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TOMORROW

Danfoss

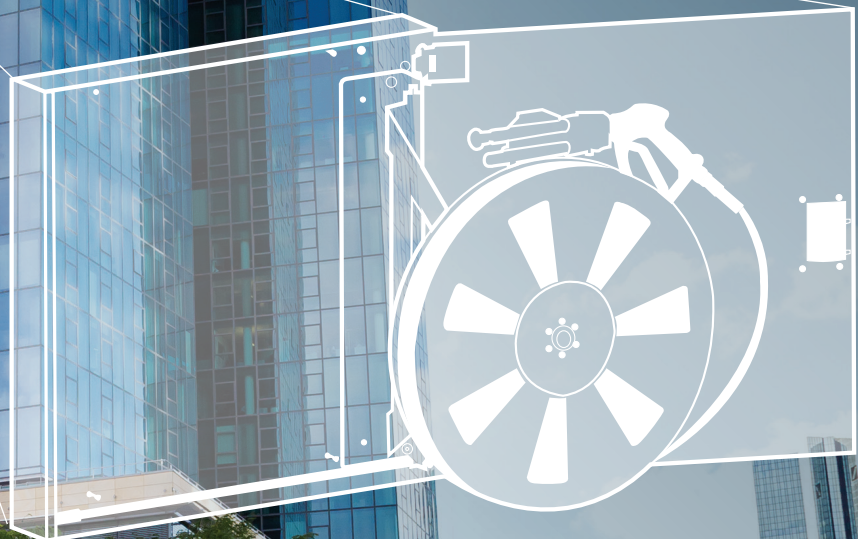
Product brochure

SEM-SAFE® fire hose reel cabinet with spray gun product version 2.0.

SEM-SAFE® fire hose reel cabinet improves safety in any building

Immediate & efficient fire fighting tool for fire brigades & non-professionals

Danfoss Fire Safety A/S



**Easy
installation
by one
person**

www.semsafe.danfoss.com

SEM-SAFE®

Improved fire safety in any building

With more than half a century of experience in engineering fire fighting systems based on high-pressure water mist technology and a deep understanding of customer needs, we have developed a state-of-the-art fire hose reel cabinet with spray gun, suitable for any building type.

High-pressure water mist technology is increasingly preferred when it comes to fire safety in buildings, because it provides efficient protection of people and assets in case of a fire.

At Danfoss Fire Safety A/S, we took high-pressure water mist technology one step further by integrating it into our **SEM-SAFE® fire hose reel cabinet with spray gun**. Through extensive engineering and development, we created a fire fighting product that is an immediate tool for fire brigades and non-professionals to use in the fight against fire. It is efficient and very easy to use in a fire situation, as well as offering great flexibility in installation.



Tested and approved

The SEM-SAFE® fire hose reel cabinet with spray gun has successfully passed fire test criteria

The SEM-SAFE® fire hose reel cabinet with spray gun is a CE marked product. It has been tested in accordance with standard EN 3-7-2004+A1:2007[1]. The fire hose complies with ISO-11237.

The SEM-SAFE® fire hose reel cabinet with spray gun is fire tested against Class A fires (solid fuels) and Class B fires (flammable liquids).

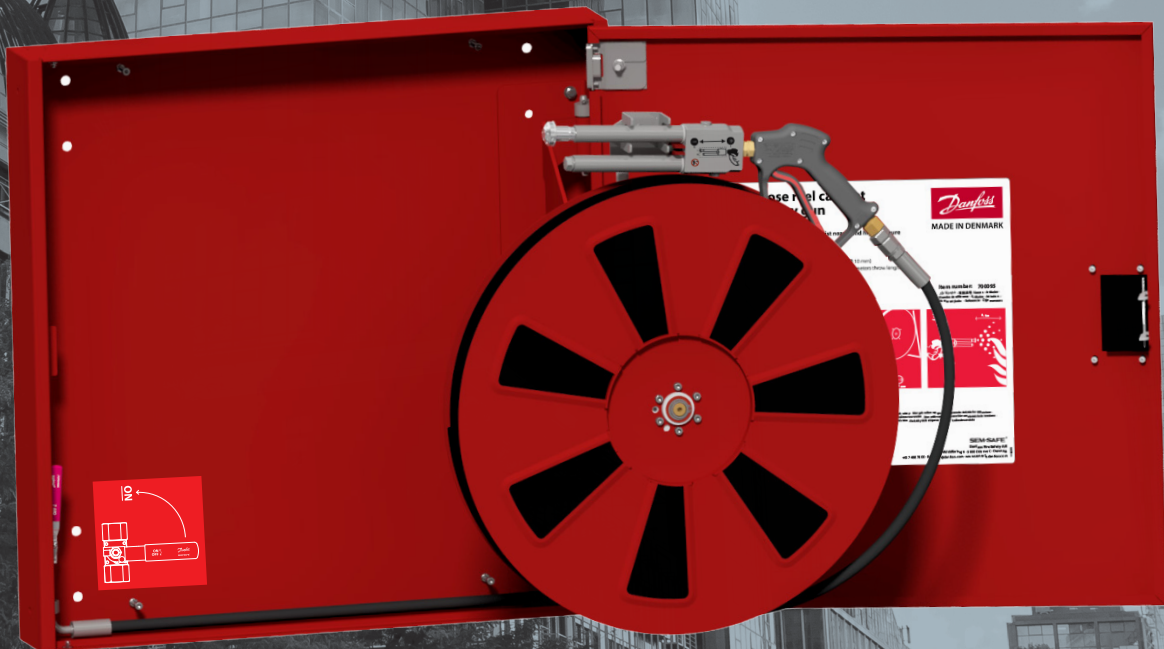


The SEM-SAFE® fire hose reel cabinet with spray gun is suitable for installation in any building type, modern or historic, and of any size and height.

