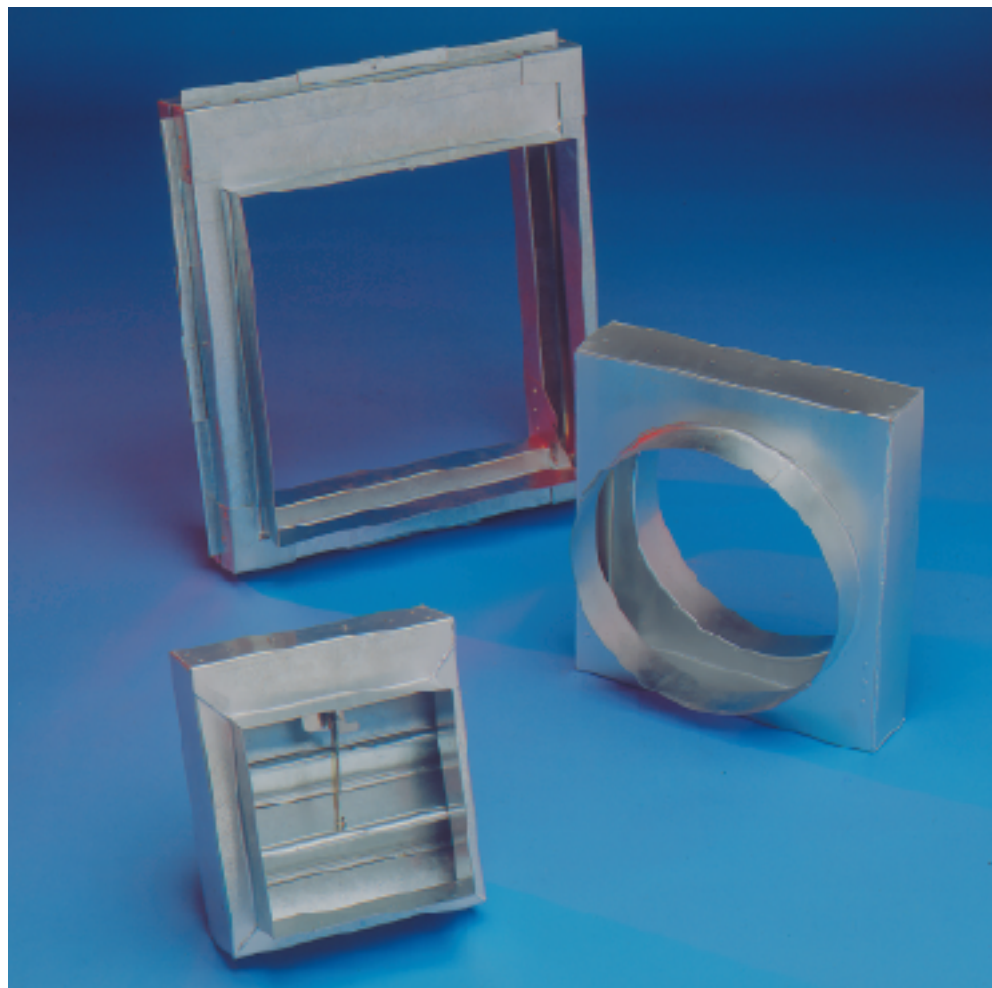




Lindab Fire Dampers



- Models for high, medium and low velocity applications.
- HEVAC/HVCA installation frames available.
- Galvanised or stainless steel options.
- Extensive range of control options.
- Comprehensive size range from stock.
- Fully approved and tested.



Description

The Lindab series of curtain bladed fire dampers are designed to stop the spread of fire through ducts, walls and floors. Within the limits of the largest and smallest damper, there is an infinite sizing capability, so dampers can be supplied to customers' exact requirements.

The damper blades are precision rollformed and then interlocked to provide a 'curtain' with an angular, heat deflecting construction. All dampers are supplied with two constant force stainless steel closure springs and locking ramps to ensure positive closure. All dampers are suitable for horizontal or vertical installation.

Dampers are supplied as standard with a fusible link set to operate at 72°C unless otherwise stated, (other temperatures available).

Dampers are available with a range of spigot mounting options to meet any application.

Construction

The Lindab series of fire dampers are manufactured as standard from corrosion resistant galvanised mild steel. It offers superior fire performance characteristics and is suitable for all normal applications. Dampers can also be supplied with stainless steel blades and galvanised mild steel frames or all stainless steel (Grade 430).

Approvals

The Lindab fire dampers as detailed within this literature are suitable for installations where a fire rating of up to four hours is specified in terms of the adopted integrity criterion of BS 476: Part 22: 1987 (Assessment report: CC90521), for fire attack from either face and are available in single units up to a maximum size of 1500mm x 1500mm. The dampers may be mounted in concrete or masonry walls or in concrete floors in the same manner as those tested. (i.e. with steel angles on both sides or using a HEVAC frame).

