ESAS Smoke control damper

Rectangular smoke control damper ESAS is specially designed to use in single fire compartment applications as a closing or as an opening damper for smoke extract purposes. ESAS is fulfilling the new european product standard EN 12101-8 requirements for single compartment applications and it is CE marked. The product has been tested according to EN 1366-10 fulfilling fire class E 120 with pressure class 500 Pa and temperature class 600 °C.
ESAS dampers are suitable both for automatically by a fire alarm activated systems (AA) and manually, after the fire has started, by fire fighter activated systems (MA), 25 min open / close. ESAS smoke control damper is designed so, that opening or closing can be made even 25 minutes after the fire has started, in 600 °C. Factory mounted electrical actuator is placed inside fire resistant calcium-silicate box. By design phase and installation work it is very important to notice, that all cable system with connection boxes has to be done by fire resistant products. Electrical actuator changes the damper position from open or close with transfer time not more than 60 s. If the electricity is cut off, damper blade will remain in its position.

- Smoke control damper has two safety positions open or closed
- Smoke control damper is activated to transfer to safety position automatically by smoke detection or manually by switch used by fire fighters.
- Electrical actuator has 2 free auxiliary switches for open / close position indication
- Flow direction has no affect to the function of the damper

Smoke control damper ESAS is always delivered with factory mounted elctrical actuator 24 V or 230 V. Actuator is placed inside calcium-silicate box. Damper blades of ESAS are insulated with stone wool insulation.

Product data

Sizes 200 x 200 ... 1200 x 1200 mm

CE marking ESAS
MPA No. 0761-CPD-0288

Fire class according to EN 13501-4
E_{600} 120 (v_e i ↔ o) 500C_{300}MAsingle

The smoke extraction damper fulfills the requirements of leakage class 2 according to EN 1751.

The damper casing fulfills the requirements of leakage class B according to EN 1751.

Pressure drop across a closed damper may amount to 2500 Pa.

Heat transfer coefficient
U = 3,7 W/m^{2}K

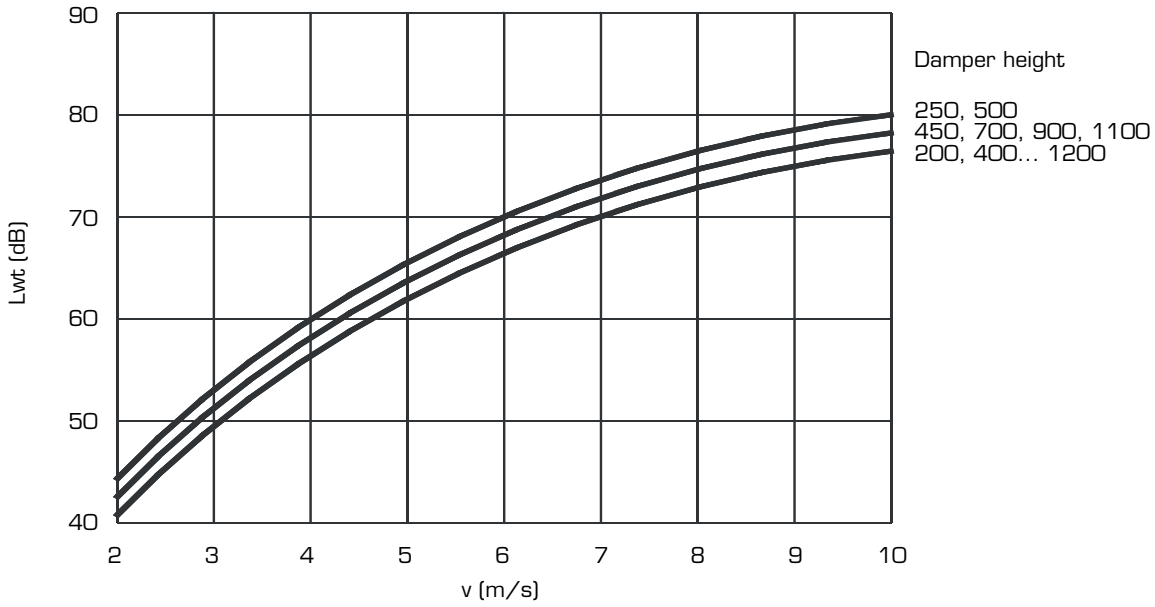
Product code example:

