

AERATION QUICK START GUIDE

STEP 1

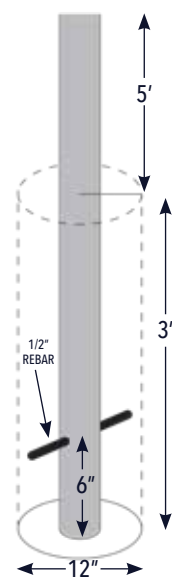
Find a location well above the high water mark with an unobstructed southern exposure away from anything that may shade the solar panels including trees, shrubs, buildings, fences, etc.

Warning: Shading on panels voids warranty and prolonged shading can cause irreparable damage.

STEP 2

Purchase (at least) an 8' long Schedule 40 steel pipe in the appropriate diameter for your system. Refer to top pole mount instructions. Longer pipe may be required in areas with very heavy snow fall.

Dig 9"-12" in diameter hole with post hole digger. Secure pipe vertically in the ground with concrete; make sure it is plumb in all directions. Allow concrete to cure for 24 hours before mounting solar panel.



STEP 3

Create a level site to place your compressor cabinet on a Level-Aer™ pad next to the SCH40 Steel pipe. Place the compressor cabinet in the center of the Level-Aer pad with the lid opening toward the pipe.



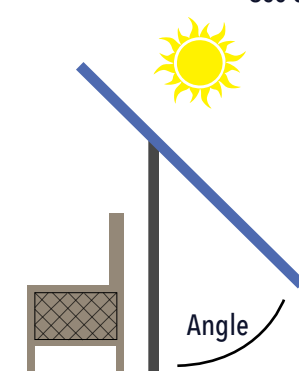
STEP 4

Attach solar panel to panel mounting bracket according to instructions included with the mounting bracket.

Place solar panel and mounting bracket atop the SCH40 Steel pipe. Use a compass to face the panel directly to solar south. Tighten set screws firmly with a wrench.

Set panel angle. Solar panels produce the most power when they are pointed directly at the sun. The angle is measured between the solar panel and the post.

Use chart to determine angle.



Latitude	Angle
25° (Key West Taipei)	22.1
30° (Houston Cairo)	25.9
35° (Albuquerque Tokyo)	29.7
40° (Denver Madrid)	33.5
45° (Minneapolis Milano)	37.3
50° (Winnipeg Prague)	41.1

STEP 5

Dig a trench from the compressor cabinet to the shoreline to cover/bury tubing.

STEP 6

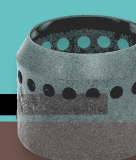
Layout the self-weighted airline in a zig-zag pattern on the shore with the airline connected to the diffuser(s). Ensure a secure connection. You should not be able to twist the tubing on the fitting once connected.



STEP 7

Place one diffuser in the boat and head to the desired location. Drop the DuraPlate™ diffuser with attached airline into water.

DuraPlate™ diffusers are self-righting and will land properly.



Tip: For deploying multiple diffusers, place buoys at desired diffuser locations to ensure even distribution.

STEP 8

Connect the self-weighted airline to the blue airline at the compressor cabinet. Ensure a secure connection.



STEP 9

Place batteries in cabinet and connect as shown. Attach the cables. Blue cable connects positive to negative (+ to -), Black cable connects negative to negative (- to -) combined with black negative lead to Prostar. Red cable positive to positive (+ to +) combined red positive lead to Prostar.



SB-1 AND SB-2



SB-3 AND SB-4

STEP 10

Turn on the breaker that is located on the outside of the cabinet.



STEP 11

Use the manifold to balance airflow to diffusers by restricting flow to diffusers receiving the most air. Wait 90 seconds between adjustments.



COMPLETE OWNER'S MANUAL:

SOLAER MAINTENANCE AND REPAIR:

STEP 1: Turn off breaker. Remove interconnecting tubing only where necessary.

STEP 2: Mark the position of the pump head plate A, intermediate plate C and crankcase L relative to each other by drawing a line on the edges with a pencil or other marker to assure proper reassembly. To access the counterweight N, remove the screws holding the compressor cover. Retain any gasketing for reuse.

STEP 3: Remove the four screws and washers B and remove the headplate A. Note the positioning of the valveplates D and seal rings E in relation to the valve ports on the headplate A and intermediate plate C. Lift off the seal rings and valveplates.

STEP 4: Remove the intermediate plate C. Carefully clean the head and intermediate plates of any residue using fine steel wool. DO NOT scratch.

STEP 5: Unscrew the old diaphragm F by turning it counterclockwise using both hands. DO NOT use tools! Take care not to lose any small parts such as the shim rings J, positioned between the diaphragm stud and connecting rod, as they must be replaced for proper pump operation. Parts removed must be replaced exactly as found.

STEP 6: Place the parts removed in step 5 onto the threaded stud of the new diaphragm. Carefully screw the new diaphragm F into the connecting rod C. Tighten firmly using both hands, NO TOOLS!

