

Low Leakage Dampers

MODEL: LD

Introduction

Low Leakage Dampers are used in ventilation systems to prevent the spread of toxic gases released in the fire between divisions during emergency.

The damper has been tested according to BS EN 1751: 1999 (comparable with AMCA 500-D-98) and meets the air tightness requirement. The damper is also highly reliable during emergency operation.

Applications

Building services ventilation systems. The damper may be duct-connected or wall-mounted

Features

- Robust construction
- Low casing leakage
- Low blade leakage
- Low airflow resistance
- Manual, pneumatic, or electric operation

Dimensional Limits

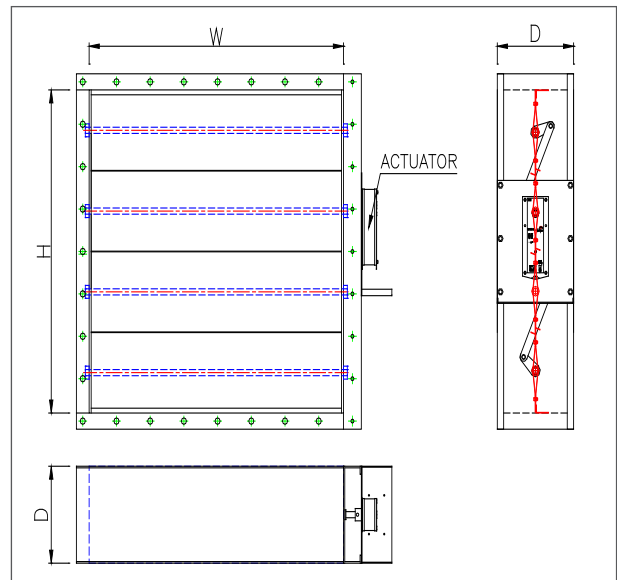
The minimum size is 100mm wide x 100mm high. The maximum single module size is 2,000mm wide x 2,000mm high. Depth ranges from 150mm to 300mm.

Construction

Kyodo low leakage damper frame is constructed of high quality galvanized steel with thickness of 1.2~3mm. 35mm flange with pre-punch holes for connection to duct flanges are provided.

The blades are constructed with 1.2~1.5mm galvanized steel or stainless steel, double skin aerofoil design bolted to 19mm solid shaft. Mechanical bushings are fitted on the non-drive side. The aero-foil design ensures low pressure loss, reduce flow disturbance and noise.

Dampers with multiple blades are fitted with a linkage to provide an opposed or parallel motion. Robust blade links are welded to the drive shafts and connected together by flat bar. The linkage arrangement is contained within the flanges of the damper frame.



Leakage Rates

Testing conducted by BSRIA on standard production single module dampers has achieved

- UL555s Class I

Specifically we have achieved mean leakage rate of

- 0.040 m³/s/m² at a differential pressure of 2,000Pa.
- 0.002 m³/s/m² at a differential pressure of 50Pa.

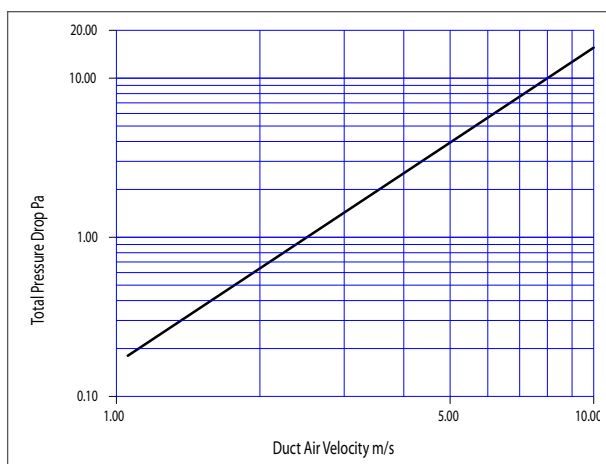
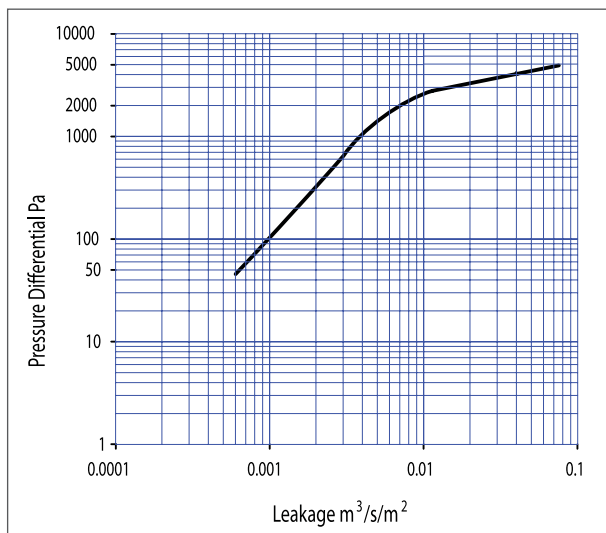
Lower leakage rates can be achieved upon request.

Low Leakage Damper

Performance Test

The test methods were taken from BS EN 1751:1999 "Ventilation for buildings - Air terminal devices - Aerodynamic testing of dampers and valves". Methods were comparable with those used in American standard AMCA 500-D-98 "Laboratory methods for testing dampers for ratings". Leakage tests within BS1886, DW144 and UL555S also used the same methods.

Full aerodynamic performance data is presented below (based on 1000mm x 1000mm damper) and is based on tests conducted. Total pressure loss measured across the damper when the blades are fully open.



Data based on test conducted by BSRIA on a 1,000mm x 1,000mm damper.

Total pressure loss is measured across the shut-off damper when the blades are fully open.

ACTUATOR / LEVER

Different type of control option to choose from based on customer requirement.

Electrical Actuator [Model LD-E]



Options

1. AC 24V 50/60Hz or DC 24V 10VA 7/2W
2. AC 230V 50/60Hz 12.5VA 8/3V

The damper is fitted with an electrical control system which enables rapid opening and closing of the damper blades.

Remote indication of blade fully opened and fully closed status can be signaled by microswitches mounted in to the electrical actuator which is positively connected to the damper blades.

Pneumatic Actuator [Model LD-P]



The Air Torque actuator offers the following characteristics:

- Reliability and high performance
- Wider product range permitting a more economical sizing selection
- Innovative and patented universal drive shaft and multifunction position indicator

For double action and spring return actuators the

- Minimum supply pressure is 2.5 Bar (36 PSI).
- Maximum supply pressure is 8 Bar (116 PSI).