

DKISMA

Systemair multicompartment rectangular smoke control dampers

Resistance class EI120($v_{ew} \leftrightarrow o$) S1500C_{mod} AAmulti



Ordering codes

Nominal dimensions	DKISMA - W × H
Type of activation	DV7, DV9, DV9-ST, DV9-SR

NOTES:

DKISMA: multicompartment rectangular smoke damper with automatic activation

Type of activation:

DV7; actuator 230 V AC with auxiliary switches

DV9; actuator 24 V AC/DC with auxiliary switches

DV9-ST; actuator 24 V AC/DC with auxiliary switches and with supply and communication unit BKNE230-24

DV9-SR; modulated actuator 24 V AC/DC with auxiliary switches and blade position control (as air volume control damper)

Example of the ordering codes:

DKISMA - 1600×1000 - DV9-ST

Multicompartment rectangular smoke damper width $W = 1600$ mm, height $H = 1000$ mm, with actuator 24 V AC/DC with auxiliary switches and with supply and communication unit BKNE230-24.

Description

Smoke damper (hereafter referred to as damper) is a component of SHEVS (Smoke and Heat Exhaust Ventilation Systems) and has two safety positions:

1. open - to enable exhaust of heat and smoke via special fan from fire compartment in which occur fire accident or
2. closed - to stop the spread of the heat and smoke to the fire compartment without fire.

Design

DKISMA has a sheet metal casing. Damper blade is made of calcium silicate boards. Closed damper is sealed by an active intumescent sealing to avoid the spread of the heat and smoke. Flanges are used for connection of the damper DKISMA to a duct.

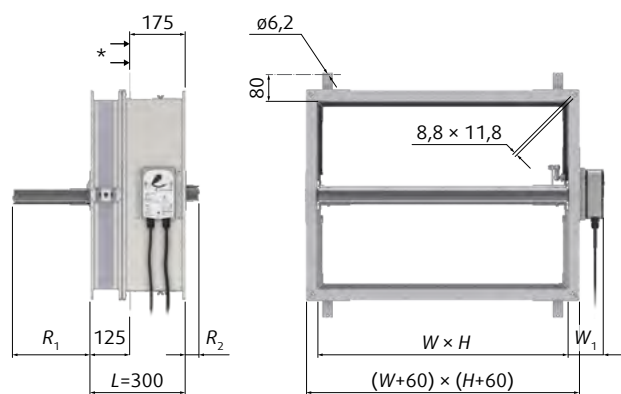
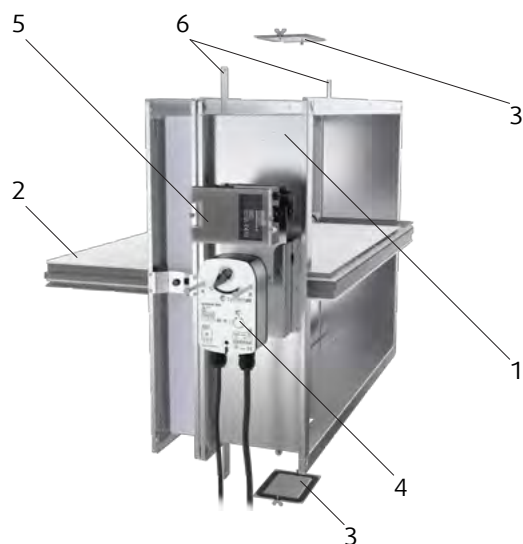


Fig. 2: Dimensions of the smoke damper DKSMI

* NOTE: suspension plane

Damper parts:

- 1. Casing
- 2. Damper Blade
- 3. Inspection opening
- 4. Actuator
- 5. Communication unit (only version DV9-ST); position of this unit depends on H size - above or on the side of the actuator
- 6. Bendable hanging

Fig. 1: Components of the DKISMA

Fire resistances, dimension ranges and allowed installations

Multicompartment rectangular smoke dampers are CE certified in accordance with the hnEN 12101-8, tested according to EN 1366-10 and classified in accordance with EN13501-4:

Dimension range (mm)	Certificate No.	Product type	Fire resistivity	Supporting construction	Installation - tested at underpressure (Pa)					
					Wet	Dry	Soft crossing	Instal. kit	On a wall	Out of a wall
200 × 200 up to 1600 × 1000	 1396 - CPR - 0112	DKISMA	EI120(v _{ew} i ↔ o) S1500C _{mod} AA multi	ve	1500					

Rigid / Flexible wall

Tab. 1: Fire resistances, allowed installation methods and dimension ranges of the DKISMA