A specimen of an uninsulated damper of internal throat aperture size 1000mm wide by 1000mm high, mounted via a HEVAC installation frame within a masonry block work wall 150mm thick, has been subjected to a fire test to determine its fire resistance. The test was performed in accordance with BS EN 1366: Fire Resistance Tests For Service Installations – Part 2 Fire Dampers (Test Report: WARRES No. 110372)

The unit satisfied the conditions of both integrity and Leakage during the fire test, the test was discontinued after a period of 240 minutes.

Fire Rating

Dampers available as four hour single section units (Test Report TE 81844)

A Lindab galvanised steel rectangular curtain type damper with an Easy Maintenance Link and HEVAC frame having a nominal aperture of 1m x 1m, as described in the above report and detailed within this literature, was subjected to a fire resistance test carried out in accordance with ISO/DIS 10294/1 for a duration of 240min. Throughout the course of the test measurements were taken of the gas velocities generated within a test rig connected to the damper unit whilst maintaining a pressure differential of 300Pa across the closed damper.

Quality Assurance

Lindab fire dampers are manufactured in accordance with a Quality Assurance system assessed to BS EN ISO 9001:2000 and the company is registered to this standard.

Construction

Casings:

Model FD 110 casings are manufactured from 0.8mm galvanised mild steel. All other models have casings manufactured from 1.2mm galvanised mild steel. (FD 162 casings over 1 metre diameter manufactured from 1.6mm galvanised mild steel).

Blades:

Are specially rollformed from 0.8mm galvanised mild steel as standard. All dampers are fitted with two stainless steel coil type constant tension springs.

Fusible Link:

All dampers are fitted with a fusible link rated at a 72°C nominal. Other temperatures maybe specified as an option.

Note: Stainless steel blades and/or cases are available as a standard option.

Corrosion Test:

The 100% galvanised mild steel models have been successfully corrosion tested by the GLC Scientific branch in the UK. This test involves long-term exposure to highly concentrated salt laden air, with consequent heavy deposition of materials. Subsequently the test unit was fired and operated successfully.

Typical Damper Construction

Casings

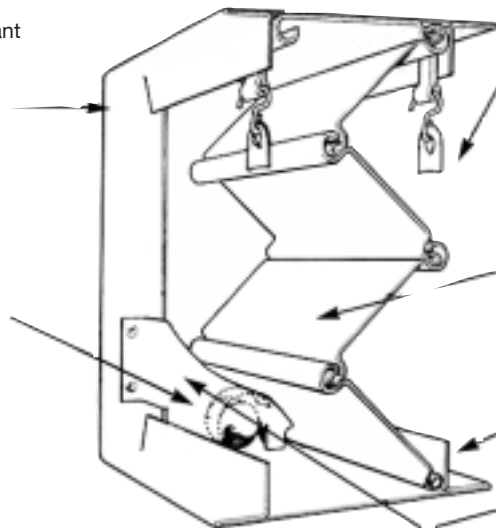
Manufactured from corrosion resistant galvanised steel as standard. (Grade 430 stainless steel optional).

Springs

Stainless Steel coil tension springs ensuring powerful blade closure when appropriate.

Pull rings

To enable resetting of the damper from the non-access side. (Specific sizes only).



Fusible Link/

Release Mechanism

Typical two-piece fusible link rated at 72°C. Alternative temperature rated fusible link mechanisms available.

Blades

Rollformed single skin interlocking galvanised high integrity curtain shutter. (Grade 430 stainless steel blades optional).

Blade Guide/

Locking Ramps

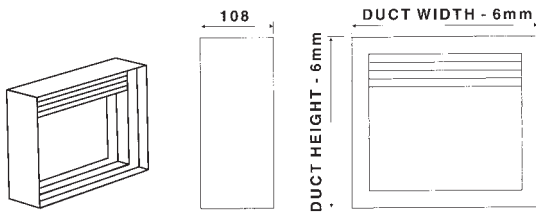
Galvanised steel locking ramps ensure positive blade closure within integral blade guides.

The illustration shows model FD 110

Product Selection

Model FD 110

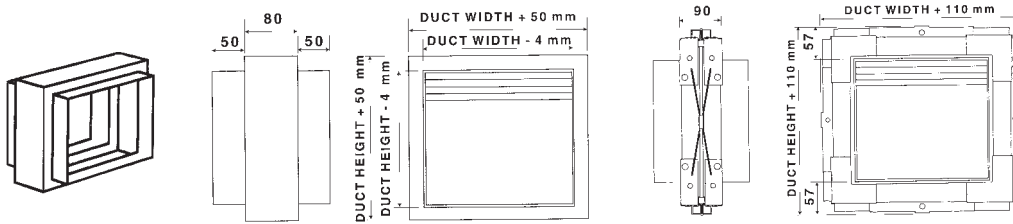
Suitable for "in duct" mounting. Recommended for low or medium velocities, blades are partially in the airstream. Our most competitively priced yet fully tested damper.



