

DRY CHEMICAL POWDER

fire extinguishing system

**MED-APPROVED
GL TYPE APPROVED**
Tested down to -5°C in long pipes



EFFECTIVE SOLUTION FOR GAS CARRIERS



Gas carriers have specific cargo containment and handling requirements due to the highly volatile nature of their cargo. In the event that flammable gases are ignited, extinguishing solutions that can be deployed quickly and effectively whilst minimising the risk to personnel and the environment is required.

The Unitor Dry Chemical Powder Fire Extinguishing System (Unitor DCP System) breaks down the chemical reaction within the fire and suppresses the flames almost immediately. The system is an effective, non-toxic alternative and is harmless to people and the environment.

The system is extensively and independently tested, ensuring regulatory compliance. It can be applied on merchant marine and offshore structures as the design is in accordance with IGC and IBC codes.

Reaching all exposed cargo area

The Unitor DCP System extinguishes fire using dry powder which is ejected from monitors and hose stations using nitrogen as the propellant.

The system can be deployed by hand held hoses, fixed monitors, or a combination of both. This provides complete coverage to all the areas that need protection, ensuring the penetration of powder into the smallest and even partially covered locations.

With a flexible design the system meets the full range of flows. It can be installed as a central system, modular system and hybrid system (which is a combination of the two). Design calculations are conducted for each project to ensure the requirements for flow rates and capacities are met.

Solution benefits

The Unitor DCP system is a flexible and high quality fire extinguishing system that is easy to install, has flexible piping options, is easy to operate and requires minimal maintenance.

Increased safety on gas carriers

The Unitor DCP system has proven time release and capacity capabilities. It has a wide range of powder pressure vessels available to meet the demands for various system sizes. Both monitors and the non-kinking hose with pistols ensure flexible powder delivery to immediately extinguish the fire. The system is safe, secure and installed on vessels worldwide.

Savings on installation cost

Optimal system design keeps material and installation costs low. Modular units provide a flexible solution, reduce piping routes, and eliminate the need for distribution piping. Components can be delivered on skid units for reduced installation time and cost. Standardised system components minimise maintenance and operational cost.

System description

The Unitor DCP System comprises steel pressure vessel(s), cylinder banks with manifolds, distribution valves, gas release arrangements, hose stations, monitors, pressure gauges and safety valves.

After the system is released, nitrogen gas pressurises the tank, and nozzles fitted in the bottom fluidize the powder. When a certain pressure is achieved, the dry powder flows through the distribution manifold to the monitor or hand hose line.

The central system is designed as a single or twin storage pressure vessel located centrally inside a powder room. The system can be used to discharge powder across the whole cargo area at required capacity, or linked together; the entire capacity can be used on a single area.

A central system feed powder from the central powder storage tanks through piping systems on deck to the hose stations and monitors.

Hose stations are located on deck in a particular way so that every part of the deck area can be reached with two hose stations. The hose stations consist of local release arrangement and 33 metres of hose with a powder pistol.

In modular systems each hose station unit and monitor unit has its own self-contained powder storage vessel.

The system can be remotely operated from the release boxes utilising pilot cylinders, or manually at the dry powder unit. This ensures operational flexibility of the system.

Extinguishing fire using dry chemical powder

The Unitor DCP System utilises dry powder which is a mixture of different salts of acids, mainly sodium bicarbonate, with additives that protect against lumping and moisturising.

The Unitor DCP System is a highly effective medium to extinguish flammable gas fires.

When powder is released directly to a fire, the extinguishing effect is caused by suffocation and anti-catalytic effect, a chemical intervention into the combustion process.

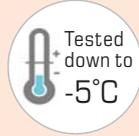
The dry powder is non-toxic and stable at both low and high temperatures. However, it should be kept tightly closed and stored in a dry location in order to prevent absorption of moisture.



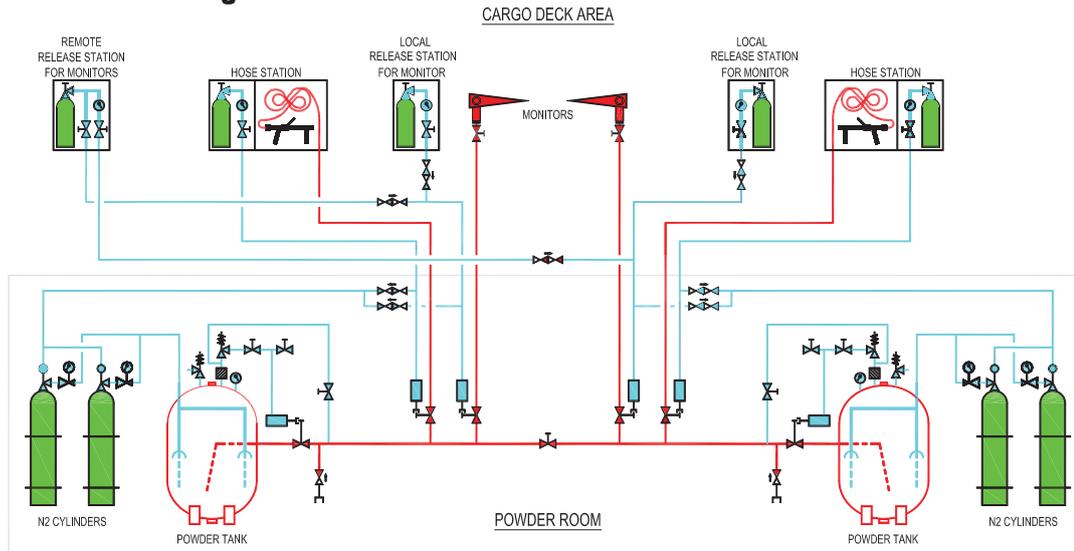
DCP skid unit

Approvals

- MED -B&-D (EC) certified, fulfilling the mandatory IMO MSC.1/Circ. 1315
- GL type approval certificate
- DNV QS - Certificate of assessment - EC



Standard configuration



Technical data

TANKS

Material	steel
Capacity [kg/s]	160 - 2 500
Pressure class	PN16
Certification	as required by Class

CYLINDERS

Material	steel
Capacity [Itrs]	50
Pressure [bar]	200
Certification	as required by Class

POWDER

Type	BC Jet / BC karate
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MONITOR

Material	stainless steel
Capacity [kg/s]	10 - 25
Flange connection	DN50 and DN65

PISTOL

Material	stainless steel
Capacity [kg/s]	3.5

CABINETS

Material	GRP (glass fibre)
Type of operation	pneumatic

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