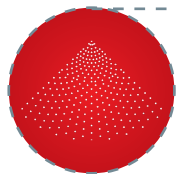
It is an immediate fire safety solution for commercial applications such as hotels, stores, warehouses, underground car parks, health care facilities, educational facilities, museums, offices and high-rise buildings. Also for combating potential fire risk, the SEM-SAFE® fire hose reel cabinet with spray gun is ideal for a wide variety of industrial applications, for example: factories, manufacturing facilities and automotive.

The Danfoss **SEM-SAFE®** fire hose reel cabinet with spray gun is suitable for fire fuelled by wood, furniture, plastics, but also flammable liquids and combustible liquids.

Simplicity in operation has been a top priority when designing the product. Using the **SEM-SAFE®** fire hose reel cabinet with spray gun does not require extensive fire fighting training.



Benefits when choosing **Danfoss SEM-SAFE®** fire hose reel cabinet with spray gun



Efficient **fire fighting**

Added safety

The spray gun of the SEM-SAFE® fire hose reel cabinet is equipped with a SEM-SAFE® high-pressure water mist nozzle. When activated, the nozzle forms a “water mist umbrella” effect. This “water mist umbrella” effect has cooling properties, offering significant protection to the person operating the spray gun from the heat wave generated by the fire. In addition, the high-pressure water mist will capture smoke particles and sink the smoke layer.

Extinguishes several classes of fire

The SEM-SAFE® fire hose reel cabinet with spray gun has been thoroughly fire tested against solid fires (class A fires) and flammable liquid fires (class B fires).

Perfect integration with the SEM-SAFE® high-pressure water mist system

The SEM-SAFE® fire hose reel cabinet with spray gun can easily be connected to the SEM-SAFE® high-pressure water mist system. The fire hose reel cabinet works with a 60 bar system and a 100 bar system.



Cost effective

Reduced initial investment cost

The SEM-SAFE® high-pressure water mist system uses pipes with small dimensions, and the fire cabinet flexible hose has a very small diameter. Thus it is possible for the fire hose to be 50 metres long, which results in a large coverage area.

Avoid additional pipework and structural damage

As the SEM-SAFE® fire hose reel cabinet with spray gun is an integrated part of the SEM-SAFE® high-pressure water mist system, there is no need for a separate water supply piping system, unlike traditional designs with separate sprinkler system and hose reel system.

This means less time and cost is spent on piping work and wall/ceiling drilling.

Time-saving installation

The large coverage area allows for fewer cabinets in an installation. Due to low weight and low installation complexity, the SEM-SAFE® fire hose reel cabinet with spray gun can be installed by a single technician.



A **trusted fire safety tool** for the fire brigade

Professionals from the fire brigade will use the SEM-SAFE® fire hose reel cabinet with spray gun as the first instrument to fight an emerging fire immediately, hence saving valuable time until fire trucks are in place.

Whether the person is a fire fighter or not, the SEM-SAFE® fire hose reel cabinet with spray gun is always ready to be used in case of a fire.





User friendly

Easy to operate

Due to its very light and compact design, the SEM-SAFE® fire hose reel cabinet with spray gun is easy to handle. The hose reel can be swung out from the cabinet with little effort. The hose is thin and extra flexible for added ease of handling. All these features enable operation of the SEM-SAFE® fire hose reel cabinet with great precision. Tests indicate there is very light “kickback” effect while operating the lightweight spray gun, thus contributing to smooth operation.

Straightforward design

Training staff on how to use the SEM-SAFE® fire hose reel cabinet with spray gun is done in a few simple steps and with no complex procedures and methods. If a non-trained person needs to use the SEM-SAFE® fire hose reel cabinet with spray gun, it would not be a problem. The design of the product is intuitive. This makes the product simple to use. In addition, there are clear signs on the product showing how to use it.

Precision and simplicity

Placed within reach, one simply opens the inlet valve, pulls out the fire hose reel in the direction of the fire and presses the trigger to start the water flow to the spray gun. It is as simple as that: no heavy equipment, no specific set-ups and wait time. Important moments are saved in the fight against fire, which can mean saving a person's life and protecting valuable assets.



Fast & easy installation

One-person installation

Everything is optimised on the SEM-SAFE® fire hose reel cabinet with spray gun for quick and easy installation by just one person. Pre-cuts for pipework and adjustment screws make fast and adjustable set-up possible.

Full flexibility in installation

By turning the cabinet around and by reassembling the internal main components, the fire cabinet door can be changed to left or right hinged.



Environmentally friendly

100% harmless to people and environment

The SEM-SAFE® fire hose reel cabinet with spray gun uses clean water as the extinguishing agent, a sustainable fire safety technology. Thus, we actively contribute to better and more eco-friendlier solutions for the buildings and cities of tomorrow and towards protecting our planet against polluting technologies.



State-of-the-art product

Added durability due to high quality

The SEM-SAFE® fire hose reel cabinet with spray gun is very resistant due to high-quality materials and manufacturing. Attention to detail and quality has been given while developing the product to ensure a sturdy and long-lasting solution.

Simplicity & applicability

The SEM-SAFE® fire hose reel cabinet with spray gun is designed for direct connection to a high-pressure water mist system for fire fighting.

To meet customers' needs, the SEM-SAFE® fire hose reel cabinet is equipped with a spray gun that has both a SEM-SAFE® high-pressure water mist nozzle and a high-pressure water jet nozzle.

