GYROWHEEL

——A comprehensive trainer for coordination, strength, muscle endurance and aerobic capacity

(Chinese utility model patent: 202222129946.0)

GYROWHEEL, a unique fitness product that uses multiple-weights adjusting centrifugal force for comprehensive training
A sports instrument that can comprehensively improve muscle endurance, strength, overall coordination and cardios.
A sports tool that can not only assist professional training, but also make home aerobic training.
It is also a new fitness species that is quiet and portable, and can compete for strength, coordination and muscle endurance at anytime& in anywhere with fragmented time.

Technical features of **GYROWHEEL**:

Conventional fitness products are generally used to train strength and endurance against gravity or resistance. **GYROWHEEL** is used to train strength and endurance against centrifugal force. With the rapid rotation of the adjustable-weights alu. arm inside the product, the user needs to use a force ranging from several kgs to more than 10 kgs to resist the centrifugal force generated by rapid rotation.

The **GYROWHEEL** product itself plus all the weights is only about 2 kg, and the well-trained ordinary people can make a rotation speed of more than 7 cycles per second at the fastest. According to the calculation formula of centrifugal force: $F=mv^2/r$, m is the mass of all the weights plus alu. arm and bearings, about 775g; V is the linear velocity of 7 cycles/s, about 5.5m/s, and r is the radius from the center of mass to the center of rotation, about 0.125m. So $F=0.775 * 5.5^2/0.125=187N=19.08kg$, that is, the maximum centrifugal force is close to 20kgs.

FAQ：

1. How many gears are there in the weight of the **GYROWHEEL**?

GYROWHEEL provides five weights in total, each weigh is 125g. However, for some beginners and patients recovering from injury and illness, in fact, all weights can be removed for operation, so there are actually 6 adjustable weights in the **GYROWHEEL**.

2. Who is the suitable group for the **GYROWHEEL**?

GYROWHEEL is suitable for three kinds of people. One is fitness or sports enthusiasts, who often need to improve their sports performance. The unique functions of the **GYROWHEEL** together with other professional equipment can make each training better. For these fitness and sports enthusiasts, the benefits they can get from the **GYROWHEEL**+slider mainly lie in the improvement of upper limb strength and core strength. Of course, they can also get benefits from the improvement of overall muscle endurance and body coordination.

The second kind is home training enthusiasts. Through the upper and lower limbs compound training actions, they can gain the comprehensive benefits of improving the whole body strength, muscle endurance, body coordination and even explosive force from the **GYROWHEEL**+slider, and can also carry out aerobic training of any intensity through the **GYROWHEEL**+slider.

The third type is the injured patients. They can safely improve muscle strength and muscle endurance by using the **GYROWHEEL**+slider with low rotation speed and low weight.

3. Why does **GYROWHEEL** need to be run with the slider? Can **GYROWHEEL** be purchased separately?

With the help of the slider, the training actions of **GYROWHEEL** can be expanded to more than 40. With the help of the slider, **GYROWHEEL** is easier to carry out core training and lower limb training. At the same time, the effect of aerobic training and whole body coordination training is greatly expanded!

GYROWHEEL can be purchased separately.

4. Can I use **GYROWHEEL** in offices or other narrow spaces?

The **GYROWHEEL** is very quiet when running, with small action range and little interference to others, so it can be used in offices or other narrow spaces.

5. What is the difference between **GYROWHEEL** and the popular Flexi bar?

Flexi bar is a fitness tool that uses the fast rebound ability of the glass fiber stick to carry out vibration training. It is different from the principle of **GYROWHEEL**. However, from the external performance, both of them use the fast and relatively small contraction of the muscles to exercise, which seems similar.

Flexi bar: The original design of the Flexi bar is intended for rehabilitation training and muscle endurance training. If the swing range is properly done in use, ordinary people who lack exercise can not last for 30 seconds. Sports enthusiasts also have some difficulty in exceeding 60 seconds. From this point of view, the intensity is relatively large. This product has a good effect on the training of upper limb muscle endurance, and also has a certain effect on the training of upper limb strength. But it also has some problems.

First of all, it is not very safe. The glass fiber used in the cheap Flexi bar is of poor quality, which is easy to break and cause damage to the user. In addition, the two ends of the stick in use swing up and down quickly, which is easy to hit people or other objects.

