

# The real cost of “free” refills

## The hidden costs of recharging inert gas fire suppression systems

Although offers of “free gas” to recharge an inert gas system may sound tempting, the hidden costs to disassemble, transport and test the system can quickly erase those savings – while delaying the return of the system to service.

The best things in life may be free ... but sometimes you have to read the fine print. Offers of “free gas” for refills of inert gas systems may be technically accurate, but the refill process can entail additional expenses that aren’t always readily apparent.

### Examining the fine print

There are many different costs associated with the recharge of a clean agent system. For example, once a system utilizing 3M™ Novec™ 1230 Fire Protection Fluid is discharged, it can often be refilled on-site by a certified technician. Inert gas systems, on the other hand, have a greater number of cylinders and operate at higher pressures. Substantially more cylinders must be disassembled from the manifold and piping, then removed from the building for recharge at a specialized refilling station. Due to a lack of qualified refillers in North America, the process of refilling and returning the cylinders can take several days – and end users can expect a charge for the shipping costs back and forth between the refiller and the system location. If there is no connected reserve bank of cylinders, then the presence of personnel on-site “24/7” to monitor the area while the cylinders are being serviced could add considerable expense to the overall cost of the refill.

System manufacturers often offer “free gas” to recharge an inert gas system. However, the inert gas itself is not the only cost involved in recharging the system: the additional expenses discussed here must also be considered as real costs associated with the inert gas refill process.

### Other costs associated with “free” refilling of inert gas systems

- Skilled technical labor is required to disconnect discharge hoses from the manifold, pilot cylinder pneumatic hoses and cylinder framing assemblies that support the cylinders.
- Labor is required to transport the cylinders from the storage area to the transport vehicle.
- The cylinder hydrotest cost is generally not included in “free” refill considerations.
- Filled cylinders must be transported to the site by a DOT-approved vehicle/driver (with limited capacity of cylinders per load).
- Labor is required to move the heavy cylinders from the transport vehicle to the cylinder storage area.
- Finally, skilled labor is necessary to secure each cylinder to the framing and bracketing, to attach each discharge hose back on the cylinder valve, and to install all pneumatic pilot lines back in place.

## The real cost of “free” refills: The hidden costs of recharging inert gas fire suppression systems

Systems utilizing 3M™ Novec™ 1230 Fire Protection Fluid can be recharged on-site, avoiding the labor and transportation costs that are associated with refilling inert gas systems.

In addition, the “free gas” refill offer only applies if certain requirements are met, including:

- System registration is required.
- Certification of routine maintenance by a qualified distributor is required.
- Hardware and electronics must be from same manufacturer.

### Summary

While the gas for inert system refills is promoted as “free,” the total cost of recharging an inert gas system is far from free. The numerous cylinders in an inert gas system need to be disassembled, transported, serviced and reinstalled – and each expense adds to the total cost of ownership of an inert gas system. In comparison, a system utilizing 3M™ Novec™ 1230 Fire Protection Fluid can quickly and efficiently be recharged on-site. With the ability to conduct on-site refilling of fewer cylinders at lower pressure, systems utilizing Novec 1230 fluid can be serviced more quickly – helping minimize the total cost of ownership of a Novec 1230 fluid based system.

# The real cost of “free” refills: The hidden costs of recharging inert gas fire suppression systems

3M™ Novec™ 1230 Fire Protection Fluid is an advanced clean agent fire suppression material, based on a proprietary chemistry from 3M. It was designed to address industry needs for clean agent fire protection that is safe and effective, while offering a sustainable environmental profile that no other halocarbon agent can match. This includes: Zero ozone depletion potential; a 5-day atmospheric lifetime, and; a Global Warming Potential of 1. Because of these properties, Novec 1230 fluid is not targeted for phase-down or regulatory restrictions anywhere in the world. It is approved for use in total flooding fire suppression systems by the U.S. EPA and most major regulatory bodies. All of this makes Novec 1230 fluid today’s sustainable choice for clean agent fire protection.

## The 3M™ Novec™ Brand Family

The Novec brand is the hallmark for a variety of proprietary 3M products. Although each has its own unique formula and performance properties, all Novec products are designed in common to address the need for safe, effective, sustainable solutions in industry-specific applications. These include precision and electronics cleaning, heat transfer, fire protection, protective coatings, immersion cooling, advanced insulation media replacement solutions and several specialty chemical applications.

3M™ Novec™ Engineered Fluids • 3M™ Novec™ Aerosol Cleaners • 3M™ Novec™ 1230 Fire Protection Fluid • 3M™ Novec™ Electronic Grade Coatings • 3M™ Novec™ Electronic Surfactants • 3M™ Novec™ Dielectric Fluids

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