The water flow between the SEM-SAFE® high-pressure water mist nozzle and the high-pressure water jet nozzle can be changed easily by pushing the two tubes forward. It is recommended that the spray gun be secured with a locking clip. The locking clip must be removed in order to activate the water jet function. Thus, the user makes an active decision in switching from water mist to water jet, for added safety.

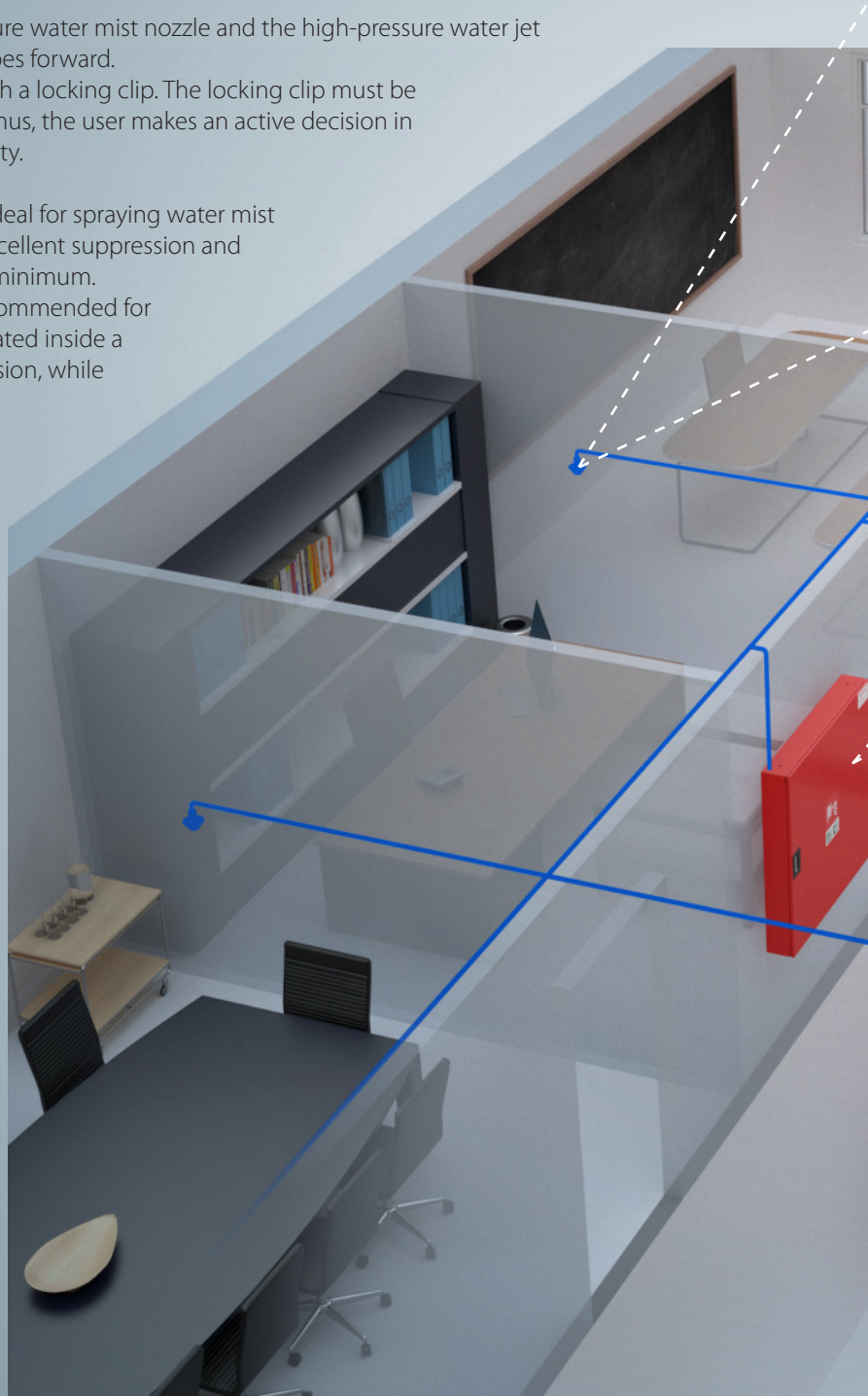
The SEM-SAFE® high-pressure water mist nozzle is ideal for spraying water mist over a large surface. High-pressure water mist has excellent suppression and cooling properties and will keep water damage to a minimum. Using the high-pressure water jet nozzle is highly recommended for deep fires that are hard to reach, for example fire situated inside a mattress. This will help in attacking the fire with precision, while keeping a safe distance.

The fire hose reel and the spray gun are placed inside a compact, steel cabinet.

The 50-metre-long high-pressure hose is very thin and flexible. With such a long fire hose, a larger surface can be covered, which means fewer fire hose reel cabinets with spray gun need to be installed.

A reel keeps the fire hose neat and accessible at all times. The hose reel has swinging brackets which allow the hose to be pulled in any direction.

For activation and easy maintenance, the design includes an inlet valve, which must be opened to enable water flow.



