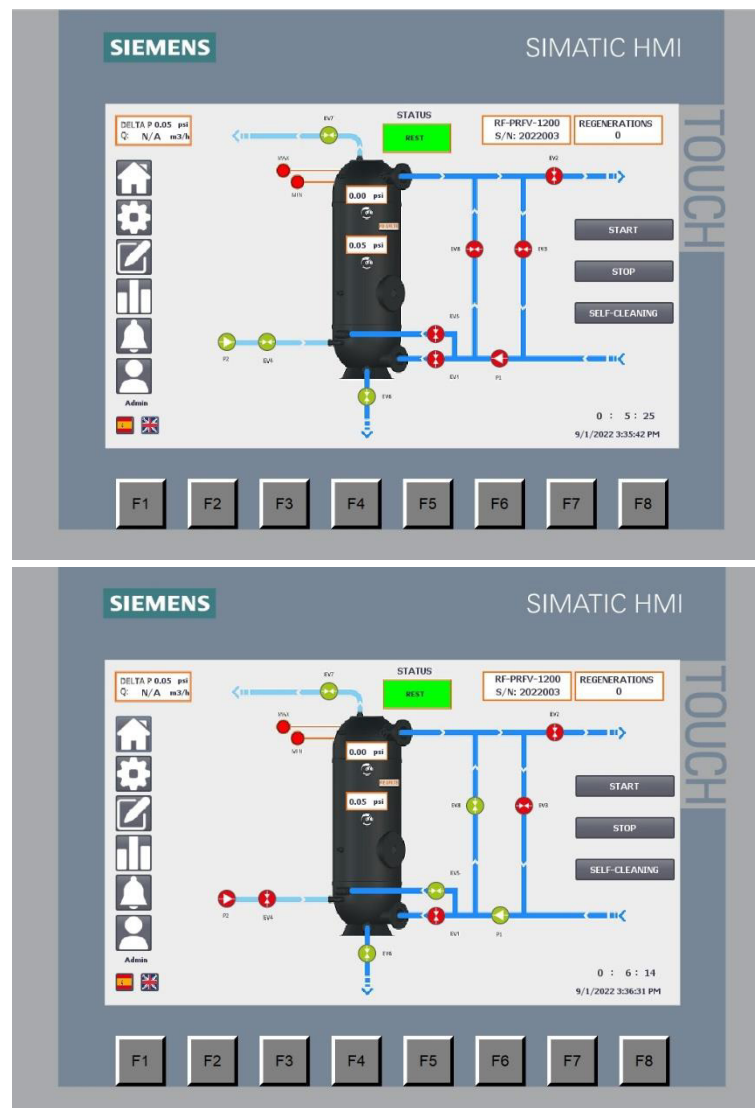
When the filter medium that covers the hoses is clogged with dirt, Reg-X's patented filter medium active regeneration technology acts to completely detach the filter medium from the hoses.



## 9.5 STATUS 4: SELF-CLEANING

When the filter media ends its useful life after a large number of regenerations, it is time to empty and clean the filter. To do this, the operator does not have to do more than press the "Self-cleaning" button, so that the filter empties automatically, in addition to activating the Reg-X patented self-cleaning system. Once the internal cleaning of the filter is finished, the system will ask the operator to charge the perlite load that corresponds to the filter model.

Once the Self-Cleaning cycle has finished, the message "Reg-X clean and empty. Load perlite and make sure all valves are closed".



## 9.6 Perlite load

To load the perlite, the filter must be completely empty and you need to follow these steps:

- Clean the pipe and the 1" manual valve located in the central body of the filter. To do this, you can use a thick rod or cable. On the one hand, connect the charging hose supplied by Reg-X to the pin of the perlite manual charging valve located in the central body of the filter and open the valve. Through this hose you can introduce the charge of perlite corresponding to your equipment into the filter.
- On the other hand, connect the vacuum machine to the pin of the manual filling valve placed for this purpose in the upper part of the dome, open said valve and switch on the vacuum machine. At this point you can already suck up the amount of perlite that corresponds to your filter model. Once the prescribed perlite load has been carried out in the filter (see SECTION 3. TECHNICAL DATA), the vacuum machine must be stopped. Carefully clean the valves and hoses, removing any remaining filter media, and close both the upper suction valve and the perlite loading valve.
- Once the micronized perlite has been loaded into the filter, you can start over with the filtration of your installation. To do this, you just need to press the "Start" button. After that, the filter will be completely filled, and it will automatically go on to carry out the Precoat.
- It is important to point out that before performing the Self-Cleaning cycle, the cleaning system strainer must be cleaned, to guarantee that the system works correctly.

