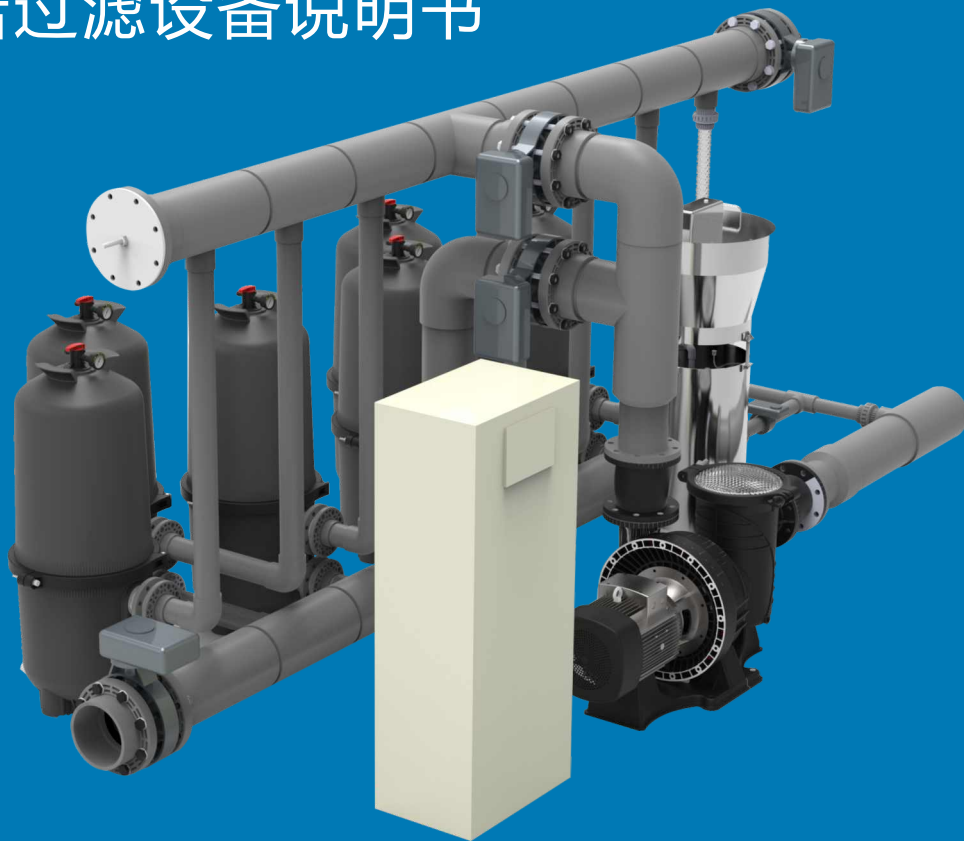




# DIATOMACEOUS EARTH FILTRATION SYSTEM 珍珠岩过滤设备说明书



## USER MANUAL

**Models: IDE72-8**

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# 1. PRODUCT INTRODUCTION 产品介绍

The Emaux DE (Diatomaceous Earth) filtration system is an efficient and advanced swimming pool filtration solution, specifically designed for pool filtration. The system utilizes the exceptional filtering performance of diatomaceous earth/ perlite, capable of capturing even the smallest particles, ensuring a clean and healthy swimming environment. The system features a graphical user interface, making the system easy to control and allowing you to easily monitor the system's performance and maintain optimal water quality. It has automatic functions for coating the DE and cleaning the filter. This intelligent system can automatically manage the coating of the DE filter media, ensuring sustained high-efficiency filtration throughout the entire filtering process. Additionally, the automatic cleaning function helps maintain the filter's performance, reducing the need for manual maintenance and prolonging the system's lifespan. The system boasts a flow rate of up to 150 m<sup>3</sup>/h, making it suitable for large-scale swimming pools. This high flow rate ensures rapid water circulation and effective filtration, providing you with a refreshing and comfortable swimming experience.

Emaux 珍珠岩过滤设备是一款高效且先进的游泳池过滤解决方案, 专门设计用于泳池过滤。该系统利用珍珠岩/珍珠岩卓越的过滤性能, 能够捕捉甚至最微小的颗粒, 确保一个干净且健康的游泳环境。Emaux珍珠岩过滤设备采用图形显示界面, 易于控制系统, 使您轻松掌握系统的性能并维持最佳的水质。自动控制涂层 DE 和清洗过滤器的功能。这种智能系统能够自动管理 DE 滤料的涂层, 确保在整个过滤过程中保持持续高效的过滤效果。此外, 自动清洗功能有助于维护过滤器的性能, 减少人工维护的需求, 延长系统的使用寿命。Emaux 珍珠岩过滤设备拥有高达 150m<sup>3</sup>/h 的流量, 适用于各大型的游泳池。这高流量确保了水快速循环和有效过滤, 为您提供清新舒适的游泳体验。