Second, the Flexi bar is relatively long. At the same time, due to the insecurity in use, a certain amount of safe space needs to be reserved. It is not quite convenient to use it in narrow spaces or in public places.

Third, in order to have a good training effect, Flexi bar must have a good swing range, and this swing cannot adjust the speed. In order to make the swing range to a good extent, the user must reach a fast swing speed. If the speed is slow, the swing range will become smaller immediately, and the exercise intensity will fall off a cliff. When the swing range is in place, it is difficult for people to use it for more than 1-2 minutes, which means that it's impossible to use it continuously for a long time.

GYROWHEEL: **GYROWHEEL** has no security problem at all. At the same time, due to its quiet, round and lightweight design, it can be widely used in many places. The **GYROWHEEL**+slider greatly improve the training effect of the core and legs, especially the upper and lower limbs complex training actions, which can mobilize multiple muscle groups of the whole body to participate and exercise the cardio function.

When using the **GYROWHEEL**, you can adjust the rotation speed and weights independently, which can not only increase the training intensity into high-intensity similar to HIIT (when the **GYROWHEEL** uses the maximum weights plus a medium or high rotation speed, the exercise intensity is even higher than that of the Flexi bar), but also reduce the training intensity into aerobic training that lasts for a long time.

The last point is that there are certain requirements for body coordination when you use Flexi bar or **GYROWHEEL**, but the **GYROWHEEL**+slider have higher requirements for coordination in some high-level training actions, which also means that these high-level training actions will improve body coordination more.

	Security 安全性	Use space 使用空间	Adjustability 可调节性	Training effect for upper limb 上肢训练效果	Core training effect 核心训练效果	Leg training effect 腿部训练效果	Aerobic effect 有氧训练效果
Flexi bar 飞力士棒	No good 差	large 大	commonly 一般	good 好	good 好	commonly 一般	commonly 一般
GYROWHEEL 聚力盘	good 好	Small 小	good 好	good 好	very good 非常好	good 好	good 好

6. What are the advantages of the **GYROWHEEL** compared with the elastic belt and dumbbell set commonly used at home?

There are many kinds of household fitness equipment in the market. Theoretically, only dumbbells (kettlebells are similar to dumbbells) and elastic bands can be used to exercise all over the body. So we compare these two products with **GYROWHEEL**. Our evaluation criteria are very poor (0), poor (+), good (++), excellent (+++). We can see from the table that the **GYROWHEEL** is relatively versatile.

	Portability 便携性	strength training 力量训练	Muscle endurance/ warm-up 肌耐力/热身	Training actions 训练动作	Coordination training 协调性训练	Aerobic training 有氧训练
GYROWHEEL 聚力盘	++	++	+++	++	+++	+++
Elastic band 弹力带	+++	++	++	++	+	++
dumbbell set 哑铃组	0	+++	++	+++	+	++

Portability: This contrast result is very clear. The light and soft elastic belt is the most portable. The dumbbell set can't be carried at all, unless you carry the lightest single dumbbell. But the lightest single dumbbell lacks exercise value. With a diameter of about 30cm and a weight of 1.5-2kg, **GYROWHEEL** is also portable.

Strength training: Dumbbell set is undoubtedly the champion, especially the resistance training is more than 20kgs. The other two products cannot match that effect. multiple elastic bands can be combined into a stronger elastic band, which can also offer great resistance. However, it is inconvenient to do so.

Muscle endurance: To train muscle endurance, you can only use small weight with more reps, which can be achieved by all three kinds of equipment. The difference between the **GYROWHEEL** and the other two devices is that it can make rapid small amplitude concentric contraction and eccentric contraction by resisting centrifugal force, so as to achieve the purpose of training muscle endurance. Small amplitude with high-frequency concentric contraction and eccentric contraction determine that the muscle endurance exercise of **GYROWHEEL** will be balanced, safe and fast! For the same training of biceps, it takes at least 2 seconds for the elastic band and dumbbell to complete a set of eccentric and concentric contractions, while **GYROWHEEL** can complete at least 4 sets and at most 14 sets of eccentric and concentric contractions within 2 seconds, with obvious advantages.

Training action: dumbbell set with the maximum combined weight of more than 20 kg can certainly do the whole body exercise. Elastic band training actions are not as many as dumbbells. The type of training actions of **GYROWHEEL** is close to the elastic band, and the advantage is that compared with the elastic band, it does not need to be fixed and can be used easily.

