



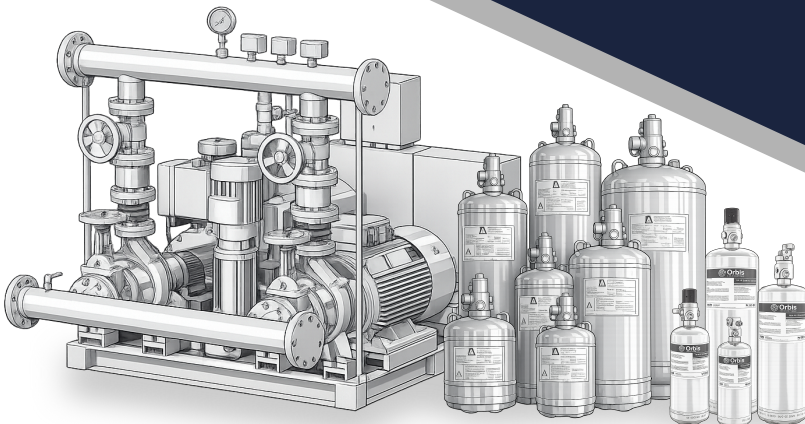
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FIRE PROTECTION SYSTEMS & ENGINEERED SOLUTIONS

From Equipment Protection to Critical Infrastructure

Integrated suppression, total flooding, and fire pump platforms
engineered for critical assets and infrastructure.



Why Choose Orbis?

Precision, Reliability, Global Trust.

Engineered for Performance

- U.S. designed and assembled systems built to NFPA 2001, UL 2166, and ISO 14520 standards.
- Every unit factory-tested for precision, reliability, and rapid deployment.
- Stainless steel and nickel-plated brass components for maximum durability and corrosion resistance.

Proven Technology

- Automatic 24/7 activation – no power, wiring, or human input required.
- Clean agent suppression using FK-5-1-12 or HFC-227ea, non-conductive, residue-free, and safe for electronics.
- Compact, pre-engineered design, simple installation, minimal maintenance, zero downtime.

Built for Real Environments

- Designed for electrical panels, CNC machines, battery storage, telecom, marine, and renewable energy systems.
- Reliable operation in high-heat, high-dust, or vibration-prone environments.
- System options: Direct (DLP) and Indirect (ILP) low-pressure configurations.

Advantages

Features	Benefits
Stainless Steel Construction	Long service life and clean appearance
Rapid Installation	No complex wiring or piping
Multiple Activation Options	Tube, smoke, gas, or manual activation
Global Certifications	CE, DOT, TPED, VDS, UL, FM, LPCB compliant
Fast Lead Times	Working to get your products as quick as possible
U.S. Designed	Systems assembled / shipped from U.S. facility

Distributor Benefits

- Competitive pricing and protected territories
- Straightforward documentation for easy client presentations.
- Designed for real applications, not complex engineered systems.
- Competitive margins designed for long-term distributor growth.
- Direct support for project sizing, applications, and quotations.
- Access to a growing market with strong demand.

Micro Suppression Systems Overview

Compact, Intelligent, Powerful. Protection Made Simple.

Orbis® offers a full line of pre-engineered fire suppression systems built for electrical, mechanical, and industrial environments. Each system is engineered for fast activation and minimal maintenance, protecting your assets where fires actually start.

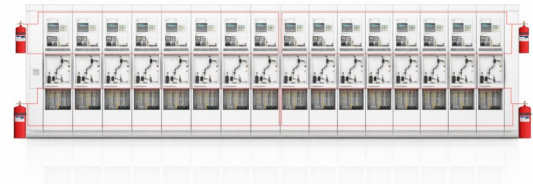
Direct Low Pressure System (DLP)

Pre-engineered tube-based systems for micro-environments.

- Designed for enclosed areas such as control panels, CNC machines, and electrical cabinets.
- Utilizes heat-sensitive detection tubing that ruptures at the source of heat.
- No wiring, no power, no human intervention. The system activates automatically.
- Compatible with FK-5-1-12 or HFC-227ea systems.

Indirect Low Pressure System (ILP)

Advanced suppression via nozzles and detectors



- Ideal for larger or more complex enclosures.
- System is activated via heat detection tubing or electronic sensors.
- Agent is discharged through strategically placed nozzles.
- Allows for broader area coverage and flexible installation.
- Ideal for Class A, B, and C fires. Compatible with CO2, Clean Agent, and Dry Powder.

