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On a Moment's Notice

Keeping Fire Trucks Ready to Roll!



A fire alarm rings. Members of a volunteer fire company spring into action. With practiced precision, they don gear set in place for just this situation. In seconds, firefighters are aboard the fire truck where they sit and wait patiently while the truck's on-board air compressor creates sufficient pressure to release the air brakes.

Hold on...what? Firefighters cannot afford to wait around for an air compressor. In an emergency every second counts.

Fortunately, most fire trucks equipped with air brakes are connected to a separate air compressor inside the firehouse. The compressor provides air as required to compensate for inevitable bleeding of the air braking system while a fire truck sits at the ready in the firehouse.

Unplug and Go

Compressed air lines are connected to ports on a truck whenever it is parked in the firehouse. "You can see why it matters," according to Amor "Skip" Portale, Chief of the Pomona, New Jersey Volunteer Fire Department. "If we get a call and it takes the compressor a few minutes to build the air volume before it will release the brakes, that's time when we

aren't responding to an emergency. This is a no brainer, a common sense thing to do."

Portale explains that the need for an air compressor in his firehouse extends back to 1982 when the volunteer company got its first truck with air brakes. "We hook up the truck to a compressed air source so the brakes are always topped off. Our trucks have a quick disconnect right by the door so you can't get in without taking off the air hose. Pop it off and away you go."

New Firehouse

In 2008, the Pomona Volunteer Fire Department was planning its move to new headquarters, so the time was right to evaluate the compressed air system. "This was a case where the customer came to us," says John Goodgion, Sales Manager for Atlas Copco's Mid-Atlantic Customer Center in Reading, Pennsylvania. "The Chief works for the New Jersey Department of Transportation, which has a number of our GX units, so he was familiar with Atlas Copco compressors at the DOT garage. He told me he wanted a package with a compressor, stand alone receiver tank, and air distribution system, with everything installed, and he needed it done very quickly."





Goodgion visited the new firehouse to consider the application and the options. “I wanted to find the right compressor system for the job,” Goodgion explains. “The compressor would have one main job – keep the air brake system topped off – so it didn’t need to run constantly. It was going in a firehouse where people live and work and sleep so it had to be quiet. We had to be concerned about air quality to prevent oil from fouling the truck’s brake lines. And there really was no room for a rotary screw compressor.”

New Scroll Compressor

Given that set of requirements, Goodgion recommended an Atlas Copco SF-2 skid mounted scroll compressor. “The SF-2 skid is a small, quiet, and high performance system that provides compressed air on demand,” he explains. “It’s the type of compressor typically used in laboratory environments where air demand is modest, air quality is crucial, and you want a compressor that is quiet.”

Having a quiet compressor was especially important to Chief Portale and the noise from a typical air compressor would be too much. With an extremely low noise level of 55 dB(A) – about the level of typical conversation – the Atlas Copco SF-2 skid mount is ideal to install directly in a work environment.

A scroll compressor offers other advantages as well. There is no metal-to-metal contact between the compression scrolls, so there is no need for oil lubrication in the compression chamber. As a result, air quality is exceptional and 100% oil-free. With few moving parts, a scroll compressor offers a long operating life with mini-

mal service interventions. The SF-2 skid mount is also highly energy efficient, and unloaded power consumption is eliminated using a simple start/stop control.

Air Distribution System

Chief Portale asked about options for the air distribution system in the new firehouse. Goodgion recommended Atlas Copco’s Airmet system. “This looked to me like an ideal application for Airmet,” Goodgion explains. “It’s simple to install air lines wherever they need to go. Wherever it shows in the new firehouse, it’s attractive. There’s no corrosion in the pipes and no slag to get into the braking system of the trucks.”

Goodgion configured the air distribution system with reels that come down from the ceiling at six different service ports. This enables convenient hook up to fire trucks and provides access to compressed air for the Department’s other occasional uses, such as a water cannon that needs to be charged with air after each use.



Need In Now

To answer Chief Portale’s need for a fast installation, Goodgion put in a temporary compressor until the scroll compressor arrived. “The SF-2 skid puts the compressor system into one compact cabinet,” says Goodgion. “It’s physically small so we were able to install it upstairs to free up space on the main floor.”

“Initially we had a small piston compressor, about 4 hp, but the scroll compressor is a much better unit,” says Chief Portale. “It’s quiet and more than sufficient for the needs we have. I couldn’t be happier with the response that I’ve gotten from John. He’s well informed and conscientious.”

Goodgion started his Atlas Copco career as a service technician. “Just because I’m the sales manager doesn’t mean I ever stopped being a service technician,” he says. “My service background has been a huge benefit. I’m not just in there selling, I’m solving problems, I’m building relationships. That means the world to a lot of customers.”

When the customer is the Pomona Volunteer Fire Department, solving problems and building relationships helps keep a company of volunteer first responders ready to go on a moment’s notice.



Keeping fire truck air brakes topped off is not a new application of compressed air, but it is an application that lends itself particularly well to a scroll compressor.

Unlike more conventional compressors, a scroll compressor uses one spiral element (a scroll) that orbits about a matching fixed scroll. Air is drawn in at the exterior side of the scroll element, and the orbiting scroll seals off the inlet port. As the scroll continues to orbit, the air is progressively compressed into an increasingly smaller pocket. A continuous flow of compressed air leaves the scroll element through a discharge port in the center of the fixed scroll. This continual process delivers a pulse-free flow of high quality compressed air.

Atlas Copco scroll compressors have few moving parts, which makes them very reliable and low maintenance. They are extremely quiet in operation and energy efficient. Because the scroll element is belt-driven, no lubricating oil is required. The resulting compressed air is extremely high quality and 100% oil-free.

Atlas Copco offers a complete range of scroll compressors in configurations for point-of-use and compressor room installations.