Trusted above all.

ProCon PC-C
Low Pressure Water Mist System

for Cable Ducts and Distribution Rooms

Fire protection

Efficient for cable ducts and distribution rooms

ProCon PC-C systems use innovative low pressure water mist technology that offers particularly efficient firefighting for cable ducts and cable distribution rooms. People, assets and the environment are protected around the clock, considerable investments are protected and long and expensive interruptions in operation avoided.

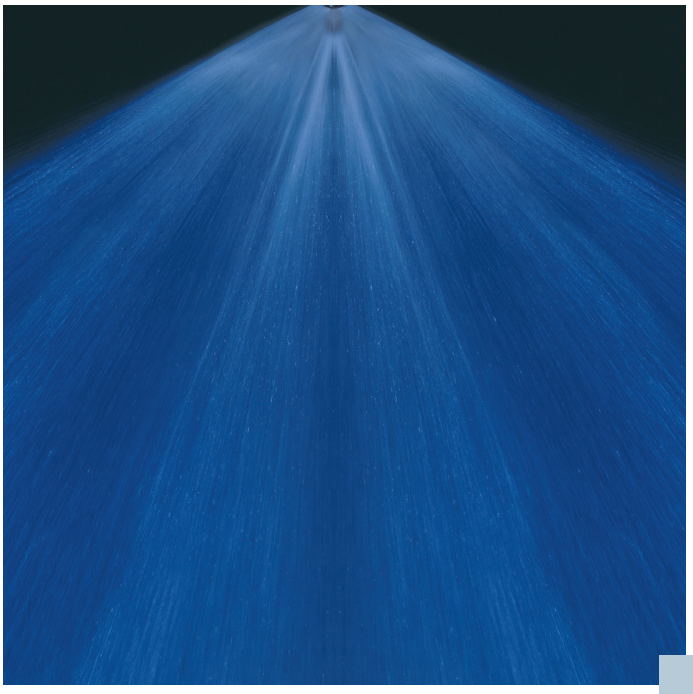
In the event of fire the water is finely distributed via ProCon PC-C extinguishing nozzles. The result is a larger total surface of the water, allowing it to absorb heat and to evaporate more quickly. The ProCon PC-C system creates fine droplets thus increasing the contact area for heat transfer and thereby optimising the cooling effect of the water. In addition - due to rapid vaporisation of the small water droplets within the location of the flame - a large amount of steam is produced, which prevents the oxygen from reaching the fire.

ProCon PC-C systems operate with up to 60% less water compared to classic deluge systems. The system's water supply and pipe network can be made smaller accordingly. This saves not only cost but also space – a big advantage particularly when retrofitting in existing buildings. ProCon PC-C systems are based on low pressure water mist technology which not only allows the use of cost-efficient system components but also increases the potential for other cost and space savings. Low pressure water mist systems can also be combined with classic sprinkler, deluge and hydrant systems all sharing an existing water supply.

ProCon PC-C extinguishing nozzles create a spectrum of different drop sizes. This ensures efficient firefighting even if there are inhibiting factors such as thermal currents or air movement.

The cooling effect, which reflects heat radiation and has the ability to bind smoke gases of a ProCon PC-C low pressure water mist system, also provide excellent personal protection in the event of fire.

Classic nozzle



ProCon PC-C nozzle

High performance

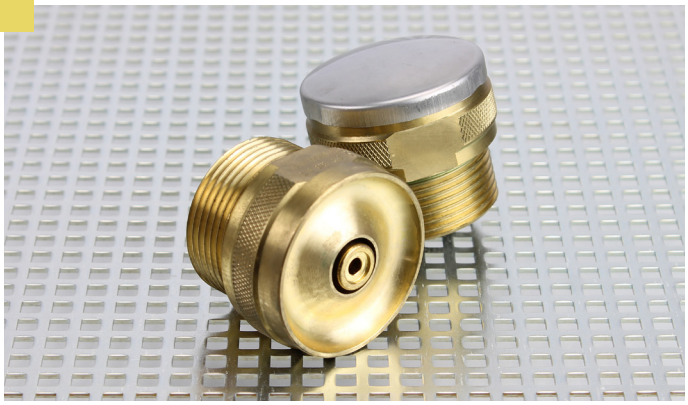
Minimum use of water

For the protection of cable ducts and cable distribution rooms, primarily twin cone nozzles of the MXZD type are used. Two internal swirl bodies create two hollow cone shaped spray patterns with spraying cones of 90° and 120°.