Features	CO2	Dry Powder	Clean Agent
Recommended Fire Classes	B,C,D	A,B,C	A,B,C
Activation Method	Manual, Electric, Pneumatic		
Cylinder Sizes	3lbs - 50lbs		
Discharge Time	10-30 sec.	5-20 sec.	5-20 sec.
Temperature Range	-20° C – 50° C	-10° C – 50° C	-10° C – 50° C
Pressure Rating	200 bar	13.5 bar	13.5 bar
Post-Discharge Cleanup	None (Gaseous)	Required (Powder Residue)	None (Clean Agent)
Suitable for Occupied Areas	No	Yes	Yes
Corrosiveness	Non-Corrosive	Slightly Abrasive	Non-Corrosive
Installation Environment	Industrial, Electrical Rooms	Paint Booth, Engine Bays	Industrial, Electric Rooms

Direct Low Pressure System (DLP)

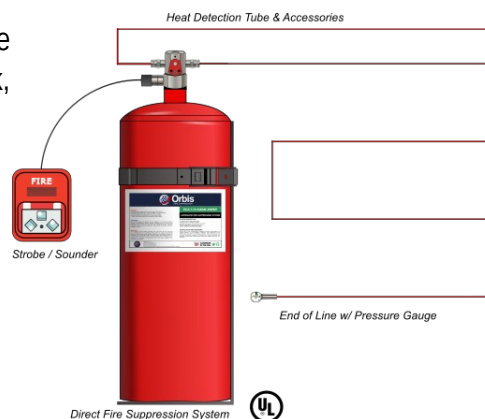
Pre-Engineered Fire Suppression Systems

Orbis Fire's DLP (Direct Low Pressure) systems are component certification approved to LPCB standards, self-contained suppression units designed for automatic, localized protection inside electrical and mechanical enclosures.

Using a heat-sensitive detection tube pressurized with inert gas, the Firesci DLP system acts as both detector and discharge line. When exposed to fire or extreme heat, the tube bursts at the hottest point, releasing the extinguishing agent directly at the source of ignition—instantly suppressing the fire before it spreads.

No electrical power, wiring, or external actuation is required, making the DLP ideal for autonomous, maintenance-light protection in high-risk, confined environments such as:

- Electrical and control panels
- CNC and automation machinery
- Telecom and server cabinets
- Solar combiner boxes
- Battery and inverter enclosures



DLP systems are built for precision, simplicity, and reliability, providing continuous 24/7 protection in even the harshest industrial or marine environments.

How It Works

1. Pressurized Detection Tube Installed in Cabinet

The flexible Heat Detection Polymer Tube is routed near heat-generating components and pressurized with nitrogen and clean agent.

2. Heat Detected, Tube Ruptures

When the temperature reaches ~110°C (230°F), the tube bursts at the hottest point, acting as the discharge outlet.

3. Clean Agent Released from Rupture Point

The clean agent—FK-5-1-12, HFC-227ea, or ABC Dry Powder—is released directly through the rupture, flooding the fire zone and rapidly extinguishing flames.

4. Fire Suppressed Automatically

The system operates without power or manual intervention, providing immediate, self-activating protection around the clock.

Key Features

- Fully mechanical design
- Compact and modular
- Nickel-plated brass valve assembly for long-term durability
- Suitable for Class A,B,C fires
- Zero residue, non-conductive, and safe for sensitive equipment

Indirect Low Pressure System (ILP)

Pre-Engineered Fire Suppression Systems

The Orbis® ILP (Indirect Low Pressure) systems provide advanced, controlled fire suppression for larger or more complex enclosures.

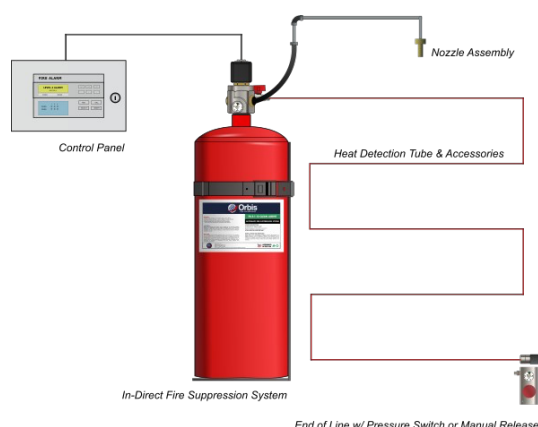
The system separates the detection and discharge functions—allowing for precise agent release through strategically positioned nozzles.

