

# Commercial Treadmill Buyer's Guide

It's obvious, commercial treadmills should have different features than standard residential treadmills because the needs are different. Most of these features are designed to make your life easier with less maintenance required and features that make these trainers super versatile.

## What is the Difference?

These are high performance, heavy duty treadmills. They are used in health clubs, recreation centres, pro sports training rooms, and apartment/condo club houses, as well as hospitals and schools. They are the most expensive type of treadmill and are required to hold up against very high usage: many gyms are open 24/7 and the machines are constantly in use with a mix of light and heavy users.



## What to Look for in Commercial Treadmills?

Home owners are getting in on the rush to buy a health club treadmill, which may or may not have a sibling model in the maker's residential line. Whichever type you're looking for, commercial, light commercial, or residential -- we've put together a brief buyer's guide to give you an idea of the desirable features to look for in a treadmill:

## Motor Horsepower

### Motor

» A treadmill is only as good as its motor; the larger and heavier the motor, the longer the treadmill will last.

» Motorized treadmills have one motor that drives the belt and another (the lift motor) that raises and lowers the running bed to create an incline

» The transfer of power should feel smooth. You should not hear the motor. Most commercial treadmills come equipped with a large CHP (Continuous Horsepower) motor that will be self-cooling and run at lower RPMs. A larger motor (i.e., 3.5 – 4 CHP) will also provide a smoother ride.

» Many treadmill manufacturers advertise their motors' power as "continuous horsepower" or CHP. This provides a better idea than does a simple horsepower rating, because it indicates the machine's capability under conditions of regular use instead of its peak capability.

## Horsepower

» Horsepower is the measurement of power of a treadmill motor; manufacturers use two measurements for horsepower : continuous and peak

» Continuous horsepower is how powerful a treadmill can continually operate without dropping off

» Peak horsepower is the maximum horsepower a treadmill can generate for a short period of time

» Since peak horsepower is usually significantly higher than a motor's continuous capability, continuous horsepower better helps you determine which treadmill will accommodate your intended exercise use

» Generally speaking, the larger the motor the more powerful it can operate at a continuous rate

» Powermax Fitness recommend following continuous motor rating: Home treadmills have a Continuous horsepower between 1.5 - 2.5 HP (1100 - 1900 W), the light commercial running machines have 2.8 -3.0 HP (2100 - 2200 W) and the fully commercial treadmills are between 3.0 (2200 W) and 3.8 HP (2800 W)

## Noise

All treadmill make noise, but a reasonably quiet machine generally means less friction and wear on the treadmill. However, that does not mean that it is perfect either.

## Rollers

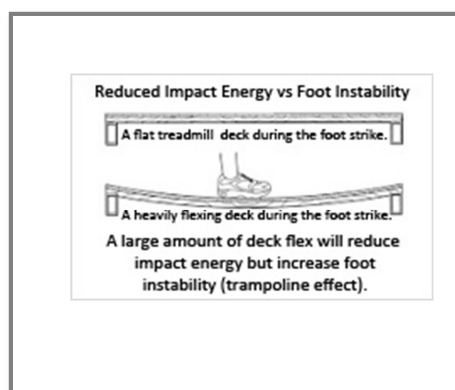
These aren't something most people think about but they are important for extending the life of the belt; that is, the larger the rollers, the less friction and tension, and the longer the tread belt will last.

Generally speaking, rollers sized 60mm or larger are fine, but commercial treadmills usually come equipped with 80mm to 100mm rollers. Steel **tapered** rollers keep the belt centred to reduce maintenance and noise. The rollers need to have the proper bearings.

## Shock absorption and Deck

Track cushioning helps to protect treadmill users' joints from the impact of exercise. Compared with road running, cushioned treadmill running typically reduces impact by about 15%-40%. Cushioning is most important for runners, but it also reduces impact upon walkers' bodies and thereby helps to improve their stamina. Furthermore, the more advanced running tracks have differential cushioning that supports the back foot and front foot differently; feet get more support as they push off the track, and they get more cushioning as they land.