# 2. PRODUCT SPECIFICATIONS 产品规格

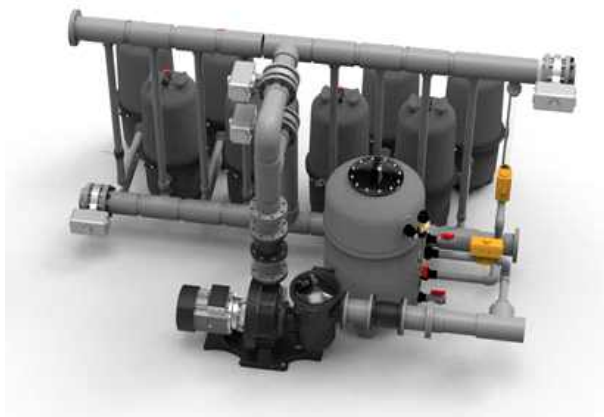
Code 代码	Model 型号	Filtration area 过滤面积	Maximum flow rate 最大流量	Inlet/ Outlet connection 主管接管尺寸	Recommended weight of DE (First start or after rinse) 建议珍珠岩投加量 (第一次启动或冲洗后)
922020001	IDE72-8	52.8m <sup>2</sup>	160m <sup>3</sup> /h	6"/GB160	20-24.8kg
922020002	IDE72-6	39.6m <sup>2</sup>	120m <sup>3</sup> /h	6"/GB160	15-18.6kg
922020003	IDE72-4	26.4m <sup>2</sup>	80m <sup>3</sup> /h	6"/GB160	10-12.4kg

## Electrical parameters 电气参数

Code 代码	Model 型号	Operating voltage 工作电压	Operating power 工作功率
922020001	IDE72-8	380V 50Hz, 3 phase 5 wires 三相五线	14kW
922020002	IDE72-6	380V 50Hz, 3 phase 5 wires 三相五线	11kW
922020003	IDE72-4	380V 50Hz, 3 phase 5 wires 三相五线	9kW

Any self-diagnostic, disassembly, or modification of the electrical circuits in the Emaux DE filtration system must be carried out exclusively by professional pool technicians.

必须由专业人员/泳池技术人员自检修、拆改连接相关电路。



### 3. EQUIPMENT INSTALLATION 设备安装



Equipment installation must be done by a professional/pool technician.

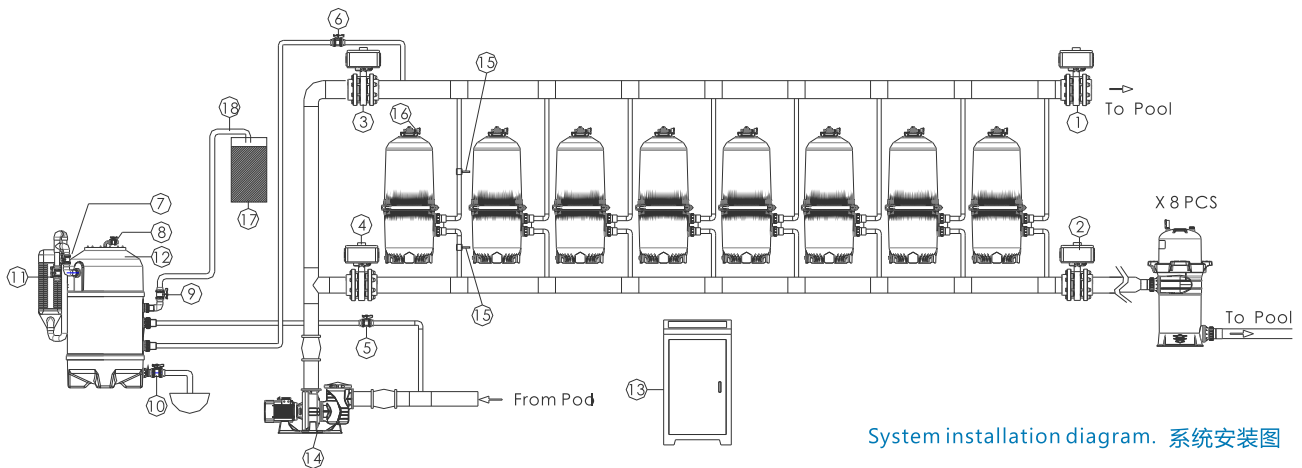
Circuit diagram installation and connection, reference circuit diagram, must be installed by a qualified technician.

设备安装必须由专业人员/泳池技术人员负责安装。

电路图安装和连接, 参考电路接线图, 必须由合格技术人员进行安装。

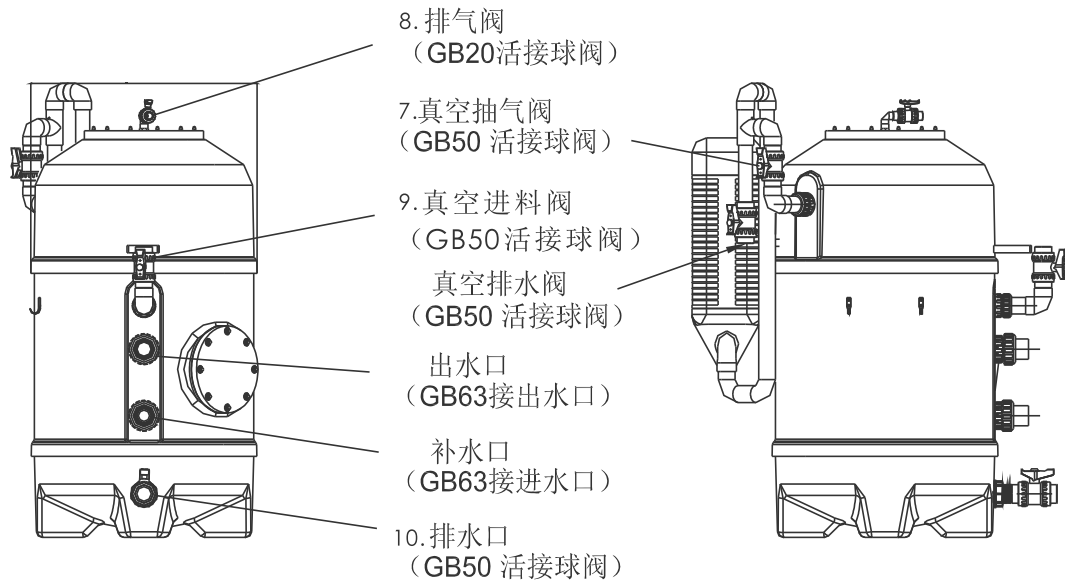
Emaux diatomaceous earth filtration system consists of the following parts:

