

Integrated Data Centre Solutions

An integrated range of solutions for smoke control, ventilation, acoustic louvres and water infrastructure in data centre environments.

Naturally
Enhanced
Environments

Integrated Data Centre Solutions, Delivered Through Specialist Expertise

Supporting safer, more resilient and more efficient data centre buildings through specialist systems for smoke control, ventilation, façade performance, water storage and lifecycle support.

Building Performance for Critical Environments

Data centres depend on building systems that perform reliably under demanding operational conditions. From airflow and smoke control to façade integration, water storage and long-term maintenance, each element plays a role in supporting safety, resilience, uptime and operational continuity.

Kingspan Light, Air & Water brings together specialist expertise from across its product and service portfolio to support data centre projects from early design consideration through to installation, maintenance and lifecycle optimisation.

By combining capabilities across smoke control, ventilation, façade solutions, water storage and service support, we help project teams take a more coordinated approach to design, specification, delivery and operation.

Whether supporting hyperscale, colocation, enterprise or edge data centres, our focus remains the same: delivering reliable, high-performance solutions that protect people, assets and business continuity.

Who We Are

Part of the Kingspan Group, Kingspan Light, Air & Water combines the expertise of multiple specialist businesses, product brands and technical teams operating across Europe and beyond.

Working together, these teams bring decades of experience in smoke control, ventilation, daylighting, façade performance, water storage and maintenance services, helping customers access a broader range of expertise through a single coordinated approach.

From concept design and technical specification through to installation, commissioning and lifecycle support, we help customers solve complex building performance challenges throughout the data centre lifecycle.



Global Reach

Supporting data centre projects across international markets through local expertise, regional manufacturing capability and global project experience.



5,000+ Employees

A diverse network of specialists spanning engineering, manufacturing, project delivery, commissioning and lifecycle services.



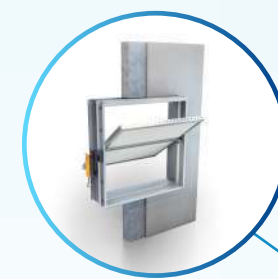
Integrated Solutions Portfolio

Bringing together specialist expertise from Colt, STG, Mercor, Permastore and Kingspan Light + Air to deliver coordinated solutions across smoke control, ventilation, louvre systems, façade performance, water storage and lifecycle support.



Trusted Technical Expertise

Supporting customers throughout the complete data centre lifecycle, from design and specification through to installation, operation, maintenance and future upgrades.



Smoke Control Dampers + Exhaust Fans

Integrated smoke management solutions helping support compartmentation, smoke extraction and life safety strategies.



Control Systems Q-FSDP Control Panels

Intelligent monitoring, zoning and control of smoke and fire damper systems, providing operational visibility and coordinated system response.



Building Envelope Ventilation Coltite Ventilators

Architectural ventilation solutions supporting airflow, smoke control and façade integration.



Louvre Systems Ventilation, Acoustic Control and Screening

Specialist louvre systems designed to reduce noise from plant and generators while delivering airflow, weather defence and visual screening.



Water Storage Fire, Cooling & Thermal Energy Permastore

Long-life modular tank solutions supporting water storage for fire protection, emergency supply, cooling and thermal energy applications in data centres.



Lifecycle Support Service & Maintenance

Inspection, testing, maintenance, optimisation, upgrades and refurbishment to help ensure long-term system performance and compliance.



Water Infrastructure

Wastewater and surface water management solutions for critical infrastructure.

One Team. Multiple Specialisms.

A coordinated network of specialist brands, engineering teams and service organisations working together to support the complete lifecycle of a data centre project.



Natural ventilation, smoke control and louvre expertise



Control systems and intelligent monitoring solutions



Smoke control dampers and exhaust fan technologies



Water storage and thermal energy containment solutions



Daylighting, ventilation and smoke control expertise



Service Teams Across Europe

Inspection, testing, maintenance and lifecycle support



Wastewater and sewage treatment solutions

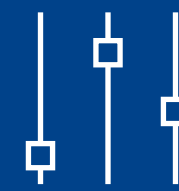
Contents



Louvre Solutions
for Data Centres



Smoke Dampers
& Exhaust Fans for
Data Centres



Q-FSDP
Fire & Smoke
Damper Control
System Designed
for Data Centres



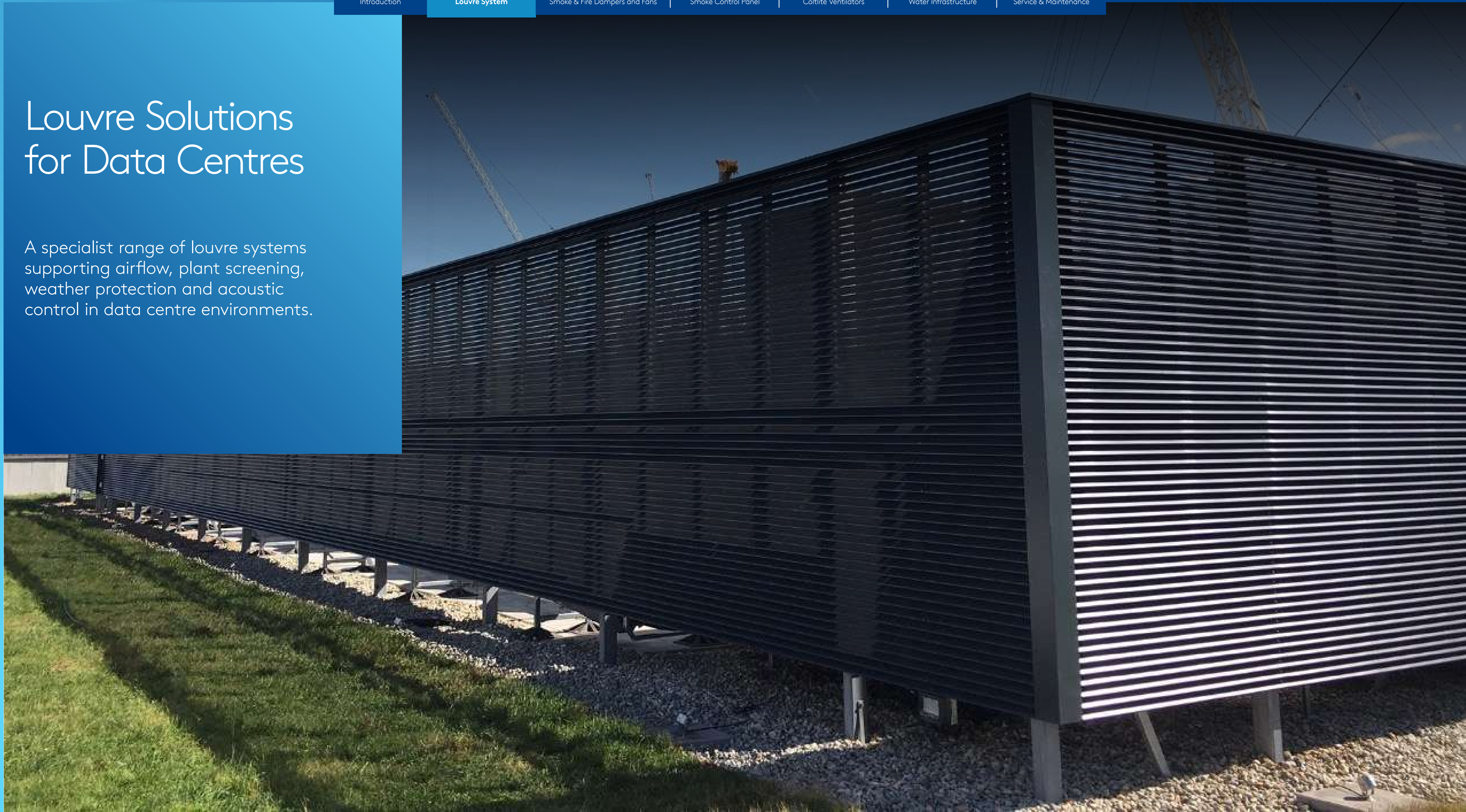
**Water
Infrastructure**
Large-Scale Storage
& Surface Water
Management



**Service &
Maintenance**
for Critical
Data Centre
Infrastructure

Louvre Solutions for Data Centres

A specialist range of louvre systems supporting airflow, plant screening, weather protection and acoustic control in data centre environments.



Four louvre solutions One integrated approach.

Every data centre faces unique challenges - from weather and environmental exposure to acoustic sensitivity and security.

Our louvre systems are engineered to deliver the right performance in the right place - providing ventilation, weather protection, screening and acoustic control across the entire facility.

1UL Rooftop Plant Screening

- Screening of rooftop plant and equipment
- Louvre screening and turret solutions
- Maintains airflow while concealing services
- Supports architectural integration

1UL Facade & Plant Screening

- Screening of generators, transformers or external plant
- Visual screening focus
- CWCT-tested impact resistance
- Louvre doors available
- Galvanised steel construction options

CALM Acoustic Louvre

- Acoustic screening of generators, chillers and external plant
- Visual screening focus
- Reduces noise breakout to site boundary and adjacent buildings
- Maintains airflow to plant while attenuating noise
- Louvre doors available
- Can be combined with 1UL for visual screening and impact resistance

2UL Ventilation + Weather Louvre

- Ventilation and weather protection
- Good airflow performance
- General facade application
- Louvre doors integrated into facade systems

3UL Weathering Louvre

- Enhanced weather defence
- More demanding exposed applications
- Critical intake and exhaust locations
- Louvre doors available

Purpose-designed louvre solutions engineered for performance.
Trusted for over 50 years.



Noise Reduction

Acoustic louvre solutions that reduce noise from generators, chillers and plant.



Ventilation Performance

Engineered airflow solutions for efficient building operation.



Weather Protection

Tested systems that help protect against wind-driven rain and harsh conditions.



Visual Screening

Architectural screening that conceals plant while maintaining airflow.



CWCT-Tested Impact Resistance

Tested in accordance with CWCT requirements for enhanced durability.



Integrated Solutions

Integrated design allows Screening/ Weather Louvres to be combined with Acoustic Louvre.

