



Suction System vs. Pressure System

At SBS we strive to be your information source for all of your blasting questions.

The question often comes up: **“What is the difference between a pressure system and a suction system?”** This document will detail the differences and discuss the advantages of both.

As the name mentions, a pressure system includes a “pressure pot” which contains the blasting media under a predetermined pressure. Below the pot is a metering valve that controls the amount of media that is introduced into a stream of compressed air. The media is able to obtain nearly the velocity of the air in which it is mixed. The media is then further accelerated as the compressed air exits the nozzle and expands.

In a suction system (sometimes referred to as a siphon system), the media is contained in a media hopper (which is not under pressure). The suction gun has two attached hoses—one for compressed air and the other for media flow. As the compressed air exits the gun, media is pulled through the other tube via a Venturi effect. The media is then mixed with the air flow inside the suction gun and expelled at a speed less than that of a pressure gun (at the same air pressure).

Typically a pressure system, with the same amount of compressed air, is 2 to 2.5 times as efficient as a suction system.

Advantages of a suction system are lower initial system cost. Additional nozzles are also easily added to a suction system. A suction system, over time, will also have slightly lower maintenance costs associated with it due to fewer valves, no blast hose, etc.

A pressure system will cost slightly more initially due to the pressure pot and all associated components (valves, hoses, solenoids, etc.); however, it will cost less to operate (as far as utilities) due to less compressed air needed to do the same amount of work as a suction system with a major speed advantage.

There are advantages and applications for both types of systems. Contact Surface Blasting Systems today to assist you in determining your system needs.

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