

Vortex Trap

All magnetic traps rely somewhat on vortex effects but this particular trap uses a vortex a bit more actively. The vortex trap uses something called the "vortex tube phenomenon".

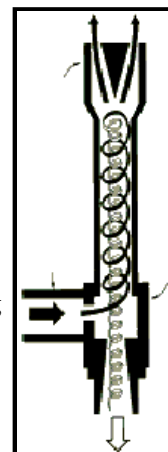
Following is a description of the vortex tube phenomenon from the Vortec web site at:

<http://www.iscsales.com/vortec/spotcooling.html#vortex>

"Vortex Tube Phenomenon"

The vortex tube was discovered in 1930 by French physicist Georges Ranque. Vortec was the first company to develop this phenomenon into practical, effective cooling solutions for industrial applications. Here's how it works.

Fluid that rotates about an axis -- like a tornado -- is called a vortex. A vortex tube creates a vortex from compressed air and separates it into two air streams -- one hot and one cold. Compressed air enters a cylindrical generator which is proportionately larger than the hot (long) tube where it causes the air to rotate. Then, the rotating air is forced down the inner walls of the hot tube at speeds reaching 1,000,000 rpm. At the end of the hot tube, a small portion of this air exits through a needle valve as hot air exhaust. The remaining air is forced back through the center of the incoming air stream at a slower speed. The heat in the slower moving air is transferred to the faster moving incoming air. This super-cooled air flows through the center of the generator and exits through the cold air exhaust port."



Vortex tubes can also be used to separate oil from water. When oil and water are spun together in a vortex tube the water, being heavier tends to follow the path of the hot air in the example cited above and the oil being lighter follows the cold air path and exits through the cold air exhaust port.

A magnetic ORMUS trap separates the portion of water which is superconducting ORMUS material from that portion which is just plain water. In the example above, the water would follow the hot air path and the ORMUS water would follow the cold air path. This effect is induced by spinning the water in a tube which has magnetic tape or other magnetic structures attached to it. Here is a vortex trap made of transparent acrylic with the inner vortex clearly visible:

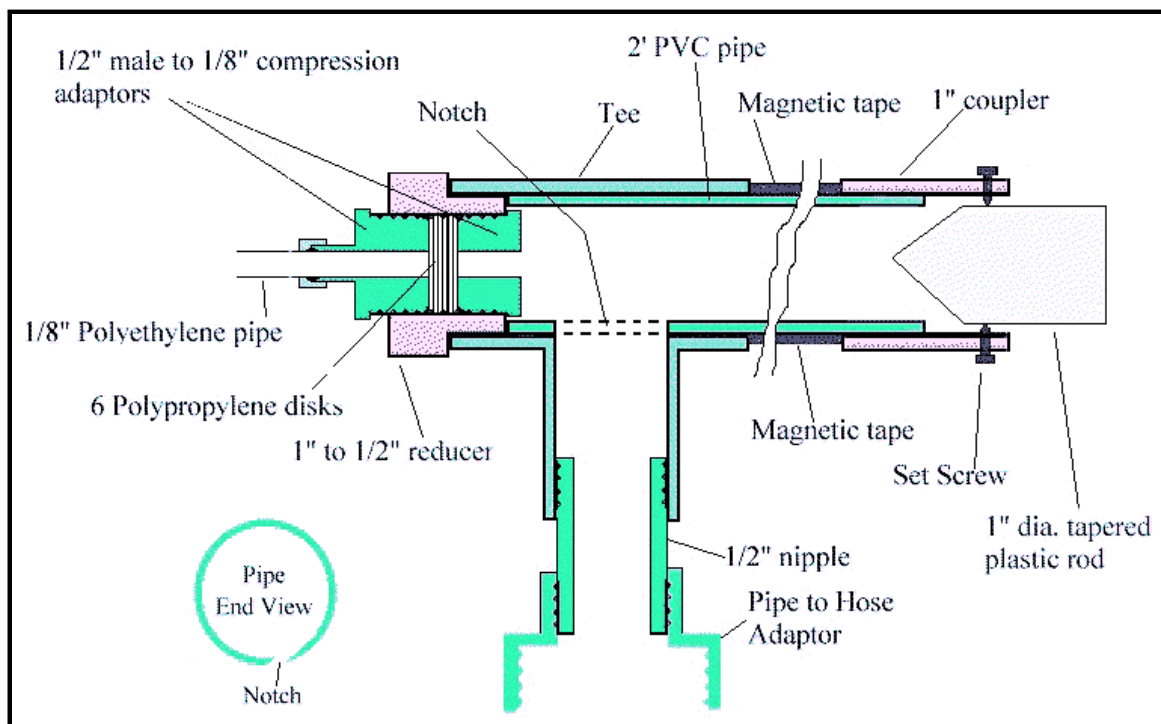


The materials used to make a non-transparent PVC version of this trap cost less than \$20. They are as follows:



Main Vortrap parts

- 18 inches of 1" PVC pipe (sched. 40)
- 1 - 1" Tee with the 1" PVC fittings in line and a half inch female pipe thread at right angle.
- 1 - close PVC 1/2" pipe nipple
- 1 - 1" PVC to 1/2" pipe reducer
- 1 - 1" PVC pipe coupler
- 2 - nylon reducers which go from 1/2" male pipe thread to 1/4" female pipe thread
- 1 - brass adaptor which goes from 1/4" male pipe thread to 1/8" compression fitting
- 2" of 1" od. Plastic rod
- 3 long stainless steel set screws.
- 2 feet of 1/8" polyethylene tubing with brass insert for compression fitting
- 2 feet of self adhesive magnetic tape
- 6 - 3/4" discs of polypropylene oil spill absorbing fabric
- Teflon pipe tape
- PVC cement
- 1 - 1/2" female pipe to female hose connector



Cross Section View of Vortex Trap (Not Drawn to Scale)



Main Vortrap parts in an exploded view

Tools required:

- Hack saw
- 1 5/16" reamer, drill bit or hole saw
- Flat file

- 1/2" pipe tap
- Pipe deburring tool
- Drill and tap for set screws



Pipe deburring tool
and 1 5/16" hole saw

Procedure:

- Ream or drill out the 1" tee so that the shoulder which is supposed to stop the 1" PVC pipe from going too far into the tee is removed (the 1 5/16" hole saw is ideal for this task).
- Using a hack saw blade, saw a 1" deep notch or slot down into the end of the PVC pipe so that the notch or slot enters the wall of the pipe at a tangent to the inside wall of the pipe. This notch is where the water will enter the pipe and it is important that it directs the water into the pipe obliquely (see pipe end view in cross-section picture above for detail).



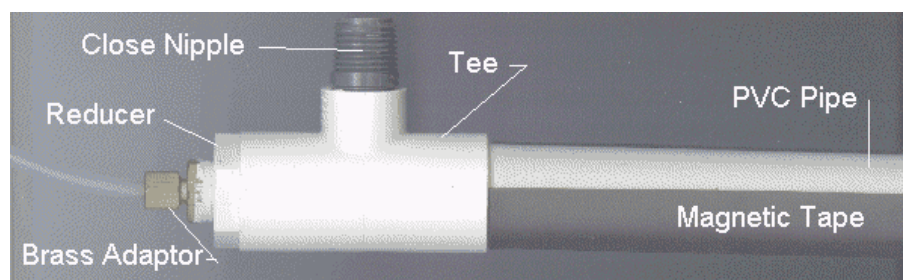
Notch/Slot Detail

- Smooth and trim this notch/slot.
- Taper the inside of the other end of the 1" PVC pipe using a pipe deburring tool similar to the one illustrated above.



View of pipe end showing
the taper on the inside

- Insert the notched end of the 1" pipe into the tee far enough that the notch goes completely past the 1/2" threaded hole in the side of the tee.
- Make sure that everything fits and then solvent weld the pipe into the tee so that the notch is centered in the 1/2" pipe threaded opening.
- Run the pipe tap into the PVC reducer from each end.
- Thread one of the nylon reducers into the PVC reducer from the inside using some Teflon tape to insure a good seal.



Names of parts

- Place the polypropylene fabric disks into the outside threaded portion of the PVC reducer and thread the other nylon reducer

in till it compresses the fabric against the inner nylon reducer. Be sure to use Teflon tape on the threads.

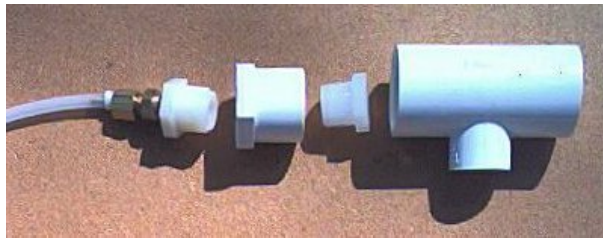
The polypropylene fabric is not essential, it just improves yield a bit. In the vortrap (which is the only trap to use the fabric) the fabric serves two functions. It slows down the exit of the "good" water and it shows a preference for the oilier m-state water over ordinary water.

The ORMUS elements, when they are in solution in water, are in an oil form. This oil form appears to be soluble in water till it reaches a certain concentration where it will separate from the water on its own. Since the fabric has a preference to absorb oil this allows it to pass oily m-state water through more readily than the less oily waste water.

The filter also slows the exit flow down. This helps to prevent mixing of the m-state water with the fresh water coming in from the hose. It also helps to keep the output from the "good" end to a rapid drip. Intuitive testing indicates that a rapid drip is approximately the output speed that results in the highest concentration of ORMUS in the output flow.