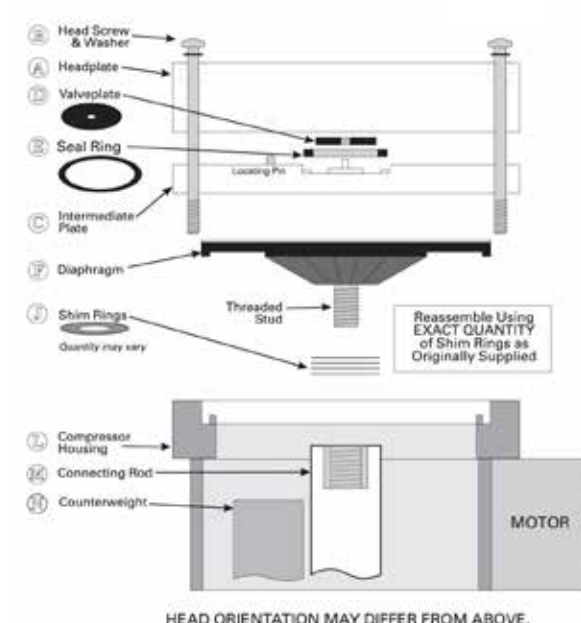
STEP 7: Turn the counterweight N until the diaphragm is flat across. Carefully center the diaphragm over the compressor housing L, firmly seating the diaphragm edge into housing groove.

STEP 8: Place the clean intermediate plate C onto the compressor housing L, according to your previously drawn markings, then place the new valve plates D and seal rings E on top of the intermediate plate. Make sure the seal rings are properly seated in intermediate plate recesses to avoid pinching.

STEP 9: Place the clean headplate A on top of the intermediate plate C according to your previously drawn markings and the locating pin. Then tighten the four screws B in a criss-cross pattern. Do not over tighten. Turn the counterweight or the fan by hand to ensure that the pump turns freely.

STEP 10: Remove any old Teflon™ tape from all fittings. Carefully apply two layers of Teflon™ tape around any fittings before reinstalling into the pump head. Install any tubing and fittings.

Do not apply tape beyond threads, as excess tape may tear off and lodge in the valves. Do not substitute any other type of tape.



HEAD ORIENTATION MAY DIFFER FROM ABOVE.

Do not install panels where shading occurs!

SETTING THE DIGITAL TIMER:

Solaer™ Aeration Systems are pre-set at factory. Program to turn system OFF from 10:00 a.m. to 2:00 p.m. Solaer™ systems are designed to operate 20 hours per day and shut down when sun is highest in the sky to charge batteries without a load on the system.

Step 1. Set Time

1. Move RUN switch to position.
2. Press "1..7" button to set day (Ex: Sunday = 1, Monday = 2, etc.).
3. Press **H** to set the hour and **M** to set minutes.
4. Move RUN switch to RUN (center) position. Clock colon will blink when set.

Step 2. Set ON/OFF program(s)

1. Move RUN switch to "P" position.
2. Press "1..7" button to choose days of program. Indicated by pointing to day of week 1-7. We recommend 7 days a week.
3. Press **H** to set hour and **M** to set minutes of the ON program (notice the 1 beside the time and lightbulb icon).
4. Press **P** to progress to next program.
5. Press **H** to set hour and **M** to set minutes of the OFF program (notice the 2 beside the time).
- Optional: Press **P** to progress to next program to ensure no other programs are set.
6. Press **1..7 button** to program each day.
7. Return RUN switch to RUN (center) position. Clock colon will blink when set.
8. Ensure top switches are in the center position AUTO and RUN.

If program is not working correctly, press and hold down the **R** button. Repeat steps 1 and 2.



TROUBLESHOOTING:

	Low Pressure	High Pressure	Pump Overheat	Won't Start	Excess Noise	REASON & REMEDY
COMPRESSOR	•		•	•		Filter dirty. Clean or replace.
	•					Valves closed. Open valves.
	•					Worn cup. Repair or replace.
		•		•		Relief valve set too high. Inspect and adjust.
	•					Relief valve set too low. Inspect and adjust.
	•	•	•	•		Plugged pressure line. Inspect and repair.
			•	•		Low voltage, won't start. Check power source.
			•	•	•	Voltage wrong. Check power source.
	•				•	Worn diaphragm hitting cylinder. Replace.
	•				•	Cylinder misadjustment. Realign.
DIFFUSERS				•		Leaky hose or check valve. Replace.
			•	•	•	Dirt or liquid on top of diaphragm. Inspect & Clean.
				•		Timer set incorrectly. Inspect and adjust.
				•		Worn cooling fan. Clean or replace.
	Uneven Air Flow	High Air Flow	Low Air Flow	Won't Start	"Bubbling" Bubbles	REASON & REMEDY
	•		•	•		System Leak. Check connections, tubing & repair.
	•	•	•	•		Manifold not set correctly. Inspect and adjust.
			•	•		Compressor Issue. See above.
	•				•	Damaged or torn Membrane. Replace.
						Unbalanced Manifold. Inspect and adjust.

