Starting and stopping the GW jet aerator

1. Self-priming jet aeration and oxygenation

   Self-priming jet aeration jets installed outside the pool, the jet suction height port should be higher than the water surface; if the jet is installed in the pool or installed outside the pool but the suction height port is lower than the water surface, you need to extend the jet suction port above the water surface.

   The self-priming jet aeration process is shown in Figure 1.

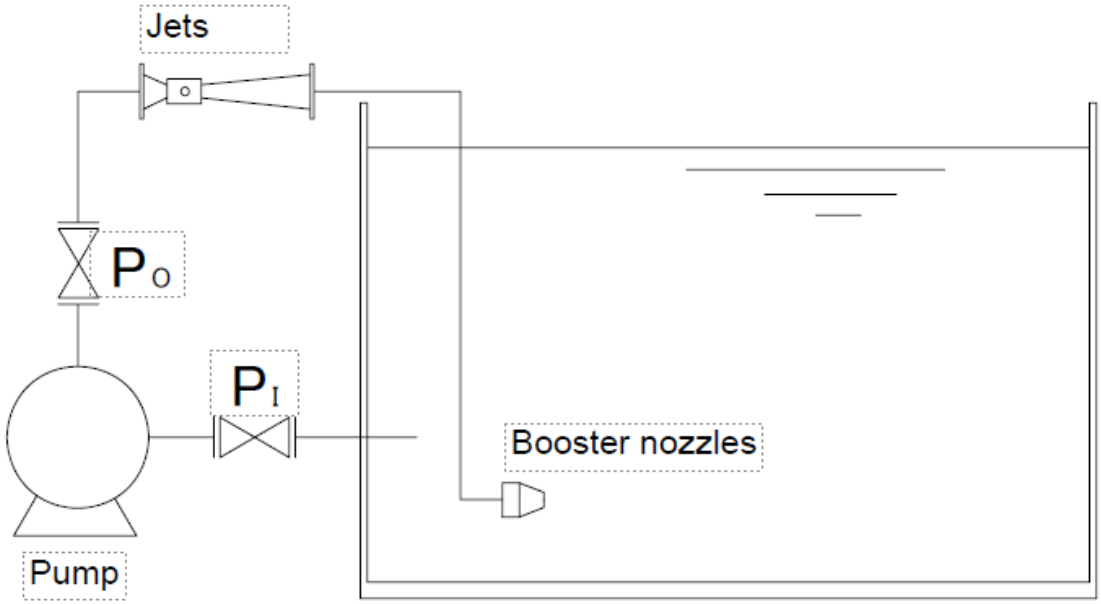

Figure 1 Self-priming jet aeration process flow diagram

Note: PO Water Pump Outlet Valve; PI Water Pump Inlet Valve

1.1 Start-up of the self-priming aeration method

According to the pump instruction manual to open the pump, and confirm the pump running status is normal and positive operation, you can measure the size of the wind speed from the suction port to determine (submersible pump type), but also direct observation of the pump motor steering judgment (pumps installed outside the pool)

1.2 Self-priming aeration shutdown

Just turn off the pump according to the pump instruction manual.

2. Pressurized jet aeration and oxygenation

Blast pressurized jet aeration process flow diagram in Figure 2, blast pressurized jet aeration need to use the blower and jet at the same time, in order to prevent the pump pump body due to operational errors into the air leading to pump start irregularities and fans and air ducts into the water phenomenon, please operate in strict accordance with the following operating methods.

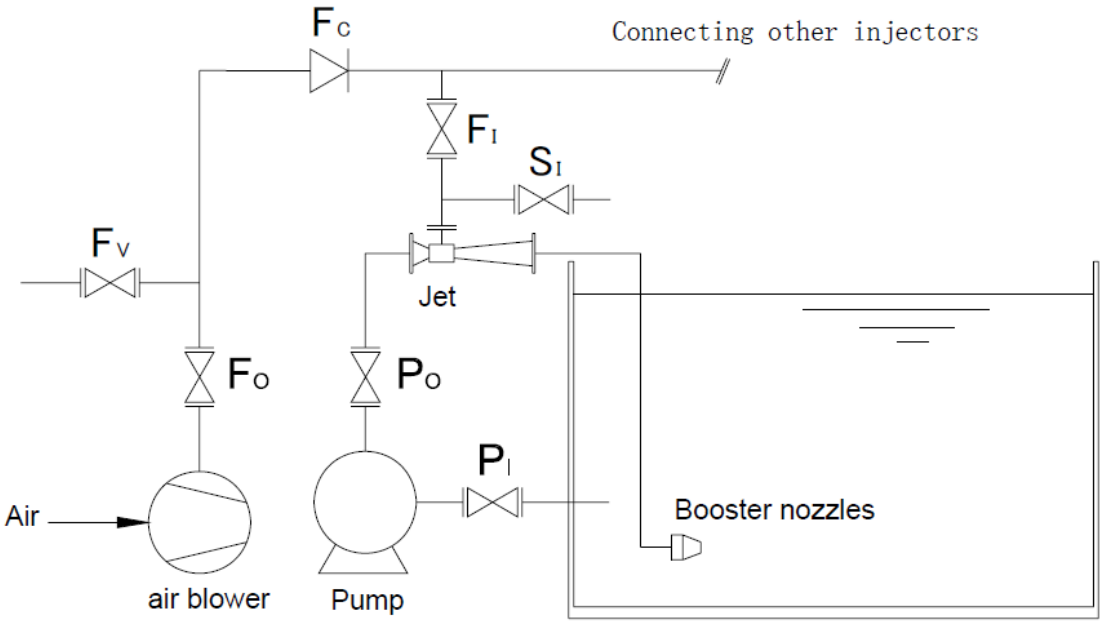

Figure 2 Sketch of blower pressurized jet aeration process flow

Note: Fo-blower outlet valve; Fv-blower vent valve; Fc-blower one-way; Fi-blower inlet valve; Si self-priming bypass valve; Po-water pump outlet valve; Pi-water pump inlet valve

