Pump Cleaning And Trouble shooting

Before You File a Warranty Claim.

1) does the Pump Blow a certified GFCI outlet? If it does do not use the pump it will need to be replaced.

2) Remove the Cover for the Pump

PSK Style
First remove the holding screw from the pump if one is present
Use the back rubber part of a tool like pliers to remove the cover of PSK.
The prevents damage do not use pliers or channel locks. There are tabs you can turn with the leverage from the handle. (Image below)

On **SK** versions and **Power heads** simple remove the pumps front locking rings or covers. without tools. Video- https://youtu.be/4jucEJnlWjI

Voyager Rotor test and cleaning https://youtu.be/sDsSs1C8S_8

Video- https://youtu.be/4jucEJnlWjI

On **Syncra HF** use a screwdriver to remove the front.
https://youtu.be/TqmlyPQPeGE
and also see

https://youtu.be/xn8mBZ07SBU

3) Remove the rotor and do a Motor Block Check See Videos above.
Do you hear and noise or a hum when the pump is plugged in?

With the rotor removed and the pump out of water, plug the pump in. While holding the pump bring the rotor / impeller close to the left or right side of the pump. Hold the rotor firmly as strong magnets can cause injury. If you feel vibration of any kind the motor block is good and the issue is either a rotor or bearing.
Doing a Motor Block Test in the image below.

If you feel any vibrate at all with the pump plugged in doing this the motor block is good.

If the Motor Block Check Passed continue.

4) Inspect the rotor.

Split casing due to excess heat as broken through to magnet. This rotor is not usable.

Dirty impeller needs Cleaning and can cause Noise, loss of flow or damage if rotor is out of balance because of debris.

The Photo to the left shows burning of the rotor casing this is due to excess heat. Excess heat is caused from pumps running without enough water, or with frozen bearings.

Scars or scratches are normal over time and are caused by debris going through the pump. They will eventually lead to impellers/ rotors needing replacement. They are not a worry unless the pump is not functioning properly.

Tap The shaft gently on a table. Impellers/ rotors without Ceramic Bearings on the end the shaft should move freely without restriction

shaft separated from magnet. Although can be glued with super glue it is best to buy a new rotor.

Left side of the first photo is fixed shaft with Rubber boot and bearing at the end. The to the right of the first photo and in the right photo below is a non fixed shaft and the rotor. Impeller should spin freely on the shaft.

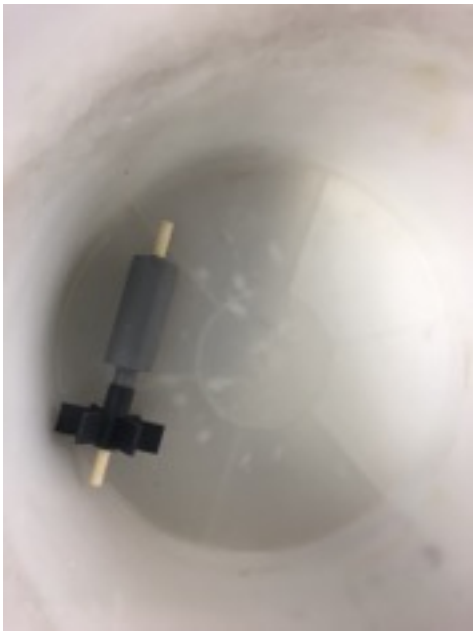
This Rotor and pump below show obvious calcium build up and need to be cleaned.

This red Rubber boot in the left image is worn and needs to be replaced. The bearings is also frozen due to calcification. In this case the strong pump turned the entire rubber boot inside its holder hole causing the damage. The pump has not been cleaned properly.

A **Frozen Bearing** from calcium supplements and chemicals. The white residue is not always this easy to see. If the bearing is frozen that is the problem**.**

Often gently turning the bearing with pliers can free it. If too much pressure is applied damage to the bearing or shaft is possible. Usually the bearing breaks before the shaft. These can be purchased. If there is worry too much pressure is needed to free the bearing soak the rotor first.