## 10. CONTROL TOUCH-SCREEN

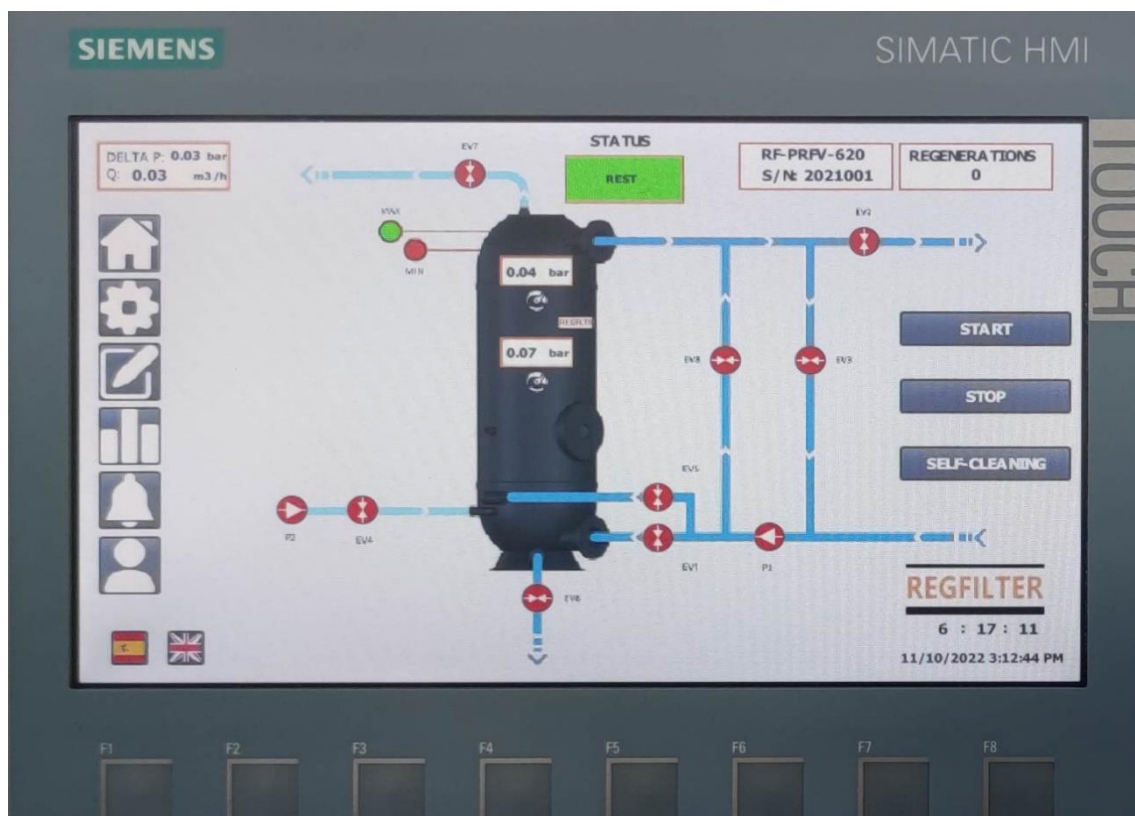
### 10.1 HOME

It is the main screen of the control system.

It shows (from left to right and from top to bottom):

- DELTA P: It is the differential pressure of the equipment, obtained as the difference in pressure between the high pressure area (lower part of the filter, with the raw water) and the low pressure area (upper part of the filter, with the water already filtered), measured in bar.
- Q: Flow Rate in m<sup>3</sup>/h (if the flow sensor is connected).
- STATUS: The working status of the filtering system (see CHAPTER 9).
- MODEL and SERIAL NUMBER.