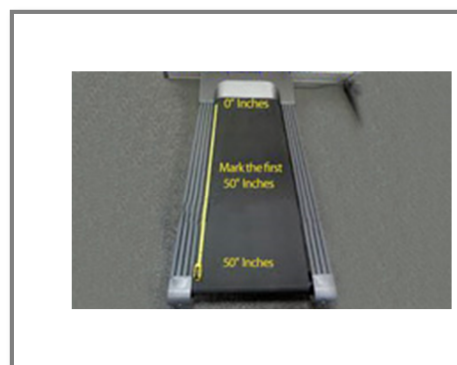
Heavy duty commercial treadmills are very high tech in terms of advanced cushioning and deck thickness. 25-30mm thickness board composed of high density fibreboard core with phenolic laminate bonded and wax-coated decks offer the longest life: In addition, a commercial treadmill will have shock absorbers located in 6 different spots for better shock absorption to reduce stress on your joints by giving areas of the deck optimal amounts of underfoot cushioning and rigidity for the most comfort throughout your stride. Make sure the running deck has a shock absorption system with a minimum of 6 pads.



## Track Size

Treadmill tracks vary in size from about 20" – 24" (510-610mm) wide and 54" to 64" (1370 -1625mm) long. Track length may not be of great importance to petite walkers, but it's important to users who are tall and/or who take relatively long strides when running. Most walkers will be satisfied with a 20" x 54"(510x1370mm)track.

For commercial gym we recommend 22" x 59" (560-1500mm) deck so that tall people are covered. Track width might be important to larger runners and people who move their arms significantly when running. A standard comfortable track width for runners is 22" (560mm)



## Belt

Belts that are 2-ply or 4-ply are thicker and more durable than those that are one-ply. Using a four-ply belt on your treadmill is the best bet. Thicker belts also tend to be quieter. Belt of 2.5mm to 3 mm thickness and multi-ply is recommended.

We don't recommend an orthopaedic belt since a good pair of running shoes provides all the cushioning you need. Also, orthos weigh more and put more strain on the rollers which shortens the life of the bearings. Using a four-ply belt on your treadmill is the best bet.



## Frame

The frames on commercial quality treadmills are welded (rather than assembled with nuts and bolts) and composed of high alloy steel or aircraft aluminium. They'll come with lifetime warranties against any cracking or breakage. The machine should also allow for a max user weight of 159 Kg. (350 lbs) or higher.

## Incline

one of the benefits of using inclination is that you will burn calories much quicker than when they train on a flat surface. Treadmill inclines mimics walking or running up hills making your workout more challenging, burning more calories and further increasing muscle tone.

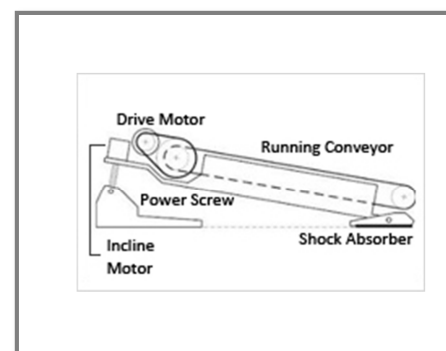
**There are two types of inclination:**

### Manual

Manual incline means you change the incline yourself; this is usually offered in 4 different placements, such as 3% incline, 5% incline, 7% incline and 9% incline; treadmills with manual incline are less expensive than those with powered incline. Every time you use the treadmill you should manually adjust it to change the level.

### Automatic

Use a motor that change the inclination for degree with a variation between 0-16% for home and light commercial use. The inclination on the fully commercial treadmill goes from 0 to 22%, depending of the machines you pick up.



## Weight Capacity

Commercial Treadmill weight capacities generally range from about 150 - 200Kg's (330-440 lbs). It is advised to choose treadmills that can handle at least 23Kg's (50 lbs) more than the body weight. This helps to reduce wear on the motor and helps extend the treadmill's longevity.

## Programs

Most treadmills are sold with a minimum of 12-15 workout programs already installed. These are usually designed for a variety of exercise goals, such as weight loss training and endurance training. Many treadmills now feature advanced workout programs, which can be continually upgraded.

## Other Features

Treadmill features such as console fans, MP3-players, televisions, and virtual personal training assistance can help make exercise more enjoyable. They might be worth the extra investment because they make it more likely that users will attain their exercise goals.