Product Family Overview

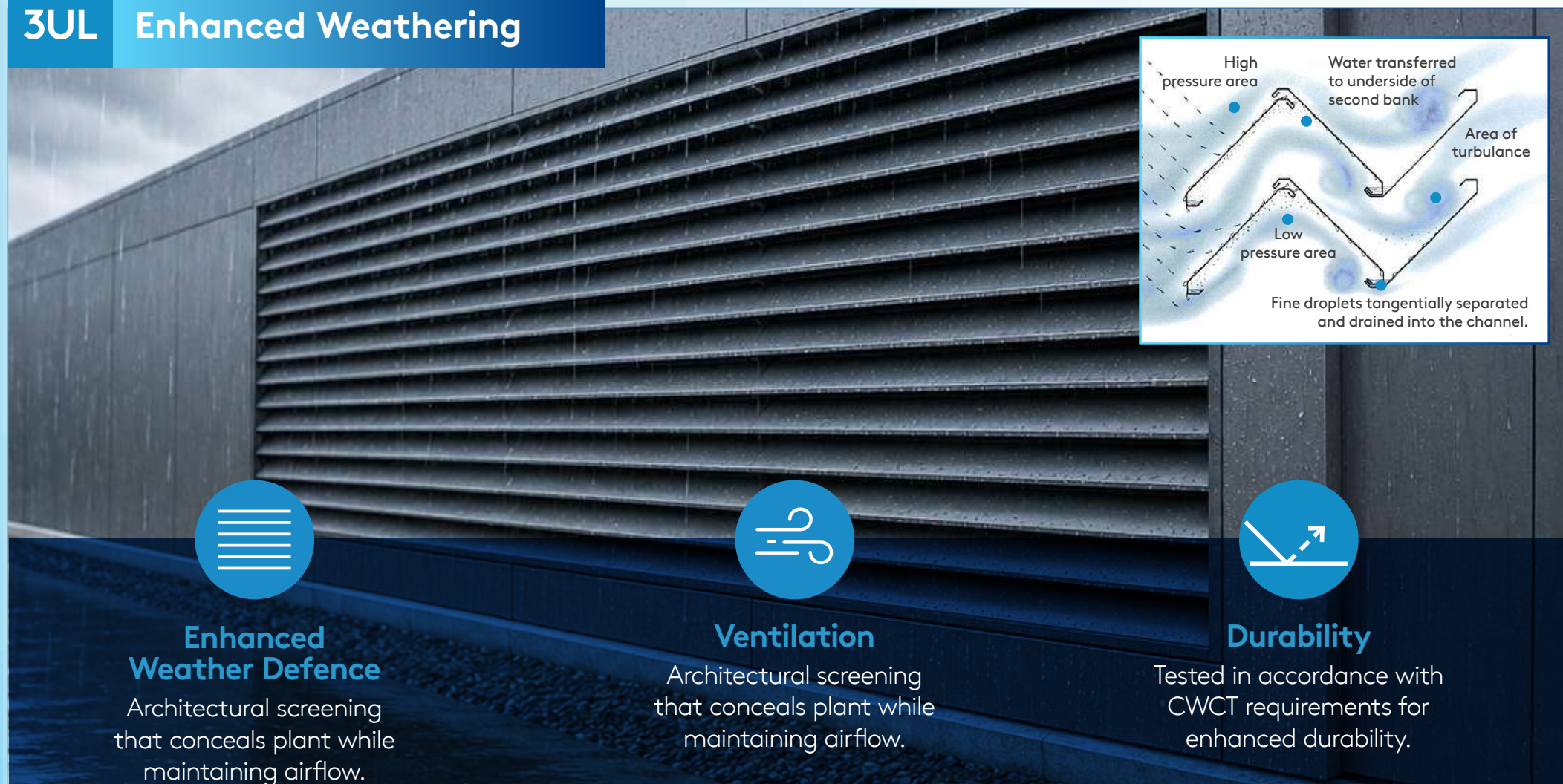
1UL Screening Louvre



2UL Weathering



3UL Enhanced Weathering



CALM Acoustic Louvre



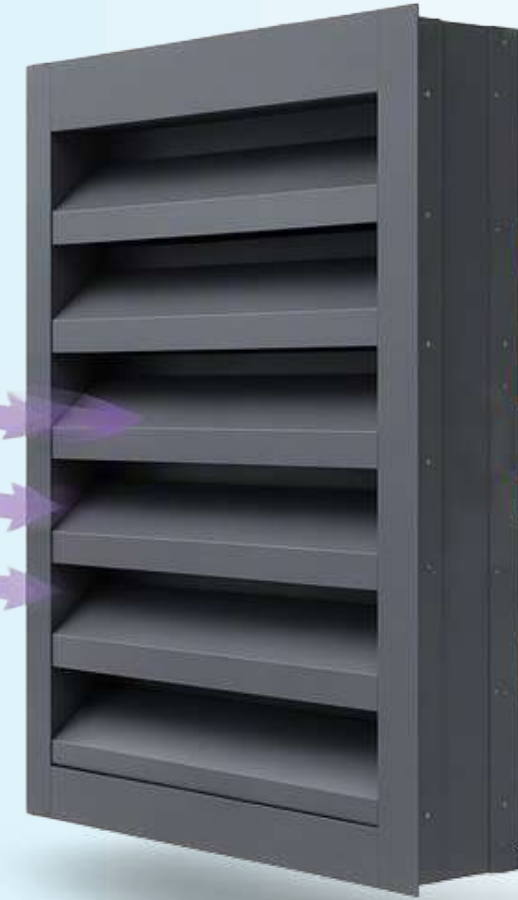
Data Centre Solutions

Integrated System Solutions

By combining Kingspan Light + Air technologies, we deliver an integrated façade solution that allows you to select aesthetics, weather protection and acoustic performance in one solution.

Universal Louvre and CALM work together to create high-performing, resilient and efficient building envelopes for data centres.

Universal Louvre

**CALM**
Acoustic LouvreNoise
Reduction**Universal Louvre**

External weather louvre that can provide screening, maximum ventilation or weather protection.

**CALM Acoustic Louvre**

High performance acoustic louvre reducing noise transmission to the external environment.

Benefits

**Weather protection**

Enhanced defence against wind and driving rain.

**Acoustic performance**

Reduces noise breakout to support planning and community requirements.

**Natural ventilation**

Delivers fresh air and supports energy efficient building operation.

**Integrated Design**

Seamless combination of products for optimal facade performance.

**Proven Solutions**

Kingspan Light + Air technologies trusted on data centres worldwide.



Applications

Universal Louvres Systems

These systems can also be combined with acoustic louvres where airflow, screening or weather protection requirements need to be balanced with noise control.



Chiller & Cooling Plant Areas

Supporting airflow requirements for chillers, condensers and external cooling equipment while protecting against environmental conditions.



Rooftop Plant Screening

Concealing mechanical equipment while allowing ventilation airflow and maintaining architectural consistency.



Mechanical Intake & Exhaust Openings

Protecting building openings from rain ingress while maintaining consistent airflow performance.

Typical Systems:

Weather & Ventilation Louvres / Screening Louvres / Acoustic Louvre (CALM)

Typical Systems:

Screening Louvres
Turrets

Typical Systems:

Weather & Ventilation Louvres

				Impact Testing	
System	Inlet Coefficient (Ce)	Exhaust Coefficient (Cd)	Weather Classification	Soft Body 500J	Hard Body 10J
1UL	0.435	0.38	Class D	Negligible Risk (galv)	Class 2 / Negligible Risk (galv)
2UL	0.308	0.25	Class A to 1m/s	Low Risk (galv)	Class 2 / Negligible Risk (galv)
3UL	0.277	0.22	Class A to 3.5m/s		

Acoustic Louvre Systems



Generator Compounds

Ensuring reliable airflow to standby generators while managing noise and reducing visual impact.



Noise-Sensitive Locations

Reducing noise from plant and equipment in environments where strict acoustic limits apply.

Typical Systems:

Weather Louvres / Acoustic Louvre (CALM) / Screening Louvres

Typical Systems:

Acoustic Louvre (CALM)

Product	Blade Profile	Rw (C, Ctr)	Cv
S18-150	Straight	16 (-1,-3)	0.200
S18-300	Straight	22 (-1,-5)	0.161
S18-300-V	Chevron	23 (-1,-5)	0.144
S18-600-V	Chevron	31 (-2,-8)	0.142

Each application requires a tailored approach— our louvre systems are engineered to deliver the right balance of airflow, protection and performance across every part of the data centre.

Smoke Dampers & Exhaust Fans for Data Centres

Smoke Control and Ventilation Solutions
from across Kingspan Light, Air & Water.



