



ISSN: 2456-4419

Impact Factor: (RJIF): 5.18

Yoga 2019; 4(1): 450-453

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www.theyogicjournal.com

Received: 25-11-2018

Accepted: 30-12-2018

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Machines in volleyball

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Abstract

Sports technology and innovations in equipments has evolved in very specific form in the past few decades and exclusively over the past few years. These technologies and innovations significantly helps to improve a persons performance in volleyball. It will also reduce the man power, energy and help to complete the drills in an optimal time. It provides faster and more efficient result in training sessions. Service/Spike Machine, Block machine (with Robotic arms), Target Set, Spike training Machine, Ball cart with wheels, Training table or coach box, Setting Machine, Solo Training Aids. To thoroughly understand the entire range of features necessary for volleyball machines are heavily on the expertise of successful coaches at all levels, from young club coaches to international teams. The countless practice sessions and drills to further identify key features necessary to develop players and support the training needs of coaches. These above machines will helps to master the abilities of Service Reception, Spike Reception, Block, Set, Spike, Dig.

Keywords: machines, equipment, volleyball

Introduction

Equipments and machines have become an essential part of modern Volleyball. A large number of apparatus and machines are used for speedy, accurate and efficient performance of volleyball players. With fast technological development, there is mechanization in training resulting in increase of efficiency. The duration of repetition drills will be reduced which make a better output in the session.

Objectives

- The importance of using volleyball equipments and machines
- Identify various types of volleyball equipments and machines
- Describe the main features and uses of Service/Spike Machine, Block machine (with Robotic arms), Target Set, Spike training Machine, Ball cart with wheels, Training table, Setting Machine, Passer Machine, Dig Training Machine, Solo Training Aids.

Importance

Efficiency in the training is just as important as efficiency in the match. Volleyball machines and appliances are all such equipments which save time and coaching assistance in drills. Now-a-days machines are very popular in training because of the following reasons, The use of machines save time and manpower. The machines eliminate boredom and fatigue. The operational cost of training classes reduced as use of machine e. Use of machines has added to accuracy perfection in techniques, skills and tactics. Use of machines in coaching camp is the indicator of modernization. When the player uses same machine for longer time, he develops special skill which is helpful in the game.

- **Saving of time:** Machines turn out more work than what is manually possible. They work faster and thus there is considerable saving of time.
- **Saving of coaching assistance:** machines are trainer saving devices. Large volume of work can be handled by fewer trainers and thus there is saving of coaching assistance.
- **Increasing accuracy:** One of the importance of using machines is accuracy of work especially in ball work. They minimize technical errors.
- **Improving quality of work:** Ball work produced with the help of machines is usually neat, clean and uniform in appearance.

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- **Ensuring better control:** Mechanization enables the management to exercise more effective control over activities.
- **Improving goodwill:** The use of machines results in better service to the players and teams. This enhances the prestige of the organization.

The benefits of using machines and equipments are as follows:-

- **Reduction in operating costs:** Volleyball machines are man power saving devices. They save manual effort and increase productivity and thus lead to overall reduction in operating costs.
- **Higher efficiency:** The speed of work is greatly increased. This results in higher efficiency on account of saving in time. Dynamic drills are generally neat and legible.
- **Greater accuracy:** Mechanization ensures accuracy of work, prevents technical and skill errors.
- **Relieves monotony:** The monotony of all routine work is reduced with the help of machines. This gives considerable satisfaction to the players and coaches.
- **Effective control:** Mechanization enables management to exercise more effective control over physical activities.

Types of volleyball machines

A wide variety of machines has come into use in modern volleyball. There are machines which give maximum output in minimum requirements and input. There are machines which can produce multiple exercises, which enhances the performance. Machines are available for Service Reception, Spike Reception, Block, Set, Spike, Dig. Some of the machines are mentioned under.

1) Serving Machine. (Multi drill machine)

It quickly became apparent that the sport was growing rapidly and quickly becoming much more sophisticated. With the advent of the jump serve, the game had changed. serving became a much more dominant factor, This meant that a volleyball machine intending to exactly replicate every aspect of the game had to be able to deliver servers from a high release point with considerable velocity. No longer adequate was a simple setting machine that only lobbed the ball.