Dimensions, weights and overhangs

m^* (kg $\pm 10\%$)		W (mm)																	
H (mm)	200	9,9	10,8	11,6	12,5	13,4	14,3	15,1	16,9	18,6	-	-	-	-	-	-	-	-	-
	250	10,8	11,7	12,7	13,6	14,6	15,6	16,6	18,5	20,4	22,3	-	-	-	-	-	-	-	-
	300	11,6	12,7	13,7	14,8	15,8	17,0	18,0	20,1	22,2	24,3	26,4	-	-	-	-	-	-	-
	350	28,3	13,9	15,1	16,2	17,4	18,6	19,7	22,0	24,4	26,6	28,9	31,2	-	-	-	-	-	-
	400	13,6	14,9	16,1	17,4	18,6	19,9	21,1	23,6	26,1	28,6	31,1	33,6	36,1	38,6	-	-	-	-
	450	-	15,9	17,2	18,5	19,9	21,3	22,6	25,3	28,0	30,6	33,3	36,0	38,7	41,4	44,1	-	-	-
	500	-	16,8	18,3	19,7	21,1	22,6	24,1	26,9	29,8	32,7	35,5	38,4	41,3	44,2	48,4	51,6	-	-
	600	-	-	20,4	22,0	23,7	25,3	27,0	30,2	33,5	36,7	41,3	44,5	47,8	51,1	54,3	58,1	60,7	-
	700	-	-	-	27,2	29,0	30,8	32,7	36,3	38,4	42,0	45,7	49,3	52,9	56,6	60,3	64,4	67,0	70,4
	800	-	-	-	-	28,8	30,9	34,2	38,2	42,2	46,2	50,3	54,3	58,3	62,3	69,3	73,8	77,3	81,4
	900	-	-	-	-	-	34,9	37,1	41,5	45,9	50,2	54,7	62,0	66,4	70,8	75,2	80,2	84,0	88,4
	1000	-	-	-	-	-	-	40,0	44,7	49,5	54,3	62,0	66,8	71,6	76,3	81,1	86,5	90,7	95,5

Tab. 2: Dimensions and weights of the DKISMA

* NOTE: This table is valid for DV7 and DV9 - damper with actuator (blue cells - two actuators on one side of the casing)

	= For DV9-ST + 0,8 kg (one BKNE230-24)
	= For DV9-ST + 1,6 kg (two BKNE230-24)
-	= Not produced

H	R ₁	R ₂
(mm)		
200	45	-
250	70	-
300	95	-
350	120	-
400	145	-
450	170	-
500	195	-
600	245	45
700	295	95
800	345	145
900	395	195
1000	445	245

Tab. 3: Blade overhangs of the DKISMA in fully open position

		W (mm)																	
		200	250	300	350	400	450	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600
H (mm)	200																		
	250				DV7 / DV9; $W_1 = 111$ mm														
	300				DV9-ST; $W_1 = 179$ mm														
	350																		
	400																		
	450																		
	500																		
	600																		
	700																		
	800																		
	900																		
	1000																		

DV7 / DV9; $W_1 = 111$ mm
DV9-ST; $W_1 = 179$ mm
DV7 / DV9 / DV9-ST
 $W_1 = 111$ mm
DV7 / DV9 / DV9-ST
 $W_1 = 125$ mm
DV7 / DV9 / DV9-ST
 $W_1 = 197$ mm

Tab. 4: Overhang of the actuator (DV7 and DV9) or actuator with supply and communication unit (DV9-ST)

Free areas

A _v (m²)		W (mm)																	
		200	250	300	350	400	450	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600
H (mm)	200	0,025	0,031	0,037	0,044	0,050	0,057	0,063	0,076	0,089									
	250	0,034	0,043	0,052	0,061	0,070	0,079	0,088	0,106	0,124	0,141								
	300	0,044	0,055	0,066	0,078	0,089	0,101	0,112	0,135	0,158	0,181	0,204							
	350	0,053	0,067	0,081	0,095	0,109	0,123	0,137	0,165	0,193	0,220	0,248	0,276						
	400	0,063	0,079	0,095	0,112	0,128	0,145	0,161	0,194	0,227	0,260	0,293	0,326	0,359	0,392				
	450		0,091	0,110	0,129	0,148	0,167	0,186	0,224	0,262	0,299	0,337	0,375	0,413	0,451	0,489			
	500		0,103	0,124	0,146	0,167	0,189	0,210	0,253	0,296	0,339	0,382	0,425	0,468	0,511	0,553	0,596		
	600			0,153	0,180	0,206	0,233	0,259	0,312	0,365	0,418	0,471	0,524	0,577	0,630	0,682	0,735	0,788	
	700				0,214	0,245	0,277	0,308	0,371	0,434	0,497	0,560	0,623	0,686	0,749	0,811	0,874	0,937	1,000
	800					0,284	0,321	0,357	0,430	0,503	0,576	0,649	0,722	0,795	0,868	0,940	1,013	1,086	1,159
	900						0,365	0,406	0,489	0,572	0,655	0,738	0,821	0,904	0,987	1,069	1,152	1,235	1,318
1000							0,455	0,548	0,641	0,734	0,827	0,920	1,013	1,106	1,198	1,291	1,384	1,477	