Data Centre Smoke Control, Backed by Proven Expertise

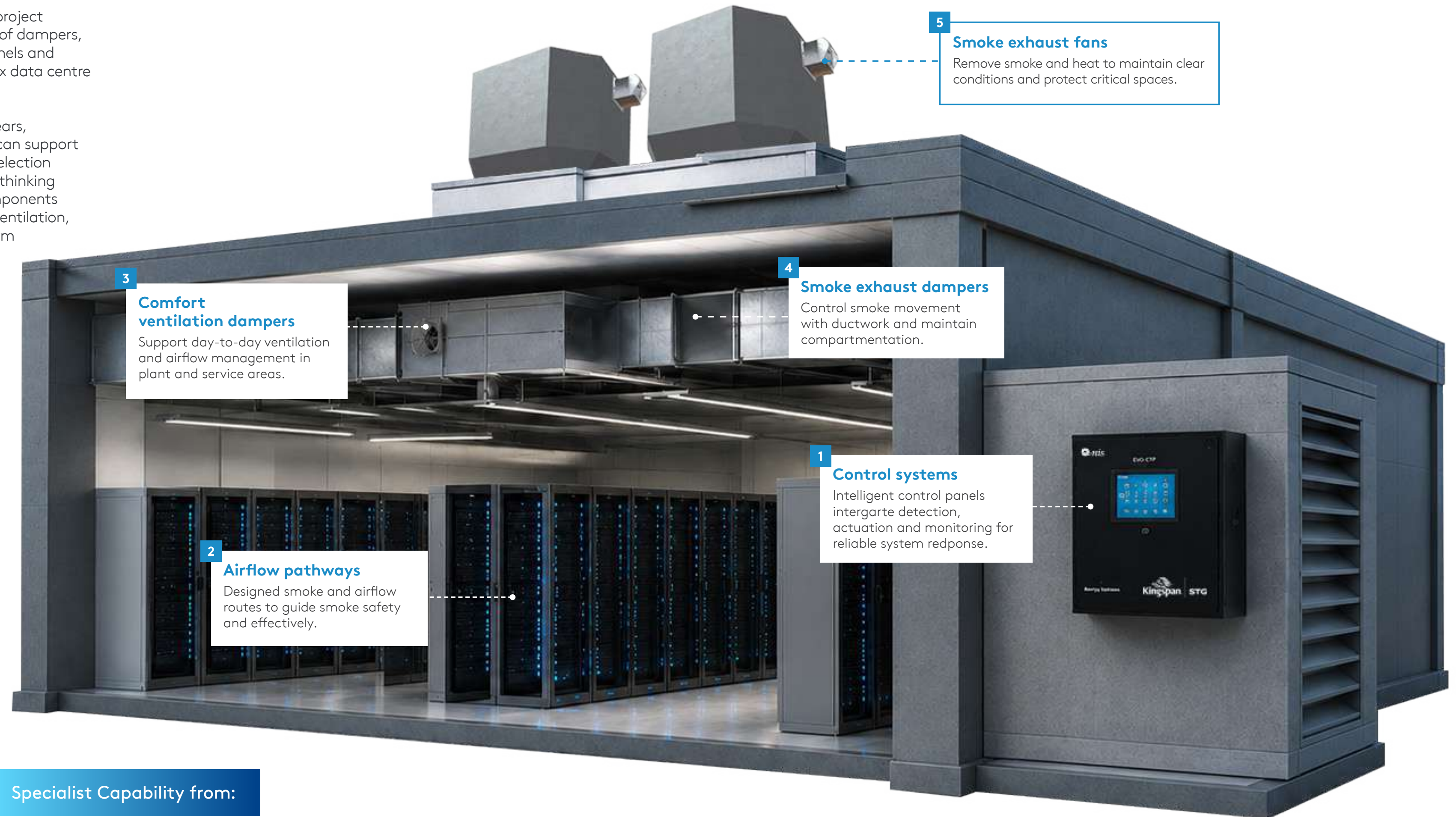
A Complete Smoke Control Approach
for Safer, More Resilient Data Centres

Data centres are critical environments where smoke control systems must be reliable, coordinated and tailored to the specific needs of the facility. In the event of fire, dampers, fans and control systems must work together to maintain compartmentation, manage smoke movement and support effective smoke extraction.

Kingspan Light, Air & Water brings together specialist smoke control, ventilation and fire safety expertise from across the wider division, including Mercor Light & Vent, Kingspan Light + Air and Kingspan STG.

This combined capability gives project teams access to a broad range of dampers, smoke exhaust fans, control panels and supporting solutions for complex data centre applications.

With experience across many years, markets and project types, we can support customers from early product selection through to coordinated system thinking — helping identify the right components for smoke extraction, comfort ventilation, control integration and long-term operational reliability.



3 Comfort ventilation dampers

Support day-to-day ventilation and airflow management in plant and service areas.

4 Smoke exhaust dampers

Control smoke movement with ductwork and maintain compartmentation.

5 Smoke exhaust fans

Remove smoke and heat to maintain clear conditions and protect critical spaces.

1 Control systems

Intelligent control panels integrate detection, actuation and monitoring for reliable system response.

2 Airflow pathways

Designed smoke and airflow routes to guide smoke safely and effectively.



Proven Smoke control experience

Decades of smoke control and ventilation expertise across commercial, industrial and critical infrastructure projects.



Products to meet project requirements

A wide range of smoke dampers, comfort ventilation and radial fans to support different building layouts and performance needs.



System thinking and integration

Dampers, fans and control panels can be considered together to support a coordinated smoke control strategy tailored to the building and operational requirements.



European project know-how

Local market knowledge, technical experience and product expertise from teams across Europe and the wider Kingspan Light, Air & Water division.

Specialist Capability from:



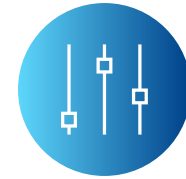
The Role of Dampers, Fans & Controls in Data Centre Smoke Control

How the System Works Together



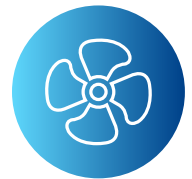
Compartmentation

Fire and smoke are contained within engineered zones to protect adjacent areas and maintain operational continuity.



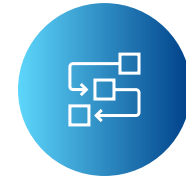
Damper Control

Motorised smoke and comfort dampers respond to commands from the control panel to manage smoke pathways.



Smoke Extraction

Smoke is routed from the affected compartment and exhausted via PASAT radial fan on the roof.



System Integration

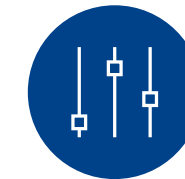
All devices are supervised and integrated for reliable coordinated operation.

1. Detect



Fire alarm, smoke detection or manual activation triggers the system.

2. Control



The control panel processes the signal and executes the predefined smoke strategy.

3. Actuate



Dampers open or close according to a fire scenario

4. Extract

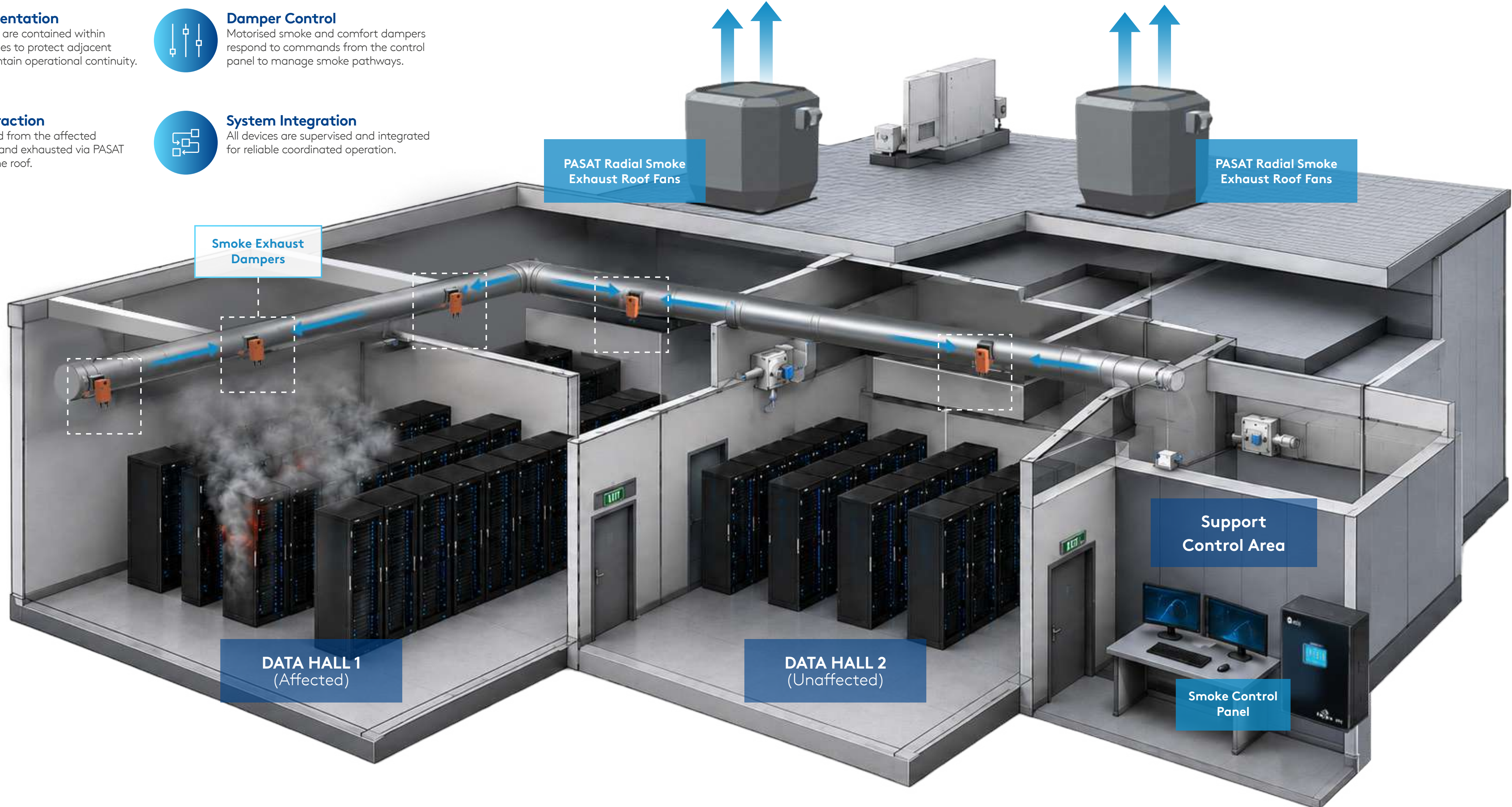


Smoke is conveyed through ductwork and discharged via PASAT roof fans.

5. Monitor



System feedback confirms positions, fan status and fault conditions.



Product Range Overview

A Complete Range of Dampers and Fans for Data Centre Smoke Control

Different data centre smoke control strategies require different types of dampers and fans depending on building layout, compartmentation requirements and extraction routes. This range brings together four product categories to support a wide variety of data centre project needs.

Dampers



Dampers > Smoke Exhaust

Control smoke movement through ductwork and support smoke extraction strategies.