Emaux 珍珠岩过滤设备包括有以下部分:



System installation diagram. 系统安装图

Numbering 编号	Name 名称	Specification 规格	Quantity 数量	Numbering 编号	Name 名称	Specification 规格	Quantity 数量
1	Outlet valve 出水阀	GB160 Electric Butterfly Valve GB160 电动蝶阀	1	11	vacuum pump 真空泵	IDE72-8 220V 2KW	1
2	Drain valves 排水阀	GB160 Electric Butterfly Valve GB160 电动蝶阀	1	12	Mixing tank 投料筒	GDB750L	1
3	Backwash inlet valve 冲洗进水阀	GB160 Electric Butterfly Valve GB160 电动蝶阀	1	13	Control box 控制柜	IDE72-8	1
4	Filtration inlet valve 过滤进水阀	GB160 Electric Butterfly Valve GB160 电动蝶阀	1	14	Filtration pump 过滤泵	APS1500P	1
5	Chemical feed valve 加料阀	GB63 Electric Butterfly Valve GB63 电动蝶阀	1	15	Pressure transmitters 压力变送器	PS6000-CR-BZ-A1-A-0.5/CD3	2
6	Water supply valve 补水阀	GB63 Electric Butterfly Valve GB63 电动蝶阀	1	16	DE filter IDE72-8 珍珠岩过滤器IDE72	IDE72	8
7	Vacuum suction valve 真空抽气阀	GB50 solenoid valve GB50 活接球阀	1		DE filter IDE72-6 珍珠岩过滤器IDE72		6
8	Air release valve 排气阀	GB20 solenoid valve GB20 活接球阀	1		DE filter IDE72-6 珍珠岩过滤器IDE72		4
9	Vacuum inlet valve 真空进料阀	GB50 Live Ball Valve GB50 活接球阀	1	17	Perlite(powder, for lamination) 珍珠岩(粉, 准备覆膜用)	/	1
10	Drain valves 排水阀	GB50 Live Ball Valve GB50 活接球阀	1	18	hose 钢丝软管	Inner dia.50mm 内径: 50mm	1



Mixing tank and main pipe connections  
投料筒和主要管道接口

Please refer to the system installation diagram and wiring diagram for the connection methods (please contact the authorized distributor to obtain these).

- Connect the IDE72 filter, filter pump, control box, and Mixing tank to the pipeline system according to the system installation diagram.
- Users should prepare the connecting pipes and pipe supports themselves. Connect the pipeline system according to the installation diagram and install the relevant brackets to support and secure the pipes, ensuring that the system connections are correct and stable.
- The Mixing tank serves as an auxiliary tool for adding and mixing powder. Its Make-up inlet should be connected to the outlet of the DE tank, and its chemical feeding port should be connected to the inlet of the pump. Please refer to the system installation diagram for specific connections.
- After installation, ensure that the electric butterfly valve is securely installed and rotates smoothly. (Manually rotate the electric butterfly valve to ensure smooth movement without any obstruction.)
- The pressure transmitter installation requires a 20mm opening.
- Vacuum drain valve is used to drain and clean the vacuum pump filter and water in the pipeline.

连接方式请参考系统安装图及电路接线图 (请联系授权经销商提供)

- 将IDE72过滤器、过滤泵、控制柜、投料筒按照系统安装图连接连接管道系统
- 用户自行准备连接管道和管道支撑, 按照系统安装图连接管道系统, 并安装相关支架支撑并固定管道, 确保系统连接正确并且稳固。
- 投料筒作为加料的辅助工具, 其加料口连接到水泵的进水口, 其补水口连接到过滤桶的出水口, 具体连接请参考系统安装图。
- 安装后要确保电动蝴蝶阀安装紧固后转动顺畅 (手动旋转电动蝴蝶阀, 确保转动顺畅及没有任何卡阻)。
- 压力变送器安装位置开孔20mm
- 真空排水阀用于排放和清理真空泵过滤器及管路中的水。

## 4.DEVICE OPERATION 设备操作

### Precautions 注意事项



1. Before operating the equipment, ensure that the manually operated valves connected to the external system are in the open position.
2. Do not use any type of coagulant or flocculating agent.
3. Promptly clean the vacuum pump filter cartridge and remove any accumulated water in the pipes (by use Vacuum drain valve).