- REGENERATIONS: Number of regenerations carried out since the last Self-Cleaning.
- MAX/MIN: Level probe signals.
- PT2 Pressure: Absolute pressure at the top of the filter (already filtered water) (low pressure zone), measured in bar.
- PT1 Pressure: Absolute pressure at the bottom of the filter (raw unfiltered water) (high pressure zone), measured in bar.
- “Start” button: After pressing the button, the Reg-X filtration system starts to work.
- "Stop" button: Stops the operation of the filtration system, stopping pumps and closing all valves, so that the system remains at rest status and totally sealed.
- “Self-Cleaning” button: When pressed (only from STATUS 0: REST), the Reg-X filtration system performs the Self-cleaning cycle (see CHAPTER 9).
- LANGUAGE: To select between Spanish (🇪🇸) and English (🇬🇧).
- Time in current status.
- Date and time.



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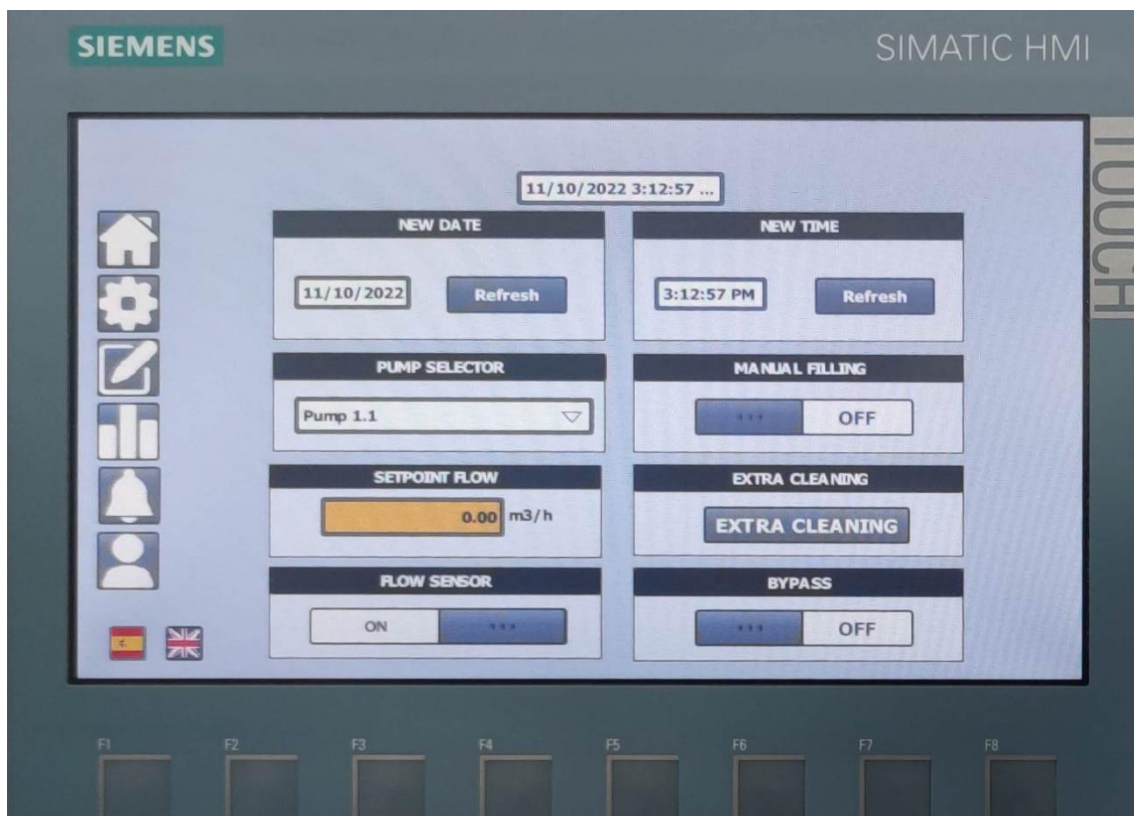
## 10.2 SETTINGS

It is the control system operator settings screen.

