ICEMAC
Ice Machines & Cooling Systems

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FIRE DAMPER

Data Sheet

Product Data Sheet

Product Overview

The **ICEMAC IC-FD Series** Fire Dampers are passive fire protection components designed to automatically block the spread of fire and smoke through HVAC ductwork. When the air temperature in the duct reaches **72°C**, a thermal fuse triggers the damper blades to close, isolating the affected zone. This function is essential for preserving the integrity of fire-rated compartments and protecting escape routes in commercial, industrial, and residential buildings.

Constructed from **TS EN 10346-certified galvanized steel**, the dampers are internally insulated with **70 kg/m³ rock wool**, ensuring thermal containment and fire resistance. The system includes **brass bushings, galvanized shafts**, and a **silicone-sealed casing** for airtight, heat-resilient operation. Optional servo motor and limit switch integrations allow the dampers to operate in tandem with building management and fire alarm systems for enhanced response control.

Materials and Construction

Material:

- **Casing and Blades:** Manufactured from **1.2 mm galvanized sheet metal** (TS EN 10346 certified) for structural integrity and fire resistance.
- **Blade Fill Material: 70 kg/m³ rock wool**, 25 mm thick, placed between blade walls for thermal insulation.
- **Bearings: Brass bushings** with **galvanized steel shafts**, ensuring smooth actuation and extended mechanical life.
- **Sealing:** High-temperature-resistant **red silicone** is applied at casing joints for airtight sealing and deformation resistance.

Variants

The ICEMAC Fire Damper series is available in multiple configurations to suit different installation and ducting requirements:

- **IC-FD-R – Rectangular Fire Damper:**
  A standard rectangular damper designed for preventing fire propagation within rectangular duct systems.
- **IC-FD-C – Circular Fire Damper:**
  A round model tailored for circular duct applications, offering the same fire-safety performance in a compact, space-efficient format.

Assembly Options

The **IC-FD Series** supports dual installation methods based on system design:

- **Duct Mounting (IC-FD, IC-FD-C):** Secured to ducting using bolts, nuts, and metal clips.
- **Wall Transition Mounting (IC-FD):** Installed into shafts or concrete walls using wall transition frames and mechanical fasteners.

Applications

The IC-FD Series is designed for integration into fire-rated ventilation systems to prevent the spread of flames and smoke between compartments. These dampers activate automatically in response to rising temperatures, making them essential for passive fire protection in buildings where HVAC ducting passes through fire-resistance-rated barriers.

Typical application areas include:

- **Ventilation Ducts Crossing Fire Zones:** Installed at wall or slab penetrations to block fire and smoke transmission across fire-rated compartments in multi-zone buildings.
- **Vertical Shafts and Riser Ducts:** Prevents vertical fire spread through riser ducts and technical shafts in multi-storey buildings such as hotels, offices, and hospitals.
- **Basement and Car Park Ventilation Systems:** Used in garage extraction ducts to isolate fire-prone areas from shared ventilation infrastructure, supporting compartmentalized smoke control.
- **Staircase Pressurization and Escape Routes:** Ensures fire isolation in ducts connected to stairwell pressurization systems, maintaining safe egress conditions.

Accessories

Each IC-FD damper may be enhanced with specialized components for increased performance and integration:

- **Wall Transition Piece (WP):** Facilitates stable wall-mounting and ensures smoke-tight enclosure.
- **Servo Motor 24V–230V (SM):** Enables automatic activation and integration with fire safety automation.
- **Limit Switch (LS):** Detects blade position (open/closed) and provides feedback for system verification and safety status indication.

Fire Damper Dimensions

This table allows for quick and easy selection of the appropriate Dampers

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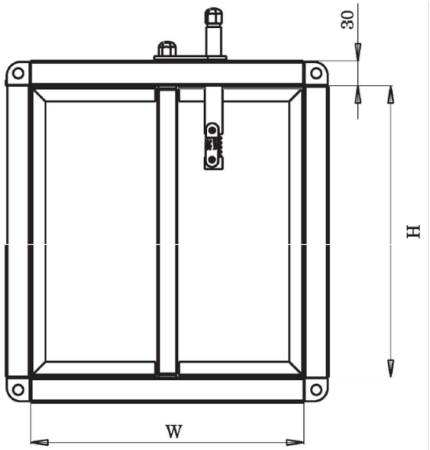
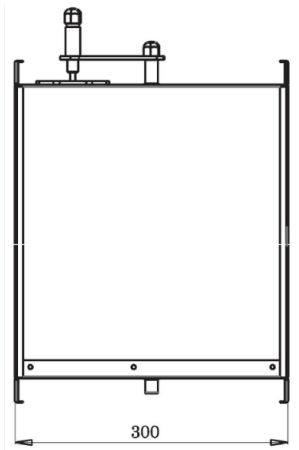
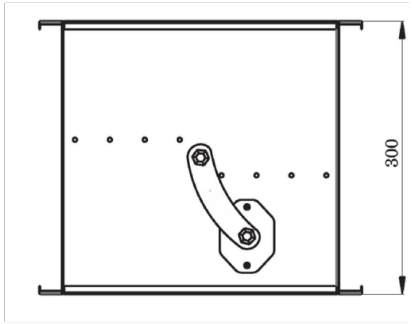
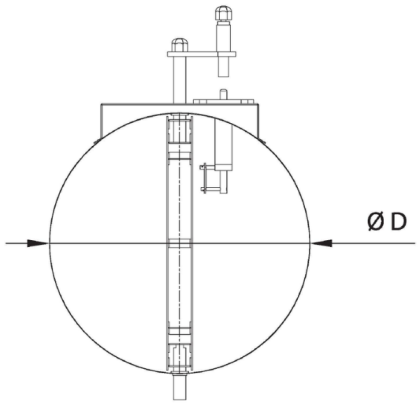
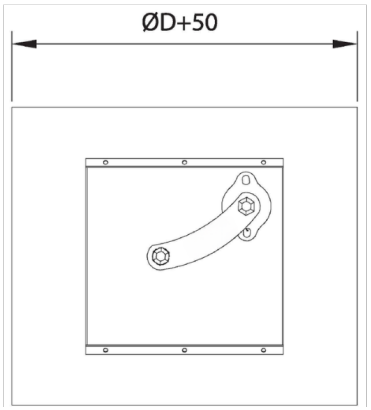
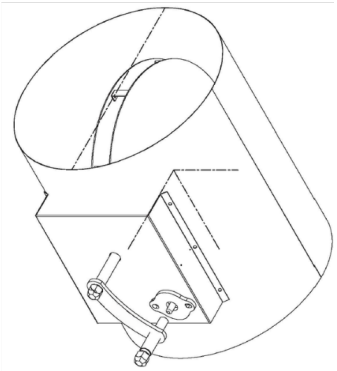
ICEMAC Fire Dampers Dimensions and Performance Range

The ICEMAC Fire Dampers are manufactured in a range of circular and rectangular sizes to meet fire safety requirements across diverse HVAC applications. Below are detailed drawings outlining the dimensions for the IC-FD-R (Rectangular) and IC-FD-C (Circular) variants.

ICEMAC Fire Dampers - Rectangular Fire Damper







ICEMAC Fire Dampers - Circular Fire Damper