Thanks to their special nozzle design, ProCon PC-C nozzles dissipate the water so finely that, even at the lowest operating pressure of 4 bar, they produce water droplets with a fine distribution to take full advantage of the benefits of water mist technology. As part of the full system approval from VdS Schadenverhütung, the ProCon PC-C nozzles have been subjected to rigorous component tests and full scale cable tray fires to prove their capabilities.

ProCon PC-C extinguishing nozzles are characterized by relatively large outlet cross sections. This, in connection with the large strainers built into the nozzles, reduces its vulnerability to impurities in the water supply.

Due to their robust construction and special protective caps which are ejected when water is emitted, ProCon PC-C nozzles are also suited for use even under tough environmental conditions and in areas with more dirt or other contaminants.



Twin hollow cone nozzles

Structure and function

Simply safe

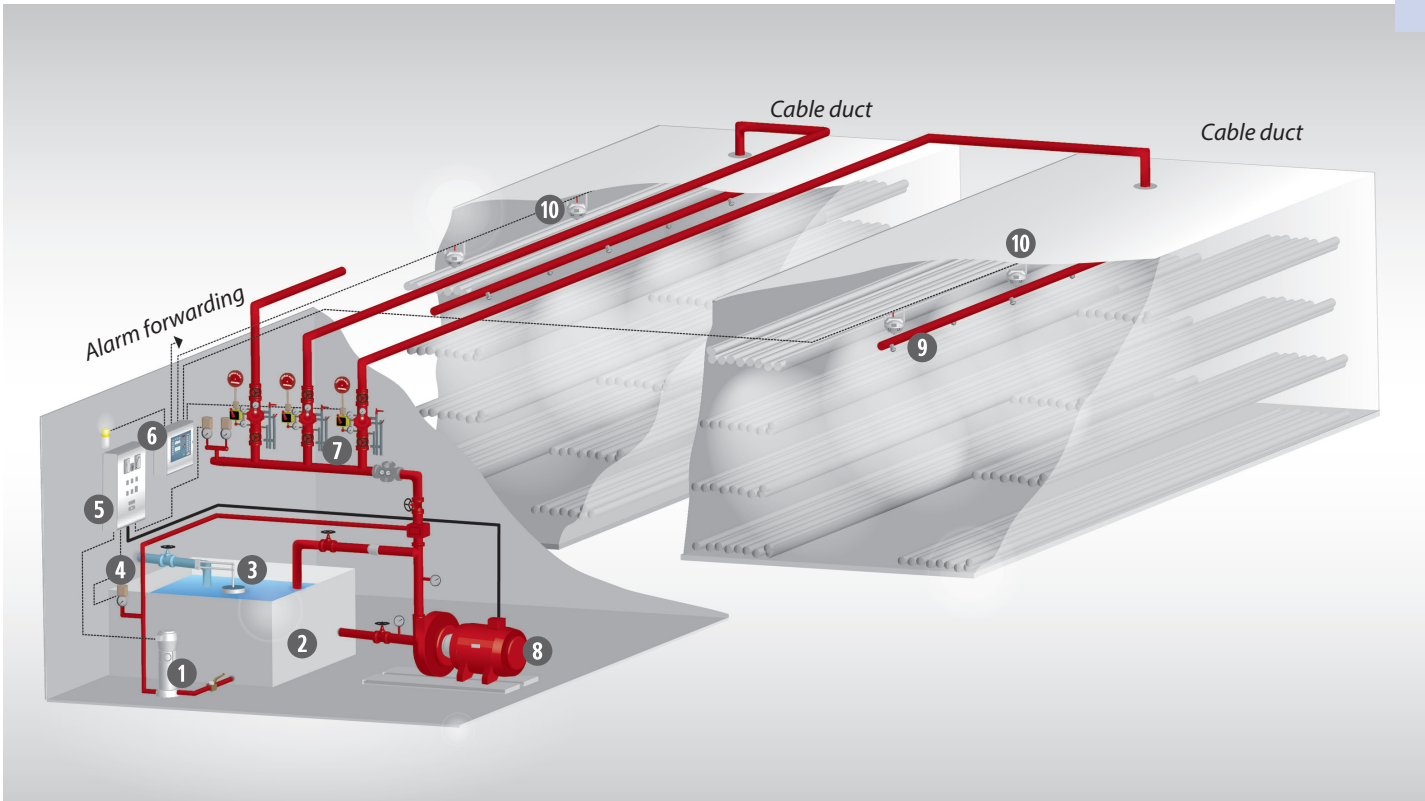
Simple design and operation allows the system and the contractor to focus on performance. The ProCon PC-C system resembles a classic deluge system which can be sub-divided into one or more extinguishing zones, each controlled by a fire detection system connected to the deluge valve.