1. 设备运行前, 要确保连接系统外部的的手动阀门处于打开状态
2. 禁止使用任何形式的具有絮凝效果的药剂
3. 及时清理真空泵滤芯及管道积水

Emaux Diatomaceous earth filtration system has 4 different operating functions, which are controlled by the opening and closing of different valves.

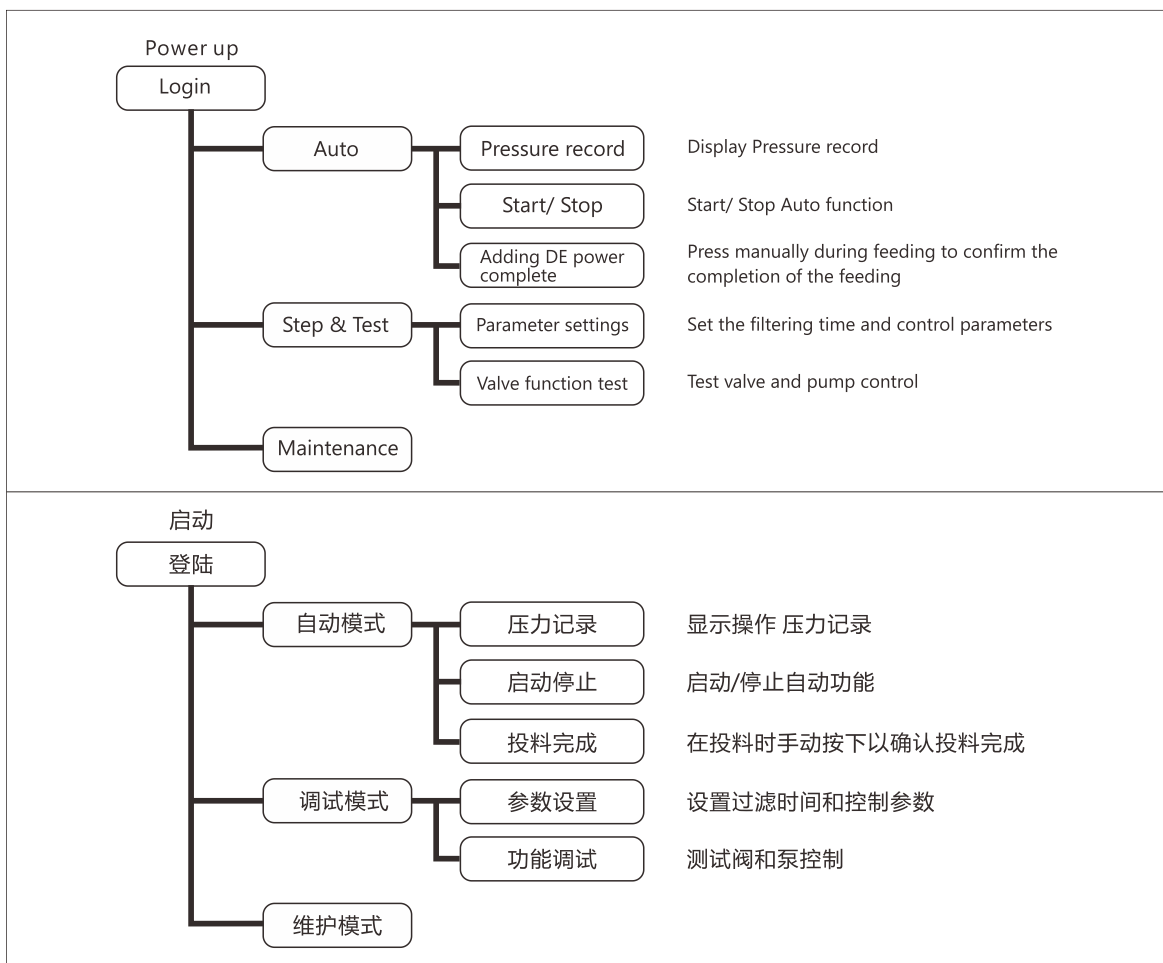
Emaux 珍珠岩过滤设备有4种不同的操作功能, 通过不同的阀门的开启和关闭来控制。

Operational functions 操作功能	Valve Status(Open) 阀门状态 (开启)	Valve Status (Closed) 阀门状态 (关闭)	Function 功能
Precoating 覆膜	5 Chemical feed valve, + 6 Water supply valve, + 4 Filtration inlet valve 5号加料阀, + 6号覆膜阀, + 4号进水阀	Other valves 其他阀门	Form a uniform diatomaceous earth film layer inside filter systems (IDE72) 在过滤器内部形成一层均匀的珍珠岩膜层
Filtration 过滤	1 Outlet valve, + 4 Filtration inlet valve 1号出水阀, + 4号进水阀		System filtration 珍珠岩过滤系统过滤
Water level reduction 降低液位	7 Air release valve, + 10 Drain valve 7号排气阀, + 10号手动球阀		
Rinse 排水	4 Filtration inlet valve, + 2 Drain valve 4号进水阀, + 2号排污阀		When the filter needs to be cleaned thoroughly, the drain valve can be opened to completely drain the water inside the filter. 当需要彻底清理过滤器时,可以打开排水阀门,将过滤器内的水完全排出。
Backwashing 冲洗	3 Backwash inlet valve, + 2 Drain valve 3号进水阀, + 2号排污阀		Backwash the filter to remove accumulated mpurities and restore filtration performance. 反冲洗过滤器,清除积累的杂质,恢复过滤性能。
Add DE 加料	8 Vacuum suction valve, + 9 Vacuum powder inlet valve 8号手动球阀, + 9号手动球阀		Add diatomaceous earth (DE)/ Perlite 补充新的珍珠岩