Using either heat-sensing tubing or electronic detection (smoke, heat, or gas), the ILP valve opens automatically or via a solenoid, releasing the clean agent into the enclosure through a network of pre-engineered nozzles and tubing.

This ensures even coverage, minimal agent waste, and complete suppression in applications where one point of discharge isn't sufficient.

ILP systems are ideal for:

- MCC and electrical distribution panels
- Battery energy storage systems (BESS / UPS)
- Marine generator cabinets
- Industrial machinery and automation lines
- Telecom, solar, and power infrastructure



How It Works

1. Detection & Activation

The system is triggered by a heat-sensing tube, smoke detector, or manual release. A drop in tube pressure or electronic signal activates the control valve.

2. Valve Opens Automatically

The valve discharges the extinguishing agent from the cylinder through pre-installed stainless or nylon lines.

3. Agent Distributed Through Nozzles

The clean agent is dispersed via fixed nozzles, ensuring complete and uniform coverage throughout the enclosure.

4. Fire Fully Suppressed

Rapid discharge floods the space, extinguishing flames and cooling hot surfaces without damage to sensitive equipment.

Key Features

- Broader suppression range than direct systems
- Integrates easily with control panels and monitoring systems
- Supports class A,B,C fires
- Optional Accessories: Pressure switch, repeater panel, manual release station
- Fully compliant with NFPA 2001, ISO 14520, and CE/DOT standards

Micro Suppression System Configurations

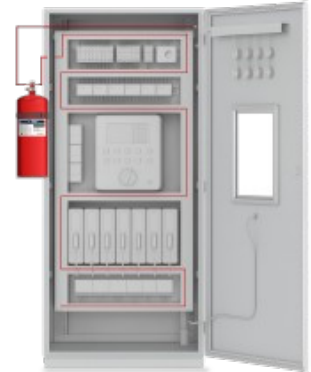
Pre-Engineered Fire Suppression Systems



Battery Energy Storage Unit



Heavy Mining Vehicles



Electric Panels



Road Vehicle Engine Compartments



Server Racks



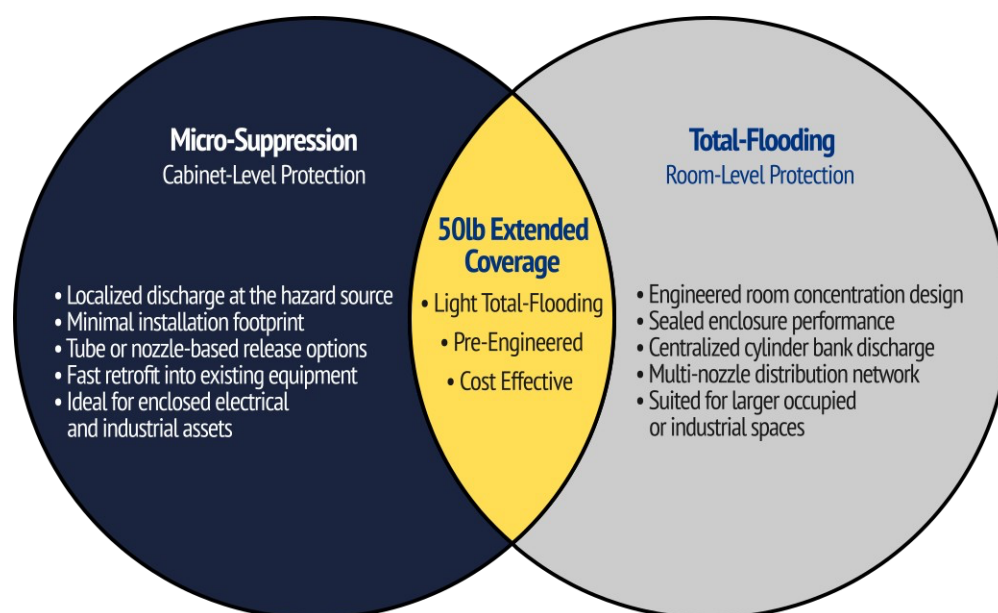
CNC Machines / Industrial Equipment

Pre-Engineered vs Total-Flooding Systems

Features	Pre-Engineered Systems	Total-Flooding Systems
Protection Scope	Specific enclosures, individual equipment	Entire rooms, defined volumes
Agent Discharge	Targeted directly at the source within the enclosure	Fills the entire room with agent
Detection Method	Integrated (Heat Detection Tube) or external accessories	Separate Fire Detection systems required
Collateral Impact	Minimal, confined to enclosure	Potential for wider impact within the flooded area
Cleanup	None (CO2, Clean Agent)	Minimal to None
Cost-Effectiveness	More economical for specific asset protection	Can be less cost effective depending on volume
Sealing Needs	Less stringent for individual enclosures	Requires a well sealed environment for effectiveness