## Warranty

A typical recommended warranty for a commercial model would include: lifetime on the frame, 5 years on the motor, 3 year on parts/electronics, and 2 years on labor.

## Tips to keep your Treadmill in Tip Top Shape

We highly recommend that you always use a treadmill mat underneath your machine, whether it's a budget model or an expensive Cadillac of a brand. The purpose for the mat is to keep dust bunnies and other debris from being sucked up into the motor and shortening its life. It's an inexpensive accessory but one you should never be without.

## Which Brands to Consider

The best thing about buying commercial treadmills is that the quality and reliability are first rate; you can't go wrong buying a Powermax Fitness brand. At this level, it's a matter of personal preference and aesthetics more than anything else.



# Treadmill Motors: What You Need to Know

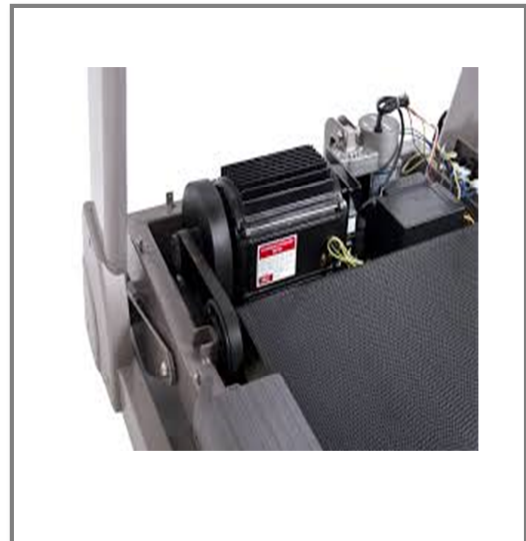
Whether you're looking to purchase a new treadmill or looking to update an existing one, knowing about which kind of motor to look for is vital to the success of your treadmill use. The motor is the main hub and carries the most weight mechanically. They vary in their abilities and capacities and are not all alike. It is essential to consider a few different variables with its motor before you make your treadmill purchase. Aside from the user, the motor does the most work in the treadmill. Poor quality motors are likely to overheat and require unnecessary repairs. The best way to check if your motor is a good quality motor is by checking the manufacturer warranty. A high-quality motor will have a longer warranty period and is a safer investment. When it comes down to the nuts and bolts of the matter, treadmill motors are not wholly difficult to understand. **Treadmill motor energy is measured in horsepower (HP)** and can be sorted into three different rating systems:

1. **Peak Duty:** Generally the weakest. "Peak" stands for the peak horsepower that the treadmill will reach and no more.
2. **Treadmill Duty:** In-between peak and continuous
3. **Continuous Duty:** The highest rank.

The number associated will describe how much power is maintained throughout the workout.

While many motors will claim to be of identical horsepower, it is pertinent to note that every motor is not built the same. Cheaper prices mean that the product consists of poorly made parts and copper wire. Do not be swayed solely by low prices. A treadmill that originally cost MRP of INR 65000 or more is likely to possess a durable motor. Less expensive models are not likely to have a reliable motor installed.

Consider the following:



- **For walkers:** 2.0 horsepower continuous duty motor will suffice
- **For joggers:** 2.5 horsepower continuous duty should be the minimum
- **For runners:** 3.0 horsepower continuous duty or higher

Also note that if any of the users of the treadmill weigh over 110Kg (240 pounds), HP should be increased by 0.5 for proper support, no matter the fitness goals.

This means the HP should be at least 2.5 HP for walkers, 3.0 for joggers, and 3.5 for runners. Such precaution will extend the life of your motor.

As for sound, note that motors employing direct current (or known as DC) cause less noise compared to motors that use alternate current (also known as AC).

