

Talk-the-Talk: The BTU

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Bryce Bison here to teach you how to earn the respect of your local HVAC professional. And wow your friends with your heating and air accumen.

By Bryce Bison

Ok men, enough is enough. You like cooking outside on your Vermont Castings 5000 grill of death. You have a furnace or boiler in your home. You may even be blessed by God's gift of air conditioning. But you still don't know what in the heck a BTU is. Well, here we go. BTU stands for British thermal unit, and it is the amount of heat needed to raise one pound of water one degree Fahrenheit. Most everything we have that burns fuel is rated in BTU's. That is just the beginning. Have you ever heard the term 'ton' when referring to the size of an air conditioner? A small through the window unit may be one ton, while your two story, 5,000 square foot house may have a five ton unit. This does not appear to make sense. These air conditioners do not weigh a literal ton. So then Bryce, if you are sooo smart, what does it mean? Well, my new adoring reader, a ton equals 12,000 btus per hour. That is the amount of heat (over the course of 24 hours) you must remove from 2000 lbs. (one ton) of 32-degree water to make 32-degree ice, of course! I know this sounds like a bad math problem from high school, but it is time you started to sound like you know what you are talking about. The important thing here is that when you talk with your fellow man or heating and a/c guy, you can talk about things like BTU output and a/c tonnage.

Four phrases to use when chatting with your friendly HVAC (heating, ventilation, and air-conditioning) professional.

1. I change my filter quarterly, but it still seems like there is no airflow upstairs. Note: this is a classic problem with two story homes.
2. Do you think it is possible that my coil is icing up due to a dirty air filter?
3. The compressor is making a funny noise. Can I get service today?
4. A service contractor told me I have a cracked heat exchanger and to leave my windows open or my family will die of carbon monoxide poisoning, will you guys come out and give me a second opinion?

Note: unless someone shows you a very obvious crack in your heat exchanger, always get a second opinion.

Now that you sound awesome, this brings us to the more practical side of heating and air conditioning, regular maintenance. Let us assume you have a furnace and an air conditioner. There are things you need to do on a regular basis to keep you cozy in the winter and a cool cat in the summer. Also, if you say the bold key words in short sentences, you may even impress your wife! No guarantees on that one though. First things first, check and/or change your filter every 3 months. If you find out that your filter needs changed less or more often, adjust your schedule accordingly. Buy pleated filters. This is not the place to pinch your pennies. Poor filters equal messy coils and ducts, those are more expensive to clean. A dirty filter can cause these problems: an iced a/c coil, low airflow, and a furnace that bangs on and off during heating season (this can lead to a cracked heat exchanger). Next maintenance item, clean your condenser coil. The condensing unit is the part of your air conditioner that is outside. Clean this in the spring once and again in the summer with the garden hose (or more often if needed). If this coil gets too dirty your a/c may trip off, not feel cold enough inside, or even cause a premature compressor failure. This stuff really is golden guys, I hope you are taking notes or copying and pasting this to your secret man file.

I would like to take this opportunity to recommend that if you run across problems with your furnace or air conditioner that are not solved by filter changes or coil cleanings to contact a professional. It may just prevent a terrible accident. Have a good time out at your grill, and tell some other guy exactly why your 48,000 btu/hr steak-grilling machine kicks his little 30,000 btu/hr hot dog warmer's butt.