Products

mcr FID B
mcr WIP PROV/V
mcr WIP PROV/V-M
mcr FID S/V p/P
mcr FID S/V-M p/P
mcr DOR

mcr WIP PROV/V
mcr WIP PROV/V-M
mcr WIP LD
mcr WIP LDX

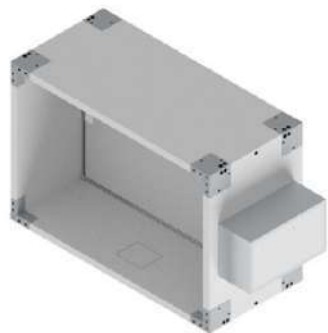
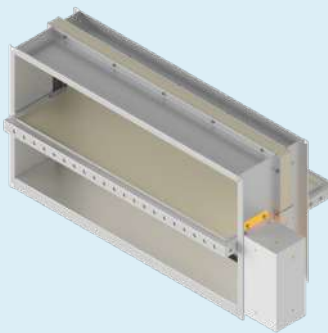
Dampers > Comfort Ventilation/ Natural Ventilation

Support controlled day-to-day ventilation in plant areas, service spaces and supporting infrastructure.

Products

mcr FID PRO
mcr FID S/S p/O
mcr FID S/S c/P
mcr FID S/S p/P
mcr FID 240L
mcr WIP/S

mcr WIP PRO/S
mcr FID WING
mcr ZIPP
mcr WIP/T
mcr WIP PRO/T

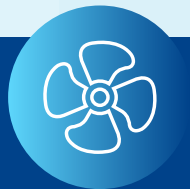
Smoke Control Objective	Manage smoke movement through ductwork	Support compartmentation between fire zones	Provide day-to-day airflow in plant and service areas
How the System Supports It	Smoke exhaust dampers help direct smoke through defined extraction routes.	Dampers, controls and monitoring work together to help maintain separation between zones.	Comfort ventilation dampers can support controlled ventilation as part of the wider system design.
Product Used			

System Selection Guide

Selecting the Right System

Use this overview to understand how different product families contribute to a coordinated data centre smoke control strategy. Dampers, fans and controls are typically considered together as part of an integrated system approach, helping support compartmentation, smoke extraction, day-to-day ventilation and system monitoring.

Fans



Fans > Smoke Exhaust Axial

Mechanical smoke exhaust fan options for high-volume extraction routes and project specific airflow requirements.

Products

MONSUN R
MONSUN T
MONSUN T-CL
MONSUN T-CS

mcr MONSUN T-CW

Fans > Smoke Exhaust Radial

Roof-mounted radial smoke exhaust fan solution for dedicated smoke extraction routes.

Products

mcr PASAT

Smoke Control Objective	Remove smoke and heat from affected areas	Exhaust smoke via roof-mounted systems	Coordinate response between dampers and fans
How the System Supports It	Axial smoke exhaust fans support high-volume mechanical extraction.	mcr PASAT radial smoke exhaust fans support dedicated roof-level extraction routes.	STG control panel integration supports activation, monitoring and system feedback.
Product Used			

All mcr dampers and smoke exhaust fans are CE marked under the Construction Products Regulation – fire dampers to EN 15650, smoke control dampers to EN 12101-8 and smoke exhaust fans to EN 12101-3 – fire tested to EN 1366 and classified to EN 13501. Declarations of performance available on request.

12

Smoke Exhaust Dampers

Controlling smoke movement and supporting compartmentation within critical data centre environments.

Smoke exhaust dampers play a vital role in modern data centre smoke control strategies. Installed within ductwork and protected openings, they help manage smoke movement, maintain compartmentation and support the safe extraction of smoke from affected areas. Working alongside smoke exhaust fans, control systems and detection systems, these dampers form part of a coordinated

Typical Data Centre Uses

Data Hall Smoke Extraction

Supports the controlled movement of smoke through extraction ductwork serving data halls and white space environments.

Extract Shafts & Risers

Controls smoke pathways within vertical shafts and dedicated extract routes.

Fire Zone Compartmentation

Helps maintain separation between fire compartments while responding to smoke control commands.

Critical Infrastructure Areas

Suitable for UPS rooms, electrical switchrooms, service corridors and other plant areas requiring smoke management strategies.

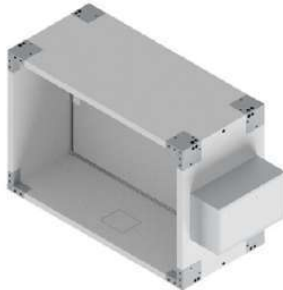
Our Smoke Damper Range

mcr FID Dampers

Compact smoke exhaust dampers for controlled smoke movement and compartmentation applications.

mcr WIP PRO/V Dampers

Smoke exhaust and comfort ventilation dampers suited to larger openings and multifunctional ventilation strategies.

Product Family	Product Render	Typical Data Centre Use	Key Benefit
mcr FID B		Smoke extraction ductwork	Compact smoke control solution
mcr FID S/V		Smoke extraction and compartmentation	Wall / duct / project dependent
mcr WIP PRO/V		Large openings and transfer paths	Supports smoke and comfort ventilation
mcr WIP LD		Mixed ventilation applications	Smoke control and day-to-day ventilation

mcr smoke control dampers are CE marked to EN 12101-8, fire tested to EN 1366-10 and classified to EN 13501-4.

Ventilation & Compartmentation Dampers

Supporting controlled airflow, compartmentation and operational reliability across critical support spaces.

While data halls remain the heart of a data centre, many supporting areas require controlled ventilation to maintain safe and efficient operation. Comfort and natural ventilation dampers help manage airflow through plant rooms, electrical areas, service corridors and other technical spaces, while supporting compartmentation requirements where ventilation routes pass through fire-rated walls and floors. When integrated into the wider ventilation and smoke control strategy, these dampers help balance day-to-day airflow requirements with the building's life safety objectives.

Typical Data Centre Uses

Electrical & Switch Rooms

Supports ventilation requirements within electrical infrastructure areas while helping maintain compartmentation at ventilation penetrations.

Plant & Mechanical Rooms

Helps maintain airflow within ventilation systems serving technical plant and building services equipment.

UPS & Battery Areas

Provides controlled airflow to support thermal management strategies within critical power infrastructure spaces.

Service Corridors & Support Spaces

Supports ventilation through auxiliary areas while maintaining separation between protected zones.

Our Ventilation & Compartmentation Dampers

mcr FID PRO

Low-resistance ventilation damper designed for protected ventilation openings where compartmentation and airflow must be balanced.

mcr FID S/S Family

A versatile range of circular and rectangular dampers designed for ventilation routes across technical spaces and building services areas.

Product Family	Product Render	Typical Data Centre Use	Key Benefit
mcr FID PRO		Plant rooms and protected ventilation routes	Low airflow resistance
mcr FID S/S p/O		Circular duct systems	Ideal for ducted ventilation applications
mcr FID S/S c/P		Ventilation penetrations through protected walls	Supports compartmentation and airflow control
mcr FID S/S p/P		Larger ventilation openings	Suitable for higher airflow requirements

mcr fire dampers are CE marked to EN 15650 and classified to EN 13501-3. mcr FID S/S p/O and mcr FID S/S p/P are additionally TÜV certified.

Smoke Exhaust Fans

Removing smoke and heat from critical infrastructure environments to support life safety and business continuity.

Smoke exhaust fans form a key part of a coordinated data centre smoke control strategy. Working alongside dampers, controls and detection systems, they help remove smoke and heat from affected areas, supporting visibility for emergency response and helping protect critical infrastructure. Depending on the building layout and smoke control strategy, smoke extraction may be achieved using axial fans for high-volume airflow or radial roof-mounted fans for dedicated extract routes. Together, these solutions provide flexibility for a wide range of data centre designs.

Typical Data Centre Uses

Data Hall Smoke Extraction

Supports the removal of smoke from data halls through dedicated extract routes, helping maintain tenable conditions during a fire event.

Roof-Level Smoke Discharge

Radial roof-mounted fans support the final discharge of smoke from the building through dedicated extraction routes.

Smoke Extract Shafts & Ductwork

Provides mechanical smoke extraction through horizontal and vertical extract systems serving multiple compartments.

Technical & Infrastructure Areas

Can support smoke management strategies serving electrical rooms, UPS areas, service spaces and mechanical plant areas.

Our Smoke Exhaust Fans Dampers

MONSUN Axial Fan Range

Designed for high-volume smoke extraction applications where air must be conveyed over longer ducted routes. Available in a range of configurations to suit project-specific airflow and installation requirements.

mcr PASAT Radial Fan

A versatile range of circular and rectangular dampers designed for ventilation routes across technical spaces and building services areas.

Product Family	Product Render	Typical Data Centre Use	Key Benefit
MONSUN R		Large smoke extraction systems	High airflow capacity
MONSUN T		General smoke exhaust applications	Flexible installation options
MONSUN T-CL / T-CS		Ducted extraction routes	Supports project-specific layouts
MONSUN T-CW		Wall-mounted extraction systems	Suitable where roof extraction is not preferred
mcr PASAT		Roof-level smoke discharge	Compact radial roof-mounted solution

mcr MONSUN and PASAT smoke exhaust fans are CE marked to EN 12101-3 and classified to EN 13501-4.

