

CO2 Fire Extinguishers



CO2 fire extinguishers (carbon dioxide) are the only fire extinguisher recommended for fires involving electrical equipment. CO2 is safe to use on and around electrical equipment, as the gas itself is non-conductive, and once used, there is no sticky foam or messy powder left behind. They are also effective on Class B fires (flammable liquids).

Carbon dioxide fire extinguishers are painted bright red with a black panel above the operating instructions. They have a distinctive horn-shaped nozzle at the side on the smaller models with 5kgs and above having a hose and horn.

Extinguishers of 9kgs or higher are available but tend to come mounted onto a wheeled trolley as they will be far too heavy to be carried safely. It is possible to find 45kg twin cylinder wheeled units for offshore or airport use.

How Carbon Dioxide Fire Extinguishers Work

CO2 extinguishers store carbon dioxide gas under great pressure (55 bar or 825psi), where the gas becomes a liquid. When you operate the fire extinguisher levers, the pressure is released, the CO2 pressure is reduced by the diffuser (horn) and expands back into a gas, rapidly cooling the surrounding air.

This process is so fast, it can cause ice to form on the horn, so never hold a CO2 fire extinguisher by the horn to avoid freezing your skin. To be most effective, a carbon dioxide fire extinguisher should be used no closer than 3 feet and no further than 8 feet from the fire itself.

For the UK, they are commonly made in two sizes, 2kg and 5kg. The compressed gas requires an extremely thick cylinder so many buyers prefer super-strong aluminium rather than heavier steel models, so that their staff can lift and use the CO2 extinguishers more easily. Steel is normally used for marine extinguishers although many of the cheap imports are made from steel.

The 2kg models tend to have a swivel horn, which must not be held during operation to avoid freezing your hands. The 5kg models usually feature a hose with the horn attached with the horn normally having a handle.

CO2 Fire Extinguishers and Electricity

CO2 fire extinguishers are safe to use on fires in, on or around electrical equipment and live cables. CO2 gas is dry, inert in air, and leaves behind no residue that will affect electrical equipment's future operation. So, you will often find a CO2 fire extinguisher next to precious electrical equipment, from switchgear to mobile discos.

In most office, workplace, factory or warehouse situations, the best combination is to have a water additive or foam unit alongside your CO2 extinguisher, for maximum fire fighting ability.

Carbon Dioxide Fire Extinguishers and Other Fire Classes

CO2 fire extinguishers should not be used on Class D fires, involving flammable metals. The CO2 gas reacts with many volatile metals, and as with other non-D rated extinguishers, can also blow burning metal over a wide area, making the situation worse. And it is not effective on Class A fires such as paper, wood or cloth.

Carbon Dioxide Fire Extinguisher Pressure Gauges

CO2 fire extinguishers do not have pressure gauges, as the gas is condensed in the cylinder. The only way to assess if a CO2 fire extinguisher is empty is to weigh it. The gross weight (G W) is stamped into the meatl of the cylinder shoulder with other information. To assess how full your CO2 fire extinguisher is, weigh it (without the swivel horn) and compare this to the stamped gross weight.

However, rather than take the risk of a part-used fire extinguisher, or have the expense of a call-out visit and factory refilling or service exchange, it is often more cost effective to replace a used CO2 fire extinguisher with a new one. Expert firms or your local Civic Amenity Centre (the local dump) will be happy to recycle your old CO2 fire extinguisher.

Chrome CO2 Fire Extinguishers

CO2 fire extinguishers are also available in a smart “chrome” finish – highly polished aluminium, in fact. The combination of jet-black printing and shiny metal gives a CO2 chrome fire extinguisher a true designer look, without compromising your fire safety in any way.

Chrome fire extinguishers are not BS EN3 certificated, as they are not painted red, but will still have the required usage instructions, coloured panel, quality marks, etc.