The settings that can be set are as follows:

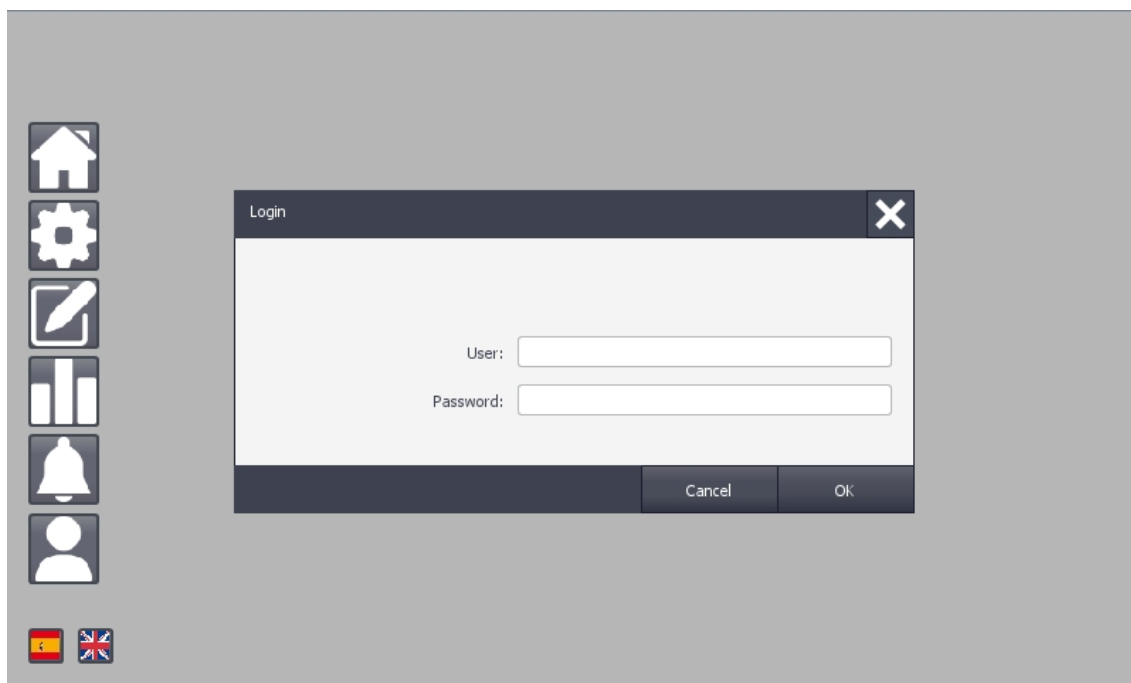
- **NEW DATE:** A new date can be set (MM/DD/YYYY) (DD/MM/YYYY in Spanish language)
- **NEW TIME:** A new time can be set (HH:MM:SS)
- **PUMP SELECTOR:** The Reg-X filtration system is prepared to work with up to two pumps at the same time. The operator can select to work with one of the pumps, with the other or with both at the same time.
- **MANUAL FILLING:** In case the operator wants to fill the filter manually, he can press the button, which will turn ON. This will start the selected pump, and begin to fill the filter through the rinse valve (EV8), keeping the air purge valve (EV7) open to allow as much air as possible to evacuate. Once the operator “hears” that water is about to come out of said air purge valve, he must press the MANUAL FILLING button again, turning it to OFF. From this moment on, the rinse and air purge valves will be closed, finishing filling the filter only through the Self-Cleaning system (EV5). When the level sensor detects that the filter is full, the pumps stop and the equipment remains at rest.
- **SETPOINT FLOW:** Allows a setpoint flow to be established so that the variable frequency drive (VFD) modifies its operating frequency to always try to maintain said flow. To do this, the flow sensor must be activated (option not available on all units).
- **EXTRA CLEANING:** The “Extra Cleaning” cycle can be performed after a Self Cleaning cycle. As we have already seen, when performing the Self Cleaning of the filter, we must first empty it to later carry out the cleaning itself. The "Extra Cleaning" only performs the washing cycle (without emptying the filter, since it should already be empty), so it is useful depending on the characteristics of the installation's drainage system, the type or the amount of dirt that has been filtered, if you want to renew a little more water to lower the chloramine or TDS index, etc.
- **FLOW SENSOR:** The operator must indicate if the flow sensor is connected or not.

- **BYPASS:** The “Bypass” cycle allows water to circulate without going through the filter. To start the Bypass cycle, you just have to press the “Bypass” button, turning it ON. At that moment, the selected pumps will start and the rinse valve (EV8) and return to pool valve (EV2) will open. To stop the Bypass cycle, you just have to press the “Bypass” button again, which will turn OFF, stopping the pumps and closing both valves.