One SEM-SAFE® high-pressure water mist fire safety system to cover all areas in a building

SEM-SAFE®
high-pressure
water mist nozzle



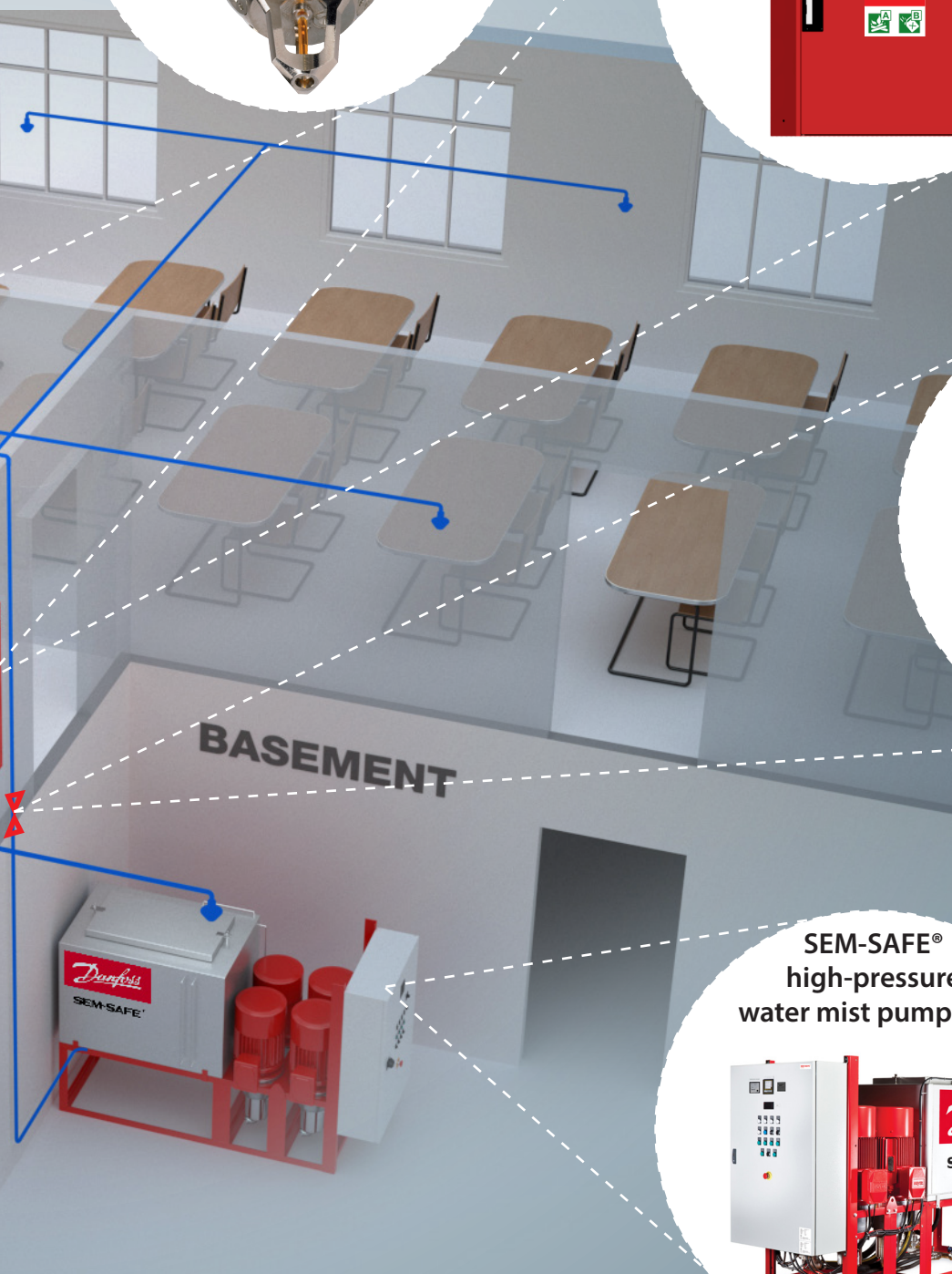
SEM-SAFE®
fire hose reel
cabinet with spray gun