## 5.CONTROL DISPLAY PANEL OPERATION 控制柜显示界面操作

The Emaux diatomaceous earth filtration plant control display panel provides the user with a simple control system. Once logged in, it contains three different modes for control and settings: Auto Mode, Setup & Test Mode, and Maintenance Mode

Emaux 珍珠岩过滤设备控制显示面板为用户提供了简单的控制系统。登录后,它包含三种不同的模式用于控制和设置:自动模式,调试模式,维护模式。



## 5.1 login 登录

Once activated, the display will  show the  login name and password to enter.

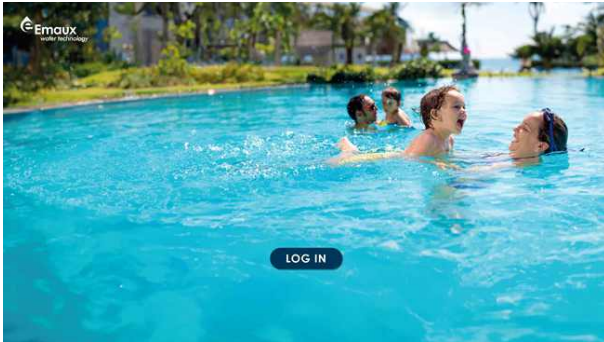
启动后，显示屏显示登录名  和密码  请输入

 User

 8552

Then press "Login". It will enter the mode interface.

然后按“登陆”。它将进入模式界面



Login screen



登录界面

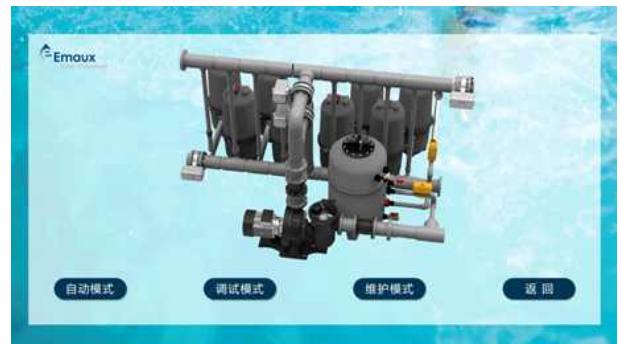
## 5.2 Modal interface 模式界面

Users can choose Automatic mode, Setup & Test mode, or maintenance mode, for monitoring the settings and control the system.

用户可以选择自动模式, 调试模式, 维护模式, 用于监控设置和控制系统.



Mode interface



模式界面

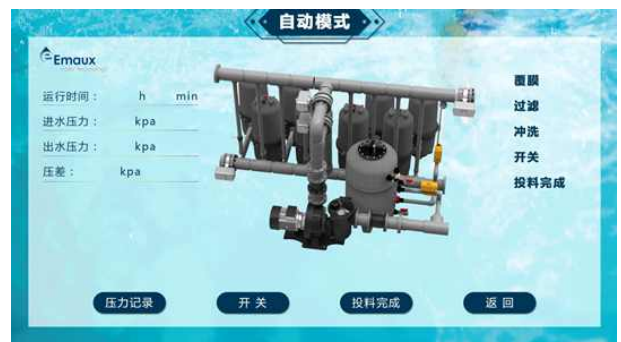
### 5.2.1 Automatic mode 自动模式

Provide user control automatic mode control: start/stop control, pressure recording and feeding completion control, and display key parameters.

提供用户控制自动模式控制：启动/停止控制、压力记录和投料完成控制, 并显示关键参数.



Automatic mode



自动模式

### 5.2.1.1 Button function 按键功能

- Pressure Record: Displays the operating pressure record
- Start Stop: Start stop automatic mode
- Feeding Completion: Press manually while feeding to confirm that feeding is complete
- 压力记录: 显示操作压力记录
- 启动停止: 启动停止自动模式
- 投料完成: 在投料时手动按下以确认投料完成

### 5.2.1.2 Execute the automatic mode program 执行自动模式程序

1. Prepare a container for the diatomaceous earth/ perlite and weigh an appropriate amount for pre-coating.
2. On the control panel: Setup & testing mode □ Parameter settings. Set the following parameters: 1) Pre-coating time, 2) Rinse time, 3) Number of re-coatings, 4) Start time, 5) Intermediate interval, 6) Stop time (for details, please refer to "Parameter Settings").
3. Open the 8 Vacuum Suction valve and 5 Chemical feed valve of the Mixing tank, then click "Start/ Stop" The system enters the mixing program, and the vacuum pump automatically starts to suck in the prepared diatomaceous earth/perlite into the Mixing tank.
4. Once the prepared diatomaceous earth/ perlite is sucked in into the Mixing tank, click "DE addition complete" The system enters the Pre-coating phase, operating for the set Pre-coating time, and then automatically switches to the filtration phase.