### 10.3 ADMIN SETTINGS

In this menu (only accessible if you have Administrator permission), you can manually activate all the system outputs one by one, modify operating times, pressures, sensor characteristics, etc.

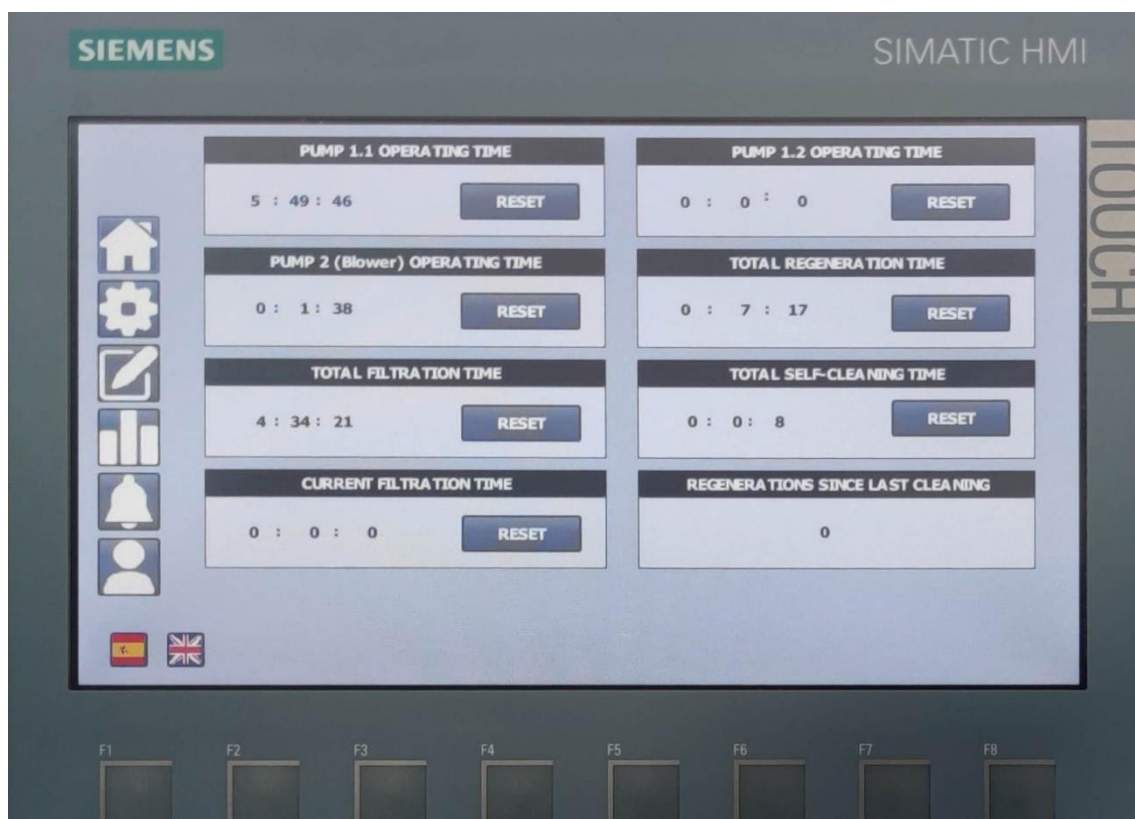


### 10.4 STATISTICS

The following system statistics are displayed on this screen:

- PUMP 1.1 OPERATING TIME: Indicates the running time (HH:MM:SS) of pump 1.1. The RESET can only be done if you have Administrator permissions.
- PUMP 1.2 OPERATING TIME: Indicates the running time (HH:MM:SS) of pump 1.2. The RESET can only be done if you have Administrator permissions.
- PUMP 2 (Blower) OPERATING TIME: Indicates the operating time (HH:MM:SS) of the blower pump (P2). The RESET can only be done if you have Administrator permissions.

