



SHUT-OFF DAMPER,  
VARIANT AKK



TESTED TO VDI 6022

## TYPE AKK

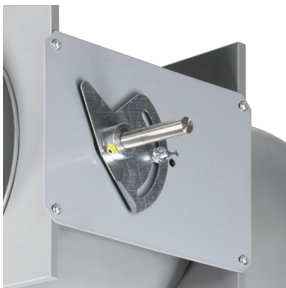
### FOR CONTAMINATED AIR

Plastic circular shut-off dampers for shutting off aggressive media volume flows in air conditioning systems

- Maintenance-free damper blade mechanism
- Closed blade air leakage to EN 1751, class 3
- Casing air leakage to EN 1751, class B

Optional equipment and accessories

- Electric actuator
- Spring return actuator
- Pneumatic actuator
- Auxiliary switch with adjustable switching points for capturing the end positions



VARIANT FOR MANUAL  
OPERATION



VARIANT WITH CIRCULAR  
SPIGOT

## Application



### Application

- Plastic circular shut-off dampers Type AKK for shutting off or restricting the airflow in ventilation ducts of air conditioning systems
- Suitable for contaminated air

### Special features

- Damper blade can be actuated manually, electrically or pneumatically
- Low-leakage shut-off
- Safety function provided by optional spring return actuator

### Nominal sizes

- 125, 160, 200, 250, 315, 400

## Description



### Variants

- AKK: Shut-off damper
- AKK-FL: Shut-off damper with flanges on both ends

### Parts and characteristics

- Ready-to-install shut-off damper
- Damper blade with blade mechanism

### Attachments

- Open/Close actuators: For the opening and closing of shut-off dampers in air conditioning systems
- Auxiliary switch for capturing the end positions

### Accessories

- Matching flanges for both ends, including seals

### Construction features

- Circular casing
- Spigot suitable for ducts according to DIN 8077
- Position of the damper blade indicated externally at the shaft extension
- All components coming into contact with the airflow are made of plastic (no interior metal parts)

### Materials and surfaces

- Casing and damper blade made of flame-resistant polypropylene (PPs)
- Plain bearings made of polypropylene (PP)
- Damper blade seals in chloroprene rubber (CR)

### Standards and guidelines

- Hygiene conforms to VDI 6022
- Closed blade air leakage to EN 1751, class 3
- Meets the general requirements of DIN 1946, part 4, with regard to the acceptable closed blade air leakage
- Casing air leakage to EN 1751, class B

### Maintenance

- Maintenance-free as construction and materials are not subject to wear

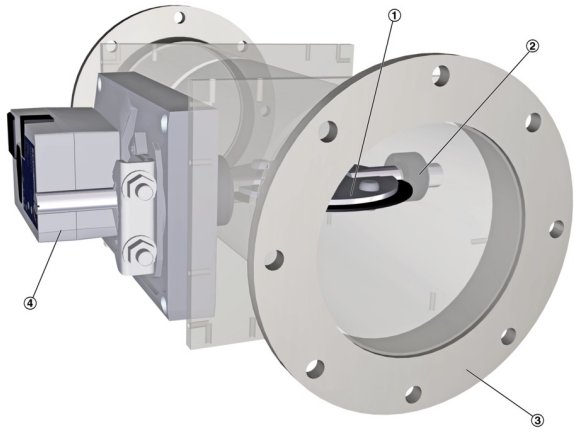
## TECHNICAL INFORMATION

Function, Technical data, Quick sizing, Specification text, Order code



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Schematic illustration of the AKK (construction variant with flange)



- ① Damper blade
- ② Plain bearings
- ③ Flange
- ④ Actuator

Nominal sizes	125 – 400 mm
Acceptable static differential pressure	1500 Pa
Operating temperature	10 – 50 °C

Quick sizing tables provide a good overview of the room sound pressure levels that can be expected. Approximate intermediate values can be interpolated. Precise intermediate values and spectral data can be calculated with our Easy Product Finder design programme.

**Quick sizing: Static differential pressure and sound pressure levels with open damper blade**

Nominal size	V		Differential pressure	Air-regenerated noise
Nominal size	V		$\Delta p_{st}$	$L_{PA}$
	l/s	m <sup>3</sup> /h	Pa	dB(A)
125	15	54	5	<15
	60	216	10	24
125	105	378	25	36
	150	540	50	45
160	25	90	5	<15
	100	360	10	22
160	175	630	20	33
	250	900	45	41
200	40	144	5	<15
	160	576	10	21
200	280	1008	20	31
	405	1458	40	39
250	60	216	<5	<15
	250	900	5	19
250	430	1548	15	29
	615	2214	30	38
315	100	360	<5	<15
	410	1476	5	21
315	720	2592	15	34
	1030	3708	25	43
400	170	612	<5	<15
	670	2412	5	34
400	1175	4230	10	50
	1680	6048	15	61

Circular shut-off dampers in PPs plastic for air conditioning systems, available in 6 nominal sizes. Suitable for shutting off or restricting extract air flows containing aggressive substances since all components coming into contact with the airflow are made of plastic (no interior metal parts).