Extinguishing zones and zone partitioning

In the extinguishing zones, ProCon PC-C nozzles are aimed at the cables to be protected. In the event of fire the water is delivered as a mist into the source of the fire via all the ProCon PC-C nozzles installed in an extinguishing zone. This way even quickly spreading fires can be suppressed.

ProCon PC-C systems can be designed both as a single-zone system for the protection of one extinguishing zone and as a multi-zone system for the protection of two or more extinguishing zones with just one water supply. Each extinguishing zone is assigned a deluge valve set which in the event of fire is triggered by the fire detection and extinguishing control technology and releases the flow of water only in the affected extinguishing zone. The more extinguishing zones there are, the more targeted the firefighting at the source of the fire and the less water needs to be used.

ProCon PC-C systems can use standard galvanised pipes so expensive speciality piping systems are not required. Also, due to the low pressures involved, industry standard grooved couplings and fittings can be used. This means that no special fitter training is required, reducing cost and installation time.



1. Jockey pump
2. Storage tank
3. Automatic feed mechanism
4. Town mains connection
5. Pump control cabinet
6. Fire detection and extinguishing control panel
7. Deluge valve set
8. Main pump
9. ProCon PC-C nozzle
10. Fire detector

Water supply

The water supply to the ProCon PC-C system is generally provided by a storage tank with automatic refilling and a pump. Alternatively, in many cases, the system can be combined with a classic sprinkler, deluge or hydrant system to share the existing water supply. ProCon PC-C systems can also be connected to a suitable service water network or – using appropriate safety equipment – to the public drinking water supply. Additional safety is achieved through feeding-in via a fire brigade supply which then also allows supply if the power supply to the pumps fails, for example.

In the state of operational readiness, the pipe network is filled with water until the deluge valve sets. In this case, a jockey pump - controlled via a pressure transmitter - maintains a constant system pressure of approximately 9 bar, which drops briefly in the event of a fire due to the opening of one of the deluge valves. Another pressure switch detects this and the main pump is activated via the pump control cabinet allowing the main fire pump to drive the water through the pipe network and to the open nozzles.

Fire detection and extinguishing control technology

The ProCon PC-C system is triggered by the proven and certified fire detection and extinguishing control technology from Viking. This guarantees optimal compatiblity of electrical and mechanical system components. Unnecessary co-ordination efforts and interface issues between different trades can therefore be avoided.

Fire detection is adjusted to the risk of the facility to be protected – generally by means of electronic fire detectors which, in the event of a fire, send a signal to the fire detection and extinguishing control panel. This then activates the deluge valve for the relevant extinguishing zone. At the same time acoustic and optical alarms are triggered and optionally forwarded to a permanently manned location, e.g. in order to alert the fire brigade.

HELIOS AMX5000

The right fire detector is ready for any application. In connection with ProCon PC-C water mist systems, UniVario flame and heat detectors and HELIOS AMX5000 smoke aspiration systems are frequently the first choice.

Electrical Fires

Did you know?

"The most inclusive and direct interpretation of "electrical fire" is a fire involving some type of electrical failure or malfunction. Any equipment powered by electricity can have such a failure." (NFPA)

Despite the fact that electrical cable fires are common and can occur anywhere with electrical devices from homes to industrial facilities, electrical cables are often neglected as a potential fire source. Cables pass through all areas of facilities, carrying vital power supplies and control to electrical and electronic equipment to ensure proper operation of the building. Electric cables are usually routed via risers, cable ducts, and open areas in cable trays, cable channels or openly along support structures.

The risk exposure is omnipresent. Electrical cables are a potential source of ignition and can enable fast and easy fire spread, in part often due to their proximity to other combustibles. The cables themselves can be at risk when they are exposed to external fires; for instance when routed through areas which have a high or medium fire risk classification.

To properly control the effects of fire, it is essential not only to detect the fire early by means of appropriate fire detection technology; but to install a suitably certified fixed fire suppression systems, such as Viking's ProCon PC-C low pressure water mist system.

In 2011, an estimated 16,400 non-home structure fires reported to U.S. fire departments involved some type of electrical failure or malfunction as a factor contributing to ignition. These fires resulted in 13 civilian deaths, 243 civilian injuries, and USD 501 million in direct property damage.

In 2007-2011, non-home electrical fires represented 13% of total non-home structure fires, 5% of associated civilian deaths, 13% of associated civilian injuries, and 21% of associated direct property damage.

Nearly half (47%) of 2007-2011 non-home electrical fires began with ignition of products often found in concealed spaces – wire or cable insulation (36%) or structural member or framing (11%).