- **TOTAL REGENERATION TIME:** Indicates the total time (HH:MM:SS) invested in carrying out regenerations. The RESET can only be done if you have Administrator permissions.
- **TOTAL FILTRATION TIME:** Indicates the total time (HH:MM:SS) invested in carrying out the filtration. The RESET can only be done if you have Administrator permissions.
- **TOTAL SELF-CLEANING TIME:** Indicates the total time (HH:MM:SS) invested in performing Self-cleaning cycles. The RESET can only be done if you have Administrator permissions.
- **CURRENT FILTRATION TIME:** Indicates the time (HH:MM:SS) invested in carrying out the filtration since the last regeneration (or cleaning, if no regeneration has been previously carried out). The RESET can only be done if you have Administrator permissions.
- **REGENERATIONS SINCE LAST CLEANING:** Indicates the number of regenerations carried out since the last time a Self-cleaning cycle was carried out. Once the Self-Cleaning cycle has completely finished, the counter is reset to 0.





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## 10.5 ALARMS



This screen shows the alarms that occur, and it is the place to validate the alarms to eliminate them once the fault has been solved.

The possible alarms are the following:

- **PERL NEC (ALARM)**
  - When numerous consecutive regenerations take place in short intervals of time.
  - System shutdown: **STATUS 0: REST.**
  - Message: “Perlite change required”.
  - Message disappears when **STATUS 4: SELF-CLEANING** Is carried out.
  - While this alarm is active, only Self Cleaning or Bypass can be performed.
  
- **PRESS AIR (ALARM)**
  - Occurs when APS (Air pressure safety pressure switch) does not detect enough air pressure.
  - System shutdown: **STATUS 0: REST.**
  - Message: “Not enough air pressure. Check compressed air line”.
  - Message disappears when we have enough air pressure again and the alarm is validated in the “**Alarms**” menu.
  
- **PARA EME (ALARM)**
  - Occurs when the Emergency Stop button (SPE1) is pressed.
  - System shutdown: **STATUS 0: REST.**
  - Control buttons disabled.
  - Message: “EMERGENCY STOP activated”.
  - Message disappears when the Emergency Stop Interlock (SPE1) is released. The control buttons are activated again.
  
- **PRESS ABS (ALARM)**
  - Occurs if the pressure detected by probe “PT1” (High Pressure Sensor) or that detected by “PT2” (Low Pressure Sensor) is higher than the maximum pressure of the system for a certain time.
  - System shutdown: **STATUS 0: REST.**
  - Message: “Absolute working pressure too high. Contact with Technical Support”.
  - Message disappears when the alarm is validated in the “**Alarms**” menu.

- 
- **PRES EQU (ALARM)**
    - Occurs if the pressure detected by probe “PT1” (High Pressure Sensor) and that detected by “PT2” (Low Pressure Sensor) are practically identical for a certain time (only during **STATUS 2: FILTRATION**).
    - System shutdown: **STATUS 0: REST**.
    - Message: “Identical Working Pressures. Contact with Technical Support”.
    - Message disappears when the alarm is validated in the “**Alarms**” menu.
  
  - **PRES DIF (ALARM) (if differential pressure switch (DPS) is connected)**
    - It happens when the differential pressure switch (DPS (Differential Pressure Switch)) detects a pressure higher than the established one for more than 10 seconds.
    - System shutdown: **STATUS 0: REST**.
    - Message: “Excessive Differential Pressure. Contact with Technical Support”.
    - Message disappears when the alarm is validated in the “**Alarms**” menu.
  
  - **REGE DIF (ALARM)**
    - Occurs if the differential pressure remains very high after regeneration (at the end of **STATUS 3: REGENERATION**).
    - System shutdown: **STATUS 0: REST**.
    - Message: “Failure during Regeneration. Contact with Technical Support”.
    - Message disappears when the alarm is validated in the “**Alarms**” menu.
  
  - **FALL BOM (ALARM)**
    - It happens if, after a certain time, the level sensor has not detected that the filter is full of water (HLS (High Level Switch)). Probably unprimed pump.
    - System shutdown: **STATUS 0: REST**.
    - Message: “Pump Failure”.
    - Message disappears when the alarm is validated in the “**Alarms**” menu.

- 
- **FALL VFD (ALARM)**
    - It happens if, after a certain time, despite the fact that the system keeps the VFD signal active, they are stopped for some reason (probably, lack of water in the compensation tank or electrical failure).
    - System shutdown: **STATUS 0: REST.**
    - Message: “VFD Failure”.
    - Message disappears when the alarm is validated in the “**Alarms**” menu.
  