Technical Information

Dampers

Product	Role in System	Damper Type	Installation	Dimensions	Fire Resistance / Classification	Control / Actuation
mcr WIP PRO/V	Smoke exhaust and comfort ventilation	Rectangular multi-blade	Wall / duct / project dependent	110 x 263 to 1250 x 1250 mm (depending on axis and installation)	EI120, S1000, C10000 for listed smoke control configurations	BE, BEE or BEN bi-directional actuator
mcr WIP PRO/V-M	Smoke exhaust and comfort ventilation	Rectangular single-blade	Wall / duct / project dependent	110 x 263 to 1250 x 1250 mm (depending on axis and installation)	EI120, S1000, C10000 for listed smoke control configurations	BE, BEE or BEN bi-directional actuator
mcr FID B	Smoke exhaust control in ductwork	Rectangular single-blade	Duct / system dependent	200 x 200 to 1200 x 800 mm	EI120 with S1500 smoke leakage class; C10000 operating durability; MAMulti	BE, BEE or BEN bi-directional actuator, 24 V or 230 V
mcr FID S/V p/P mcr FID S/V-M p/P	Smoke exhaust control	Rectangular single-blade	System dependent	200 x 200 to 1500 x 1000 mm or 200 x 200 to 1000 x 1500 mm Maximum damper cross-section: up to 1.5 m2	EI120 with S1500 / S1000 smoke leakage classes (depending on configuration); C10000 operating durability; MAMulti	BE, BEE or BEN bi-directional actuator, 24 V or 230 V
mcr FID PRO	Controlled ventilation	low-resistance single-blade	Comfort ventilation	EI120 for listed wall, shaft and ceiling configurations	D100 to D315 mm	Actuator with thermal trigger (72°C or 95°C) type BFL, BFN, BF, (24V - 230V) Mechanism spring loaded (24V or 230V) with fuse trigger (74°C or 95°C) RST option-electromagnetic trigger
mcr FID S/S p/O	Controlled ventilation	Circular / single-blade	Comfort ventilation	Duct / system dependent	D125 to D630 mm	Actuator with thermal trigger (72°C or 95°C) type BFL, BFN, BF, (24V - 230V) Mechanism spring loaded (24V or 230V) with fuse trigger (74°C or 95°C) RST option -electromagnetic trigger
mcr FID S/S c/P	Controlled ventilation	Rectangular single-blade	Comfort ventilation	Duct / system dependent	100 x 100 to 1000 x 800 mm, (depending on installation)	Actuator with thermal trigger (72°C or 95°C) type BFL, BFN, BF, (24V - 230V) Mechanism spring loaded (24V or 230V) with fuse trigger (74°C or 95°C) RST option -electromagnetic trigger
mcr FID S/S p/P	Controlled ventilation	Rectangular single-blade	Comfort ventilation	Duct / system dependent	200 x 200 to 1500 x 1200 mm or 200 x 200 to 1200 x 1500 mm Maximum damper cross-section: 1.8 m2	Actuator with thermal trigger (72°C or 95°C) type BFL, BFN, BF, (24V - 230V) Mechanism spring loaded (24V or 230V) with fuse trigger (74°C or 95°C) RST option -electromagnetic trigger

Fans

Product	Role in System	Fan Type	Application	Temperature / Fire Rating	Power Range	Protection Rating	Key Options
mcr MONSUN R	Mechanical smoke extraction	Axial smoke exhaust fan	Smoke exhaust	F300 - 300 deg C for 60 min; F400 - 400 deg C for 120 min	0.55 kW to 75 kW; rotational speed 750, 1000, 1500 or 3000 RPM	IP55	Automatic backdraft damper, flexible connection, counter flange, mounting feet, shock absorbers, stop-start service switch
mcr MONSUN T	Mechanical smoke extraction	Axial smoke exhaust fan	Smoke exhaust	F300 - 300 deg C for 60 min; F400 - 400 deg C for 120 min	0.55 kW to 75 kW; rotational speed 750, 1000, 1500 or 3000 RPM	IP55	Automatic backdraft damper, flexible connection, counter flange, mounting feet, shock absorbers, stop-start service switch
mcr MONSUN T-CL mcr MONSUN T-CS	Mechanical smoke extraction	Axial smoke exhaust fan	Smoke exhaust	F300 - 300 deg C for 60 min; F400 - 400 deg C for 120 min	0.55 kW to 75 kW; rotational speed 750, 1000, 1500 or 3000 RPM	IP55	Automatic backdraft damper, flexible connection, counter flange, mounting feet, shock absorbers, stop-start service switch
mcr MONSUN T-CW	Wall-mounted smoke exhaust	Axial smoke exhaust fan	Smoke exhaust	F400 - 400 deg C for 120 min	0.75 kW to 45 kW; rotational speed 750 or 1500 RPM.	IP55	Automatic backdraft damper, flexible connection, counter flange, mounting feet, shock absorbers, stop-start service switch
mcr PASAT	Mechanical smoke extraction	Radial smoke exhaust roof fan	Smoke exhaust	F400 - 400 deg C for 120 min F600 - 600 deg C for 60 min	0,75 kW to 30 kW; rotational speed 750, 1000, 1500 RPM	IP54	Automatic backdraft damper, flexible connection, counter flange, roof base, safety mesh, stop-start service switch

Q-FSDP: Fire & Smoke Damper Control System Designed for Data Centres



Designed for the Realities of Data Centre Environments

Data centres operate with zero tolerance for failure.

In the event of fire, smoke control systems must respond instantly, operate reliably and integrate seamlessly with wider infrastructure.

The Q-FSDP control panel has been specifically developed to meet these demands - providing intelligent system control, continuous monitoring and fail-safe operation across complex, multi-zone environments.

About the Q-FSDP control panel

Key product features



Monitoring & Diagnostics

- 3-wire monitoring system detects cable breaks and short circuits
- End position verification for accurate damper status (open/closed)
- Continuous system monitoring ensures ongoing operational integrity



Reliability & Fail-Safe Operation

- Fail-safe logic ensures operation under fault conditions
- Real-time fault detection and indication
- Designed for high-reliability environments such as data centres
- Potential-free contact for system interlocking



Zoning & Control

- Multi-zone control (up to 6 zones) for compartmentalised environments
- Logical grouping of dampers for precise system management
- Rapid signal processing enables immediate system response



Local Interface & Visibility

- Q-Di damper interface at each actuator for local indication, control and feedback.
- Clear LED status indication (open, closed, moving, fault)

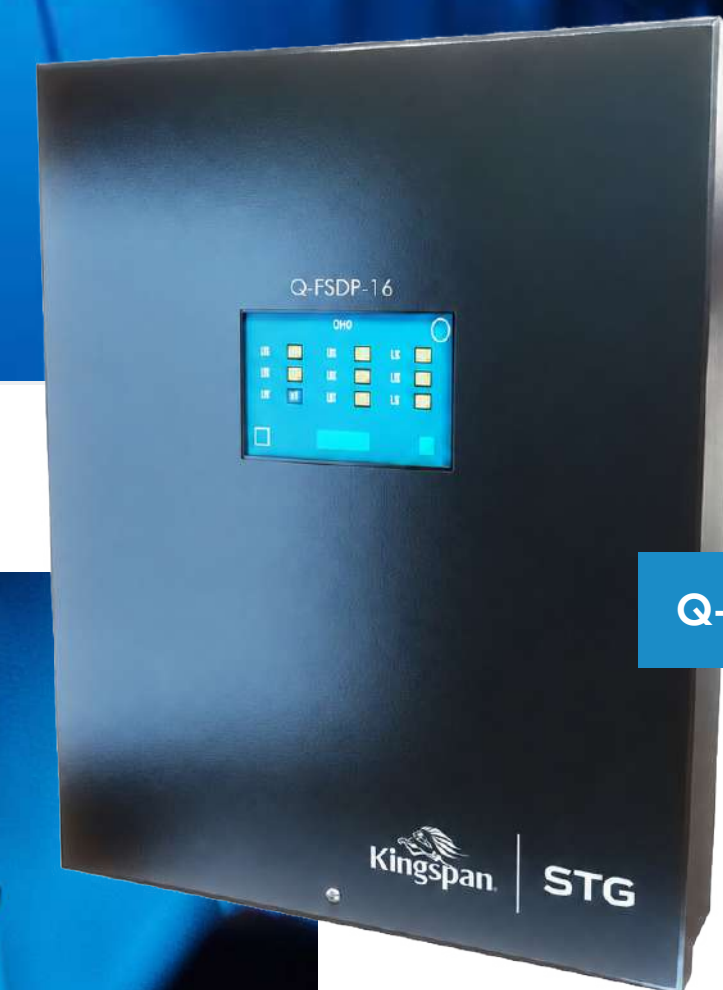


System Integration

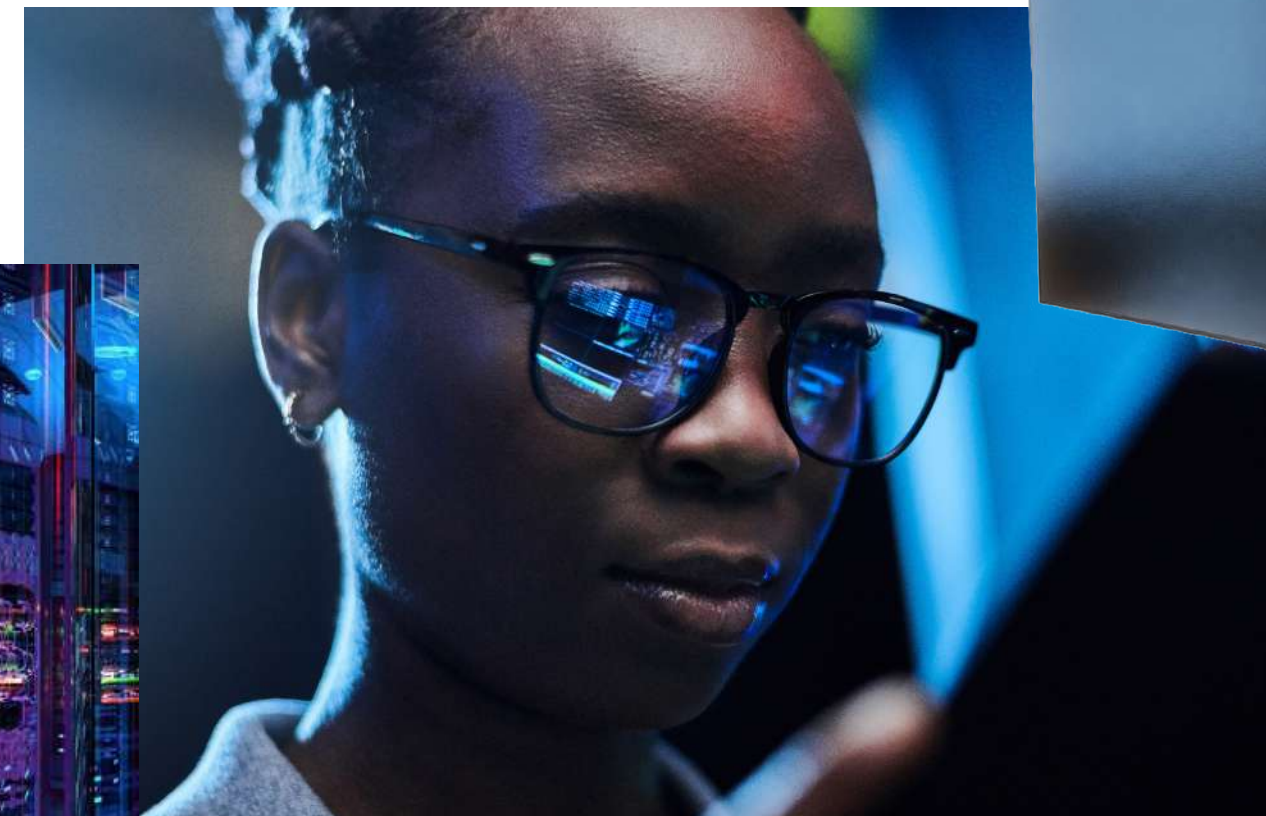
- Integrated I/O functionality with general input and fault signal contact
- Seamless connection to dampers and interfaces across the system
- Supports local interlocking with other systems (e.g. fan activation when damper is open)

What is the Q-FSDP?