SEM-SAFE®
high-pressure
water mist section valve



SEM-SAFE®
high-pressure
water mist pump unit



General specification

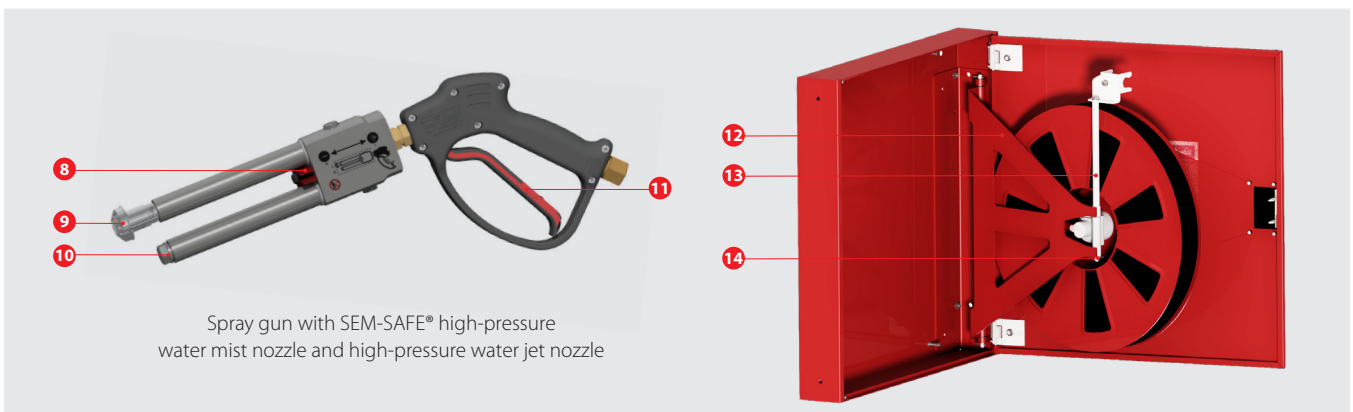
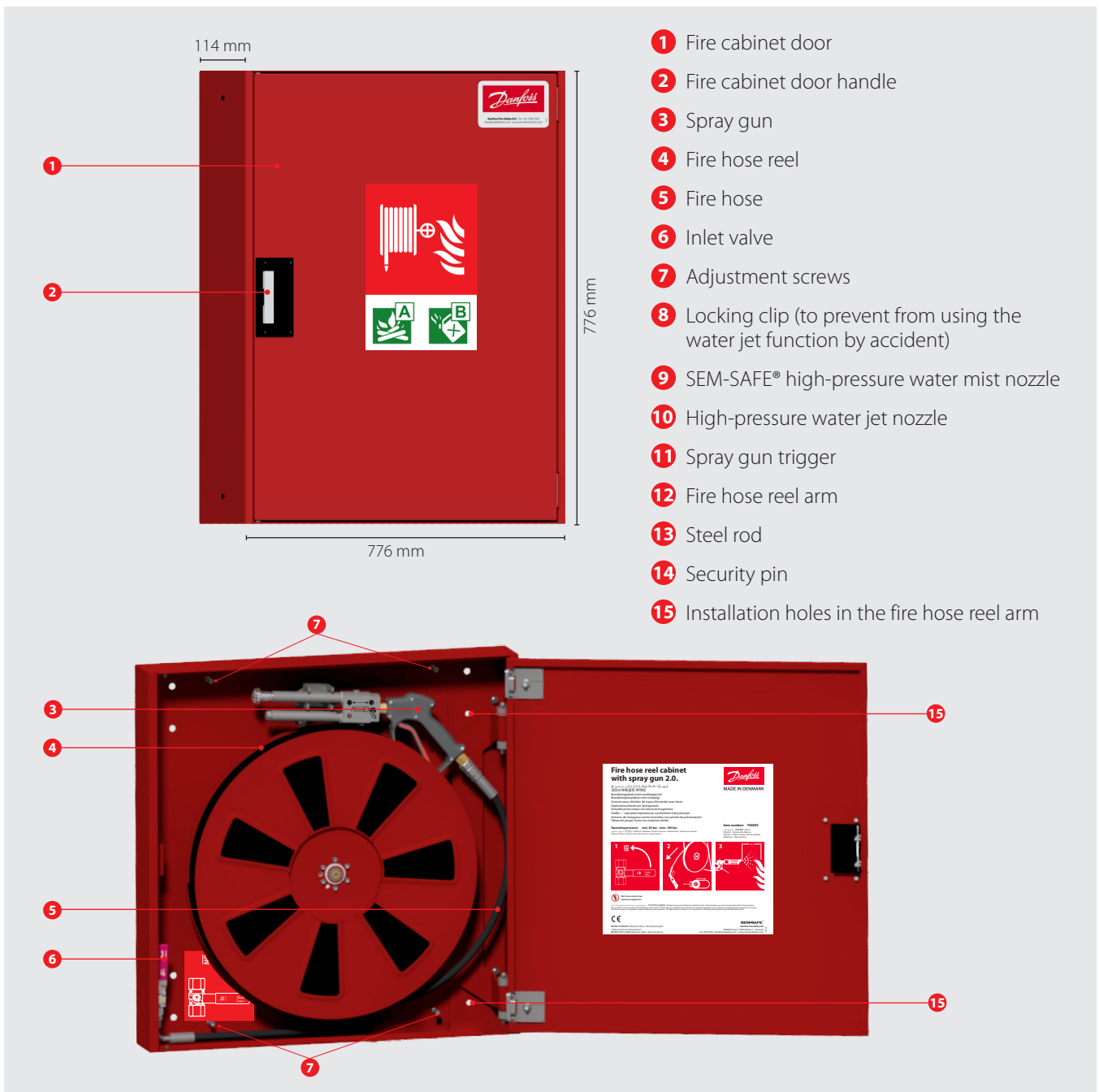
Product number (for right hinged door) ¹⁾	700095
Installation	Flush mount
	Surface mount
Fire test	EN 3-7-2004+A1:2007[1] Portable fire extinguishers
Application	Class A Fire and Class B Fire
CE marking standard	DS/EN 671-1:2012 and EN ISO 12100:2011
Total dry weight of complete fire hose reel cabinet	53 kg (including hose and spray gun)
Total wet weight of complete fire hose reel cabinet	58 kg (including hose and spray gun)
Water consumption	30 L/min
Min. inlet pressure on hose reel	82 bar
Max. inlet pressure	160 bar
Inlet connection type	3/8" BSPP (DN10)

¹⁾ Fire hose reel cabinet with left hinged door can be ordered on request.

Key components specification

Fire hose reel cabinet	Outside dimensions	776 x 776 x 114 mm
	Colour	RAL3000
	Material	S235JR
High-pressure hose	Type	AT3K - Minetuff
	Inside diameter	3/8" (10 mm)
	Max. working pressure	210 bar
	Length	50 m
	Temperature range	+4°C to +70°C operation
	Material	Flexible rubber hose reinforced by one high tensile steel wire braid
High-pressure water mist spray gun	Water mist nozzle type	SEM-SAFE® Nozzle type HNDP-0-12-3.87-00 (CG) AISI316L Conical spray pattern Throw length: 5 m
	Water jet nozzle	Concentrated sheet spray pattern Throw length: 10 m

Key components of the SEM-SAFE® fire hose reel cabinet with spray gun



Installation

The SEM-SAFE® fire hose reel cabinet with spray gun has a design that allows for easy and fast installation

Modular & compact

The fire cabinet used for the SEM-SAFE® fire hose reel cabinet with spray gun is one of the thinnest cabinets on the market, with a depth of just 114 mm. It has a small footprint and it is very compact.

Types of installation



Mounted outside the wall (surface wall mount)

The cabinet is simply installed outside the wall.