Coordination: dumbbells and elastic bands are rarely used in general coordination training, sports teams often use specific free hand training to improve athletes' body coordination.
In order to maintain continuous and fast rotation, the **GYROWHEEL** must have certain coordination and concentration. At the same time, some training actions require multiple muscle group cooperation, such as the complex training of shoulder+biceps+triceps, or the complex training of upper and lower limbs, have a stronger effect for coordination ability.

Aerobic training: aerobic training generally requires multiple muscle groups or leg muscle. The more muscle groups in use, the better aerobic effect is. The aerobic training effect of dumbbell and elastic band is limited since it's hard for them to call for multiple muscle groups work together.
Many training actions of **GYROWHEEL** can call for multiple muscle groups at the same time. For example, the complex training of upper and lower limbs of **GYROWHEEL** can mobilize the muscles of arms, shoulders, back, ABs and legs. The aerobic effect is excellent. Some high-level aerobic training can make the heart rate rise rapidly and achieve the training effect to be similar as HIIT.

7. Can users with waist problems run **GYROWHEEL**?

The various training actions of the **GYROWHEEL** have little burden on the waist, and the core training actions of the **GYROWHEEL** have a good effect to train abdominal muscles, as well as the strength training of the back erector muscles. Therefore, in theory, **GYROWHEEL** can be used. But in the acute phase of the disease, you can not use **GYROWHEEL**!

8. Is the **GYROWHEEL** plate good for frozen shoulder?

The **GYROWHEEL** is good for the rehabilitation of frozen shoulder. In particular, the wall sliding training of "**GYROWHEEL**+slider" can exercise shoulder muscles through fast low impact resistance exercise, which is helpful to loosen the adhesion joints. Under the condition of ensuring that there is no discomfort in the shoulder, all the exercises of the shoulder have a certain effect on the recovery of frozen shoulder!

9. There are many **GYROWHEEL** actions. How do you know which ones are suitable for me?

According to the difficulty of different actions, **GYROWHEEL** can be divided into three grades: A (basic level), B (upgrade level), and C (high level). Beginners can try to start from the A level. Before completing the A level requirements, do not easily try the B or C level to avoid injury. Sports enthusiasts can practice A and B level. At the same time, do not easily try C level before completing B level requirements to avoid injury.

All the training actions of **GYROWHEEL** should be continued for more than 30 seconds to achieve good training effect. If there is a weakness in one aspect of users' strength, muscle endurance and coordination, many complex actions cannot be done well. The higher the difficulty of the action, the higher your overall physiques is required; The higher your overall physiques is, the more benefits you will get from high-level training actions!

Note: On the premise of ensuring safety, users can also try to create their own actions to make the use of **GYROWHEEL** more suitable for themselves!

10. Many **GYROWHEEL** actions cannot be done, and **GYROWHEEL** cannot be rotated continuously

A) The basic actions of **GYROWHEEL** are relatively easy. Many people can't do it because they are unfamiliar with its rotation mode or because it is too heavy. Reduce the weight and try it several times, the **GYROWHEEL** can be rotated continuously soon.

B) Some basic aerobic complex training of the **GYROWHEEL** can not be done, mainly because of the lack of body coordination! Reduce the weight and practice more. You can learn it in 2-3 days. After learning the basic aerobic complex action, how to change the speed quickly and slowly in use, and how to keep the **GYROWHEEL** rotating for a long time... These processes will gradually improving your body coordination.

C) In the case of medium and high weights, high level **GYROWHEEL** complex actions often have high demands for strength, muscle endurance, body coordination, and even cardio function. Users need to improve their overall physiques from the basic and upgrade level actions before they can practice high level **GYROWHEEL** actions.

11. The rotation of the **GYROWHEEL** has two directions: clockwise and counterclockwise. Do different directions of rotation have the same training effect?

Different people often have different directions of rotation. For example, for right-handed people, when the **GYROWHEEL** rotates parallel to the ground, it is often easier to rotate counterclockwise. When the **GYROWHEEL** rotates vertically to the ground, it is often easier to rotate from outside to inside. When matching with the slider, the influence of different rotation directions of the **GYROWHEEL** becomes smaller, and many people can adapt to both rotation directions.

In general, in each actions, we suggest users first try two different rotation directions and find out the direction that suits them!