The Q-FSDP is a dedicated control panel designed to monitor and control fire and/or smoke dampers within data centre environments. It has a door-mounted touchscreen HMI enabling local commissioning, configuration, monitoring, and testing which ensures rapid response, accurate zoning and continuous system integrity.



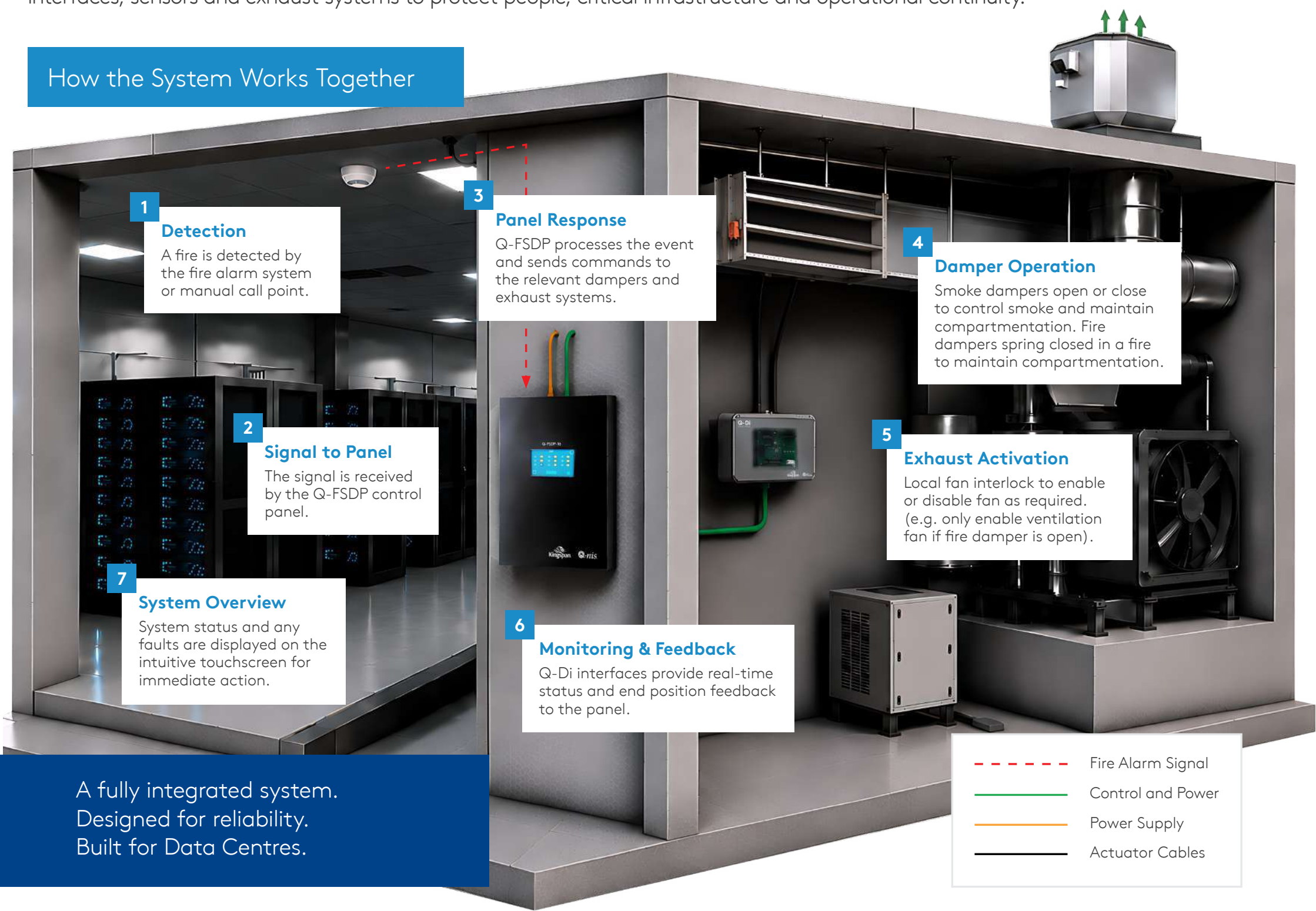
Q-FSDP control panel



Q-FSDP - Intelligent Control. Complete Smoke Control System.

The Q-FSDP control panel sits at the heart of fully integrated smoke control solution, working seamlessly with dampers, interfaces, sensors and exhaust systems to protect people, critical infrastructure and operational continuity.

How the System Works Together



A fully integrated system.
Designed for reliability.
Built for Data Centres.

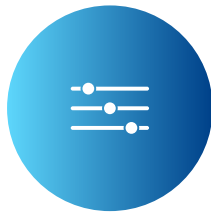
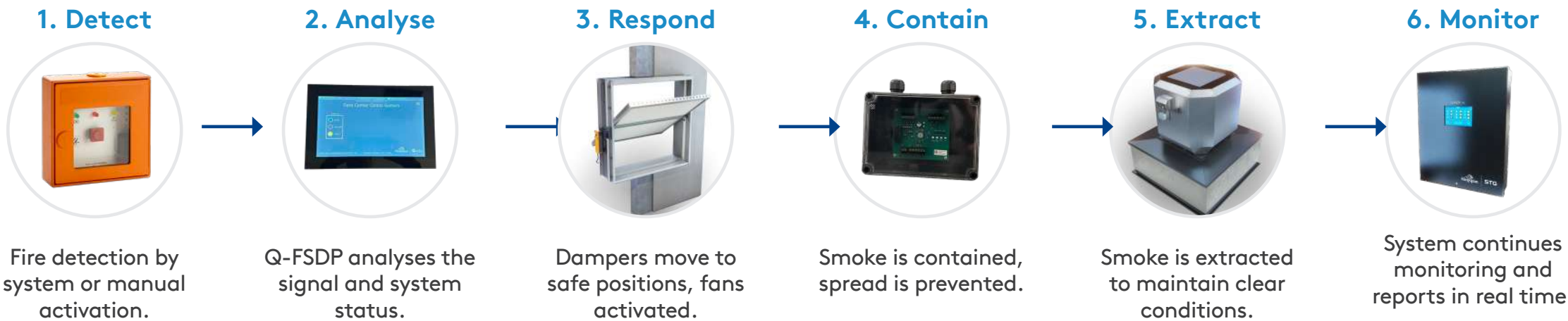
Every component is designed to work together,
delivering reliable performance when it matters.



Technical information

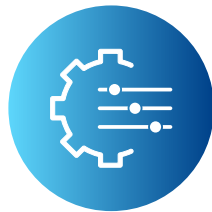
Product Range & Physical Characteristics

Panel Variants and Dimensions	Finishes
Q-FSDP-16: 800 W × 1000 H × 300 D (mm)	Cabinet colour: Iron Grey (RAL 7011)
Q-FSDP-20: 800 W × 1000 H × 300 D (mm)	Q-Di interface colour: Black
Q-FSDP-28: 800 W × 1200 H × 300 D (mm)	
Q-FSDP-36: 800 W × 1200 H × 300 D (mm)	



Intelligent Control

Monitors & Controls dampers in real time across multiple zones.



Seamless Integration

Works with dampers, exhaust fans and building systems.



Operational Visibility

Real-time diagnostics via touchscreen interface.

System Architecture

The Q-FSDP system is designed to monitor, control and coordinate fire and smoke damper operation within data centre environments. It integrates control, power supply and field interfaces within a single control cabinet, enabling reliable and efficient system performance.

