Smoke vs Haze

Smoke vs Haze in Laser Tag Arenas.

This document will detail some of the considerations regarding the difference between smoke and haze in laser tag Arenas.

In fact many operators purchased one type of fog machine and then knowing they had made the wrong decision had to swap it out at a later stage. By the time you finish this article, you'll understand which is best for your situation.

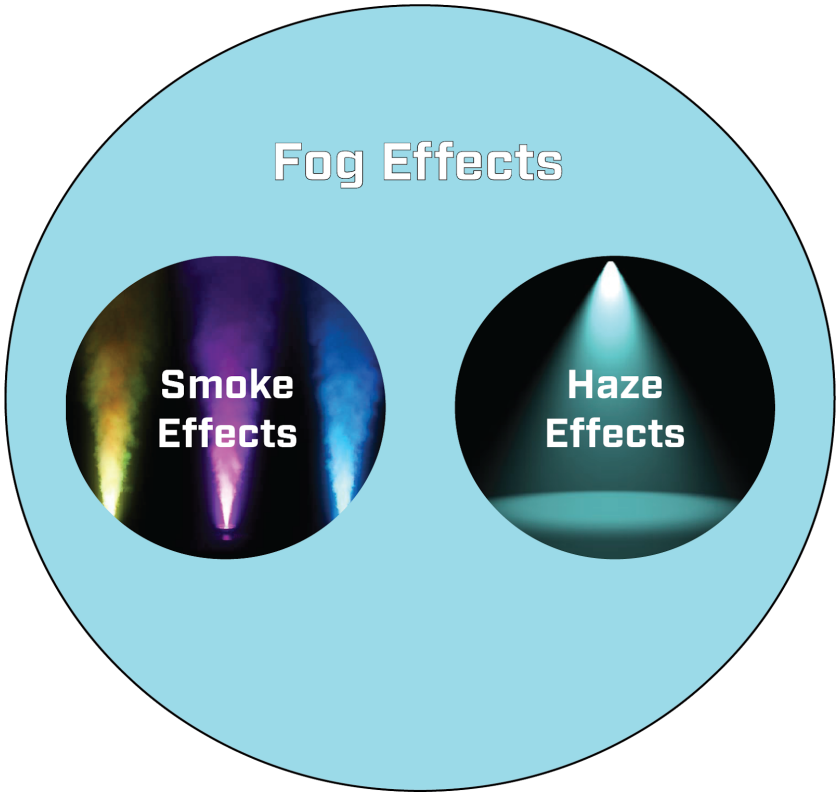
What's the difference between the Smoke and Haze effect?

Smoke Effect: is what most people are more familiar with, you've likely seen it in plays or musicals. It looks like thick white smoke and can be hard to see through.

Haze Effect: is less commonly used and most people do not know it is available as an option. Unlike the smoke effect, Haze is virtually see-through in normal situations. It is mainly used to illuminate light beams and laser beams as they pass through the Haze.

Smoke or Haze?

First, let's look at the terminology Fog Effect is the generic term that describes the equipment that puts tiny moisture droplets into the air. The Fog effect, therefore, encompasses both Smoke and Haze machines.



The laser beams will reflect off these droplets which allow the entire length of the laser beam to be visible. Without the smoke or haze effect, the players will only see the endpoint of the laser where it makes contact with an object.

For the participants, the excitement of seeing a laser beam whiz by while they are playing, certainly adds a different dimension to the game, especially for the younger players. *(Please note - Many companies will refer to a Smoke machine as a Fog machine - we will refrain from this to avoid confusion.)*

The Smoke Effect:

The Smoke machine emits a thick white smoke that is hard to see through. Smoke "juice" is made up of a mixture of pharmaceutical-grade propylene glycol, triethylene glycol, and distilled water.

These products have been proven safe at normal levels, but they do come with some disadvantages. Let's go through these now:

1) Residue: Smoke machines tend to leave an oily residue on your props, walls, and cause the carpet to become slippery. The use of glycol-based fog fluid will require regular cleaning of the arena.

2) Heavier than air: Smoke mist is heavier than air so it tends to settle towards the bottom of the arena. Additional electric fans will need to be installed to ensure proper circulation.