HEVAC/HVCA
Installation frame not available for this model.

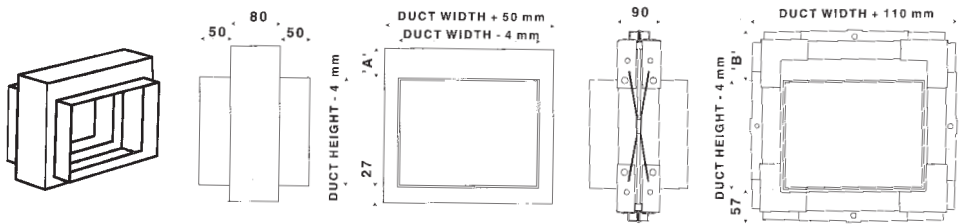
Model FD 150

Rectangular spigotted damper with blades partially out of the airstream. Suitable for medium and low velocity applications.



Model FD 160

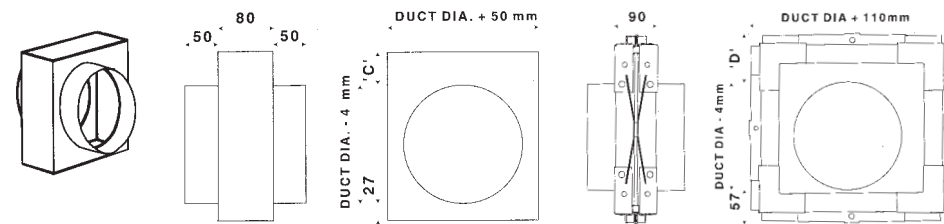
Rectangular spigotted damper with blades completely out of the airstream when in the open position. Suitable for high velocity applications



DUCT HEIGHT	"A"	"B"
100 - 300	52	82
301 - 525	77	107
526 - 700	102	132
701 - 925	127	157
926 - 1150	152	182
1151 - 1325	177	207

Model FD 162

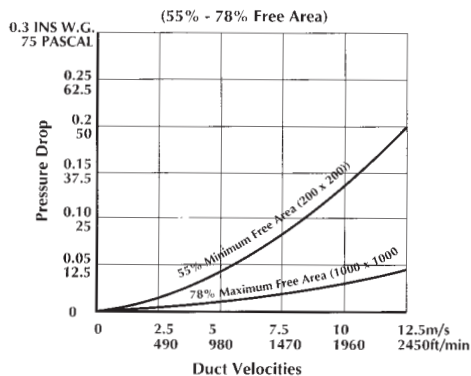
Circular spigotted damper with blades completely out of the airstream when in the open position. Suitable for high velocity applications



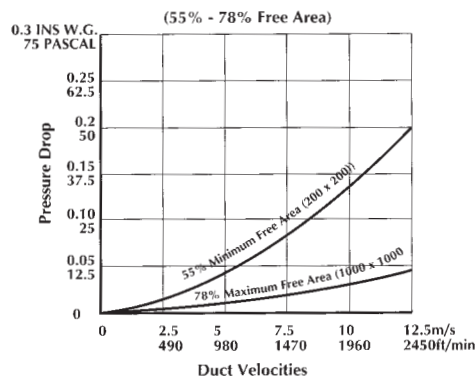
DUCT HEIGHT	"C"	"D"
100 - 300	52	82
301 - 525	77	107
526 - 700	102	132
701 - 925	127	157
926 - 1000	152	182