Tab. 5: Free areas of the DKISMA

Technical parameters

Durability test	10 000 + 10 000 + 100 + 100 cycles without a change to the required attributes – modulated actuator
Testing under pressure	-1500 Pa – pressure level 3 according to EN 1366-10
Safe position	Closed / open according to situation in the fire compartment
Possible Installation	Wet in rigid / flexible wall
Airflow direction	Optional
Allowed air velocity	Max. 15 m/s
Closing time	Actuator driven < 60 s
Ambient temperature	-20 °C up to +50 °C
Repeated opening	It is possible to open the device in cold condition
Indicator closed / open	Microswitches included in actuator
Environment suitability	Only indoor environment (3K5 according to EN 60721-3-3)
Inspection possibility	After opening of the inspection lid
Maintenance	Not required
Allowed pressure	1200 Pa
Blade tightness (STN EN 1751)	Class 3
Tightness of the housing (STN EN 1751)	Class C
Modulated actuator	Can be set to any position when opening blade - see types of activation mechanisms DV9-T-SR
Conformity with EC directives	2006/42/ES Machinery Directive
	2006/95/ES Low Voltage Directive
	2004/108/ES Electromagnetic Compatibility Directive
Utilisation in SHEVS	In multi fire compartments

Damper installation and maintenance

Smoke dampers must be installed, operated and inspected according to the Installation, operation and inspection manual of the smoke dampers

“InstalMaintenOperInstr_PP-53_DKISMA_EN”.

They are maintenance-free. For DKISMA is allowed wet installation with horizontal blade axis in the rigid or flexible wall using plaster/ mortar/ concrete.

Usage and operation

The DKISMA is a part of a heat exhaust ventilation system (SHEVS). The system helps to keep the exits smoke-free, facilitates the job for fire brigades, slows down the spread of fire. This system is created in larger buildings, where the size and shape of the building do not enable natural smoke exhaust when fire occurs. The damper is controlled by a actuator-drive which, triggered by an electric impulse from a smoke alarm or remote controlled by electric fire signalization center, opens or closes the damper blade according to the needs of the SHEVS and according to the situation in relevant fire compartment. Actuator closes or opens the damper within 60 seconds.

Transportation, storage and operation conditions

It is essential to transport the dampers by such means of transport that provide a cover and secured on pallets. If manipulation occurs during the transportation or storage, dampers must be protected against damage and weather conditions.

Damper blades must be in the closed position.

It is recommended to store these products in a closed and dry area with a temperature range from -20°C to 50°C.

Materials used and disposal

This product contains iron, brass, zinc, calciumsilicate non-asbestos boards, passive and active anti-fire sealing. They are disposed of according to valid legal regulations. The product does not contain any dangerous materials.

Warranty conditions

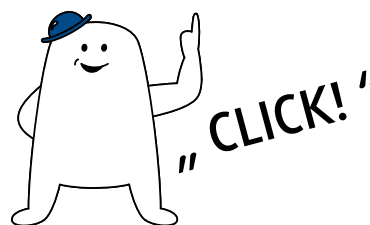
The manufacturer provides a 24 month warranty period, which begins on the day of the expedition noted in the delivery note. Details see in “InstalMaintenOperInstr_PP-53_DKISMA_EN”.

Appendix

Any demands regarding deviations from the above mentioned technical specifications and conditions shall be discussed with the manufacturer. The manufacturer reserves the right to perform any technical modifications of the product without prior notice, provided that such changes have no effect on the quality and performance of the product.

Newest versions of all relevant documents for fire safety products are downloadable from:

[FireSafetyProductsOverview.pdf](#)



Smoke dampers - Related products

PKIS, PKIR3G, PKIS3G and PKIS3GA

Systemair fire dampers

Product information is available in the technical documentation TechSpec_TPI-28 and on the webpage www.systemair.com/Global/Products/fire-safety/.



PKI-C

Cartridge fire dampers

Product information is available in the technical documentation TechSpec_TPI-74 and on the webpage www.systemair.com/Global/Products/fire-safety/.



DKIR1 and DKIS1

Systemair smoke dampers

Smoke dampers are intended for smoke and heat exhaust ventilation systems (SHEVS). Product information is available in the technical documentation TechSpec_TPI-52 and on the webpage www.systemair.com/Global/Products/fire-safety/.