Bridging the Gap

The Orbis DLP and ILP systems are known for efficient protection of individual cabinets and enclosures. But with larger cylinder sizes, up to 50 lb (22.7 kg), our technology expands beyond micro zones, approaching the scale of traditional total flooding.



Micro Suppression System Applications

Electrical Panels and Distribution Boards

Risk: Short circuits, arc faults, contactor overheating

Solution: DLP or ILP clean agent system providing localized suppression directly within the enclosure

Server Racks and Data Centers

Risk: Electrical arcing, overheating CPUs, power supply faults, and cable fires

Solution: ILP clean agent system paired with aspirating smoke detection for early warning

Battery Energy Storage Systems (BESS)

Risk: Thermal runaway, gas release, and cascading cell failure

Solution: ILP clean agent system integrated with gas detection for combined suppression and monitoring

CNC & Industrial Machinery Cabinets

Risk: Motor overheating, hydraulic or lubricant ignition, and electrical arcing

Solution: DLP system for direct, localized suppression within machine compartments

Telecom Cabinets and Outdoor Enclosures

Risk: Electrical faults, cable shorting, and component overheating

Solution: DLP clean agent or ILP dry powder system designed for compact enclosures and outdoor reliability

Industrial Control Panels

Risk: Overloaded circuits, component overheating, or flammable vapor ignition

Solution: DLP or ILP clean agent system depending on enclosure size and equipment sensitivity

Power and Utility Infrastructure

Risk: Transformer overheating, hydrogen buildup, or electrical arcing in switchgear

Solution: Integrated gas detection with hydrogen sensors and ILP suppression system

Heavy Duty and Off-Road Vehicles

Risk: Engine overheating, fuel leaks, hydraulic ignition, or electrical fires

Solution: DLP or ILP dry powder system for automatic suppression in engine compartments and machinery bays



Engineered Clean Agent Total Flooding Solutions

FK5-1-12, HFC-227ea, CO₂, Inert Gas

Orbis provides engineered, UL/FM approved total flooding fire suppression systems for spaces where rapid fire knockdown, asset protection, and business continuity are critical. Our solutions are configured for a wide range of applications, from electrical rooms and data infrastructure to industrial process areas and high-value equipment spaces.

Available in both clean agent and CO₂ configurations, these systems are designed to deliver fast, controlled discharge and reliable system activation based on the specific risk profile of the protected area.

Designed for Mission-Critical Hazards

Orbis total flooding systems are optimized for enclosed hazards where downtime, secondary damage, and business interruption must be minimized. System discharge dynamics are engineered around room geometry, nozzle placement, and agent concentration objectives to ensure effective volumetric protection.

Typical Applications:

- Electrical Rooms
- Battery Energy Storage Rooms
- Data Centers
- Archives & Museums
- Generator Rooms
- Marine Engine Rooms
- Industrial Process Areas
- Control Rooms

Flexible System Architecture

Single Cylinder Systems

For compact enclosed hazards and localized room protection.

Modular Cylinder Banks

For medium to large hazard volumes requiring increased agent capacity.

Directional Valve Systems

For multiple hazard zones supplied from centralized cylinder storage.

Main / Reserve Bank Systems

For mission-critical environments requiring immediate post-discharge redundancy.



Engineered Clean Agent Total Flooding Solutions

Flexible System Architecture

Orbis supports total flooding projects with:

- Agent selection guidance
- Cylinder bank sizing
- Nozzle layout support
- Piping and manifold configurations
- Reserve bank strategies
- Detection and release logic compatibility
- Regional compliance pathway alignment
- Fast global supply coordination