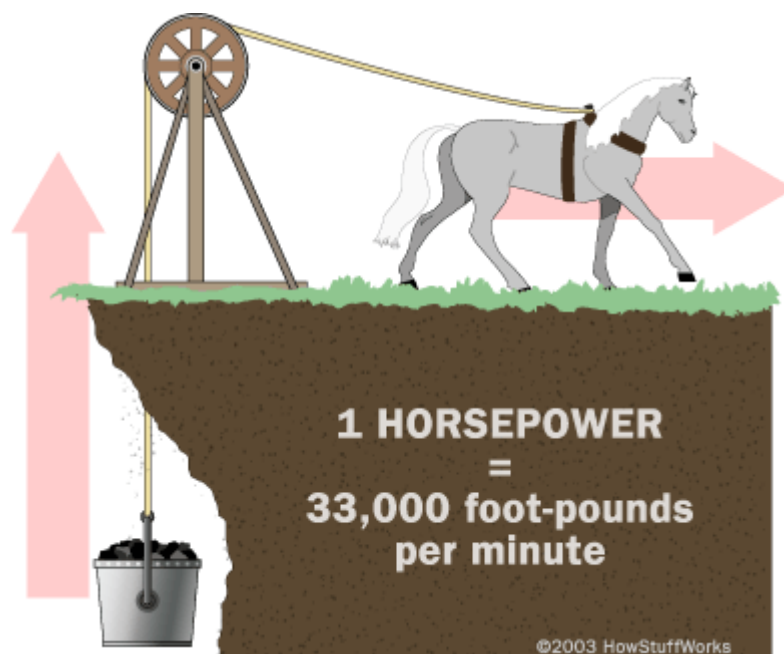
# How Horsepower Works

Chances are you've heard about horsepower. Just about every car ad on TV mentions it, people talking about their cars bandy the word about and even most lawn mowers have a big sticker on them to tell you the horsepower rating.

But what is horsepower, and what does the horsepower rating mean in terms of performance? In this article, you'll learn exactly what horsepower is and how you can apply it to your everyday life.

The term **horsepower** was invented by the engineer James Watt. Watt lived from 1736 to 1819 and is most famous for his work on improving the performance of steam engines. We are also reminded of him every day when we talk about 60-watt light bulbs.

The story goes that Watt was working with ponies lifting coal at a coal mine, and he wanted a way to talk about the power available from one of these animals. He found that, on average, a mine pony could do 22,000 foot-pounds of work in a minute. He then increased that number by 50 percent and pegged the measurement of horsepower at 33,000 foot-pounds of work in one minute. It is that arbitrary unit of measure that has made its way down through the centuries and now appears on your car, your lawn mower, your chain saw and even in some cases your vacuum cleaner.



What horsepower means is this: In Watt's judgement, one horse can do 33,000 foot-pounds of work every minute. So, imagine a horse raising coal out of a coal mine as shown above. A horse exerting 1 horsepower can raise 330 pounds of coal 100 feet



in a minute or 33 pounds of coal 1,000 feet in one minute, or 1,000 pounds 33 feet in one minute. You can make up whatever combination of feet and pounds you like. As long as the product is 33,000 foot-pounds in one minute, you have a horsepower.

You can probably imagine that you would not want to load 33,000 pounds of coal in the bucket and ask the horse to move it 1 foot in a minute because the horse couldn't budge that big a load. You can probably also imagine that you would not want to put 1 pound of coal in the bucket and ask the horse to run 33,000 feet in one minute, since that translates into 375 miles per hour and horses can't run that fast. However, if you have read *How a Block and Tackle Works*, you know that with a block and tackle you can easily trade perceived weight for distance using an arrangement of pulleys. So you could create a block and tackle system that puts a comfortable amount of weight on the horse at a comfortable speed no matter how much weight is actually in the bucket.

Horsepower can be converted into other units as well. For example:

- 1 horsepower is equivalent to 746 watts. So if you took a 1-horsepower horse and put it on a treadmill, it could operate a generator producing a continuous 746 watts.
- 1 horsepower (over the course of an hour) is equivalent to 2,545 BTU (British thermal units). If you took that 746 watts and ran it through an electric heater for an hour, it would produce 2,545 BTU (where a BTU is the amount of energy needed to raise the temperature of 1 pound of water 1 degree F).
- One BTU is equal to 1,055 joules, or 252 gram-calories or 0.252 food Calories. Presumably, a horse producing 1 horsepower would burn 641 Calories in one hour if it were 100-percent efficient.

In this article, you'll learn all about horsepower and what it means in reference to machines.