TROX® TECHNIK
The art of handling air

# PEOPLE'S SAFETY FIRST TROX SHOWS FIRE AND SMOKE PROTECTION SYSTEMS FOR SHOPPING CENTRES

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At ISH 2017, TROX presents under the theme of 'The TROX Principle' once again a range of innovative and optimised systems, units and components.

## NETWORKED WORLDS – NETWORKED SYSTEMS

Increasing urbanisation is accompanied by a need to constantly adapt buildings to changing use. This is why TROX has developed integrated ventilation and air conditioning systems which respond to changing requirements in real time. They ensure the provision of the required air quality on demand as well as maximum building safety, and then independent of the building type or usage.

When it comes to fire protection, people come first. TROX shows, by example of a shopping centre, how the individual components of a fire and smoke protection system have to interact in an emergency to ensure people's health, save lives and protect property. Shopping centres are very complex buildings that experience high footfall. Air conditioning has, then, a two-fold function: First, to move enormous volumes of air in order to provide high comfort levels. And then, of course, to make sure that people in buildings are safe. In the event of a fire, every second counts. All safety-related components and systems, such as smoke detectors, fire dampers, smoke control dampers and smoke exhaust fans, have to function reliably and without any delay. This is only possible with an overall control system.

## TROXNETCOM – MANY COMPONENTS, ONE INTERFACE

TROXNETCOM is a dedicated control system for complex fire protection equipment in buildings. All the safety-related information for fire protection and smoke extract is read and controlled via one central interface. TROXNETCOM makes use of an advanced network architecture to check all the connected components and to forward data immediately to the relevant points, e.g. to the central fire alarm system. Regular functional tests are carried out and documented to ensure that all components and systems function reliably in the event of a fire. Standard interfaces such as BACnet or Modbus enable the exchange of data among all building services and with the central BMS.

## EK-JZ SMOKE CONTROL DAMPER – IDEAL FOR KEEPING ESCAPE ROUTES FREE FROM SMOKE

The multileaf EK-JZ smoke control damper is installed in the walls of shafts that are used for smoke extract. The damper is ideally suited to keep stairwells free from smoke when a pressurisation system is used; it can be installed in fire-resistant smoke extract ducts as well as in underground car parks. Thanks to its size and compact depth, EK-JZ dampers are suitable even for installation in restricted spaces (nominal sizes from 200 x 430 mm to 1200 x 2030 mm), and they extract smoke at high volume flow rates of up to 87,700 m3/h or 24,360 l/s. EK-JZ smoke control dampers perfectly complement EK-EU smoke control dampers. High-temperature resistant EK-JZ dampers are fitted with specially contoured, aerodynamic blades and an innovative two-level sealing system, which ensures tightness with high and low temperatures. The damper has been classified EI 120/90 (V*edw*, i -- o) S1000 C *10,000* MA multi to EN 13501-4.

The new multileaf EK-JZ smoke control damper is easy to install due to its rectangular construction and the integral actuator encasing; there are no protruding parts.

## A SMALL CIRCULAR FIRE DAMPER – INSTALLATION REMOTE FROM WALLS

If, due to the structural conditions on site, fire dampers cannot be installed in walls or ceilings, they have to be installed remote from walls and ceilings. If then even space is restricted, installation is next to impossible. The FKRS-EU fire damper has recently been tested for exactly these situations, i.e. for installation remote from walls and ceilings, on ducts with fire-rated cladding on two, three or four sides. The damper is installed with installation kit WE on the following types of wall or ceiling:

- Lightweight partition walls with metal support structure, and with the duct cladding penetrating the wall
- Solid walls, and with the duct cladding penetrating the wall
- Solid walls, and with the duct cladding connected to the wall
- Solid ceiling slabs, and with the duct cladding connected to the ceiling

Fire-resistant cladding on two, three or four sides of a duct allows for installing the fire damper just beneath a ceiling slab, on adjacent solid walls or even in corners. This and its compact size make the FKRS-EU fire damper the best solution for restricted spaces.

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The FKRS-EU can now also be installed remote from solid walls:
(1) FKRS-EU fire damper,
(2) installation kit,
(3) lightweight partition wall or solid wall,
(4) fire-resistant cladding.

## THREE INTO ONE: THE INTELLIGENT FAN BY TROX TLT

Just a few words suffice to describe the new TROX TLT smoke exhaust system perfectly: intelligent fan, economic, safe and innovative.

The system comprises three components that complement one another:

• the CE-certified BVAXO 9/27 F400 smoke exhaust fan, which due to aerodynamic adjustment provides high efficiency levels at low and medium pressures.
• the TROX TLT fan diagnosis system (VD), which checks the actual condition of fans. This means that a fan may have to be replaced later than the standard maintenance intervals would suggest.
The diagnosis System also ensures functional reliability. This is possible only as a consequence of extensive measurements and tests with an increasing number of existing fans (currently more than one hundred).
• the X FAN-Control frequency inverter unit which has been certified based on EN 12101-3 requirements. The X FAN-Control frequency inverter unit is used for the safe and precise speed adjustment of smoke exhaust fans
both in one-zone and in multi-zone systems. The frequency inverter units come with dedicated firmware for smoke exhaust applications. They are available for temperature categories F300 to F600 and can be combined
with axial and centrifugal smoke exhaust fans for indoor or outdoor installation, including installation on roofs.

Together with the optional DAX casing the intelligent *TROX TLT fan system* meets the requirements of the German Energy Saving Ordinance (EnEV) and hence additionally saves both costs and resources.

The DAX casing is fitted with weather-resistant thermal insulation T4/TB4 to EN 1866. All TROX TLT axial fans up to nominal size 1120 can be integrated and meet all legal requirements (smoke extract, German Energy Saving Ordinance EnEV).

The *frequency inverter unit X FAN-Control* is a tested and certified system (EN 12101-3:2015). Easy adjustments with optional volume flow rate measuring unit, factory configured application, easy commissioning. Allows for use of the smallest possible fan.

The *fan diagnosis system (VD*) checks the complete system (vibration, temperature, volume flow rate). Proof of reliability, reduction of maintenance costs, longer intervals for replacement. Easy-to-understand display with traffic light colours.

Visit TROX at ISH (hall 11.0, booth B51) to see these and many other innovations. More information and technical details of the systems and products shown can be found at www.trox.de/PR_ISH2017

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TROX is leading in the development, manufacture and sale of components, units and systems for the ventilation and air conditioning of rooms. With 27 subsidiary companies in 27 countries on 5 continents, 14 production facilities, and importers and representatives, TROX is present in over 70 countries. Founded in 1951, global market leader TROX, whose international head office is in Germany, generated in 2016 with a total of 3,700 employees around the globe revenues of nearly €500 million.

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