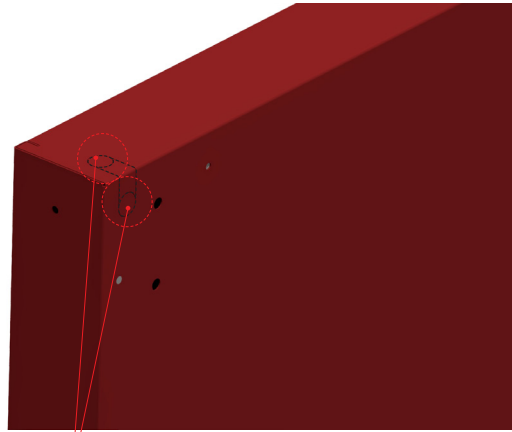
Mounted inside the wall (flush mount)

The flush mount installation means the cabinet is completely placed in the wall.

Moving the fire cabinet on the construction site is done easily. Components can be installed by one person.

Plug & play

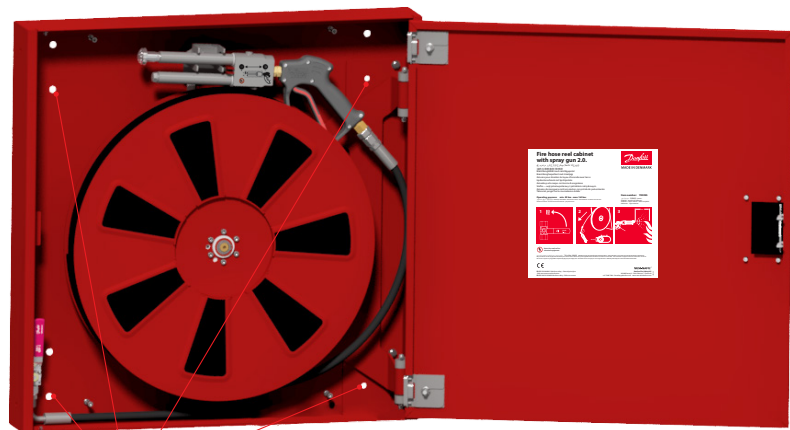
The **SEM-SAFE**® fire hose reel cabinet with spray gun has been manufactured with pre-cut holes for piping. This gives the installer all the flexibility needed when it comes to installing the product and connecting it to the pipe of the high-pressure water mist system.



Pre-cut holes for piping

Installation guidelines

It is highly recommended to install the **SEM-SAFE**® fire hose reel cabinet with spray gun in places that are easily accessible and near entrances, corridors and escape routes. The optimal installation height is 1200-1500 mm from the floor.



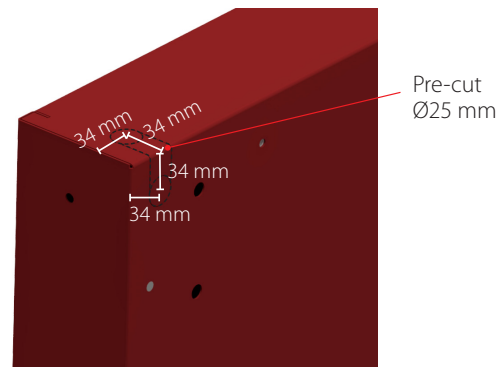
Mounting holes

Installation guide

See below the steps in installing the SEM-SAFE® fire hose reel cabinet with spray gun:

1. Piping preparation

- Punch out only the necessary pre-cut hole.
- Use the included grommet for protective seal.

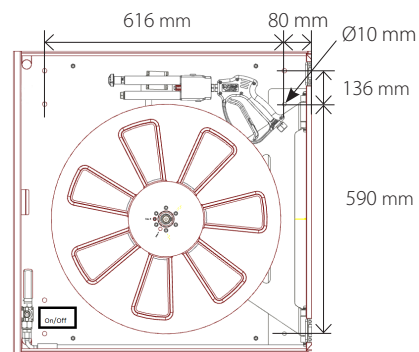


2. Cabinet installation

Note: For easier lifting of cabinet, take the door and the hose reel off by pulling the security pin (14) and the steel rod (13) situated behind the reel. The hoses shall not be disconnected from the inlet valve. Dismount inlet valve from bracket.

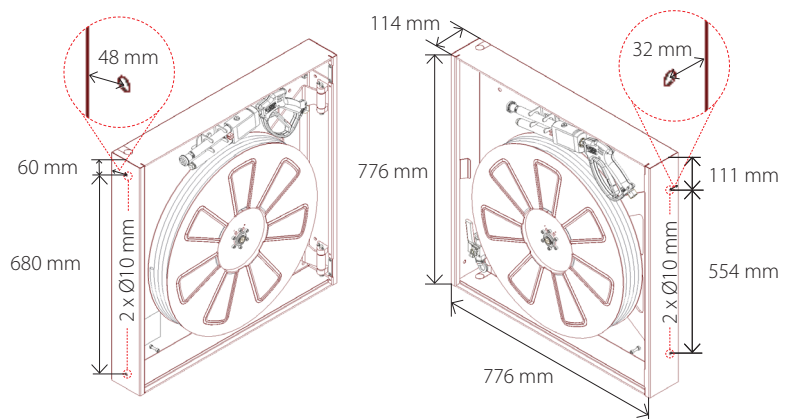
a. Surface wall mount (outside the wall installation)

- Put cabinet on the wall.
- Secure the cabinet in the wall with bolts in the 4 holes of the cabinet backplate. The two holes in the fire hose reel arm must always be used. M10 8.8 bolts are recommended + washers.