Smoke control damper
ESAS-040003001541

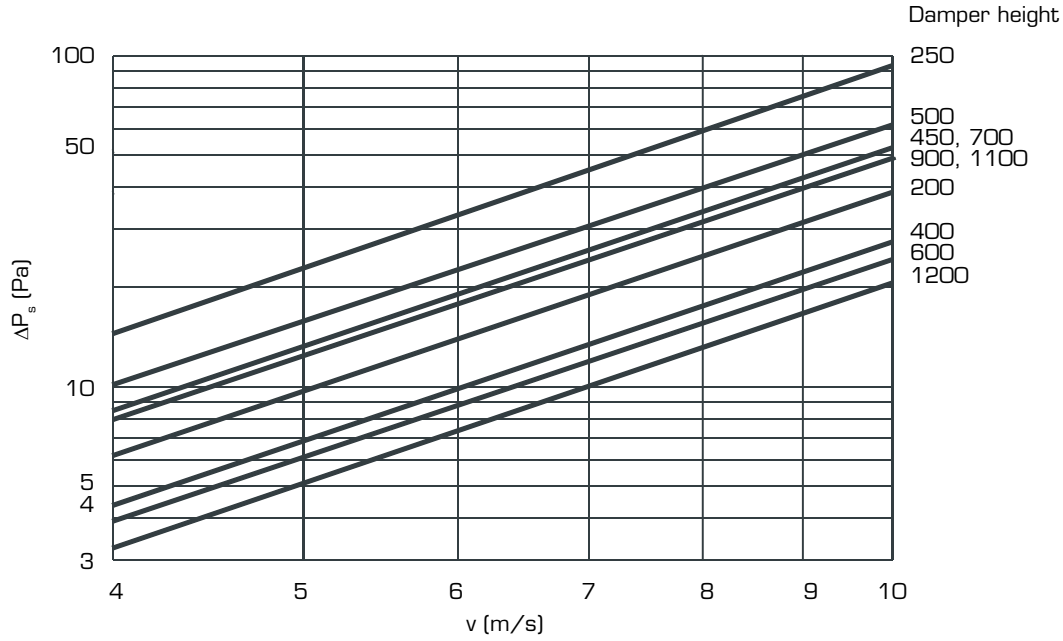
Technical data - pressure drop, sound data

Selection diagrams

Noise level in the duct



Pressure drop



Correction of sound power level by octave bands = K_{oct}

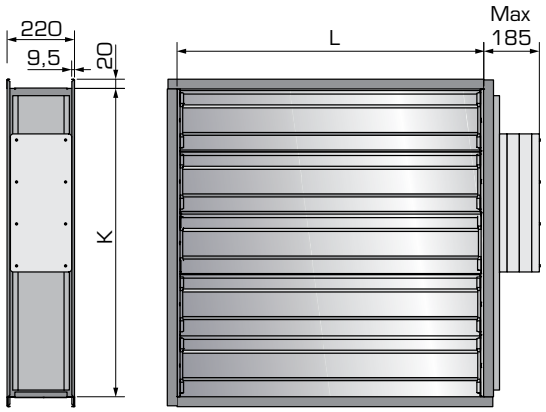
Frequency band	125	250	500	1000	2000	4000	8000
Correction K_{oct}	-3	-5	-11	-15	-18	-21	-33

$$\mathbf{L_{woct} = L_{wt} + K_{oct}}$$

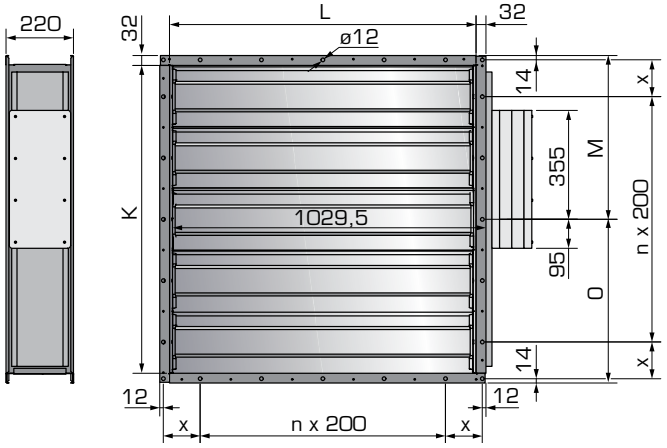
Dimensions and weights

Dimensions

Slip joint



Flange joint



L	200	250	300	350	400	450	500	600	700	800	900	1000	1100	1200
K	200	250	300	350	400	450	500	600	700	800	900	1000	1100	1200
M	134		284		334		484	534	484	534	484	534	684	734
0	134		84		134		84	134	284	334	484	534	484	534
x	120	145	170	195	120	145	170	120	170	120	170	120	170	120
n (spacing)	0	0	0	0	1	1	1	2	2	3	3	4	4	5