Notes:



- a) Before clicking "Start/ Stop" ensure the water level in the Mixing Tank is between the centre and the upper edge of the sight glass.
- b) Before clicking "DE addition complete," make sure to close valves of the Mixing Tank manually: 8 Vacuum suction valve + 9 Vacuum powder inlet valve. Only dry powder can be sucked in; do not suck in wet powder or aqueous solutions.

5. The filtration time operates according to the set start and stop times. After the set time, the system stops running and decides whether to execute the rinse based on the "Number of Re-Precoating"
6. If the number of re-Precoating has not been reached, the system stops running and waits for the next start. Upon starting, the system skips the DE addition phase, enters the Precoating phase, and after the precoating time is reached, executes the filtration phase.
7. When the number of re-precoating is reached, the system stops running and enters the rinsing phase. After the rinse time is reached, the system stops and waits; on the next start, the system will execute from the DE addition phase.
8. In automatic mode, clicking "Start/ Stop" will halt the filtration and wait for the next scheduled start.
9. System pressure: If it exceeds 0.3 MPa, an alarm will trigger a system shutdown. The alarm must be cleared before restarting.

Automatic system backwash conditions in automatic mode:

- When the pressure difference between the inlet and outlet of the system reaches 0.1MPa, the system automatically starts the backwash function, and stops the machine and waits.

1. 预先准备好装珍珠岩的容器，并称量适量的珍珠岩用于覆膜
2. 在控制面板上: 调试模式 □ 参数设置, 设置参数1) 覆膜时间, 2) 冲洗时间, 3) 重新覆膜次数, 4) 开启时间, 5) 中间间隔, 6) 关闭时间 (详细请参考“参数设置”)
3. 打开投料桶8真孔抽气阀和5号加料阀, 点击“开关”, 系统进入投料程序, 真空泵自动启动, 抽取准备好的珍珠岩到投料桶内
4. 当准备好的珍珠岩/珍珠岩抽到投料桶内之后, 点击“投料完成”. 系统进入覆膜阶段, 按照设定的覆膜时间运行, 到时间后自动转入过滤阶段。



