

Pressure Relief Dampers for Low Opening Pressures, Type KL-ETM



Safety by Pressure Relief

Pressure Relief Damper, Type KL-ETM

In a great variety of different applications within HVAC systems Pressure Relief Dampers manufactured by Krantz are used to limit the pressure and control it, respectively. Typical applications include the protection of ductwork from inadmissible high loading caused by positive pressure or negative pressure, positive pressure ventilation of staircases, or setting a defined pressure drop between adjacent rooms.

Quality and safety features

Regardless of the practical case of application, Pressure Relief Dampers made by Krantz feature the following performance characteristics:

- Automatic, merely mechanical operation without additional auxiliary energy
- High tightness in closed position
- Very large range of volumetric air flow
- Suitable for operation in systems at negative pressure and positive pressure, respectively
- Extremely short response time
- Adjustable opening pressure
- Low weight
- Easy mounting
- Low costs
- Patent protected

Pressure Relief Dampers, Type KL-ETM are highquality components which can protect or control your HVAC systems.

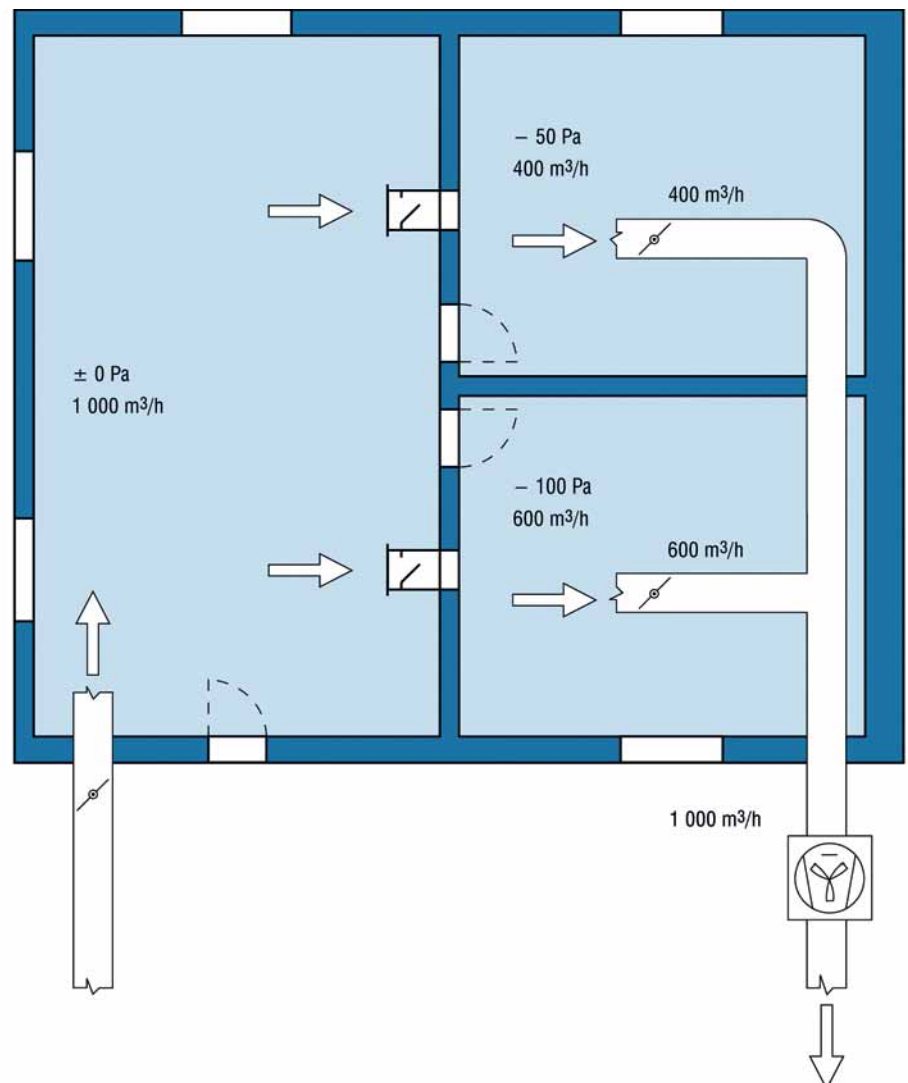
Pressure Relief Dampers for Low Opening Pressures

It is often required that a defined pressure gradient of 50 – 150Pa is set between two neighbouring rooms. This guarantees a directed flow of air in the leakage ports existing between the rooms and thus avoids the undesired transport of pollutants into the room to be protected.

