CS1 'Pegleg' Protein Skimmer
Operating Instructions

Introduction
Our primary design goal with this project was to create a high performance protein skimmer yet keep the price affordable without sacrificing quality. We also wanted to keep it simple enough to remain accessible to a beginner builder.

Additionally, we wanted to streamline the ease of use and consistency of performance with this revision to the CS1. Rather than requiring a separate feed pump for recirculation, we changed the drain location so that it can optionally feed most of the processed water back into the pinwheel pump intake, achieving a “passive recirculation” effect if desired, just by orienting the pump intake in a given direction. This allows the ease of use of a simple plug-n-play skimmer, but also the flexibility to tune it to more specific needs.

Lastly, we wanted to size the skimmer so it could be used on a wide variety of tank sizes for various applications. We feel this model will comfortably handle 200 gallons of total system volume, but would not be overkill for a 75 gallon aquarium.

Installation Instructions

Please take a few minutes to thoroughly clean all components using hot water and/or vinegar before placing into your aquarium. This will help remove all residual oils from the acrylic manufacturing and residual solvent contaminants. An easy way to do this is to fill your kitchen sink or a bucket with 6-8” of hot water and run the skimmer so it overflows for a few hours. This will help reduce the overflowing foam effect (skimmer “break-in” period) when placed in your sump.

Attach the pinwheel pump and place the skimmer in your sump and open the drain gear fully by turning the handle clockwise (Water level down; number 15 on the gear). If you have the skimmer in less than 10” of water, insert the small rubber grommet into the hole in the skimmer base plate. Plug in the pinwheel pump and check the level of the water/air interface line. A new skimmer will often overflow with excess foam, even with the drain gear fully open. This condition typically resolves itself in a day or so. You can run the excess watery foam into a bucket, and treat it like a small water change. Once the foam level stabilizes, adjust the drain gear in one gear number increments until the water/air line is just below the neck union. This typically results in a light brown skimmate color. Make a note of the gear number for future reference; after cleaning or any action which might cause you to change the setting, you can easily find the correct drain opening using the gear numbering system. For best results, we recommend keeping the skimmer in a sump area with consistent water level, either a dedicated, fixed-depth chamber, or by using an auto top-off system with good precision.

Troubleshooting Tips
Foam Overflow: This is probably the number one problem with new skimmers. It is most often due to the “break-in” period needed to remove any oils and create a build up of biofilm on the acrylic surfaces which help regulate bubble movement. Also, new live rock, sand, filter socks, coral epoxy/glue, and similar substances can cause skimmer overflows. The quick solution is to simply lower the water level for a few hours or days until the effect subsides, as it is always a temporary problem.

Noisy pump: This may be due to a small shell or similar object caught in the impeller, or from calcium buildup on the magnet. Running the pump in a vinegar solution will clean out the pump and usually solve this problem.

Periodic Maintenance

If you notice skimmate production decreasing over time or more frequent overflows, it could be due to a clogged venturi or air silencer. A quick fix is to pour some hot fresh water down the air intake, in order to make sure any salt creep or dust is cleaned out. If that doesn't help, a hot water & vinegar bath as described above for initial setup should help return the skimmer & pump to like-new condition.

PEGLEG 180

ITEM	QTY	NAME
1	1	Neck Top
2	1	O-Ring
3	1	Neck Middle
4	1	Neck Bottom
5	1	Cone
6	1	Bubble Ring
7	1	Bubble Plate
8	1	Bubble Chamber
9	1	Base
10	7	Thumbscrew
11	4	Pegleg
12	1	Base Plug
13	1	PSK 1000
14	1	Glue
15	2	Stickers
16	3	Glue Jigs
17	1	Grease
18	1	Soft Tubing
19	1	Washer
20	1	Valve Gear
21	4	Nut
22	1	Small Gear
23	1	Handle Rod
24	1	Handle
25	1	Neck
26	1	Cup Plug
27	1	Cup Bottom
28	1	Drain Fitting
29	2	Silencer Tube
30	1	Silencer Bottom
31	1	Silencer Body
32	1	Cup
33	1	Lid Ring
34	1	Lid Plug
35	1	Lid
36	3	1/4" Screws