

I'm not a robot



























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The license may not give you all of the permissions necessary for your intended use. For example, other rights such as publicity, privacy, or moral rights may limit how you use the material. Horsepower (hp) is the name of several units of measurement of power, the rate at which work is done. This tool converts horsepower to btu per hour (hp to btu/h) and vice versa. 1 horsepower = 2544.4336113065 btu per hour. The user must fill one of the two fields and the conversion will become automatically. 1 horsepower = 2544.43 btu per hour Formula horsepower in btu per hour (hp in btu/h). Btu per hour = hp\*2544.4336113065 Conversions horsepower to other units Table horsepower to btu/hour 1 hp = 2544.43 btu/hour11 hp = 27988.8 btu/hour21 hp = 53433.1 btu/hour2 hp = 5088.87 btu/hour12 hp = 30533.2 btu/hour22 hp = 55977.5 btu/hour3 hp = 7633.3 btu/hour13 hp = 33077.6 btu/hour23 hp = 58522 btu/hour4 hp = 10177.7 btu/hour14 hp = 35622.1 btu/hour24 hp = 61066.4 btu/hour5 hp = 12722.2 btu/hour15 hp = 38166.5 btu/hour25 hp = 63610.8 btu/hour6 hp = 15266.6 btu/hour16 hp = 40710.9 btu/hour26 hp = 66155.3 btu/hour7 hp = 17811 btu/hour17 hp = 43255.4 btu/hour27 hp = 68699.7 btu/hour8 hp = 20355.5 btu/hour18 hp = 45799.8 btu/hour28 hp = 71244.1 btu/hour9 hp = 22899.9 btu/hour19 hp = 48344.2 btu/hour29 hp = 73788.6 btu/hour10 hp = 25444.3 btu/hour20 hp = 50888.7 btu/hour30 hp = 76333 btu/hour40 hp = 101777.3 btu/hour70 hp = 178110.4 btu/hour100 hp = 254443.4 btu/hour50 hp = 127221.7 btu/hour80 hp = 203554.7 btu/hour110 hp = 279887.7 btu/hour60 hp = 152666 btu/hour90 hp = 228999 btu/hour120 hp = 305332 btu/hour200 hp = 508886.7 btu/hour500 hp = 1272216.8 btu/hour800 hp = 2035546.9 btu/hour300 hp = 763330.1 btu/hour600 hp = 1526660.2 btu/hour900 hp = 2289990.3 btu/hour400 hp = 1017773.4 btu/hour700 hp = 1781103.5 btu/hour1000 hp = 2544433.6 btu/hour Power Conversions Easily convert mechanical horsepower (HP) to BTU per hour (BTU/h) using this quick and accurate online tool. Ideal for engineers, HVAC technicians, and anyone working with energy systems. Horsepower is a unit of power used to measure the rate at which work is done. The term originated in the 18th century with James Watt's work on steam engines. There are different definitions of horsepower (mechanical, metric, electrical, boiler), but the most commonly used is **\*\*mechanical horsepower\*\***, particularly in the United States. One mechanical horsepower is defined as: 1 HP = 745.7 watts 1 HP = 2544.43 BTU/h What is BTU/h? BTU/h stands for British Thermal Units per hour. It is a unit of power, indicating the rate at which energy is transferred or heat is produced. BTU/h is commonly used in heating, ventilation, air conditioning (HVAC), and power systems to describe thermal output or input over time. HP to BTU/h Conversion Formula The formula to convert horsepower to BTU per hour is simple and standardized: This is based on mechanical horsepower. If you're using metric horsepower (1 metric HP = 735.5 watts), the conversion factor will differ slightly. Use Cases in Real-World Applications Understanding this conversion is essential in many fields, including: HVAC design: Converting motor output in HP to BTU/h to size heating or cooling equipment properly. Engine performance: Determining how much thermal energy is being produced or dissipated based on engine power. Boiler systems: Translating mechanical input into thermal output for system efficiency assessments. Power plant design: Energy flow analysis where mechanical work is transformed into heat or vice versa. Conversion Examples Horsepower (HP) Equivalent BTU/h 1 HP 2,544.43 BTU/h 5 HP 12,722.15 BTU/h 10 HP 25,444.30 BTU/h 50 HP 127,215 BTU/h 100 HP 254,443 BTU/h Frequently Asked Questions Can I convert any type of horsepower to BTU/h? This calculator uses **\*\*mechanical horsepower\*\*** as the basis. If you're dealing