# ROLE OF AIR COMPRESSORS IN FIREWORKS DISPLAYS

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## The History of Fireworks

The fireworks we see today are vastly different from when they first appeared as in Asia in 200 BC. They were an accidental discovery made when throwing bamboo sticks into fire. This created a loud popping noise.

By 1600, gunpowder and aerial cannons were invented allowing fireworks to be more like how we picture them today. However, fireworks wouldn't appear in color for over 200 years when Italian inventors started adding metals to the gunpowder.[1]

Originally, fireworks were used as a form of protection to scare off evil spirits, and as time passed and the complexity of the illuminations evolved, they started being used as entertainment. This is still tradition today, all over the world from Independence Day to Diwali to the Sumidagawa Firework Festival.

As fireworks began to be used more frequently, people started disapproving of the large amounts of smoke clouding the air and they began pushing engineers to invent a more environmentally friendly solution.

## How Disney Used Compressed Air to Improve Fireworks Shows

Usually, fireworks get their lights, color and sound from placing certain chemicals in a gunpowder tube with a fast-acting fuse. When the fuse is lit, the gunpowder explodes creating pressure buildup until the shell shoots into the sky. After a small delay, the firework explodes creating bright star fragments and loud booms many of us associate with summer celebrations.[2]

In 1994, the world's largest consumer of fireworks, Disney, replaced gunpower with a safer, more efficient and environmentally friendly launching process using compressed gas.[3]

The patented launching medium uses compressed air to rapidly blast the fireworks from the launching tube. Using compressed air helps decrease the cost of transporting the fireworks as they are less explosive without gunpowder. This launch process also minimizes debris falling to the ground. Only lightweight, inert particles make it back from the sky, virtually eliminating safety and fire hazards while minimizing environmental impact.[4]

In 2004, further innovation by Disney brought a patented, smoke-free launcher using compressed air. Not only is this better for the environment, but it gives more control over the trajectory and height of the fireworks.[5]

The firework innovations by Disney and compressed air in 2004 helped reduce the use of explosive materials by nearly 30,000 pounds (13608 kilograms) compared to the previous year.[6]

## Air Compressors—Taking Fireworks to New Heights

Air compressors revolutionized the world of fireworks, pushing them to new heights. As the unsung heroes behind the magic in the night sky, air compressors launch fireworks higher, more precisely and with increased complexity.

With technology evolving faster than ever, the relationship between fireworks and compressors remains important and is ushering in a new era of greener pyrotechnics.

**Sullair makes no representation our units are used in these specific examples above.**


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