The machine needed to be able to provide a low ball release point for setting, it was imperative that it also provide a much higher above-the-net release point for exact replication of serves and spikes for digging drills. In addition, to produce an all-important jump serve, the machine had to deliver high velocity, controlled top spin and floaters that could be repeated. This would provide the much needed controlled repetition for serve-receiving drills. It was evident how important variability was to matching game-like play, so the ability to instantly change ball placement on the court was also crucial. The major problem presented was how a coach or player could easily raise or lower the throwing head while maintaining stability and easy access. This was achieved by a framework containing a platform for the operator and a tilted mast that maintains the equipment's center of gravity within the confines of the base of the machine as the throwing head is raised. The position of the operator then becomes an integral part of the machine's stability.

Next was the need to change ball placement between throws in order to add the necessary variations found in some drills and game situations. It accomplished this through a dual-axes throwing head that allows the operator to instantly pivot the

throwing head in any direction and place the ball in any desired location on the court, quickly changing between throws. This provided game tempo and realistic repetition of sets, serves, spikes and entry passes. Because of the need for spin, velocity and the elevation of the throwing head, choose wheels to propel the ball. Wheels are compact and are the only way to efficiently impart variable spin and speed. However, an initial concern was ball wear. We addressed this in two ways. First we designed a convexed contoured wheel that uniformly distributed the contact forces, eliminating the high wear contact points. Then we developed a soft wheel gripping surface that would further reduced wear. Together, these two unique features virtually eliminated any concern of ball wear.

2) Blocking machine with robotic arms

Developed by researchers at the Japanese Volleyball Association and the University of Tsukuba, the block machine lets a coach program the robot arms for different training drills. If they think their team could have handled a situation in a previous game better, they can recreate the moment by positioning the arms to stand in for opposition team members. They can also mimic the tactical styles of future opponents. To start the action, the coach presses a button and the robot arms whizz independently into place. The machine can travel 3.7 meters per second, which is faster than a player can move from one position on the court to another. Six players from Japan's women's volleyball team used the robot in training sessions over eight days. Some players said they felt little difference between playing against the machine and attacking in a real game.

Features

- Constructed of strong but light, gold anodized aluminum
- Two adjustable 1' x 1-1/2' welded blocking surfaces
- Foam padding protects the aluminum frame
- Four high-strength knobs for ease of adjustment
- Rubber foot to protect gym floor from scratching

3) Target Set

The Target Set/pass Trainer is an adjustable and portable volleyball target training aid for bumping, passing, setting, spiking and more, Target hoop angle adjusts to 45, 90, 135 and 180-degrees. It's time to get to work improving your accuracy and precision with the target setter. It's time for you to own that moment. In every competition, there comes a moment that defines the game and typically determines which side will be victorious. Some call it a turning point, or momentum changer. It is during this key moment, that all the practice, hard work, precision and repetition drills pay off. We want you to own this moment, and the Target Set/pass Trainer will help you do so. This adjustable, portable target trainer will improve accuracy in many sports including volleyball, football, soccer and more. This will improve bumping, passing, setting, serving, and spiking precision during your training and practice sessions.

Multiple Height Settings: Lightweight aluminum support allows you to change the height of the target depending on your particular training or drill. Center of the target hoop heights are 106", 114", 122", and 130". Use the low profile adapter to bring the target down to the low height setting of 76".
Adjustable Target: The 24" steel two-piece target can be adjusted in 45 degree increments from completely horizontal to completely vertical and everything in between.
Steel Frame/Base: The sturdy, welded steel frame provides stability

to the unit and keeps it from toppling over during use. Rubber swivel wheels attached to the base allow the unit to be moved with ease. Catch Net: Easily attaches to the target using Velcro straps and catches any balls that enter the target.