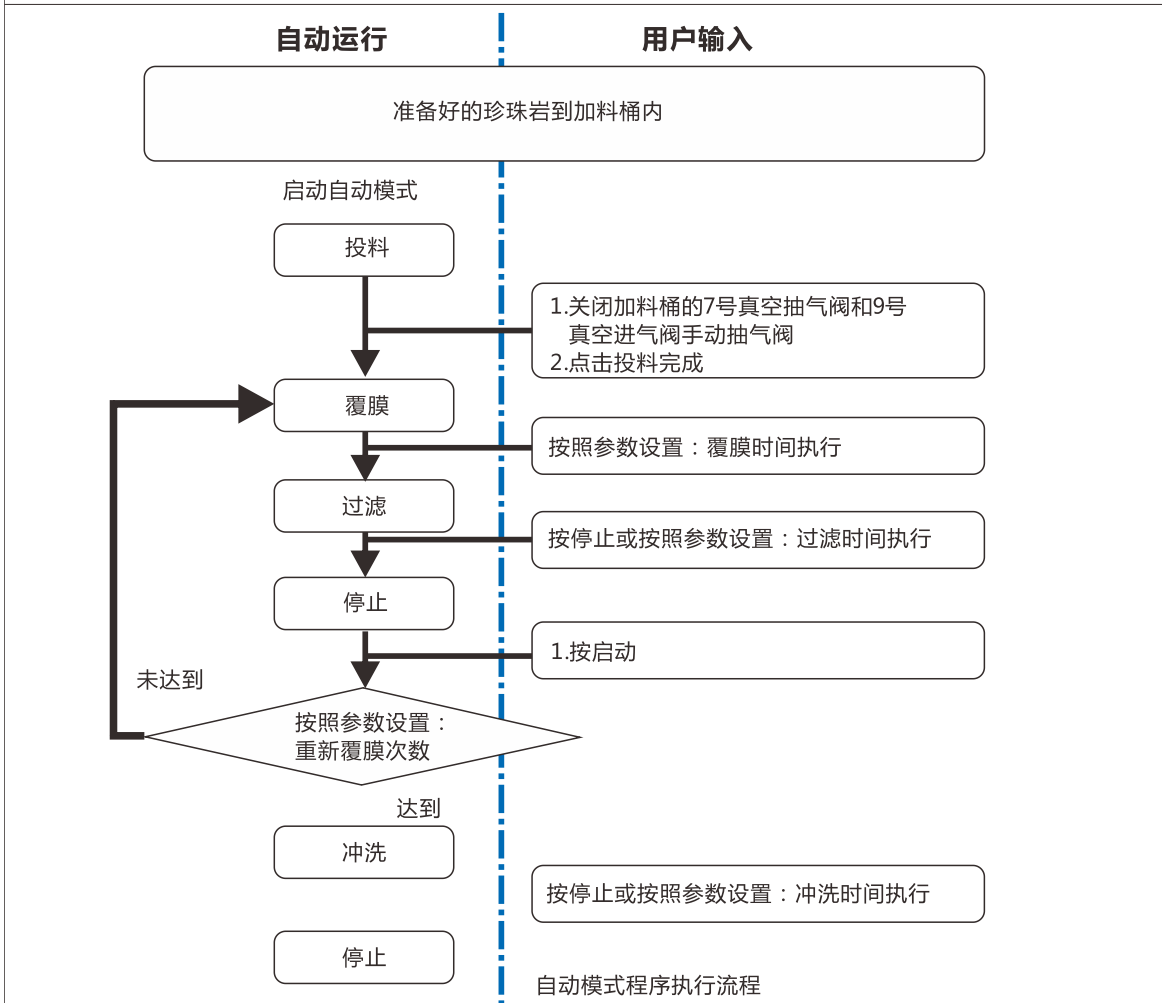
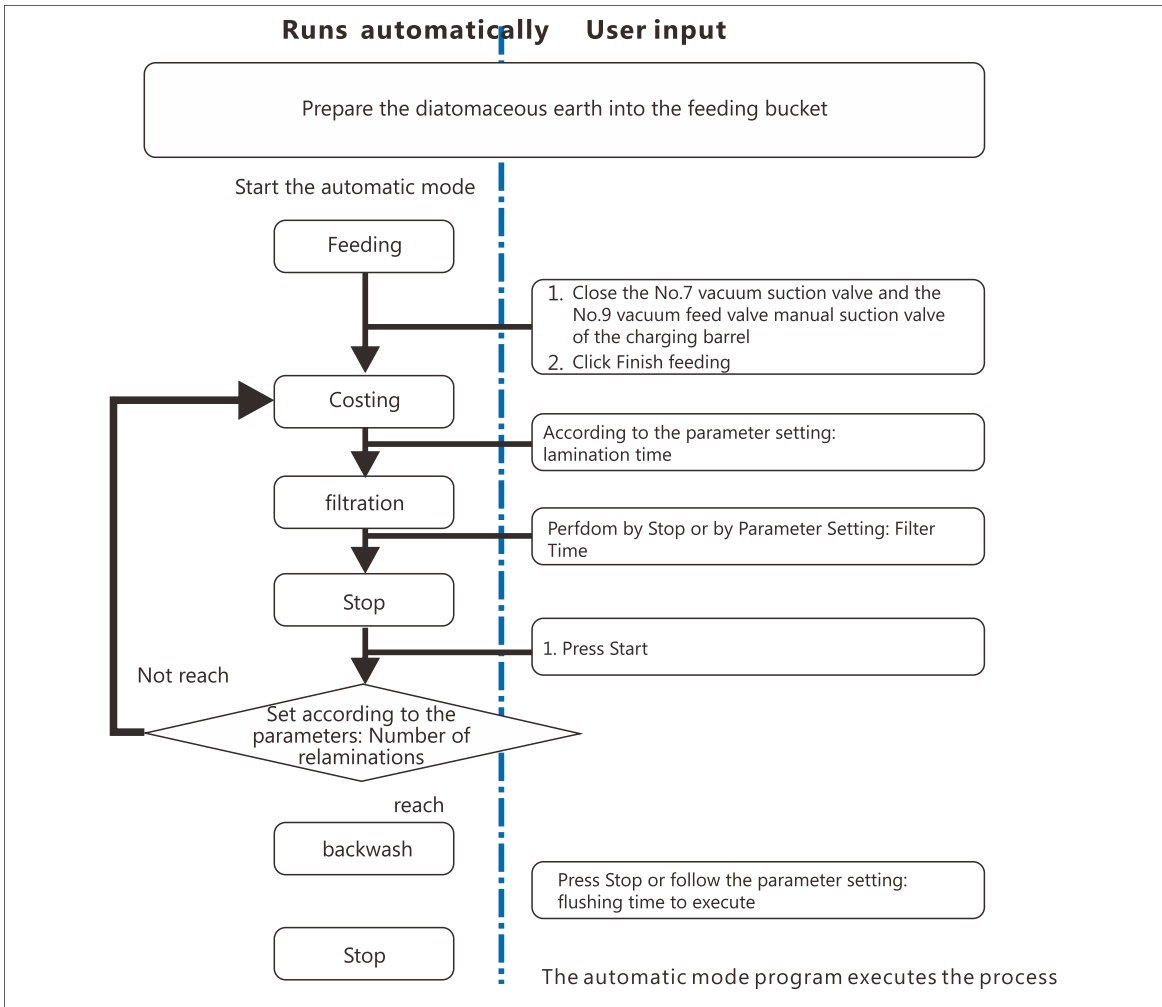
- a. 注意: 1. 点击启动前, 确保投料桶内水位在中间透视孔 (中心到上沿之间) 位置
- b. 2. 在点击加料完成之前, 一定要先关闭投料桶的手动阀门: 8号真空抽气阀和9号真空进料阀; 只能抽干粉, 不能抽湿粉或水溶液。

5. 过滤时间按照设定的开启时间和关闭时间运行, 到时间后, 系统停止运行, 系统根据“重新覆膜次数”选择是否执行冲洗;
6. 未达到重新覆膜次数时, 系统停止运行并等待下一次启动, 启动后, 系统跳过加料阶段, 进入覆膜阶段, 并在覆膜时间到达后, 执行过滤阶段;
7. 达到重新覆膜次数时, 系统停止运行, 并转入冲洗阶段, 达到冲洗时间后, 系统停机等待, 下一次启动时, 系统从加料阶段执行。
8. 自动模式下点击“停止”, 系统停止过滤, 并等待下一个启动时间启动
9. 系统压力: 超过0.3MPa会造成系统报警停机, 需消除报警后重新启动