Suitable for duct pressures up to 1500 Pa.

Ready-to-install unit consists of the casing with a damper blade.

Spigot, suitable for ducts according to DIN 8077.

Position of the damper blade indicated externally at the shaft extension.

Closed blade air leakage to EN 1751, class 3.

Casing air leakage to EN 1751, class B.

#### Special features

- Damper blade can be actuated manually, electrically or pneumatically
- Low-leakage shut-off
- Safety function provided by optional spring return actuator

#### Materials and surfaces

- Casing and damper blade made of flame-resistant polypropylene (PPs)
- Plain bearings made of polypropylene (PP)
- Damper blade seals in chloroprene rubber (CR)

#### Technical data

- Nominal sizes: 125 – 400 mm
- Acceptable static differential pressure: 1500 Pa

#### Sizing data

- V \_\_\_\_\_ [m<sup>3</sup>/h]

Air-regenerated noise

- L<sub>PA</sub> \_\_\_\_\_ [dB(A)]

This specification text describes the general properties of the product. Texts for variants can be generated with our Easy Product Finder design programme.

Order example: AKK/160/B30

Nominal size	160 mm
Actuator	Supply voltage 24 V AC/DC

## AKK – FL / 160 / GK / BP0 / NO



### 1 Type

AKK Shut-off damper, plastic

### 4 Accessories

No entry: none  
GK Matching flanges for both ends

### 2 Flange

No entry: none  
FL Flanges on both ends

### 5 Actuator

No entry: manual operation  
For example  
B20 24 V AC/DC, modulating 2 – 10 V DC  
B30 24 V AC/DC, 3-point  
B32 24 V AC/DC, 3-point, with auxiliary switch  
TNO Pneumatic 0.2 – 1 bar

### 3 Nominal size [mm]

125  
160  
200  
250  
315  
400

### 6 Damper blade position

Only for spring return actuators and pneumatic actuators  
NO Pressure off/power off to OPEN  
NC Power off/Pressure off to close

Variants, Attachments, Dimensions and weight



Shut-off dampers Type AKK



**AKK, electric actuators**

Order code detail	Actuator	Supply voltage	Auxiliary switch
<b>Open/Close actuators</b>			
B30	Actuator with mechanical stops TROX/Belimo	24 V AC/DC	–
B32	Actuator with mechanical stops TROX/Belimo	24 V AC/DC	2
B40	Actuator with mechanical stops TROX/Belimo	100 – 240 V AC	–
B42	Actuator with mechanical stops TROX/Belimo	100 – 240 V AC	2
BP0	Spring return actuator with mechanical stops TROX/Belimo	24 V AC/DC	–
BP2	Spring return actuator with mechanical stops TROX/Belimo	24 V AC/DC	2
BR0	Spring return actuator with mechanical stops TROX/Belimo	24 – 240 V AC, 24 – 125 V DC	–
BR2	Spring return actuator with mechanical stops TROX/Belimo	24 – 240 V AC, 24 – 125 V DC	2
<b>Modulating actuators</b>			
B20	Modulating actuator 0 – 10 V with mechanical stops TROX/Belimo	24 V AC/DC	–

**AKK, pneumatic actuators**

Order code detail	Actuator	Control pressure	Auxiliary switch
<b>Pneumatic actuators</b>			
TN0	Pneumatic actuator TROX	0.2 – 1.0 bar	–

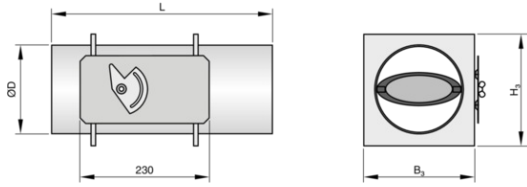
**AKK**

Nominal size	AKK m kg	AKK/.../B** m kg	AKK/.../TN0 m kg	ØD mm	L mm	B <sub>3</sub> mm	H <sub>3</sub> mm
125	1.2	3.1	2.9	125	394	195	145
160	1.5	3.4	3.2	160	394	230	180
200	1.9	3.8	3.6	200	394	270	220
250	3.1	5.0	4.8	250	594	320	270
315	5.0	6.9	6.7	315	594	385	335
400	7.2	9.1	8.9	400	594	470	420