3) Poor Visibility: As with normal fog at night, smoke machines can impair a player's ability to see other guests and obstructions in the arena causing the potential for injury.

4) Cost: smoke mist will dissipate relatively quickly so the use of its consumable fluid will be costly.

The thick smoke creates an incredible effect if you are simulating a plane taking off, a car exploding, or immersing a player who completed an objective. As such smoke juice can be used very effectively within Laser Tag arenas but more as an irregular short term effect. The smoke machine should be triggered by special game events and used sparingly.

The Haze Effect:

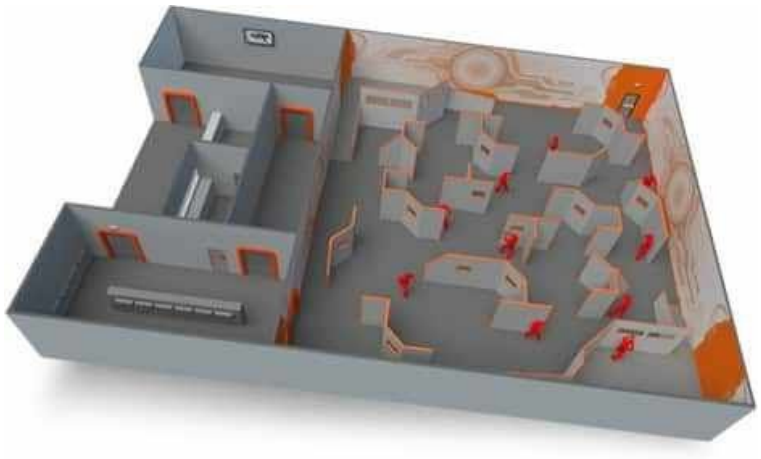
Haze machines are similar to smoke machines in that they use a solution to disperse moisture droplets into the arena. However, they use different fluid solutions and different mechanical methods to create the Haze effect. These variations allow haze machines to produce a smaller droplet size, in which the main purpose is to illuminate laser and light beams.
Most operators will disperse haze into the arena for a large proportion of each game, if not the entire game.

Here are the main characteristics of the Haze Effect:

1) Visibility: The haze created generates transparent droplets that do not impact the player's ability to see other patrons thereby reducing the risk of injury.
2) Cost: Haze has a similar density to the surrounding air which allows it to circulate easier and not dissipate as quickly. Haze is a more cost-effective solution for the arena.
3) Guest Experience: Most guests enjoy a game experience with a haze over the thick smoke effect.

Each product has a good application in a traditional laser tag arena. If you stick to using smoke machines for your theatrical effects and haze to make the laser and light beams visible, you will enhance the game experience without overwhelming the guests or your staff.
If you wish to implement only one effect, the Haze machine will likely be appreciated the most by your players. This will also be the most cost effective option.
While we are discussing costs, it is worth mentioning that not all fog machines are created equal.

Open Air Arenas.



In a typical entertainment centre, there will be entertainment services such as laser tag, bowling, arcade machines and billiard tables.

One of the disadvantages of laser tag compared to other entertainment services such as these, is that the guests in the main lobby area can not see participants when a game is in action.

Operators are recognising there is value in allowing guests to witness how fun laser tag can be. To solve this issue, there is an emerging trend of facilities building open-air arenas. In this situation, instead of having a full-height wall hiding the arena from the lobby, a waist height wall around 42 to 48 inches high divides the areas. Now the guests become spectators of the game in play.
The additional visibility to the laser tag arena, certainly draws more players to the game.

However, this type of layout will likely severely limit the use of haze in the arena. This is because any residual haze that spills through to the lobby can set off the fire alarms. Removing haze from the arena is not an insignificant trade-off and thorough considerations should take place before deciding to move in this direction.

Where it is likely that Haze will be removed from the arena altogether, many operators will still use smoke machines to some degree. Techniques to reduce spillover to the lobby include:

1) **Limiting smoke usage** to short bursts during specific game events.
2) Placing **smoke machines at the back end of the arena** to minimize spillover.