

Ice Cooled Golf Bag

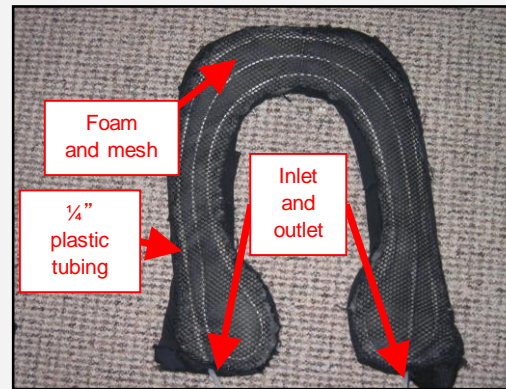
Samuel Burton, Matt Hurr, John Morin, Alex Alamsyah

Project Requirements

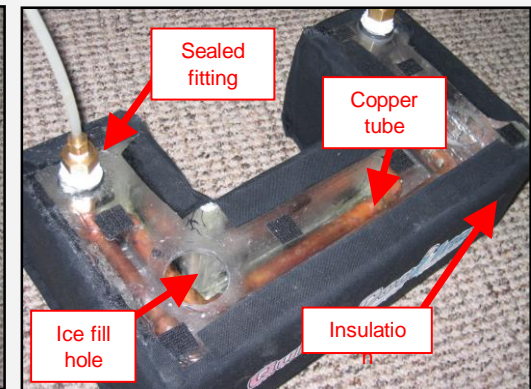
- ▶ Incorporate cooling system into golf bag
- ▶ Use ice/water as cooling source
- ▶ Connect cooling system to strap around user's chest
- ▶ Provide cooling on demand
- ▶ Be effective and comfortable
- ▶ Be lightweight
- ▶ Acceptable duration between refills

Product Goals

- ▶ Weight Goal ~ 8-12 lbs
- ▶ Battery lifetime ~ 4.5 hrs
- ▶ Dissipate 150 W of heat



Cooling strap worn around user's chest



Cooling system contained in golf bag

System Operation

Step 1

Remove plugs from heat exchanger and fill with approximately 4 to 4.5 lbs of cubed ice



Step 2

Add approximately 1 cup (8 oz) of water to heat exchanger. Replace plugs when finished



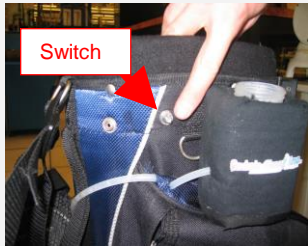
Step 3

Add water to the reservoir making sure it is full



Step 4

Press button on side of bag to initiate pump... Re-fill reservoir



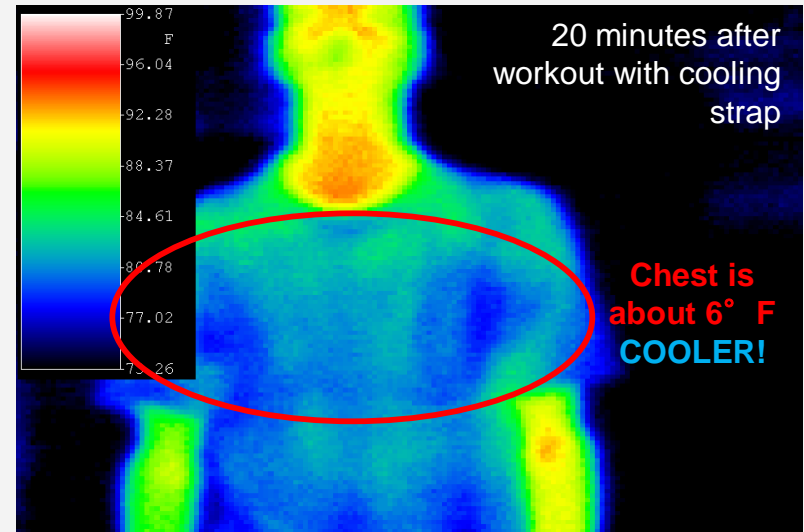
Step 5

Put on golf bag and begin feeling your temperature drop 1° at a time



Step 6

Press button again to stop pump. Drain water from bottom of heat exchanger and recharge battery. Ready to store until next use



Initial Goals:

- Provide 4.5 hours of cooling
- Weigh 8-12 lbs (excluding golf bag)
- Dissipate 150 W of heat from body
- Aesthetically pleasing

Actual Results:

- Ice: 5 hours; battery: 3 hours
- Weighs 20 lbs (excluding golf bag)
- Capable of rejecting ~ 150 W
- Looks **COOL!**