

## **Annotated Parts List**

### **Revised**

### **November 2020**

#### **Aquarium:**

*Standard 10-gallon Glass Aquarium.* Aqueon Brand Number 1590511010. 20¼-in L x 10½-in W x 12-9/16 in H. Dimensions sometimes printed on the label as 20”L x 10”W x 12”H. Available from Petco, Pet Club, and online. Requires a bit less than 10 gallons of Spring Water.

**Housing** – provides insulation and protection for the aquarium:

*Foil Faced Rigid Polyisocyanurate Insulation (R-Max Brand).* R-Rating = 12.9. 4-ft x 8-ft x 2-in. 1 sheet for 2 setups, 2 sheets for 5 setups, 3 sheets for 8 setups. Cutting patterns shown in Drawings 1-4 are for **saw-blade kerfs of 1/8 inch or less**. Available from Truitt and White Lumber in Berkeley, CA, or most lumber yards.

*Clear, All-Purpose Adhesive Sealant, 100% Silicone.* Aquarium Safe. DAP Brand Number 7079800688. Or equivalent. From any hardware store.

*Bamboo Skewers.* These are used to hold the housing together while the adhesive sealant sets after which they are removed. Alternatively, insulation fasteners might be used.

*3M 8979 Blue Duct Tape, 72-mm x 54.8-m. Blue.* Use this tape for covering all exposed edges, seams, and joints of the housing. This tape is one grade below 3M’s nuclear tape that is used in nuclear installations. It is preferred over Standard Duct tape and Gorilla tape both of which harden and peel off over time. Available from R.S. Hughes Company, San Leandro, [www.rshughes.com](http://www.rshughes.com). The best way to cut this tape is with a utility knife since it curls around scissors.

*Utility Knife.* A good one is the OLFA Pro18 L-2 heavy-duty snap-off knife. Available at many hardware stores.

*Nashua 324A Premium Foil, 2.- in x 60-yd.* This tape is used mainly for repairs of the foil facing of the R-Max insulation. The ink can be removed with acetone or ethanol.

*Adhesive-backed Velcro.* About 1-inch wide.

*Standard Duct Tape.* Small roll. Use this tape to hold down the air tube and the cables from the controller and thermometer. The 3M 8979 tape sticks too strongly and is hard to remove.

#### **Components:**

*Undergravel Filter.* Penn-Plax, Clear-Free Premium Undergravel Filter for 10-gallon tanks. Number 30172390807. Online. Included are two riser tubes and parts for charcoal filtration.

The filtration system is not used. The spouts, air tubes, and charcoal filters are not needed, but save the air stones. One riser tube attaches to the aerator/circulator pump. Save the second one as a spare.

*Gravel.* 10-13 pounds of ¼-inch natural color aquarium gravel. Petco, Pet Club, or online. Some of our gravel is epoxy coated, but that is probably not necessary.

*Polypropylene Sand Bags, White.* From Uline, [www.uline.com](http://www.uline.com) , Number S-15518W, 10-in x 14-in. Used for storing cleaned gravel.

### **Cooling System:**

The Chiller with Power Supply and the Proportional Controller are from Nova Tec Products, San Rafael, CA. Website [www.novatecproducts.com](http://www.novatecproducts.com). The best way to order from Nova Tec is to phone and talk to the owner Ulf Moren at 415-460-6812. Mention Grizzly Peak Fly Fishers.

*IceProbe Thermoelectric Aquarium Chiller with Power Supply, Model IPAC-50W.*

### **Chiller Mounting:**

*Foil Faced Rigid Polyisocyanurate Insulation.* 5-in x 8-in x ¾-in. R-Max Brand. Can be cut from scraps of the larger 2-in thick sheet and covered with tape. A 27/8-inch hole will be drilled in this piece of foam. Drawing 7 and Photo 3.

*Acrylic (Plexiglas) Sheet.* ¼-in thick x 6-in x 913/16-inch, can be 0.236 inch thick. TAP Plastics. A 1¼ -inch diameter hole is drilled in this piece of plastic. Drawing 6 and Photo 3. If necessary, TAP Plastics will drill the hole

*Model TEC-ALL Proportional Thermoelectric Cooling Controller.* The TEC-ALL allows for a wider range of adjustment than other Nova Tec models. It is black in color, others are white.

The eye-glass screwdriver supplied for adjusting the controller is hard to use. We recommend General Tools Precision Slotted Screwdriver with a 3/32-inch blade. Number 611094. Or equivalent.

Attach a strip of Velcro to the back of the controller.

*LCD Digital Aquarium Thermometer.* Any, such as Coralife or Aquaneat or Zacro. Online.

Attach a strip of Velcro to the back of the thermometer.

**Water Circulator/Aerator** important for maintaining proper water conditions.

Water is pulled up from under the undergravel filter and gravel through a riser tube, then aerated and streamed back into the aquarium.

*AquaClear Powerhead 20.* Rolf C. Hagen (USA) [www.hagen.com](http://www.hagen.com) Available online.

*Clear Vinyl Tubing, 3/8-in ID, 1/2-in OD.* Two pieces. One piece about 6 feet long for siphoning water from the aquarium and for trapping fry. One piece about 2 feet long to be attached to a baster and used for removing dead eggs. Available online.

*Baster* – used for removing dead eggs from the gravel. Available at kitchen and hardware stores and online. Attach a 2-ft piece of vinyl tubing to the baster.

*Small Aquarium Net.* 4 inches. Any, such as Penn-Plax. Online. Used for catching fry for removal from the tank, but the siphoning method, with vinyl tubing, is easier and faster.

*Bucket Aerator.* This is used to aerate water when transporting fry. Any common minnow-bucket aerator will work. This aerator is not necessary when traveling short distances with fry.