



Lithium

6.941

Protecting your assets with
Brigit Lithium

a member of the **Hudaco** group

Why are Lithium Batteries dangerous?



Lithium-Ion batteries are known to unexpectedly re-ignite (without warning) minutes, hours and even days after all visible fire has been put out. Lithium-ion batteries can enter an uncontrollable, self-heating state. This can result in the release of toxic gases which can cause a fire or possible explosion. The BerkiCold premix reacts with lithium oxide present in lithium batteries to form lithium hydroxide which aids with cooling.

Brigit® Fire introduces a range of products, equipped with BerkiCold, a unique environmentally friendly biodegradable foam premix and a powerhouse in its class, suitable for type A, B, D, C & F fires.



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Greenmist Lithium



TECHNICAL SPECIFICATIONS





Charge	9L
Contents	BerkiCold
Tare Mass	5 KG
Mass Full	9 KG
Working Pressure	15 BAR
Test Pressure	22.5 BAR

9L

CE

EN3-7: 2004-A1

Applications:

- A**  **WOOD, PAPER, TEXTILES**
- B**  **FLAMMABLE LIQUIDS**
- C**  **LIVE ELECTRICAL EQUIPMENT**
- F**  **COOKING OILS**

- D**  **FLAMMABLE METALS**
Li 600 Wh
NTA 8133:2021
KIWA / P000055289



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Mobile Trolley Lithium



50L

Li



**Liquid Tested to
NTA 8133:2021
600 Wh**

Applications:

A



**WOOD,
PAPER,
TEXTILES**

B



**FLAMMABLE
LIQUIDS &
GASSES**

F



**COOKING
OILS**

TECHNICAL SPECIFICATIONS

	PD50E	PD50
Model No:	PD50E	PD50
Capacity (kg)	50	50
Cylinder Diameter (mm)	ø 300	ø 300
Approval Number	SP162/10	SP163/10
Extinguisher Weight (kg)	90.88	90.88
Packing Size (LxWxH)(mm)	515X430X 1100	515X430X 1100
Working Pressure	15bar	15bar
Test Pressure	30bar	30bar
Operation Temperature	-30°C - +60°C	-30°C - +60°C



PULL THE PIN



AIM AT BASE



**SQUEEZE
LEAVER**



SWEEP

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ILP/DLP



About

- Easy / Flexible installation
- Quick and Effective suppression
- Highly Dependable: no electricity or moving parts

Everything you need together in one box

Reduces even the most critical electrical fire risks:

- Combustion from short circuits, overloading or overheating
- Extensive damage to circuitry
- Work stoppage
- Extensive cleanup if sprinkler system discharges

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Benefits

Brigit Detec Lithium systems use a proprietary continuous linear sensor tube that reliably detects and actuates release of the extinguishing agent using pneumatic technology. It is more flexible, space efficient and cost effective versus alternative mechanical or electronic systems.

1. Quick & Easy installation directly inside electrical cabinets:

The flexible sensor tubing is easily installed inside the electrical cabinet - directly above the wires and circuits where a fire could start. When in service, the tubing is pressurised with dry nitrogen to 16 bar. The dynamics of pressurisation make the tubing more reactive to heat.

2. Early fire detection:

If a flame-up occurs, the heat of the fire causes the pressurised sensor tube to burst at the hottest spot (approx. 110°C)

3. Instant suppression:

The sudden tube depressurisation actuates the special pressure differential valve and instantly floods the entire cabinet area with BerkiCold Premix extinguishing agent. The fire is quickly suppressed just moments after it began, minimising damage and downtime.

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Enviromist™ Lithium

About

The EnviroMist™ Lithium System is based on innovative regulated flow technology that generates very fine water mist with advanced firefighting capabilities, rated to extinguish Class A, B, C and F fires

The firefighting effectiveness of water is directly proportional to its surface area that comes into contact with fire. Due to the microscopic droplet size (55 - 75 μm) achieved with this technology, the surface area of the water is greatly increased (by about x 2000 when the droplet size is 65 μm) and still has enough kinetic energy to overcome fire convection currents.



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About (continued)

EnviroMist™ extinguishes fire mainly by:

- Cooling (heat absorption)
- Oxygen displacement (inert gasses form as water expands at a ratio of 1750 to 1 when converting to steam)
- Attenuation of heat radiation (preventing fire from spreading to an unignited fuel surface)

EnviroMist™ Functioning Principles

The EnviroMist™ Lithium System was designed in accordance with NFPA 750 (Standard on Water Mist Fire Protection Systems) as an alternative to other systems using halons, CO2 or other gases and substances harmful to the environment, as well as sprinkler or foam systems using large quantities of water.