b. Flush mount (inside the wall mount)

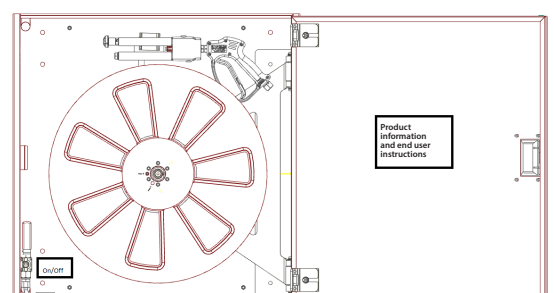
- Put the cabinet into the hole in the wall (800x800mm).
- Level up cabinet basis in wall cut-out using wedges or similar.
- Adjust distance to backwall by using the 4 adjustment screws.
- Secure the cabinet with 4 bolts, 2 on each side of the cabinet. M10 8.8 bolts are recommended + washers.
- Care must be taken to avoid twist of cabinet. Place shims between side of cabinet and wall structure where bolts are fitted.



3. Final installation

Note: If installation of cabinet was performed by removing the door and hose reel, then install hose reel back on the fire hose reel arm. Mount the inlet valve on the bracket. Place the door back on the cabinet.

- The fire cabinet shall be secured to a supporting steel structure, which shall be made to withstand reaction forces at each of the four bolts of no less than 950N in a horizontal direction and 620N in a vertical direction.
- For flush mount, apply 12 mm fire resistant sealing against wall and cabinet.



SEM-SAFE® fire hose reel cabinet with spray gun is an essential modern-day fire fighting tool

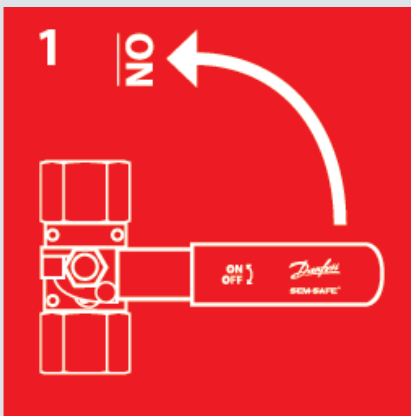
The SEM-SAFE® fire hose reel cabinet with spray gun is easy to locate. All the SEM-SAFE® fire hose reel cabinets with spray gun are labelled with a visible fire hose reel pictogram.

The spray gun has a 5-metre shooting range when using the SEM-SAFE® high-pressure water mist nozzle and a 10-metre shooting range when using the high-pressure water jet nozzle.

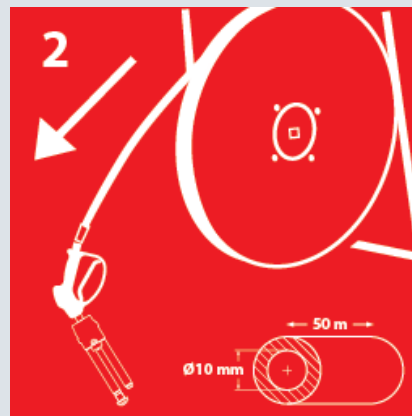
To efficiently use the SEM-SAFE® fire hose reel cabinet with spray gun in case of a fire situation, open the fire cabinet door and follow the following steps:



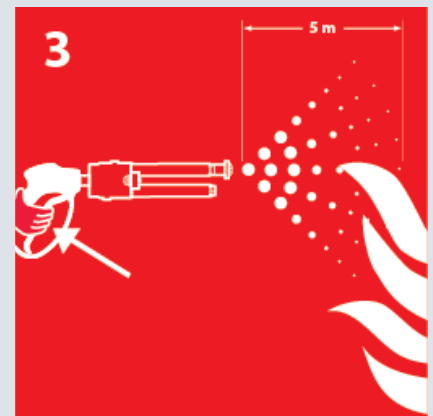
Fire hose reel pictogram label



Turn valve anti-clockwise to open fully.




Pull hose out in direction of fire.



For water mist release

Hold and squeeze spray gun trigger to release water mist.

 Not to be used on live electrical equipment


It is recommended that the water jet function of the gun be used in specific situations, for example deep fires that are harder to reach, and by fire fighting professionals.

To use the water jet function, the following simple steps must be followed:

- A.** Remove locking clip.
- B.** Push tubes forward and squeeze spray gun trigger to release water jet.

To release water mist again, pull tubes back and squeeze spray gun trigger.



 Avoid releasing jet discharge on humans

Clear labelling and instructions on the spray gun



Servicing & maintenance

The SEM-SAFE® fire hose reel cabinet with spray gun requires no special maintenance. A standard inspection is sufficient.

The periodical service should be scheduled and should cover the following:

- check if the cabinet door can open easily
- ensure that the inlet valve can open and that it can be moved into the 2 positions "ON" and "OFF"
- check the fire hose and the pipe for any signs of damage
- check that all connections are tight
- check for frost damage
- check for leakage
- check that the fire hose is in its place on the wheel and that it can be pulled easily
- check that the spray gun is in place

Danfoss Fire Safety recommends following EN671-3, Annual Inspection.

It is the duty of the supervision body performing the inspection to report any damages.

The inspection should include a functional test, where the water flow through the spray gun is tested.

The following need to be observed:

- water discharge length (5 metres for the SEM-SAFE® high-pressure water mist; 10 metres for the high-pressure water jet nozzle)
- water flow is satisfactory
- water is clean

All inspections need to be marked on an inspection label provided by the authorised supervision body.



The intelligent **use of water**

We took our knowledge about the excellent properties of high-pressure water mist technology and incorporated it into the SEM-SAFE® fire hose reel with spray gun.

