

The following is stipulated in the Model Building Regulation and various Regional Construction Ordinances:

The spreading of fire **and smoke** must be prevented!

The automatic Helios cold smoke damper with magnetic lock meets this requirement. They seal the supply or extract air system as required in fire regulations.

Application

According to DIN 18017-3 the central extract ventilation systems in multi-storey dwellings have common mains and a central fan that is specified above or below the ceiling.

The affiliated rooms (e.g. kitchen, bathroom, toilet) in the respective storey ventilation zone) are ventilated through the extract air ducting. The mains cross multiple ventilation zones they must be led into a fire-resistant (F90 classified) shaft. The extract air vents in each ventilation zone must be equipped with fire dampers or fire safety valves.

These costly and space occupying solutions can be replaced with certified fire dampers which are integrated or moulded on the route of mains in the ceiling area. Thereby the mains can be integrated in the installation shaft.

Regional building regulations as well as general technical approvals for shut-off elements and fire dampers ensure that an exhaust air flow on the vertically attached shut-off device in the mains must always be secured to outside through the mains. The requirement becomes relevant, if the central fan breaks down, in case of fire and the

KAK



smoke reaches to the mains in the room due to excess pressure and also enters areas (other ventilation zones) which are not affected by fire due to upcoming air pressure through openings (poppet valves).

The Helios cold smoke dampers KAK with magnetic lock prevent cold smoke from entering other ventilation zones. They must be positioned in all supply / extract air vents behind the poppet valves or extract air elements (also in combination with BAE/BAK).

Design

- Ready to install element for insertion in ducting and fittings.
- Frames with surrounding U-lip seal ring made of EPDM gasket to seal the ventilation duct.
- Shutter frames on both sides made of polymer with metal insert encompass the silicon membrane. Therefore the shutter sits quietly in the air stream.
- A permanent magnet which seals the shutter at low pressure levels is located on a thread axis in the inner cylinder frame.
- Closing and opening pressure can be adjusted to the installation circumstances.

- The very low installation depth and the asymmetric shape of the shutter frames, which ensure a big opening angle, are particularly beneficial.

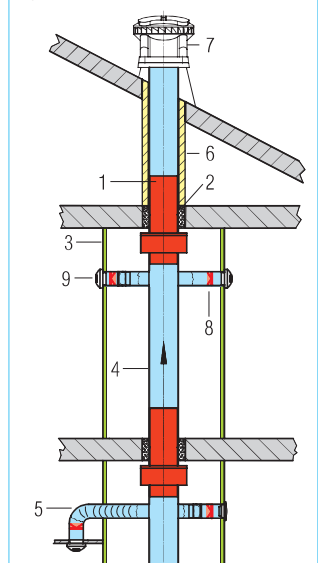
Installation and setting

- While inserting KAK into ducting, the air flow direction must be considered.
- For vertical installation with horizontal air flow, the horizontal positioning of rotation axis must be considered.
- Positioning must be directly behind the poppet valve or behind the air inlet/outlet.

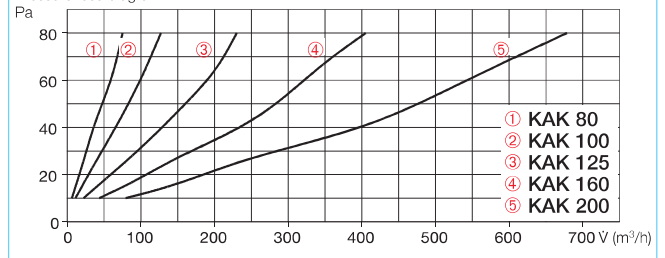
Legend

- 1 Fire damper ELS-D
- 2 Ceiling grouting
- 3 Installation shaft cladding e.g. 12.5 mm plasterboard panels
- 4 Main ducting (spiral duct)
- 5 Connection ducting (Alutlex)
- 6 Insulation against condensation
- 7 Central fan, e.g. type DV EC (see page 65 on)
- 8 Cold smoke damper KAK
- 9 Extract air element AE or poppet valve (KTVA or MTVA)

System with central fan

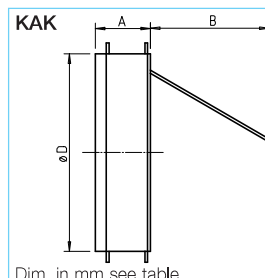


Pressure loss diagram



Ordering data

Type	Ref. no.	Dim, in mm		
		Ø D	A	B
KAK 80	4096	79	12	63
KAK 100	4097	95	20	60
KAK 125	4098	120	20	83
KAK 160	4099	155	20	110
KAK 200	4100	196	20	150



Dim, in mm see table