Type KL-ETM, for high range of volume flow

The Pressure Relief Dampers Type KL-ETM can be used in this application both as control device for setting a defined pressure gradient between two rooms and as safety valve to set a limit to a maximum admissible pressure value. Depending on available space and range of volume flow to be relieved damper type KL-ETM is the optimal choice.

Elementary representation of room pressure control; situation with doors closed



**Application:
room pressure limitation**

In this application the Pressure Relief Damper assumes the function of a safety valve. Below the adjustable value of the opening pressure the Pressure Relief Damper Type KL-ETM respectively, fulfils the function of a closed shut off damper. When an adjustable differential pressure value is exceeded the damper opens automatically and prevents the pressure from rising further. When the pressure returns into its normal range, the damper closes automatically. This type of mounting is frequently applied in rooms characterised by slow control of the pressure prevailing in the room.

**Application:
room pressure control**

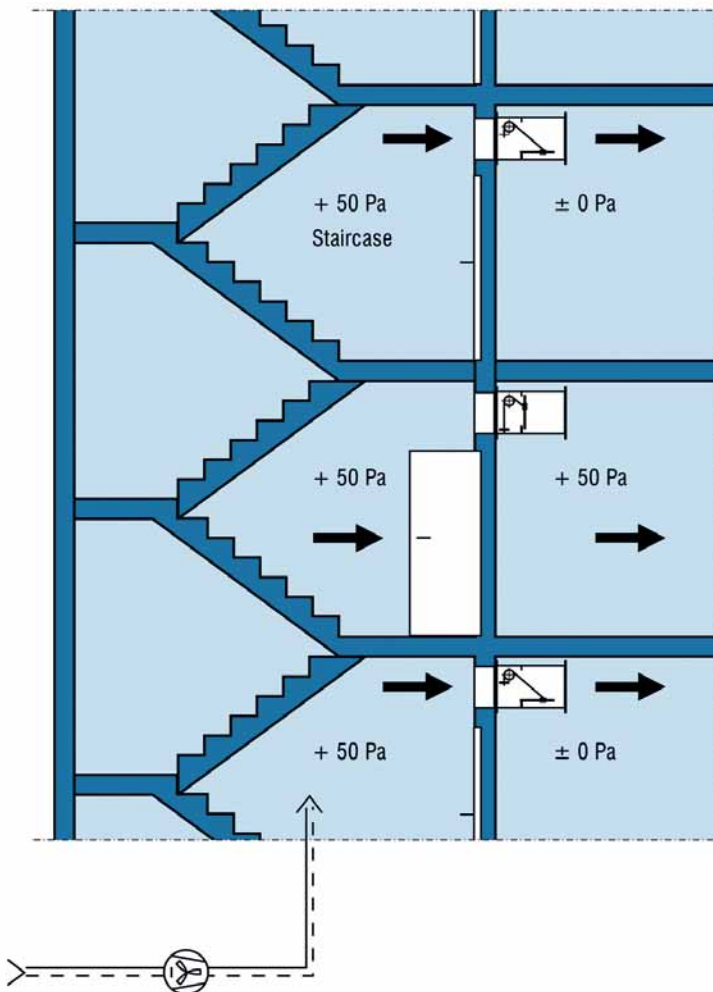
In this practical case the room to be protected is ventilated with air in excess which, while the connecting door is closed, flows through the Pressure Relief Damper into the adjacent room. The differential pressure existing between the two rooms can be adjusted by variation of the restoring mass. When the door connecting the two rooms is opened, the Pressure Relief Damper closes automatically and thus guarantees a directed air flow through the doorway.