Soak Impellers, bearings and Pumps In Vinegar. Always rinse them well. If Stronger calcium removal is needed use CLR. Rinse it well as it cannot get back in the tank. Do not soak Pump bodies over night as CLR can effect the resin protecting the inside of the pump if left too long.



5) Inspect The inside Rotor Chamber on the pump.

The Boot holders should be round and not worn larger or look melted. The upper left image has a boot holder cavity that are worn and will cause rotor movement, noise, and prevent proper function. The upper right image is a good

Also Inspect the rotor well for cracks that expose metal or allow water to get to the metal coils of the pump. This is a clear sign of a permanently damaged pump. Scratching is normal from debris going through the pump. If boot holders are good and the pump has no signs of metal showing or cracks that could reach the motor coils continue.

6) Assemble the pump and lubricate the o-rings with Magic Lube to insure easy removal next time and a good seal. Test the pump. If in the unlikely event you need to file a warranty claim or open a trouble ticket register the pump at **http://www.sicceus.com/warranty.html**
Please upload a receipt along with the image of the sticker on the pump and images of the rotor, the pump, and any damage?

Pump Startup Issues

If the Pump does not Run Properly:
Please inspect the rotor. Do you notice any swelling or damage to it?

Is the pump clean? Have you removed the rotor and soaked it and the pump in vinegar or CLR and rinsed them well? See above.

Make sure the rotor bearings are seated correctly if they are in a bind they will prevent startup.
Make sure the rubber holding the bearings on the rotor are in good shape.
Make sure the rotor bearings are clean and free of calcification and debris.

https://youtu.be/4jucEJnlWjI

If the Pump seems noisy:
How is the pump being used and in what application?
Fresh, saltwater or pond?
How old is it?
Is it being used external or internal?
Is the noise different from when it was first hooked up the first time?
Is the pump hard plumbed or hooked up with flexible tubing?
Have you padded the base with either our suction cups or something to prevent it from being directly against something hard?
Did you clean the rotor?

Note all ceramic bearings have a break in period and they become quitter of the first few weeks of use.

Pump Noise On Larger Pumps.

Larger pumps like the Syncra HF are quiet compared to competing AC pumps of the same size (2400 gph and larger). They are not quiet compared to smaller pumps like our Syncra Silent, Syncra Pro models or anyone other manufactures smaller pumps. The larger the pump the more turbulence and noise. We are proud of having the lowest energy consumption and heat output pumps.

Many things effect noise and vibration beyond the control of a pump manufacture including how the pump is mounted, how it is plumbed, cabinet construction, insulation and so on.

Here are some points to consider:

Ceramic bearings have break in periods and get quieter over time.

Usually head pressure alone is enough to restrict a pump to its quietest point preventing cavitation. Slightly valving back the outlet could help any pump with noise.

Dirt build up and calcification on the rotor, bearings, or internal chamber can cause an increase noise and or vibration.

Never use the plastic base sent with the Syncra HF for aquariums. It is for stability in ponds. Use rubber feet or place the pump on neoprene, foam, silicone, or a rubber base.

Always check the inlet grill for vibration. These are used to prevent damage to the pump inlet for ponds or dirty water in central systems or larger aquaculture applications. In normal aquariums, use plumbing fittings (90 elbow) with teflon tape to allow the pump to work better in lower water levels of sumps / filters. This will not cause any vibration.

Connecting pumps with all rigid plumbing is noisier than using a flexible transition from the pump to a rigid PVC assembly.

Vibration can be transferred through anything a pump touches or any rigid tubing connected to it. Keep them from resting against anything with plastic touching plastic.

If super quite bedroom type situations are what is needed for an installation, two smaller pumps are always quieter than one larger pump. They will out perform the single pump. (Example two 1” outlet pumps can be either plumbed feeding into one larger 1 1/2” manifold. Alternatively, two returns can each have their own smaller pump.) Using two pumps provides redundancy and system security in the event one pump was down for cleaning or repair.

Many customers require larger single pumps and are very happy with the Syncra HF. These pumps use different technologies than the smaller pumps. More vibration is always present in larger pumps with higher head pressure, turbulence, and flow.