IMPORTANT: This equipment was thoroughly inspected and carefully packaged in our facility. Upon acceptance by the carrier (UPS, USPS, Motor Freight or Other) the carrier assumes responsibility for the goods in transit and their ultimate safe delivery. Should you receive your shipment in a damaged condition, either apparent or concealed, a damage claim must be made by you, the customer, directly with the shipping carrier. Keeton Industries cannot make this claim for you.

APPARENT LOSS OR DAMAGE: Should visual inspection upon receipt of goods show loss or damage, it must be noted on the freight bill, express receipt, or UPS driver's record and signed by the driver or agent. Failure to do so will result in the carrier refusing to honor your damage claim. The

carrier will furnish you the necessary form(s) for filing a claim.

When damage is not apparent until the equipment is unpackaged, a claim for concealed damage should be made to the carrier. When damage is discovered, make a written or phone request to the carrier for inspection. **You must make this request for inspection within forty-eight (48) hours of delivery.** Immediately inspect all packages for exterior and interior damage upon receipt and make any claims as soon as possible.

Keep all cartons and packaging material to show the inspector. The carrier will furnish you with an inspection report and necessary forms for filing a concealed damage claim, since such damage is the carrier's responsibility.

RETURNS: If you are unhappy with your order for any reason, Keeton Industries will gladly exchange items; issue credit or refund the purchase price to you (less restocking charges) within 7 days of receiving the product. In all cases, return shipping costs are the responsibility of the buyer. Please call (970) 568-7754 for a required Return Authorization Number. We do not accept returned merchandise without a Return Authorization Number displayed on the package.

CAUTION: It is dangerous to work in and around open water. Please wear safety equipment when using tools, shovels, etc. and be sure to wear a life vest while operating a boat. Be careful of ice covered lakes in the winter, aeration systems weaken the ice and it is never safe to walk on aerated lakes.

WARRANTY COVERAGE AND POLICIES

Keeton Industries finished products, when properly installed and operated under normal conditions of use, are warranted by Keeton Industries to be free from defects in material and workmanship for a period of twenty-four (24) months from the date of purchase from Keeton Industries or an authorized Keeton Industries representative or dealer. In order to obtain performance under this warranty, the buyer must promptly (in no event later than thirty (30) days after discovery of the defect) give written notice of the defect to Keeton Industries, 1520 Aquatic Drive, Wellington, CO 80549, or an authorized service center. Buyer is responsible for freight charges both to and from Keeton Industries in all cases.

Keeton Industries' warranties also do not extend to any goods or parts which have

been subjected to misuse, lack of maintenance, neglect, damage by accident or transit damage. Keeton Industries will not be responsible or liable for indirect or consequential damages of any kind, however arising, including but not limited to those for use of any products, loss of time, inconvenience, lost profit, labor charges, or other incidental or consequential damages with respect to persons, business, or property, whether as a result of breach of warranty, negligence or otherwise. Notwithstanding any other provision of this warranty, buyer's remedy against Keeton Industries for goods supplied or for non-delivered goods or failure to furnish goods, whether or not based on negligence, strict liability or breach of express or implied warranty is limited solely to Keeton Industries' option, to replacement of or cure of such nonconforming or non-delivered goods or return of the purchase price for such goods and in no event shall exceed the price or charge for such goods. Keeton Industries expressly disclaims any warranty of merchantability or fitness for

a particular use or purpose with respect to the goods sold. There are no warranties which extend beyond the descriptions set forth in this warranty, notwithstanding any knowledge of Keeton Industries regarding the use or uses intended to be made of goods, proposed changes or additions to goods, or any assistance or suggestions that may have been made by Keeton Industries personnel.

Unauthorized extensions of warranties by the customer/dealer shall remain the customer/dealer's responsibility. DURA-PLATE DIFFUSERS ARE COVERED BY A SEPARATE LIFE TIME WARRANTY AGAINST MATERIAL DEFECTS OR CRAFTSMANSHIP.

This warranty can be modified only by authorized Keeton Industries Personnel by signing a specific, written description of any modifications.

NOTE: THIS EXPRESS WARRANTY EXCLUDES ALL OTHER WARRANTIES OR REPRESENTATIONS EXPRESSED OR IMPLIED BY ANY LITERATURE, DATA, OR PERSON. KEETON INDUSTRIES MAXIMUM LIABILITY UNDER THIS EXCLUSIVE REMEDY SHALL NEVER EXCEED THE COST OF THE SUBJECT PRODUCT AND KEETON INDUSTRIES RESERVES THE RIGHT, AT ITS SOLE DISCRETION, TO REFUND THE PURCHASE PRICE IN LIEU OF REPAIR OR REPLACEMENT.

QUESTIONS?

- Installation instructions and instructional videos are also available on our website, keetonaquatics.com.
- Contact us for help at 800.493.4831 or info@keetonaquatics.com.



Watch the instructional video for complete set-up and installation