with **\*\*metric horsepower\*\***, you'll need a different conversion factor (1 metric HP = 2542.47 BTU/h). Always confirm the type of HP you're working with. Is this conversion used in everyday HVAC applications? Yes. HVAC motors, compressors, and fans are often rated in HP, while the heat they generate or manage is expressed in BTU/h. Being able to convert between them helps in selecting properly matched equipment. How do I convert BTU/h back to HP? You can reverse the formula: HP = BTU/h + 2544.43. This is useful when sizing motors for thermal loads. Is the conversion accurate? Yes. The conversion factor is based on well-established engineering principles. However, keep in mind this assumes ideal conditions. Real-world performance may vary slightly due to efficiency losses. Can I use this conversion in thermodynamic calculations? Absolutely. Mechanical and thermal energy units are often interconverted in thermodynamic and energy balance calculations. Just be sure all units are consistent throughout your analysis. In lots of cases, you see air conditioner capacity expressed in HP (HorsePower). We usually want to convert that HP to BTUs per hour. During this article, we will show you exactly how to convert horsepower to BTU per hour for an HVAC system (air conditioners, furnaces). On top of that, we have programmed an HP To BTU/hr Calculator (just insert HP, get BTU/h), complete with a chart where we converted 0.1 HP to 100 HP into BTU per hour. Alright, let's first address this horsepower unit we see on aircon specification sheets (Example: 1.5 HP air conditioner). There is not your regular mechanical horsepower we use for cars. Rather, in HVAC, we use a specific type of horsepower unit (that can be quite easily converted into BTU per hour, of course). Here is a short description of these two units we use in HVAC: HP or HorsePower in HVAC is a unit for cooling or heating output. This is an HVAC-specific unit that doesn't relate to other types of horsepower units (electric, mechanic, metric, boiler). It is specifically used to denote the capacity of air conditioning systems and heating systems (like furnaces). BTU/hr or British Thermal Unit per hour is also an HVAC unit for cooling or heating output. It is the energy needed to increase (or energy withdrawal to decrease) the temperature of 1 pound of water by 1 degree Fahrenheit in 1 hour. To convert these HVAC horsepower to BTU/h, you only need to know this 1 conversion rule: 1 HP = 9,000 BTU/hr This means that 1 HVAC horsepower is equal to 9,000 BTU per hour. Example: 1 HP air conditioner is the same as a 9,000 BTU air conditioner. This is an 18,000 BTU/hr LG Inverter V air conditioner (outdoor condenser unit). You can also refer to it as a 2 HP air conditioner since 18,000 BTU = 2 HP. We can calculate the BTUs per hour from the given HP using this formula: BTU/hr = HP x 9,000 BTU/hr Per HP Quick Example: Let's say we have a 1.5 HP portable air conditioner. How many BTUs per hour is 1.5 HP? We just insert the '1.5 HP' in the equation like this: BTU/hr (1.5 HP) = 1.5 HP x 9,000 BTU/hr Per HP = 13,500 BTU We see that 1.5 HP is equal to 13,500 BTU per hour. You can calculate this on the back of the napkin. To help you out, we have designed a simple-to-use HP to BTU per hour calculator for HVAC (you insert HP on the AC unit, and get the BTUs per hour). We have also converted 0.1 HP to 100 HP into BTU per hour, and summarized the results in a neat conversion chart you will find below the calculator: HP To BTU Per Hour Calculator Here is how this calculator works: Let's say you want to know how many BTUs per hour is a 2 HP air conditioner. Just slide the slider to '2', and you get the result immediately: 2 HP is equal to 18,000 BTU. Here is the full all-encompassing conversion chart: Horsepower To BTU/hr Conversion Chart Horsepower (HP in HVAC): BTU/hr: 0.1 HP 900 BTU/hr 0.5 HP 4,500 BTU/hr 1 HP 9,000 BTU/hr 1.5 HP 13,500 BTU/hr 2 HP 18,000 BTU/hr 2.5 HP 