By pointing the spray gun directly in the direction of the fire, the cooling effect is greater. It allows for better control of the fire.

Also, it uses little water, which means low water damage.

How does high-pressure water mist work

For a fire to survive, it relies on the presence of the three elements of the 'fire triangle': oxygen, heat and combustible material. The removal of any one of these elements will extinguish a fire.

The **SEM-SAFE®** high-pressure water mist technology for fire fighting goes further. It attacks two elements of the fire triangle: oxygen and heat. The uniqueness of high-pressure water mist is that it combines the suppression effect of gas and sprinkler systems. As well as removing the oxygen like a gas system, it simultaneously cools the fire like a traditional sprinkler. The cooling effect additionally lowers the risk of reignition.

When high-pressure water mist comes into contact with flames, it evaporates and expands a minimum of 1700 times. The dense vapour created displaces the flames and quickly extinguishes the fire.

SEM-SAFE® system in short

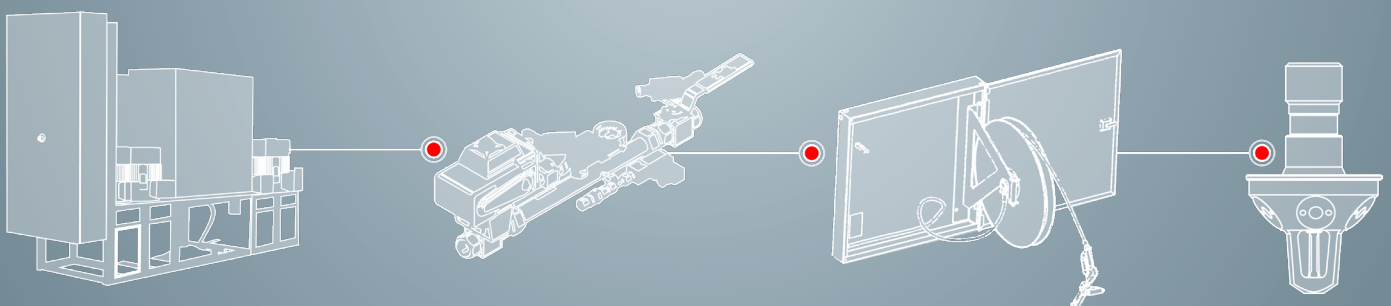
SEM-SAFE® is a high-pressure water mist fire fighting system that uses micro-droplets released through nozzles into protected areas. Water is discharged in a form that ensures fire suppression, control or extinguishment.

A **SEM-SAFE®** high-pressure water mist system is comprised of several **SEM-SAFE® high-pressure water mist nozzles** connected by stainless steel piping to a modular **SEM-SAFE®** high-pressure pump unit.

The **SEM-SAFE® high-pressure water mist pump unit** can feed either automatic glass bulb nozzles or open nozzles in "wet", "pre-action" or "deluge/dry" applications. Stainless steel **SEM-SAFE® high-pressure water mist section valves** are supplied with the **SEM-SAFE®** system in order to separate the individual fire sections.

The **SEM-SAFE® fire hose reel cabinet with spray gun** is an integrated part of the SEM-SAFE® high-pressure water mist system.

The system is safe, efficient and environmentally friendly. With small pipe dimensions, large coverage, minimal water consumption, a compact pump unit and simple design, **SEM-SAFE® high-pressure water mist system** is the perfect choice to protect all areas in a building against fire, with reliability and cost-saving in mind.



Total Solution Provider of Certified Fixed Fire Fighting Systems

Danfoss Fire Safety A/S, an integral member of the Danfoss Group, is a global leader in the sale, development, production and service/commissioning of certified fixed fire fighting systems under the brand name SEM-SAFE®.

We offer you unparalleled competitive edge through quality and reliable products, uncompromising performance and cost-effective fire fighting systems.

Innovation is our approach

We have been engineering and pioneering SEM-SAFE® fire fighting systems for decades. This gives us the experience and technological knowledge to provide a complete range of SEM-SAFE® fire fighting systems based on two key technologies: high-pressure water mist and low-pressure CO₂.

Engineering a safer tomorrow

From a modern high-rise building to a state-of-the-art university, from a wooden church to a super hospital and busy international airport, SEM-SAFE® high-pressure water mist is the optimum fire fighting solution for any building type. The breakthrough that high-pressure water mist represents is to use the same method as traditional sprinklers, but to add the effect of converting the water into steam.

This means that the cooling effect is up to seven times higher than with traditional sprinklers. Combined with the oxygen displacement effect, this can reduce water consumption significantly compared to traditional sprinklers.

Besides a proven track record in buildings, we install SEM-SAFE® fire fighting systems in a wide range of vessels. Safety onboard ships is critical, and this places great demands on fire fighting systems. Regardless of whether the journey means transporting goods across oceans on a mega container ship, or a vacation trip to a beautiful island on a luxurious cruise, SEM-SAFE® fire fighting is the perfect choice to protect the vessel and passengers against fire, with reliability and cost-effectiveness in mind. For the demanding marine segment we offer two fire fighting

technologies:

SEM-SAFE® high-pressure water mist and SEM-SAFE® low-pressure CO₂.

Reaching even higher

Simplicity in design, achieved by using the most advanced technologies, results in the highest operation reliability. All our products are made of first-class materials and in a comprehensively tested design.

Danfoss is close by

Danfoss and its associates, regional offices and agents constitute a worldwide network that provides comprehensive technical support, installation, commissioning and repair services.

This network ensures that our reputation for fire fighting excellence is maintained and enhanced.

**>50
years**
of pioneering
research & testing

SEM-SAFE®

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