  - **FLOW HIG (ALARM)**
    - It happens when the flow sensor is activated and the flow is higher than the established maximum (in **STATUS 2: FILTRATION**) for a certain time.
    - System shutdown: **STATUS 0: REST.**
    - Message: “Flow too high”.
    - Message disappears when the alarm is validated in the “**Alarms**” menu.
  
  - **FLOW LOW (ALARM)**
    - It happens when the flow sensor is activated and the flow is lower than the established minimum (in **STATUS 2: FILTRATION**) for a certain time.
    - System shutdown: **STATUS 0: REST.**
    - Message: “Flow too low”.
    - Message disappears when the alarm is validated in the “**Alarms**” menu.

## 10.6 USER'S CHANGE



It is used to switch between the “User” user (without permissions) and the “Admin” user (with permissions for certain settings, manual mode, etc.).

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## 11. MAINTENANCE, INSPECTIONS AND CHECKS

### 11.1 *Maintenance*

The maintenance of a REGENERATIVE FILTER is relatively scarce, if not non-existent. As its name indicates, regeneration is a process by which we subject the filter to a change in its internal resting conditions. The system patented by Reg-X generates a state of the internal water similar to a cyclone, which causes the filtering medium that was in contact with the surface of the hoses and that had generated a layer that no longer allowed an ideal filtration, to detach from the hoses. Once the regeneration process is finished, the internal state of the liquid returns to a circulating state and the perlite is once again placed on the walls of the hoses. With this automatic process that is carried out only when necessary and automatically to guarantee the filtering quality, it is achieved that it is not necessary to carry out continuous changes of perlite.

At the same time as the maintenance and cleaning of the suction pump strainers is carried out, **the cleaning system strainer must also be cleaned**, to guarantee that the system works correctly.

### 11.2 *Spare Parts*

For the supply of spare parts, contact the manufacturer of the machine.

### 11.3 *Daily Maintenance*

- Cleaning and checking the good condition of all visible parts.
- Check that there are no alarms or warnings.

## 12. HIBERNATION

In periods of long shutdown, such as the closing of facilities during the winter, make sure to leave the Reg-X filter completely clean. This can be achieved by performing, in addition to the Self-Clean cycle, performing at least two additional "Extra Clean" cycles. Once the filter is completely clean, and without loading perlite, fill the equipment with water by pressing the "Start" button and stop it by pressing the "Stop" button once it is completely full and start **STATUS 1: PRECOAT**. You can also perform a "Manual Fill".

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Once these steps have been completed, make sure all exterior parts of the filter are completely clean and dry. Turn off the power to the control box.

At the end of this shutdown and return to daily service, proceed with the operations on the Reg-X filters from the beginning of this use and maintenance manual, first performing a Self-Cleaning cycle to completely empty the filter and be able to load the perlite. It is recommended to carry out at least two additional “Extra Clean” cycles before loading the perlite.

## 13. FAQ

### **WHAT HAPPENS IF THE REGX HAS NO INTERNET CONNECTION?**

For operational or filtration quality purposes, absolutely nothing. If the filter has an internet connection, you will be able to see its operation in real time, having access to operation statistics, etc. from any device with an internet connection by accessing the username and password provided through the IoTControl platform (if contracted). Otherwise, you will only be able to access said information from the HMI incorporated in the control panel.

### **WHAT HAPPENS IF AN ALARM GOES OFF AND THERE IS NO ONE TO DETECT IT?**

The alarms can be configured to send a notice to the appropriate person through the IoTControl platform (if contracted).

### **HOW SHOULD I START UP THE EQUIPMENT?**

The start-up of the Reg-X equipment must be carried out by qualified technicians designated by Reg-X.

Under no circumstances should anyone who has not been trained by the manufacturer attempt commissioning.



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	Failure to follow the instructions in this manual will result in loss of warranty for the damaged material.
	Be sure that you have correctly understood all the instructions read in this manual before you start using a Reg-X filter.

Thank you for trusting in our exclusive filtration system.

For any questions, contact us at [info@atecpool.com](mailto:info@atecpool.com)