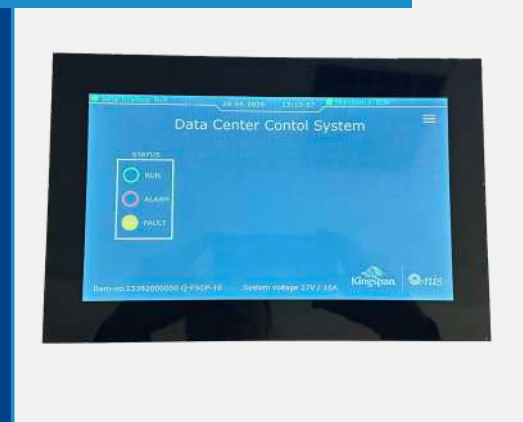
The System Comprises

Q-FSDP Control Cabinet



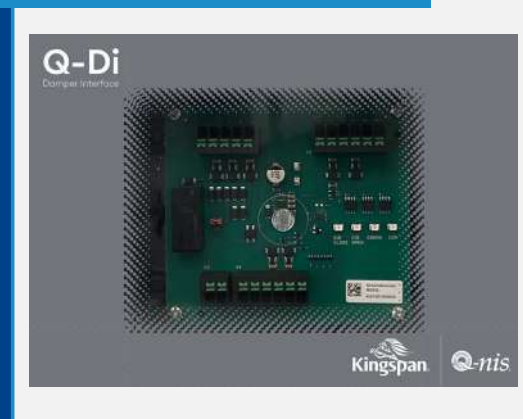
- Houses control logic, monitoring systems and output interfaces
- Integrated 24V power supply for damper operation
- Provides terminal interfaces for dampers and field wiring
- Emergency battery backup for continued operation during power failure

Touchscreen HMI

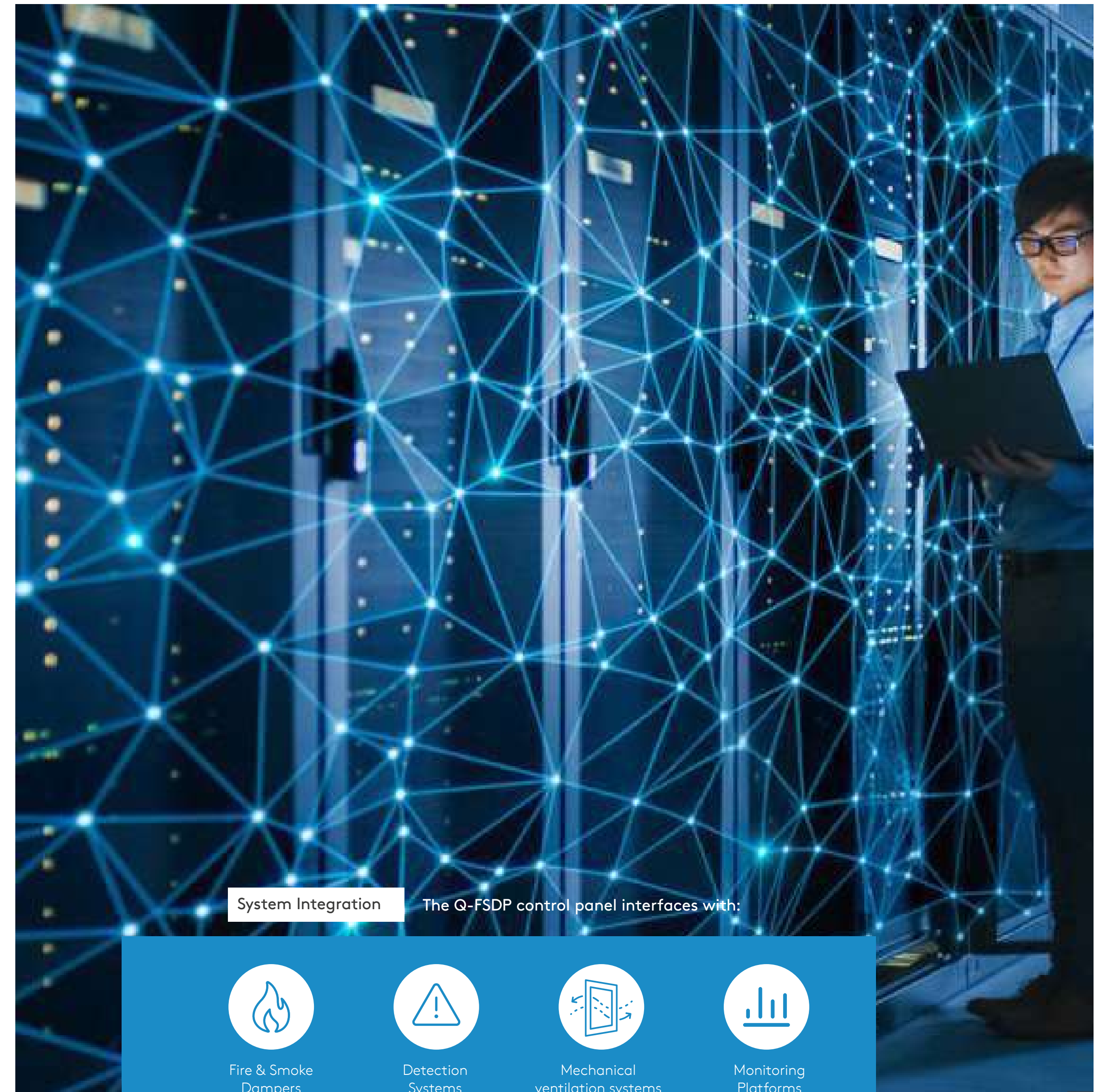


- Integrated display for system configuration and commissioning
- Provides real-time system status and diagnostics
- Enables zone and damper monitoring
- Displays service and maintenance contact information (configured at commissioning)

Q-Di Damper Interface



- Local field interface installed adjacent to each damper
- Provides status indication via LED signals
- Includes potential-free contact for system interlocking (e.g. fan enable)
- Physical dimensions: 180 W × 130 H × 90 D (mm)



System Integration

The Q-FSDP control panel interfaces with:



Fire & Smoke
Dampers



Detection
Systems



Mechanical
ventilation systems



Monitoring
Platforms

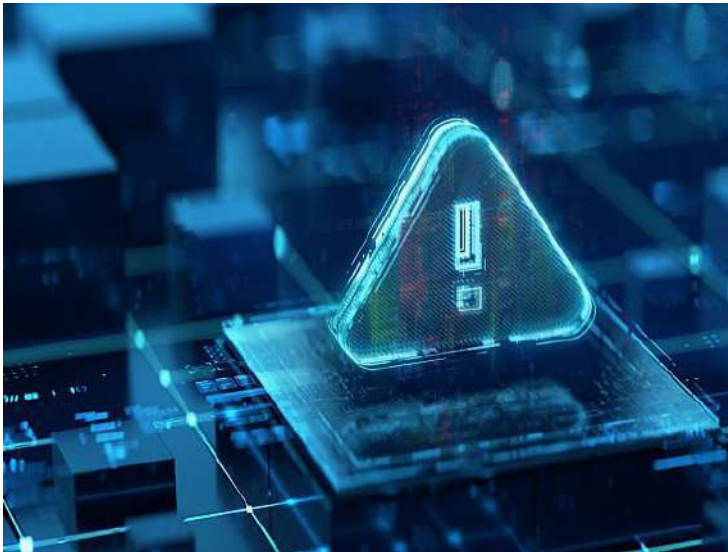
Monitoring, Fault Detection and Operation

The Q-FSDP system provides continuous monitoring of both wiring integrity and damper position, enabling rapid fault identification and reliable system operation in critical environments.



Intelligent Monitoring

- 3-wire monitoring system detects cable breaks and short circuits
- End-position feedback verifies damper open and closed status
- Continuous system evaluation ensures real-time operational awareness



Zoning & Control

- Multi-zone control (up to 6 zones) for compartmentalised environments
- Logical grouping of dampers for precise system management
- Rapid signal processing enables immediate system response



System Integration

- Integrated I/O functionality with general input and fault signal contact
- Seamless connection to dampers and interfaces across the system
- Supports interlocking with other systems (e.g. fan activation)



Six Detectable States of the Q-Di

Technical Information

State 1 No current flow	State 2 End position missing	State 3 Closed contact does not clear on open command	State 4 Open end position not reached within time (timeout)	State 5 Both end positions active	State 6 Short circuit
If the supply line to the connection module is damaged or not connected, there is no current flow and the system displays a fault for that module.	Module and cable are OK but neither limit switch is active; the system flags the damper because the expected end position is missing.	If opening is commanded, the closed end-position contact must open; if it does not, a fault is issued.	If the damper is commanded open, S2 must be reached within a defined time; otherwise a fault is issued. When S2 is achieved, a relay switches to provide a fan start / permissive contact.	If S1 and S2 are both closed, this can be used for certain functions; however, if both are NO contacts and this occurs, it indicates malfunction and an error is reported.	If a short circuit occurs, it is detected and reported by the system.

Local Status Indication (Q-Di Interface)

The Q-Di damper interface provides clear, immediate local status indication, enabling fast diagnosis and maintenance at the point of installation.



System Integration

- Provides a potential-free contact output for system interlocking
- Enables functions such as fan activation when damper position is confirmed

LED Status Indication

- Red: Damper CLOSED
- (Flashing): Moving to CLOSED
- Green: Damper OPEN
- (Flashing): Moving to OPEN
- Yellow: Fault condition
- (Flashing): Communication Active

Controls, HMI and Zoning

The Q-FSDP control panel features an integrated touchscreen HMI, providing intuitive system configuration, monitoring and control across all zones.

Touchscreen HMI

- Front door-mounted interface for commissioning, configuration and testing
- Enables real-time system monitoring and diagnostics
- Supports on-panel setup or preconfigured parameter upload
- Password-protected access for secure operation

Zoning and System Control

- Supports multi-zone control (6 zones as standard)
- Custom naming of zones and dampers via HMI
- Enables precise management of compartmentalised environments

Operational Maintenance

- Manual and automatic test functions (including scheduled testing)
- Service timer and maintenance alerts
- Event and fault log (up to 1000 entries) with USB export

Connectivity and Updates

- Firmware updates via USB
- Data export for reporting and diagnostics
- Standard languages: English and German
- Additional languages available to suit project requirements

System Integration and I/O

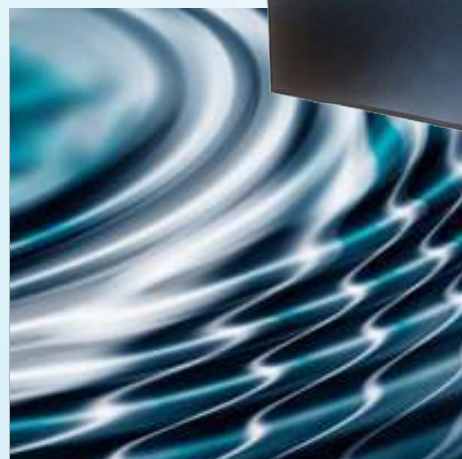
The Q-FSDP control panel is designed for seamless integration with wider building and fire safety systems, supporting both local and networked operation.

Inputs and Outputs

- 1 input per zone to trigger an alarm.
- 1 potential-free output per zone to report faults to the BMS, as well as an output that reports all faults.

Communication and Networking

- Panels can be networked for coordinated system operation
- Modbus communication available for integration with external monitoring platforms.