4) Spike Training Machines

Volleyball coaches know hitting skills are not developed overnight, taking years of playing experience for a player to master the correct footwork, approach, and arm swing to maximize their hitting potential. Spike training machine accelerates this process, providing the hitter with a predictable and easily adjustable target. Whether an athlete trains with weights, a stop watch, or a baseball pitching machine, the key to perfecting and improving any skill is repeatable and measurable increases. The machine makes it easy to track individual progress over time, including maximum vertical jump while maintaining a downward ball trajectory. Most coaches agree that among the hardest skills to teach in volleyball are proper approach, jump, and arm swing; and then getting a player to do them all at the same time becomes a whole new challenge. The spike training machine makes the job easier by providing a consistent target; it will give you the freedom to really focus on other fundamentals of the volleyball attack.

To meet every hitter's personal training targets, height can be adjusted easily between 6 ft and 11ft (ground to the top of the ball). Lets experienced volleyball players fine tune their technique, by monitoring vertical jump or hitting force in response to changes. It can be also used to test vertical jump height.

5) Ball Carts with Wheels

The ball cart with wheels will hold the balls in it. The balls can easily move one zone to the another zone with its wheels. Coach can easily take balls from it and do his drills very comfortably. This can fold when not in use. The wheels makes easy to move with out making any damage to the floor. The main focus of the cart is to save time to go and collecting the ball after every repetition of hit or skill.

6) Training Table / Coaches Box

The very essential equipment for training purpose, with the assistance of the box the coach can easily throw, hit and tip the ball in any direction in the playing court. The height can be adjusted according to the height of the net(men\women). It can run training drills from net height, Quick and easy set up, on-skid top, easily folds to just 3 inches for easy storage, Convenient travel/carrying strap sold separately, Sturdy and lightweight.

This sturdy Coaches Box stands 24 inches tall, has a large platform, non-skid top, rubber feet and weighs only 28 lbs. It is made of durable hardwood and is specially designed to set up and fold down with ease.

7) Setting Machines

While at the time of continues spike and low availability of good sets, the setting machine is more effective in the sessions. Place the machine on the setters position, fill the ball. Getting rhythm reps is not always easy if you don't have a consistent toss. The ball feeder holds up to 10 balls at a time so the machine can consistently feed the same toss to your hitters. Keeping the machine in place is a good way to ensure your players know where the machine is at all times, and can set it up all on their own, whether that is on the court itself, or on a box. Controlling the machine via remote allows for

hands-free coaching. You can spend less time feeding/programming the machine and more time coaching your players on proper technique and training. The handle adjustments on the machine allow coaches to manipulate the machine to function for each and every drill they need. The different angles and speed can be altered to work with different age groups and levels of play.

8) Solo Volleyball Training Aid

Solo Volleyball Training Equipment makes solo training effective with more fun. You can easily swing and have the ball come right back towards you. This training aid helps practice your serving techniques while having the return mechanism. This can help your aim while you practice your serve. Very strong and durable. Can be hit with any force. This is an ideal and suitable for any volleyball player, beginner and elite. Can also be used for all ages. This can help you become a great player with your team in no time.

Features

- Solo volleyball training aid for all experience levels beginners to experts. Easily practice arm swing motion techniques and tosses multiple times. Simply warm up your serve and improve your serving skills. Spend more time hitting the balls and less time chasing the volley ball with the rebounder elastic cord.
- It has a strong adjustable elastic cord gives your the right height for an overhand a serve. The smooth action glides the ball back to the player every time.
- Premium durable belt From youth to adult, the stretchable belt can fit anyone waist comfortable. It can be adjusted for anyone waist size.
- Securely fitting any Indoor and beach volleyballs. Can be place in pouch to practice and train. It can even hold basketballs, footballs and soccer balls. Strong and durable straps.

Summary

Nowadays the machines and equipments plays a drastic role in dynamic games like volleyball, football, hockey and cricket. An apparatus using mechanical power and having several parts, each with a definite function and together performing a particular task. It reduce the wastage of time, money, energy and it changes the direction or magnitude of a force. It produce high productivity and improves quality of performing athletes. The equipment is necessary for the particular skill and technical achievement. Machines and equipments will helps to master the abilities of Service Reception, Spike Reception, Block, Set, Spike, Dig.

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