

COMMONLY ASKED QUESTIONS

“It is human nature to want to hold onto the past. Whether it is past success, tradition, the only thing you know, your comfort zone, or a love of the tool, method, or process, we all have difficulty letting go.”

– Dennis Keiser

1 How can I implement the Keiser system into my athletes'/clients' workouts?

There is no one right answer, however we recommend starting out by using our equipment the way you would use any other piece of equipment in order to familiarize your athletes to it. Then, we would recommend using our Keiser testing protocols to get valuable information about your athletes. Once you have this you can begin to build your training plan based on their needs. Remember, Keiser equipment can do it all in regards to training, so your imagination as a coach/personal trainer is your only limit.

2 How can I best use the results of the 6-rep test to formulate a plan for our athletes?

The 6-rep test and our other testing protocols will give you baseline information, creating a snapshot of your strength profile. You can use this information for retesting purposes to determine if the training program is meeting your goals. Additionally, baseline information is helpful by assisting the coach/trainer with developing training zones relevant to desired training themes. (*See Keiser Testing Protocols*)

3 What market is Keiser equipment best suited for?

The great thing about Keiser equipment is that it is truly versatile. Keiser equipment is in all 6 major markets which include: Health Club, Sports Performance, Medical/Rehabilitation, Older Adult, Government, and Hospitality. There is a solution for every need with a pure resistance that improves all 5 trainable qualities via Keiser racks, machines, and the Infinity Series. Having Keiser equipment allows the end user to decide on how to best utilize the machines for their specific training needs as opposed to the equipment dictating what they can and can not do. (*See Market Applications*)

4 Why does Keiser pneumatics feel different from my standard selectorized equipment that I am accustomed to? It feels easier.

There are two parts to this answer. First, when using a mass-based resistance (i.e. iron, weight stack, etc.), the onset of the movement will feel heavier because you have to exhibit high forces to get that mass moving. The greater the speed you want to move it, the higher those forces become. Secondly, the strength machines have a built in variable resistance that utilizes force curves, matching the biomechanics of the human body. Consequently, heavier resistance is placed where the muscles need it most and easier (lighter) resistance is placed where we are at a mechanical disadvantage and more susceptible to injury. (*See Why Does the Type of Resistance Matter?*)

5 What does Keiser think about coaches and trainers that will find it hard to adopt a “new” way to train?

Too many people view Keiser as a novel approach and secondary form of resistance training when, conversely, the science shows that it should be the primary form of resistance. They can still use our equipment the same way as traditional equipment but now they have the added benefit of exploring and adapting to a safer, more effective workout no matter what their intended training goal is. The most elite programs and facilities in the world trust Keiser because we are backed by science and you should too. (*See The Research Behind Keiser Pneumatics*)

6 If I'm over the age of 40, is it safe to say pneumatics with the proper resistance curve is one of the absolute best ways to train my body?

You have already incurred some damage with age so why take on more damage than is necessary? Regardless of your age, training with Keiser pneumatics is one of the absolute best ways to train your body. The pneumatic, biomechanical design and human interface work the muscle where it is needed most without overstressing the joints or connective tissue. A pound is always a pound with Keiser. (*See Why Does the Type of Resistance Matter?*)

7 Why is Keiser considered a safer form of resistance?

Understanding that for every action there is an equal and opposite reaction is the key. Pneumatics is not governed by the Laws of Motion like mass. For example, 40 pounds of air equals 40 pounds because you are only loaded with the forces associated with the numeric resistance. 40 pounds of mass (iron, etc.) is actually more than 40 pounds when you initiate the movement because you are loaded with both the numerical forces AND the additional Newtonian forces to accelerate the load. This extra collateral damage and shock loading when utilizing a mass-based resistance is evident during the transition from eccentric to concentric phases where our joints and soft tissue are most susceptible to injury. (*See Why Does the Type of Resistance Matter?*)

8 I have Elite Form, why do I need Keiser?

Elite form is a capturing data device that still utilizes a mass-based form of resistance which we know doesn't allow for effective power and speed training. Keiser allows the user to utilize air as the resistance, where Newton's Laws of Motion do not apply because we are not using a gravitational-based resistance. Thus, we are not constrained by the limitations that inertia and momentum exhibit on a mass-based resistance. (*See Why Does the Type of Resistance Matter?*)

9 How is Keiser resistance measured and how does it compare to iron?

Keiser's air resistance is measured in pounds per square inch and, with precise computations of air pressure within the cylinders, you can be assured that inputted poundage will be equal to that of iron. To compare, hang a 5 pound plate to the Functional Trainer and put 5 pounds of resistance on the machine. They will balance out.

10 Can I train for hypertrophy (muscle size) and absolute strength with Keiser machines?

Yes! You can actually train all 5 Trainable Qualities and get more functional benefits than you would with traditional methods because you can train at speed. The three most influential contributing factors for hypertrophy (mechanical tension, metabolic stress, and muscle damage) can all be performed on pneumatics AND with less stress to joints and tissue. In addition, science has shown that pneumatics are just as effective at improving absolute strength as iron. (*See The 5 Trainable Qualities & The Research Behind Keiser Pneumatics*)

11 Can you combine air and iron with the Keiser Racks?

Yes, you can, as long as you have the Keiser racks with air (as we do offer a rack without air). Our racks with air allow you to train up to 200 pounds of air resistance using just the Keiser lightweight bar or you can train with a standard bar with air by using the Keiser collar attachment rings. Additionally, with the standard bar, you can also use a combination of air and iron to really open up the endless possibilities of training. Lastly, you can use the racks with just iron as you would any other rack.

12 Why is it necessary to train fast?

Life and sport happen fast. It is important to train your nervous system to fire quickly. Simply put, training with speed and power equals performance in our daily life and in sport. In order to continue to function and excel at life and at sport we need to challenge the neuromuscular system. Training with speed does just that. (*See Human Body Systems and Adaptation*)

13 What is the difference between Keiser pneumatics and hydraulic resistance?

Hydraulic and pneumatic resistance both deal with the mechanical properties of compressed gases or liquids. Hydraulic resistance only allows for a concentric contraction (pushing and pulling) whereas Keiser pneumatics allows for both a concentric and eccentric resistance. With pneumatics, you can move faster because the resistance remains constant.

14 What is the difference between Olympic lifting and Keiser Pneumatics for power development?

The two resistance movements can be very complimentary. When executed correctly, both Olympic lifting and Keiser Pneumatics have the ability to display high levels of power. Olympic lifting is traditionally used to exploit the inertial properties of mass in order to improve rate of force development, typically at heavier resistances. Olympic lifting requires a lot of time to ensure proper technique and safety before becoming efficient at displaying power. Research suggests that Keiser Pneumatics has proven to be efficient at increasing rate of force development at lighter resistances (Frost, 2012). Additionally, Keiser Pneumatics can train all five of the trainable qualities in targeted muscle groups and multiple planes of movement. Olympic lifting is limited to triple extension movements, whereas Keiser Pneumatics can be used to develop power in all upper and lower body pushing/pulling movements.