Installation and Wiring Guidance

The Q-FSDP control panel features an integrated touchscreen HMI, providing intuitive system configuration, monitoring and control across all zones.

Cable Specifications

- Use flame-retardant, halogen-free, low-smoke (LSZH) cable types
- Recommended fire-resistant cables:
 - NHXH-E90 4 × 1.5 mm²
 - NHXH-E90 5 × 1.5 mm²
- Fire resistance example: E90 (90 minutes)

Cable Length and Routing

- Maximum cable length: 300 m per interface (based on 1.5 mm² conductors)
- Cable selection and routing to be verified against project requirements and local regulations

Terminal Identification

- Input terminals: 200 series
- Output terminals: 300 series

Coltite Ventilator



Coltite

Architectural Ventilation for Data Centre Envelopes

Coltite Ventilators support modern data centre design by enabling controlled ventilation through the building envelope. Often incorporated as part of a dual-skin or "box within a box" approach, the system allows airflow through the façade while maintaining the architectural integrity of the external building form.

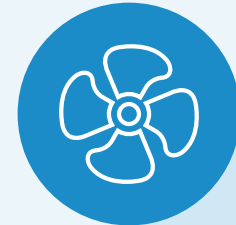
Designed for critical infrastructure applications, the Coltite range helps support ventilation, airflow management and smoke extraction strategies within data centre facilities. By integrating ventilation into the building fabric, Coltite enables operational performance requirements to be met without compromising the overall façade design.

Available in multiple configurations and performance levels, Coltite systems can be tailored to meet project-specific requirements for airflow, aerodynamic efficiency, weather performance and façade integration.

Why Data Centre Designers Choose Coltite

- Supports natural ventilation and smoke control strategies for critical infrastructure projects.
- Multiple Coltite Ventilators available to suit airflow and performance requirements.
- Supports a "box within a box" design strategy, combining architectural façade integration with the ventilation requirements of critical internal spaces.
- Helps deliver a consistent architectural appearance across operational and technical zones.
- Available with manual, electric or pneumatic actuation options.
- Tested to EN 12101-2 where smoke ventilation performance is required.
- Suitable for use alongside wider data centre ventilation and smoke management systems.

Typical Data Centre Applications



Data Hall Ventilation

Controlled airflow through the building envelope.



Technical Service Areas

Ventilation of plant and support spaces.



Critical Infrastructure Facilities

Integrated façade ventilation solutions



Energy Centre Buildings

Natural ventilation and smoke control.

Configurations to Meet Every Project Requirement



CLS45

CLS45

Architectural façade appearance



CL3

CL3

High-performance building envelopes



CLS

CLS

Maximum airflow applications



CLS45

CLT

Thermal efficiency and ventilation



CL3

CLN

Balanced ventilation performance



CLS

CLST

Seamless façade integration

Water Infrastructure

Large-Scale Storage & Surface Water Management



Water Infrastructure

Large Scale Storage
+ Surface Water
Management



The Permastore advantage for data centres



Technical market leader in Glass-Fused-to-Steel and Fusion Bonded Epoxy modular bolted tanks, proven in harsh environments for over 60 years.

We help specifiers, owner/operators, and contractors deliver high performance, compliant and long-lasting storage and water management solutions for hyperscale and colocation data centres worldwide.

Klargester

Klargester has over 70 years' technical expertise delivering trusted wastewater and surface water solutions.



A complete range of high-performance separators for protecting water and the environment.



Advanced commercial sewage treatment solutions delivering reliable, compliant wastewater management.

Unmatched Service Life and Resilience

GFS and epoxy coatings deliver 50+ year service life, well beyond painted or welded tanks. The inert coating resists corrosion, removing cooling water storage's top risk: maintenance downtime.

Accelerated, Predictable Construction

Modular, bolted GFS and epoxy tanks arrive pre-engineered and erect fast, regardless of weather or local trade availability.

Optimized Footprint

Higher strength-to-weight lets tanks stand taller on a smaller footprint than concrete, maximizing storage per square foot.

Certified Quality & QC

Tanks are fused and coated in a controlled, ISO-certified factory, removing the variability of on-site welding or concrete pours.

High-Volume Thermal Energy Storage

Built for large-volume chilled water buffers, with an inert lining that handles continuous cycling and eases the load on treatment.

A maintenance-free solution.

Less schedule risk, fewer trades to coordinate.

More site space for expansion or cooling plant.

Consistent quality, virtually no rework.

Built to handle high-density cooling loads.

Service & Maintenance for Critical Data Centre Infrastructure



Service & Maintenance for Critical Data Centre Infrastructure

Supporting compliance, operational readiness
and long-term asset performance.

Data centres depend on critical infrastructure operating reliably throughout their lifecycle. Regular inspection, testing and planned maintenance help ensure systems remain compliant, operational and ready to perform when required.

Our specialist service teams support the ongoing performance of key building systems across the data centre environment, from commissioning and inspection through to preventative maintenance, optimisation, upgrades and refurbishment.

Every data centre is different. Service requirements vary depending on system types, operational criticality, compliance obligations and site location. Our Service delivery capabilities and specialist competencies vary across countries, regions and solution areas.

We work with customers to develop tailored service and maintenance programmes, combining local engineering expertise with lifecycle support capabilities to meet the specific needs of each facility. If we do not have the solution or coverage you require we have the know how to support you with advice and assess the most appropriate support model you will require.



800+
Service Technicians
Local Teams across Europe



50+
Years of Experience
Specialist smoke control expertise



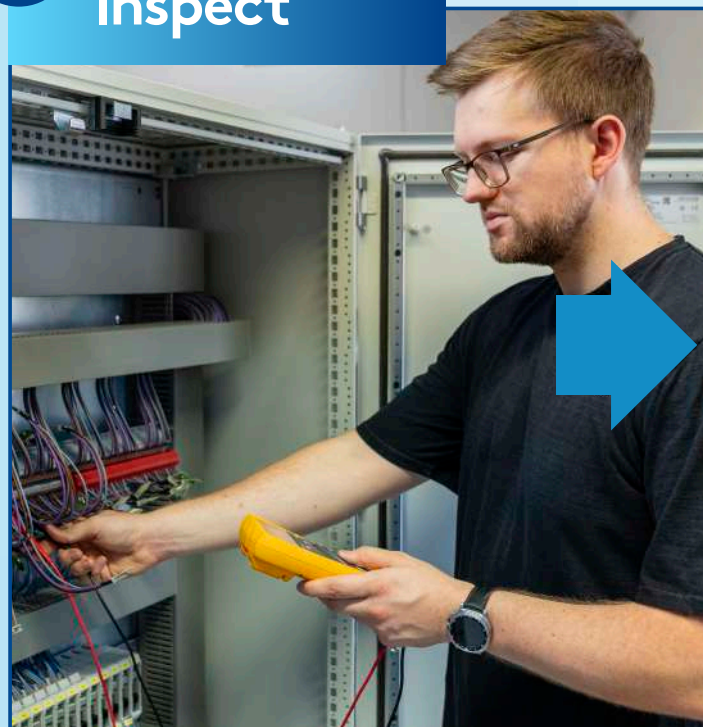
20+
European Countries
Supporting data centre customers

Supporting Critical Infrastructure Throughout its Lifecycle

From inspection and testing through to maintenance, optimisation, upgrades and refurbishment, our specialist teams help data centre operators maintain compliance, reliability and operational readiness throughout the life of their smoke control systems.

Supporting Compliance.
Enhancing Reliability.
Protecting Business Continuity.

1. Inspect



Assess system condition, performance and compliance.

2. Test



Verify system operation and readiness.

3. Maintain



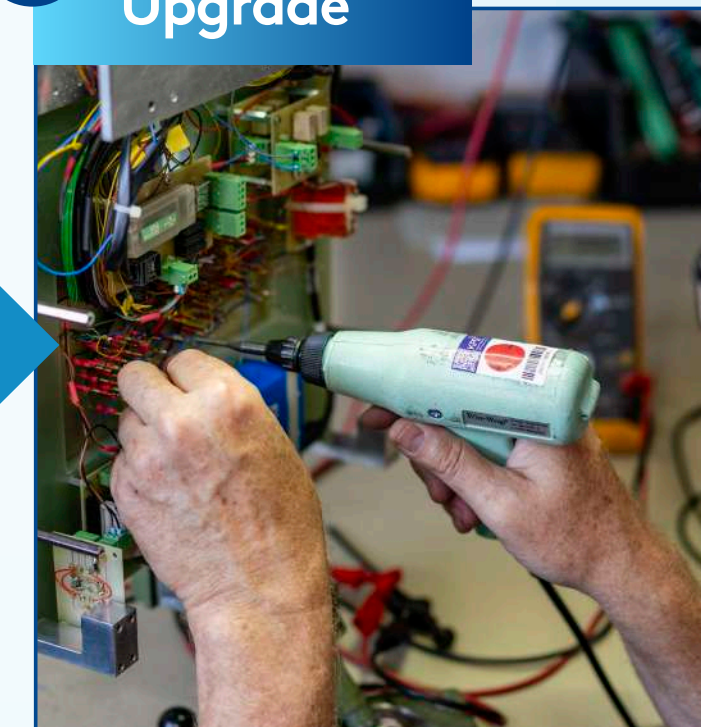
Deliver planned preventative maintenance.

4. Optimise



Improve performance and operational efficiency.

5. Upgrade



Implement technology and system enhancements.

6. Refurbish



Extend asset life through refurbishment and replacement.



Specialist Expertise

Smoke control, ventilation and critical building systems.



European Service Coverage

Local teams supported by a pan-European network.



Lifecycle Support

Inspection, maintenance, upgrades and refurbishment.



Mission-Critical Focus

Supporting compliance, reliability and business continuity.

Planning an upcoming project?

Talk to our dedicated data centre team

From early design through installation, commissioning, maintenance and refurbishment, we work alongside developers, consultants, contractors and specifiers — helping operators stay compliant and operationally ready.



Carrickmacross
Kingscourt Co.Cavan
A82 E897
Ireland

Email:
klaw_datacentres@kingspan.com

Web:
lightairandwater.kingspan.com