22,500 BTU/hr 3 HP 27,000 BTU/hr 3.5 HP 31,500 BTU/hr 4 HP 36,000 BTU/hr 4.5 HP 40,500 BTU/hr 5 HP 45,000 BTU/hr 5.5 HP 49,500 BTU/hr 6 HP 54,000 BTU/hr 6.5 HP 58,500 BTU/hr 7 HP 63,000 BTU/hr 7.5 HP 67,500 BTU/hr 8 HP 72,000 BTU/hr 8.5 HP 76,500 BTU/hr 9 HP 81,000 BTU/hr 9.5 HP 85,500 BTU/hr 10 HP 90,000 BTU/hr 20 HP 180,000 BTU/hr 30 HP 270,00 BTU/hr 40 HP 360,000 BTU/hr 50 HP 450,000 BTU/hr 100 HP 900,000 BTU/hr Now, you can just look at this chart and see how many BTUs per hour a certain amount of horsepower is. Example: Let's say you have a 4 HP air conditioner. How much is that in BTUs per hour? As you can see from the chart, 4 HP is equal to 36,000 BTU. That is equal to 3 tons. We hope that using this calculator and chart, you will now be able to easily convert horsepower on your AC unit into BTUs per hour. If you need our help, give us some numbers in the comment section below, and we will help you out. You can also check a similar Horsepower To BTU per minute calculator and chart here. Please provide values below to convert horsepower [hp, hp (UK)] to Btu (IT)/hour [Btu/h], or vice versa. Horsepower [hp, hp (UK)]Btu (IT)/hour [Btu/h]0.01 hp, hp (UK)25.4443357764 Btu/h0.1 hp, hp (UK)254.4433577644 Btu/h1 hp, hp (UK)2544.4335776441 Btu/h2 hp, hp (UK)5088.8671552882 Btu/h3 hp, hp (UK)7633.3007329322 Btu/h5 hp, hp (UK)12722.16788822 Btu/h10 hp, hp (UK)25444.335776441 Btu/h20 hp, hp (UK)50888.671552881 Btu/h50 hp, hp (UK)127221.6788822 Btu/h100 hp, hp (UK)254443.35776441 Btu/h1000 hp, hp (UK)2544433.5776441 Btu/h1 hp, hp (UK) = 2544.4335776441 Btu/h1 Btu/h = 0.0003930148 hp, hp (UK)Example: convert 15 hp, hp (UK) to Btu/h:15 hp, hp (UK) = 15 x 2544.4335776441 Btu/h = 38166.503664661 Btu/h More information from the unit converter How many hp in 1 Btu/h? The answer is 0.00039285666219839. We assume you are converting between horsepower [electrical] and Btu/hour [I.T.]. You can view more details on each measurement unit: hp or Btu/h The SI derived unit for power is the watt. 1 watt is equal to 0.0013404825737265 hp, or 3.4121416351331 Btu/h. Note that rounding errors may occur, so always check the results. Use this page to learn how to convert between horsepower and Btu/hour. Type in your own numbers in the form to convert the units! 1 hp to Btu/h = 2545.45766 Btu/h 2 hp to Btu/h = 5090.91532 Btu/h 3 hp to Btu/h = 7636.37298 Btu/h 4 hp to Btu/h = 10181.83064 Btu/h 5 hp to Btu/h = 12727.2883 Btu/h 6 hp to Btu/h = 15272.74596 Btu/h 7 hp to Btu/h = 17818.20362 Btu/h 8 hp to Btu/h = 20363.66128 Btu/h 9 hp to Btu/h = 22909.11894 Btu/h 10 hp to Btu/h = 25454.5766 Btu/h You can do the reverse unit conversion from Btu/h to hp, or enter any two units below: The electrical horsepower is used by the electrical industry for electrical machines and is defined to be exactly 746 W (at 100% efficiency). Metric conversions and more ConvertUnits.com provides an online conversion calculator for all types of measurement units. You can find metric conversion tables for SI units, as well as English units, currency, and other data. Type in unit symbols, abbreviations, or full names for units of length, area, mass, pressure, and other types. Examples include mm, inch, 70 kg, 150 lbs, US fluid ounce, 6'3", 10 stone 4, cubic cm, metres squared, grams, moles, feet per second, and many more! Convert horsepower (hp) versus btu per hour (btu/h) in swapped opposite direction from btu per hour to horsepower Or use utilized converter page with the power multi-units converter conversion result for two power units: From unit SymbolEquals ResultTo unit Symbol 1 horsepower hp = 2,544.43 btu per hour btu/h How many btu per hour are contained in one horsepower? To link to this power - horsepower to btu per hour units converter, only cut and paste the following code into your html. The link will appear on this page as: on the web units converter from horsepower (hp) to btu per hour (btu/h)

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