Regulated flow technology is a low pressure, dual fluid system (BerkiCold solution and gas is provided through one pipeline), which creates a fine mist spray. As a result of automatic or manual activation the supply unit begins feeding the extinguishing medium to the piping.

The flow regulators placed inside the cylinder(s) create a mixture of water and pressurised nitrogen in a pulse manner. The mixture travels from the cylinders to nozzles through piping and is forced through the atomising holes in each nozzle so that the liquid streams collide, generating a dynamic flow of extinguishing mist.

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Enviromist™ Lithium

About (continued)

The EnviroMist™ Lithium System is mainly used in enclosed spaces and in temperatures above 5°C. Appropriately directed nozzles cover the entire surface of the protected object, or fill the room with mist (max 40m³).

The system discharge time is designed to be at least double the actual extinguishing time, as per NFPA standards. In accordance with NFPA 750 every system configured for the first time must undergo 1:1 trials.

Applications

- Transformers
- Turbines
- Generators
- Engines: electric, diesel and petrol e.g. buses and trucks
- Food processing units
- Shipboard Machinery Spaces
- Injection Moulding Machines
- Electrical substation
- Conveyer belt systems
- Metro trains
- Industrial Kitchens
- Any production unit where you don't want chemicals to halt operations
- Areas where oil or other inflammable fuels are present
- Cable tunnels
- Lithium batteries

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Features

- Safe for people - area accessible during fire suppression
- No toxicity or thermal breakdown - does not form corrosive gasses
- 100% Eco-Friendly -no environmental impact
- Suitable for Class A, B, C and F Fires
- Cooling Effect - reduces temperature rapidly & eliminates re-ignition
- Mist Blanket - shielding people and property from radiant heat
- Good visibility during discharge - compared to CO2 system
- Room Integrity not required - doors and louvers can be left open
- Safe on equipment - no thermal or static shock
- Self-Contained System - no connection to water mains or compressor
- Water Saving System - uses 5 times less water than conventional water-based systems
- Economic Agent - relatively inexpensive compared to other extinguishing agents
- Readily available - in adequate quantities under most circumstances
- Easy to refill - only requires BerkiCold and nitrogen
- No or little clean-up required
- Automatic and manual actuation - ready 24/7

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Technology

Supply Unit and Suppression System Components

The supply unit can consist of a single or multiple cylinders varying in sizes (from 11L to 230L). The size and quantity of the cylinders depend on the total volume of water required.

Two or more cylinders are connected via a manifold to the pipeline. Storage cylinders are filled to a maximum of 72% with BerkiCold and pressurised to 15 bar with nitrogen at 20°C. Each cylinder comes complete with flow regulators inside, valves, pressure switch and gauges.

TECHNICAL SPECIFICATIONS

Extinguishing agent	BerkiCold
Capacity	Dependant on hazard size
Working medium	Nitrogen
Working pressure	15 to 25 bar at 20°C
Working Temperature	+5°C/ +60°C (storage cylinder/s)
Storage Temperature	+5°C/ +60°C (storage cylinder/s)
Discharge Time	Minimum 30 seconds (System design usually double the extinguishing time)
Weight	As per cylinder Data Sheet

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Technology (continued)

Discharge Piping Network

Piping is a set of different, hydraulic elements necessary for connecting the supply unit with fire extinguishing nozzles. The piping and fittings must consist of 316 Stainless Steel and is used to connect the supply unit to the extinguishing nozzles. The diameter of the discharge pipework is subject to the quantity of nozzles and their Total Outflow Surface factor.

There are different types of stream collision nozzles used in regulated flow systems. The calculated Total Outflow Surface of each system also helps to determine the number of flow regulators and size of cylinders. Spray patterns of the various nozzles must overlap to achieve 100% coverage for local protection systems.



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Technology (continued)

Fire Detection and System Actuation

Different types of devices are used to detect fire and activate the extinguishing release valve. The type of detection depends on the type of protected object or area.

- Pressure detection tube (two types available: ruptures at 80°C or 108°C)
- External detection system (actuating valve is a solenoid valve - triggered from extinguishing control panel that is connected to smoke, heat or flame detectors).

Regulated flow systems can be additionally equipped with manual actuation points.

Actuation units are as follow:

- The Indirect Differential Valve is designed to operate as an actuation mechanism in Enviromist™ systems. The valve is actuated by an pneumatic tubing line. As a result of sudden pressure drop in the tube, the valve opens and releases the flow.

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