System Technical Overview

Parameter	Technical Range
Suppression Agents	FK-5-1-12, HFC-227ea, CO ₂ , Inert Gas blends
System Type	Total flooding, volumetric discharge
Protected Volume	Small enclosures to large multi-room applications
Cylinder Configuration	Single cylinder, manifolded bank, main/reserve bank
Cylinder Sizes	16 L to 270 L platforms
Storage Pressure	25 bar, 42 bar, 50 bar systems available
Valve Sizes	1 in, 2 in, 3 in discharge valve options
Actuation Methods	Electric, pneumatic, manual, supervised solenoid
Nozzle Type	180° and 360° brass discharge nozzles
Detection Compatibility	Cross-zoned releasing panels, smoke, heat, aspirating systems
Discharge Network	Engineered schedule pipe and nozzle layouts
Compliance Pathway	UL/FM approved, project-engineered, AHJ-driven builds
Design Standard Basis	NFPA 2001 methodology, local code dependent
Project Delivery	Factory direct, hybrid component integration, localized assembly roadmap

Packaged Fire Pump Systems

System Overview

Orbis packaged fire pump systems are supplied as complete, job-ready assemblies for fire protection water delivery in accordance with project hydraulic requirements and jurisdictional expectations.

Available packages include diesel engine-driven, electric motor-driven, and combination pump arrangements with optional jockey pump assemblies, listed control solutions, fuel systems, and manifold accessories.

Available Configurations

Pump Type	Driver	Typical Range	Applications
End Suction	Diesel / Electric	50 - 4000 GPM / 6 – 14 BAR	Commercial Buildings
Horizontal Split Case	Diesel / Electric		Warehouses, Industrial
Vertical Turbine	Diesel / Electric	Project Specific	Tanks, Reservoirs
Jockey Pump	Electric	Pressure Maintenance	Single cylinder, manifolded bank, main/reserve bank

Flexible Tiers

Standard Export Packages

Cost-effective turnkey systems for price-sensitive and semi-compliant jurisdictions.

Hybrid Listed Packages

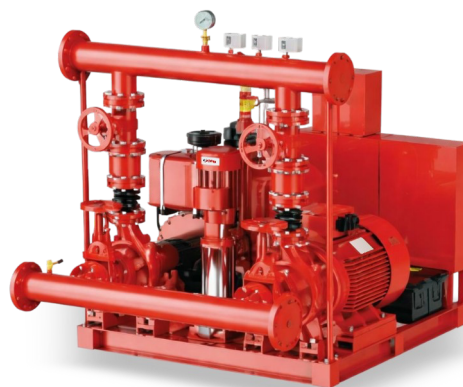
International pump assemblies integrated with premium listed control and monitoring components.

Enhanced Compliance Packages

Solutions incorporating UL-listed controllers, approved accessories, and specification-driven upgrades for higher-tier commercial projects.

Features & Benefits

- Factory packaged assemblies
- Diesel and electric driver options
- Jockey pump integration
- UL controller upgrade path
- Export-ready configurations
- Split case, end suction & vertical options
- Fast OEM sourcing routes
- Flexible territory compliance support



Emergency Lighting & Exit Sign Systems

Reliable Egress Illumination for Commercial and Critical Infrastructure

Orbis provides a complete emergency lighting and exit sign platform engineered for safe occupant egress, code-compliant path marking, and reliable illumination during utility power loss.

Designed for commercial buildings, industrial facilities, public infrastructure, and mission-critical environments, the Orbis portfolio includes EXIT signs, running man legends, combo units, emergency bulkheads, and utility luminaires across multiple housing, battery, and environmental configurations.

The platform supports projects ranging from office and warehouse egress pathways to stairwells, data centers, parking structures, schools, hospitals, and industrial facilities, giving distributors and contractors a scalable life-safety lighting solution under the Orbis brand.

Product Families

Exit & Egress Signs

- EXIT signs
- Running man signs
- SALIDA / SAÍDA variants
- Edge-lit acrylic signage
- Single and double-face configurations

Combo Units

- EXIT sign + emergency lamp head combinations
- Running man combo fixtures
- Wall and ceiling-mounted emergency heads

Emergency Utility Fixtures

- Stairwell bulkheads
- Corridor luminaires
- IP-rated utility emergency fixtures
- Industrial damp-location fixtures

Core Platform Characteristics

- LED long-life illumination architecture
- Battery-backed emergency operation
- 90-minute, 180-minute, and extended backup pathways
- Wall, ceiling, side, and suspended mounting
- Steel, ABS, and thermoplastic housings
- Indoor, damp, and IP-rated configurations
- Commercial, institutional, and industrial deployment flexibility





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Integrated suppression, total flooding, and fire pump platforms
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