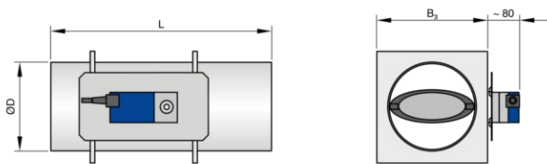
**AKK-FL**

Nominal size	AKK-FL m kg	AKK-FL/.../B** m kg	AKK-FL/.../TN0 m kg	ØD mm	L mm	B <sub>3</sub> mm	H <sub>3</sub> mm	ØD <sub>1</sub> mm	ØD <sub>2</sub> mm	n	T mm
125	1.5	3.4	3.2	125	400	195	145	165	185	8	8
160	1.9	3.8	3.6	160	400	230	180	200	230	8	8
200	2.4	4.3	4.1	200	400	270	220	240	270	8	8
250	3.7	5.6	5.4	250	600	320	270	290	320	12	8
315	6.0	7.9	7.7	315	600	385	335	350	395	12	10
400	8.5	10.4	10.2	400	600	470	420	445	475	16	10

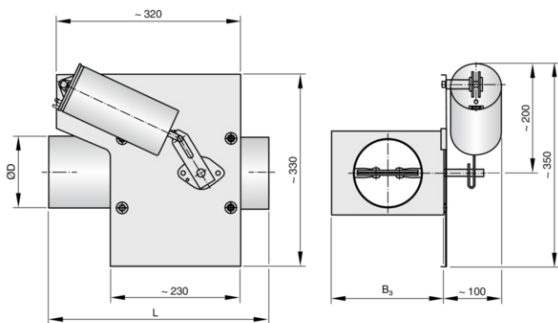
**AKK**



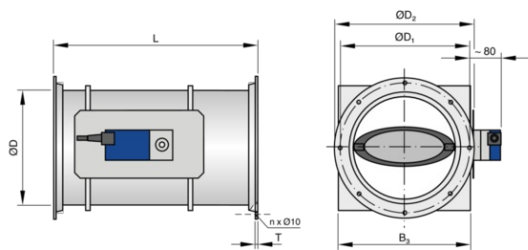
AKK/.../B\*\* (electric actuators)



AKK/.../.../TN0 (pneumatic actuator)



AKK-FL





## Installation and commissioning

- Any installation orientation

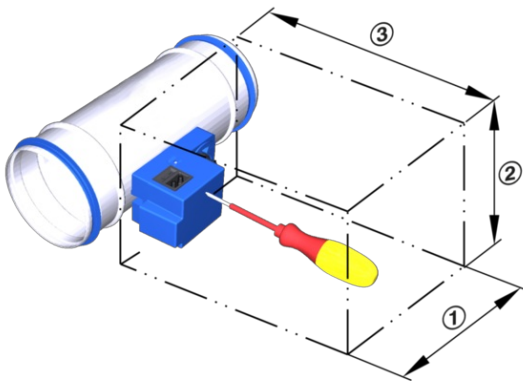
## Space required for commissioning and maintenance

Sufficient space must be kept clear near any attachments to allow for commissioning and maintenance. It may be necessary to provide sufficiently sized inspection access openings.

## Space required

Attachments	①	②	③
	mm		
Without actuator	250	150	200
With electric actuator	300	200	300
With pneumatic actuator	400	350	300

## Access to attachments, attached on one side



## Principal dimensions

### ØD [mm]

Shut-off and flow adjustment dampers made of stainless steel: Outer diameter of the connecting spigot

Shut-off dampers made of plastic: Inside diameter of the connecting spigot

### ØD<sub>1</sub> [mm]

Pitch circle diameter of flanges

### ØD<sub>2</sub> [mm]

Outer diameter of flanges

### ØD<sub>4</sub> [mm]

Inside diameter of the screw holes of flanges

### L [mm]

Length of unit including connecting spigot

### L<sub>1</sub> [mm]

Length of casing or acoustic cladding

$n$  [ ]

Number of flange screw holes

$T$  [mm]

Flange thickness

$m$  [kg]

Unit weight including the minimum required attachments

**Acoustic data**

$L_{PA}$  [dB(A)]

A-weighted sound pressure level of air-regenerated noise of the shut-off or flow adjustment damper, system attenuation taken into account

All sound pressure levels are based on 20  $\mu$ Pa.

**Volume flow rates**

$V$  [m<sup>3</sup>/h] and [l/s]

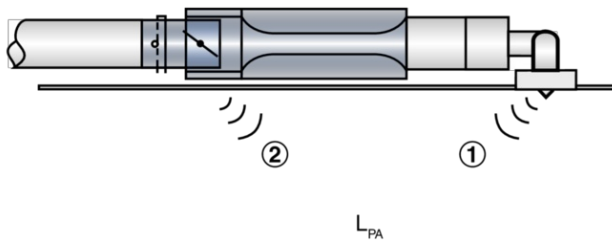
Volume flow rate

**Differential pressure**

$\Delta p_{st}$  [Pa]

Static differential pressure

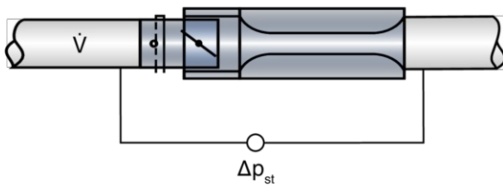
**Definition of noise**



① Air-regenerated noise

② Case-radiated noise

**Static differential pressure**



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