Careful design, using sophisticated fluid dynamics modelling algorithms, might be able to eliminate the need for the filter but these sorts of design tools are beyond my abilities and would result in a design which is beyond the capabilities of the home experimenter.

- Using teflon tape on the threads, thread the brass compression fitting adaptor into the outside nylon reducer.



Inlet end parts ready for assembly

- Solvent weld the completed PVC reducer assembly into the other end of the 1" tee.
- Thread the close pipe nipple into the tee using Teflon tape.
- Drill and tap three equally space holes around the circumference of the 1" coupler about 1/4" in from one end.
- Solvent weld the other end of the 1" coupler onto the free end of the PVC pipe.
- Get one end of the 2" long plastic rod turned down to a cone shape.
- Insert the tapered end of the rod into the open end of the 1" coupler and fix it in place by tightening the set screws through the coupler.
- Cut two pieces of the magnetic tape so that they fit along the exposed length of the PVC pipe. Attach them on opposite sides of the pipe.
- Thread the pipe to hose adapter onto the pipe nipple in the tee using Teflon tape to seal the threads.



Your finished vortex trap should look something like this.

You use this trap by hooking the hose adapter to a hose and adjusting the pressure going in so that you get a good vortex of water coming out of the coupler end of the trap and a slow drip of "water" out the end of the polyethylene tube. You can also adjust the tapered rod in and out of the coupler in order to get things just right.

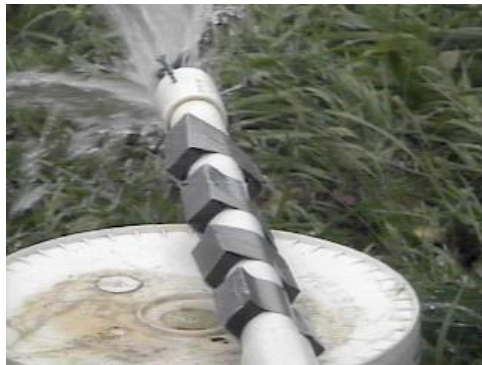
Experiments

- Try different directions of vortex by changing the slot design.
- Try a series of small holes instead of a slot.
- Adjust the tapered rod (nose piece) in and out to change the amount of drip from the polyethylene tubing.
- Try different types and configurations of magnets.

Some experimenters have noticed that stronger additional magnets improve the apparent quality of the "good" output water. One experimenter has placed 56 - 3800 gauss magnets around the long pipe on his trap! He was unable to find fabric so he modified his trap to have a lower back pressure so that the "good" output flow would still be a drip. Here are some of his comments on his design:

I set the device to produce a steady drip on the outlet with an occasional air bubble. The presence of the bubbles indicates cavitation and ariation of the water entering the tube and subsequently a vortex. I did not make a clear tube type. At this slow outlet rate it took over two hours to fill a one-gallon jar. I calculated flow rate on the hose to be very close to 200 gallons per hour. This makes the potential concentrate in the jar roughly 400/1. This would make one glass of the water equivalent to about 400 non-concentrated glasses.

Here is a picture of this gentleman's first eight-magnet configuration:



And here is a picture of his 56 magnet configuration:



The magnets are [Radio Shack "High Energy" magnets](#) as advertised in their catalogue (pn: RS 640-1877). They measue 3/8 inch deep, 7/8 inch wide, and 1 7/8 inches long and are made of strontium ferrite. The data sheet specifies they are 3800 gauss per sqare inch with an attraction force of about 8 pounds. This makes it necessary to tape them very securely. If allowed to snap together they will break. He purchased a quantity (50) from Radio Shack ONLINE for a 10% discount. Locally they will usually have up to 10 on hand. They cost \$.99 each but they seem to be out of stock.

When this gentleman added the additional magnets he and his wife noticed that the m-state water had become "milky". They sent this picture:



Here are their comments on this. First the comments from the lady who is writing the [Trap Water Diary](#):

The picture attached is our m-state water from the vortex trap that now has 56 magnets on it, will have more pics later on tonight to send ya too. The sight of the sun shining through the m-state water is totally awesome and it really is milky looking.

And here are his comments:

My wife sent you a picture earlier of the colloidal M-State we have recovered from our well water. I was very surprised to see the particles suspended in the water under strong light. We produced this effect when making colloidal silver a couple of years ago. We noticed this when pouring some in the kitchen and the sun happened to be shining in. Other unusual properties were also observed with the water from the 56 magnet trap. These properties are described at:

<http://www.subtleenergies.com/ormus/tw/m-seeps.htm>

The original inventor of the magnetic trap concept says that he has also gotten a similar cloudy water by running the trap water from the first trap through a second trap stage. While this results in a significant reduction of the overall volume of product, the output of the second stage is much more potent than the output of the first stage. It would seem that the key to this sort of concentration in a single stage is the addition of lots of strong magnets.