Application: positive pressure ventilation of staircases

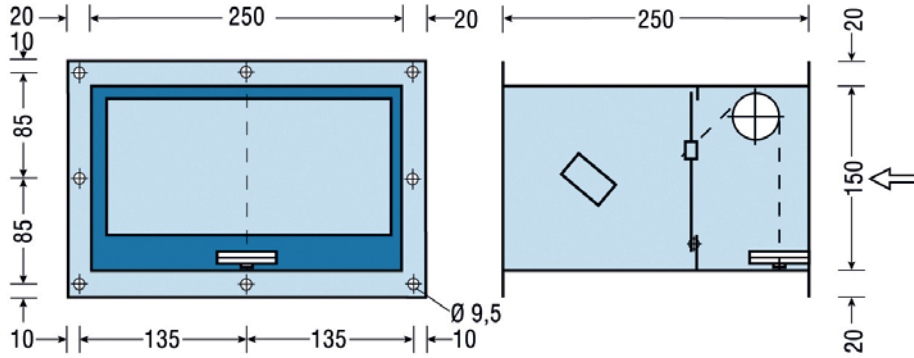
To protect persons from pollutants such as smoke, thick smoke or gases, it may be necessary to keep free of gases rooms and escape routes by means of directed flow of air. So, an positive pressure with respect to the environment is, e. g., built up in staircases. To attain this aim of protection, air must not re-flow into the rooms to be protected, not even when a door is opened.

Pressure Relief Damper type KL-ETM complies with these requirements as its manner of control is keeping the pressure in the room constant within a wide range of volume flow. The disturbing effect by opening a door will be compensated immediately.

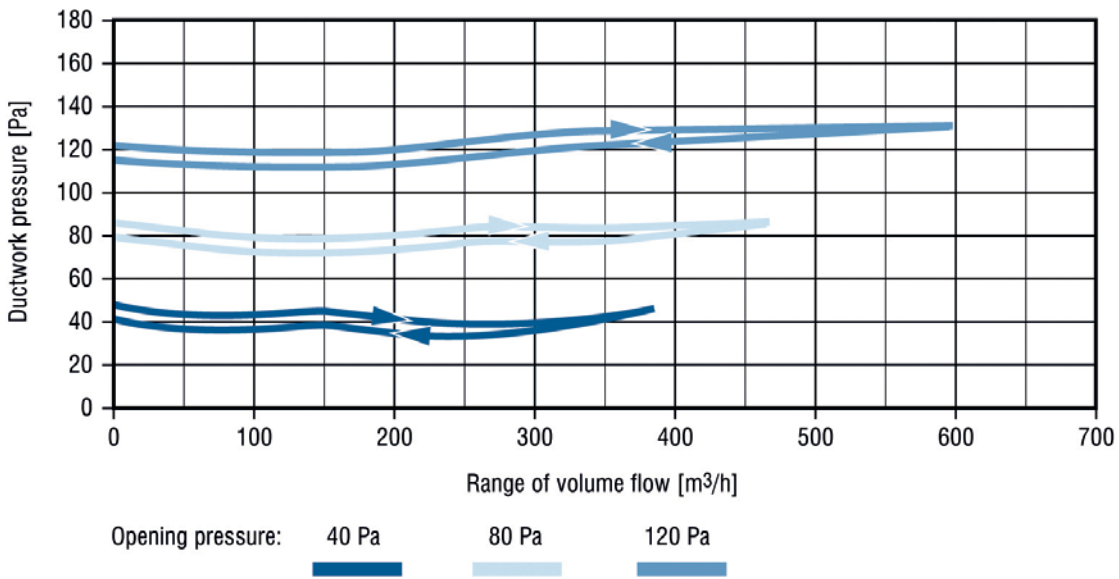
Example of an positive pressure ventilation of a staircase



Dimensions and weights



Dimensional sketch of Pressure Relief Damper, Type KL-ETM



Characteristic lines of differential pressures of Pressure Relief Damper, Type KL-ETM (results of measurements made at 20 °C air temperature)

Text for tender

Pressure Relief Damper, Type KL-ETM

Automatic, dead-weight Pressure Relief Damper with housing made of galvanized sheet steel (different material on request) and single aluminium valve blade on horizontal bearing for relieving flows at low volumetric flow rates and low opening pressures.

Features

- Opens when opening pressure set is attained
- Almost equal differential pressure independent of range of volume flow (control function)
- Closes automatically when opening pressure is underrated
- Setting of opening pressure by variation of restoring mass

Technical data

Fabricate:	Krantz
Type:	KL-ETM
Dimensions W x H x D:	250 x 150 x 250 mm
Weight:	approx. 3.5 kg
Range of volume flow ¹⁾ :	0 – 300 m ³ /h
Opening pressure, adjustable:	50 – 120 Pa ²⁾
Opening pressure, factory set: Pa

1) Higher range of volume flow achievable by parallel connection of several dampers

2) Higher opening pressure on request

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