2.1 Pre-boot state of the device

After the installation of the equipment, the pumps and fans are in the shutdown state; the blower inlet valve FI at the suction port of the injector is in the shutdown state; the self-priming bypass valve SI, which is connected to the outside air, is in the full-open state; and the blower venting valve FV is in the open state.

Pump inlet valve PI and outlet valve PO are operated in accordance with the pump instruction manual, and blower outlet valve FO and venting valve FV are operated in accordance with the blower instruction manual.

2.2 Self-priming aeration mode of operation startup

According to the pump instruction manual to open the pump, and confirm the pump running status is normal and positive operation, you can measure the size of the wind speed from the suction port to determine (submersible pump type), you can also directly observe the pump motor steering judgment (the pump is installed outside the pool). If the suction port suction obvious, then the pump and jet normal operation.

2.3 Start-up of pressurized aeration by blast

1. When using the blower pressurization mode and starting the pumps one by one, the self-priming bypass valve of the jet with the un-started pump must be open.
2. It is prohibited to use the blower to aerate through the jet without turning on the jet pump.

Only under the condition of confirming the normal operation of self-absorption aeration, can the injector be turned into blower pressurized aeration mode operation.

After confirming that the injector is in normal self-absorption working condition, open the blower inlet valve FI, turn on the blower, close the self-absorption bypass valve SI, and gradually close the blower venting valve FV (according to the wind pressure control) until all the self-absorption bypass valves SI is closed, and after the blower inlet valve is opened, the blower venting valve FV is completely closed.

2.4 Self-priming aeration shutdown

If the self-priming bypass valve SI is higher than the water surface, stop the pump operation directly according to the pump instruction manual. If the position of the self-priming bypass valve SI is lower than the water surface, close the self-priming bypass valve SI first, and then stop the pump operation.

2.5 Blast pressurized aeration downtime

When the system is shut down, first open the self-priming bypass valve SI to exhaust air, then stop the blower to close the blower

inlet valve FI, and then stop the pump; when a single unit is shut down, close the blower inlet valve FI, open the self-priming bypass valve SI, and then stop the pump operation.

Do not stop the pump with the blower running and blower inlet valve FI open to prevent air from backing up into the pump and affecting the next startup. If the pump fails to shut down, close the blower inlet valve FI and the pump inlet and outlet valves PI/PO, and if there is a self-priming bypass valve SI, open it at the same time to exhaust air.

In the event of a blower shutdown (malfunction or system shutdown), both the non-stop pump and the non-started pump should close the blower inlet valve FI of the corresponding jet and open the self-priming bypass valve SI, so that the other working jets do not create a siphoning effect here and siphon water from the pool into the blower piping.

2.6 Self-priming and blower pressurized aeration mixing method

In the jet in full working condition, according to the amount of sewage and water quality, the use of self-absorption jet aeration and blower pressurized jet aeration mode switching or a combination of the two modes of operation for aeration, in order to achieve better energy-saving effect. The main operating modes are: (1) all in the self-absorption jet aeration mode (fan does not open); (2) part in the self-absorption jet aeration, part in the blower pressurized jet aeration mode (fan open, through the frequency control to reduce the air volume, saving energy); (3) all in the blower pressurized jet aeration mode (fan open).

2.7 Valve opening and closing table for each case of blast pressurized aeration

Water pumps, fans on / valves		Blower outlet valve F_0	Blower bleeder valve F_V	Blast inlet valve F_I	Self-priming bypass valve S_I	Pump inlet valve P_I	Pump outlet valve P_0
pump stop	turbine stop	Close	open	Close	open	Close	Close
pump start	turbine stop	Close	open	Close	open	open	open
pump start	turbine start	open	Close	open	Close	open	open
pump stop	turbine start	open	Close	Close	open	Close	Close

Note: Pump stop, fan open for the pump on, fan open operation when the pump suddenly failed, the situation should be as soon as possible to close the pump connected to the injector blower air inlet valve FI, open the self-priming bypass valve SI, shut down the pump inlet valve PI and the pump outlet valve PO, repair the pump and then restore the pump to the state of the pump on, fan open.

3 Jets with ozone

After the installation of the equipment, the water pump is in a state of shutdown, the ozone inlet valve at the suction port of the injector is closed.

Start: open the pump according to the pump instructions, and confirm that the pump is running in a normal state and positive operation, you can measure the size of the wind speed from the suction port to determine (submersible pump type), you can also directly observe the pump motor steering judgment (the pump is installed outside the pool). If the suction port suction obvious, then the pump and jet normal operation. After the pump is running normally, close the jet self-priming air valve, open the ozone inlet valve.

STOP: Close the ozone inlet valve first, and then close the pump and valve according to the pump instruction manual.

Documents is translated by AI from Chinese documents. If you have any questions, Please contact us.
email:lzx@cd-greenwater.com