N.B. We also supply this model with flat oval spigots

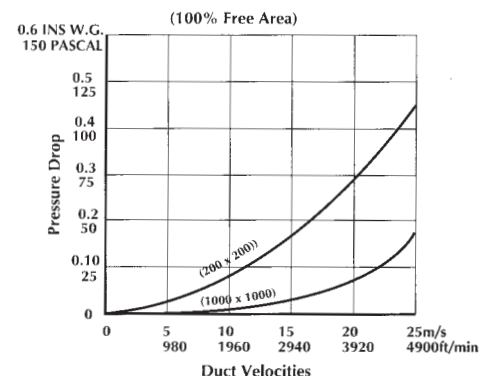
Performance Data



FD 110 Series



FD 150 Series

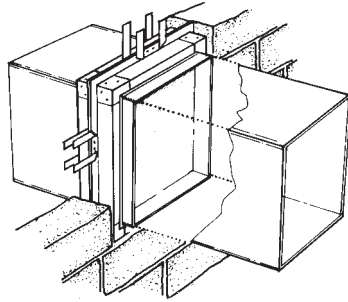


FD 160/162 Series

Options

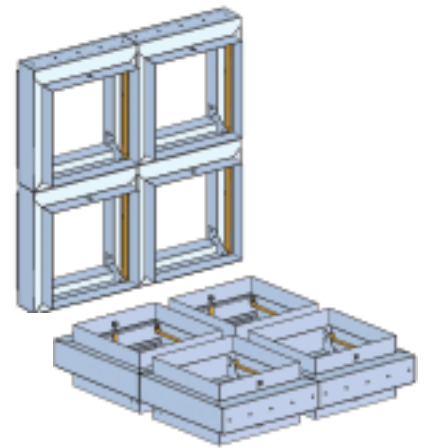
HEVAC\HVCA Installation Framer

The Installation Frame is designed to be factory assembled on to a Fire Damper. The Frame will, under fire conditions, allow the Damper to expand without distortion. Upstand Flange webs with fixing tabs built into the surrounding structure ensure that the complete assembly will be retained within the structural opening.



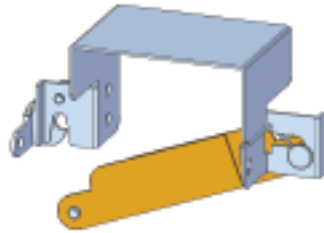
Multiple Assemblies

Two or more units can be arranged in a complete multiple assembly where required. Blade closed positions are indicated by arrows. Before installing any multiple assembly the proposed arrangements should be agreed with the relevant authority.



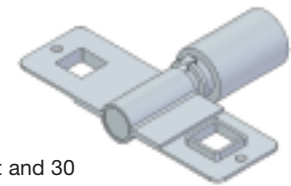
Easy Maintenance Link-EML.

Allows the Fire Damper to be tested quickly and safely. The damper can be mechanically released and reloaded with one hand on small units from indicated side of duct.



Electro-Thermal Link-ETL

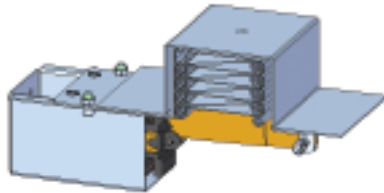
A dual response fusible link which reacts (melts) when subjected to either local heat or an electrical impulse of low power and short duration. The standard temperature rating is 74°C. The low power requirement of the E.T.L. means that it can be released with an electrical impulse (50 milliseconds of between 6 volt and 30 volt AC or DC with a minimum current of 0.2 amperes) from a suitable smoke detector or other source.



Solenoid Electrically energised to activate closure of the curtain blade pack.

Normally "de-energised", activated by an electrical impulse either from or via a detector or control panel. The solenoid can be fitted for standard "direct link" operation.

For maintenance/servicing the solenoid can be manually over-ridden for testing purposes. 24 volt A.C., 110 volt A.C. and 240 volt A.C. 300 VA minimum required.

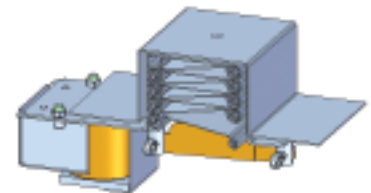


Electro-Magnet

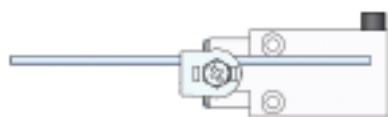
Interruption of electrical current to activate closure of the curtain blade pack.

As an alternative to the solenoid for systems that require normally "energised" actuators, that automatically operate in the event of an interruption of electrical supply.

24 volt, 110 volt, and 240 volt D.C. supply models available, which when complemented with a rectifier may be used with A.C. supply. Magnets rated at 5w.



Blade Position Indicators



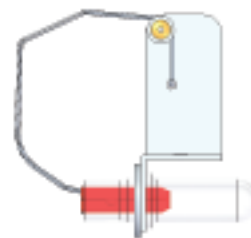
Electrical Micro Switch

Provides remote indication of blade pack position. The electrical circuit is completed or broken when the lowest blade operates the arm of the micro switch.

Visual Position Indicators

Provides local indication of whether the blade pack is open or closed.

This indicator is normally fitted within the vertical face of the case adjacent to the bottom blade when in the closed position.



CURTAIN BLADE OPEN POSITION



CURTAIN BLADE CLOSED POSITION

N.B. Certain combinations of options may not be available on smaller sized dampers. Our sales office will be pleased to advise.

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South London	020 8603 0850	Cardiff	029 2043 7930	Lincoln	01522 567087	Stockton-on-Tees	01642 601144
Basildon	01268 532016	Exeter	01626 835032	Manchester (Trafford Park)	0161 876 0688	Stoke-on-Trent	01782 383460
Belfast	02890 781607	Glasgow	0141 419 3800	Manchester (Swinton)	0161 727 5200		
Birmingham	0121 552 6100	High Wycombe	01494 463490	Newcastle	0191 414 0888		
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