自动模式下系统自动冲洗条件:

当系统进出水口压差达到0.1MPa时, 系统自动启动冲洗功能, 并停机等待, 重新启动后, 系统按 (达到重新覆膜次数) 执行自动运行。



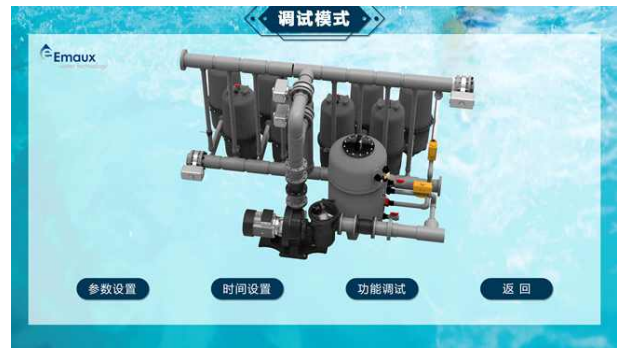


## 5.2.2 Setup & Test 调试模式

Automatic mode parameter setting and valve control function debugging are provided  
提供自动模式参数设置和阀门控制功能调试



Setup & Test mode



调试模式

### 5.2.2.1 Parameter settings 参数设置

Set the filtering time and control parameters.  
设置过滤时间和控制参数



Parameter settings



参数设置

Click Parameter Settings: Set parameters such as filtration and rinsing  
点击参数设置：设置过滤、冲洗等参数

Set up 设置	Default (recommended) 默认值 (建议)
Precoating time 覆膜时间	25min 0s 25分 0秒
Backwash time 冲洗时间	1 min 30s 1分 30秒
Turn on time 开启时间	
Rest time (day)* 中间间隔 (天) *	
Turn off time 关闭时间	
Number of re-Precoating** 重新覆膜次数**	30 次

\* For equipment operation exceeding 24 hours, the interval days should not exceed 30 days (30 days will trigger a mandatory rinse).

\*\* Used to control the number of times filtration can be stopped without rinsing. Upon reaching the specified number of times, the next time filtration stops, the system will enter the rinsing phase.

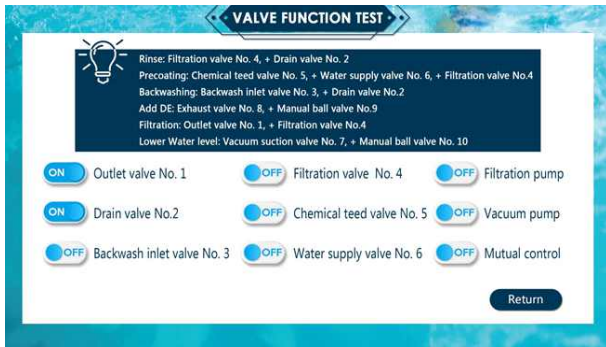
\*用于设备持续运行超过24h时，间隔天数，建议不超过30天（30天强制冲洗）

\*\* 用于控制停止过滤时不需要冲洗的次数，达到次数的下一次停止过滤时，转入冲洗阶段

### 5.2.2.2 Valve function Test 功能调试

It is used to test the valve and motor control in the system, click the switch to determine whether the operation of each electrical component is normal: whether the switch and control circuit of the valve are synchronized and confirm that the valve is installed in the correct position.

用于测试系统中的阀门和电机控制，点击开关，确定各电器部件动作是否正常：阀门的开关和控制电路是否同步，并确认阀门安装位置正确。



Valve function test



功能调试

Mutual control (On), use for electric test all valve, filtration pump and vacuum pump.

- 1) All valve can be tested individually.
- 2) Filtration pump electric test: all valve must under close status, filtration pump can test run 10 seconds, valves under other than close status cannot run filtration pump test.

Mutual control (Off)

- 1) Manual backwash: 3 Backwash inlet valve + 2 Drain valve must be closed before power on the filtration pump.
- 2) Manual drain: 4 Filtration inlet valve + 2 Drain valve must be closed before power on the filtration pump.
- 3) Manual filtration: 4 Filtration inlet valve + 1 Outlet valve must be closed before power on the filtration pump.
- 4) Manual Pre-coating: 4 Filtration inlet valve + 5 Chemical feed valve + 6 Water supply valve must be closed before power on the filtration pump.
- 5) Other than 1) – 4) valve status, filtration pump cannot start.

互斥（开），所有阀门、水泵和真空泵试电用

- 1.所有阀门可单独试电
- 2.水泵试电：所有阀门必须处于关闭状态，水泵可以试电10秒，1个或多个阀门处于其他状态水泵不能启动

互斥（关）

- 1.手动冲洗：3号进水阀+2号排污阀打开，水泵才可以启动
- 2.手动排水：4号进水阀+2号排污打开，水泵才可以启动
- 3.手动调试过滤：4号进水阀+1号出水阀开，水泵才可以启动
- 4.手动调试覆盖膜：4号进水阀+5号加料阀+6号补水阀开，水泵才能启动
- 5.其他状态时，水泵均不能启动

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 **YOUR PREMIER SUPPLIER**

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