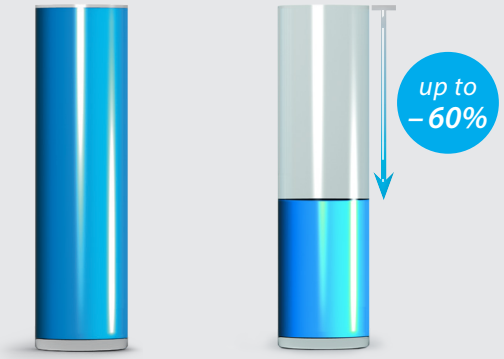
Sources:
http://www.nfpa.org/news-and-research/fire-statistics-and-reports/fire-statistics/fire-causes/electrical-and-consumer-electronics/electrical
Page 37 of report "Home Electrical Fires", John R. Hall Jr., April 2013,

Benefits

At a glance

- Protection of investments and prevention of interruptions in operation
- Up to 60% less water compared to classic deluge systems
- Low expenditure on water supply and pipe network installation – ideal for retrofitting in existing buildings
- Use of cost-effective low pressure components
- Options for combination with classic sprinkler and hydrant systems
- Additional safeguard via fire brigade supply
- Use even under tough environmental conditions and in areas with more dirt and other contaminants
- The components used and the design parameters of the system have been tested and certified by VdS Schadenverhütung

Cable duct protection – Extinguishing water demand



Deluge system

ProCon PC-C water mist system

Europe, Middle East & Africa

BENELUX
Hinmanweg 11d
NL-7575 BE Oldenzaal
The Netherlands
Tel.: +31 (0)541 573233
Fax: +31 (0)541 573234
vikingnetherlands@viking-emea.com

CENTRAL & EASTERN EUROPE
Industriestr. 10/12
D-23843 Bad Oldesloe
Germany
Tel.: +49 (0)4531 803 8087
Fax: +49 (0)4531 803 137
vikinggermany@viking-emea.com

FRANCE
Centre d'Affaires CESCOM
4, rue Marconi
BP 25180
F-57075 Metz Cedex 03
France
Tel.: +33 (0)800 10 29 23
Fax: +33 (0)800 88 70 46
vikingfrance@viking-emea.com

IBÉRICA
Calle Picos de Europa 4A
San Fernando de Henares
E-28830 Madrid
Spain
Tel.: +34 91 677 8352
Fax: +34 91 677 8498
vikingspain@viking-emea.com

ITALY
Via Pogliano, 26/a
I-20020 Lainate (MI)
Italy
Tel.: +39 02 932 851 1
Fax: +39 02 932 851 30
vikingitaly@viking-emea.com

MIDDLE EAST
LOB 19 Office #2506
Post Box No. 17531
Jebel Ali Free Zone, Dubai
United Arab Emirates
Tel.: +971 (0)4 8895 561
Fax: +971 (0)4 8895 562
vikingdubai@viking-emea.com

NORDIC
Staffans Väg 5
S-192 78 Sollentuna
Sweden
Tel.: +46 (0)8 594 415 90
Fax: +46 (0)8 591 280 18
vikingsweden@viking-emea.com

POLAND
ul. Płaskowickiej Filipiny 46/33
PL-02 778 Warsaw
Poland
Tel.: +48 22 403 57 90
Fax: +48 22 403 57 69
vikingpoland@viking-emea.com

ROMANIA & BULGARIA
17-19 Horia, Closca si Crisan St.
RO-075100 Otopeni - Ilfov
Romania
Tel.: +40 21 311 51 48
Fax: +40 21 311 51 41
vikingromania@viking-emea.com

TURKEY
İnönü Cad. Sümer Sok.
Zitaş İş Merkezi D2 Blok K:5, D:12
34742 Kozyatağı, Kadıköy, İstanbul
Turkey
Tel.: +90 (0)216 403 18 00
Fax: +90 (0)216 403 18 03
vikingturkey@viking-emea.com

UK & IRELAND
Unit 2 - Byram House, Newborn Court
Chapel Street
Epworth DN9 1HQ
United Kingdom
Tel.: +44 (0)1427 871 000
Fax: +44 (0)1427 873 917
vikinguk@viking-emea.com

L1.2.7.2/0117/en

For further information, please visit
www.viking-emea.com

Trusted above all.

Viking S.A. | Z.I. Haneboesch, L-4562 Differdange / Niederkorn, Luxembourg | Tel.: +352 58 37 37 - 1, Fax: +352 58 37 36, vikinglux@viking-emea.com