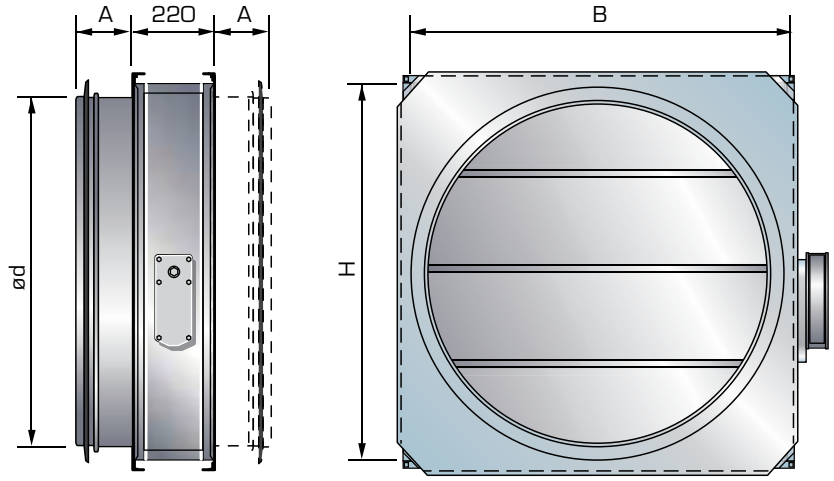
Weights kg

K \ L	200	250	300	350	400	450	500	600	700	800	900	1000	1100	1200
200	12.8	13.3	13.8	14.3	14.8	15.3	15.8	16.8	17.8	18.8	19.9	20.9	21.8	22.9
250	13.4	14.1	14.7	15.4	16.1	16.7	17.4	18.7	20.0	21.4	22.7	24.0	23.3	26.7
300	13.6	14.3	15.1	15.8	16.5	17.2	17.9	19.4	20.8	22.3	23.7	25.2	24.7	28.0
350	13.9	14.6	15.4	16.2	17.0	17.7	18.5	20.1	21.6	23.2	24.7	26.3	26.0	29.4
400	15.8	16.5	17.1	17.8	18.4	19.1	19.8	21.1	22.4	23.7	25.0	26.3	27.6	29.4
450	16.4	17.3	18.1	18.9	19.7	20.5	21.3	23.0	24.6	26.2	27.9	29.5	29.0	33.2
500	16.7	17.5	18.4	19.3	20.2	21.0	21.9	23.6	25.4	27.1	28.9	30.6	31.0	34.5
600	18.9	19.7	20.5	21.3	22.1	22.9	23.7	25.3	27.0	28.6	30.2	32.2	33.7	35.5
700	19.7	20.7	21.8	23.1	23.8	24.9	25.9	27.9	30.0	32.0	34.1	36.5	36.7	40.6
800	21.9	22.9	23.8	24.8	25.8	26.7	27.7	29.6	31.5	33.9	35.8	37.7	39.5	41.6
900	22.8	23.9	25.1	26.3	27.6	28.7	29.8	32.2	34.6	37.3	39.7	42.0	42.5	46.7
1000	24.9	26.0	27.1	28.2	29.4	30.5	31.6	34.1	36.4	38.7	40.9	43.1	45.6	48.0
1100	25.7	27.1	28.4	29.7	31.1	32.4	33.7	36.8	39.5	42.1	44.8	47.4	48.4	53.2
1200	27.9	29.1	30.4	31.7	33.3	34.6	35.9	38.4	40.9	43.5	46.4	49.0	51.2	54.0

Weights include actuator.

Smoke control damper ESAS with round connection pieces, accessories

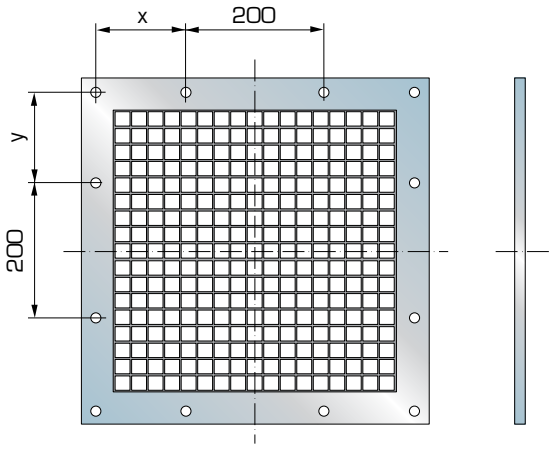
Smoke control damper ESAS with round connection pieces



ød	B	H	A	Joint
200	200	200	35	Slip
250	250	250	45	Slip
315	350	350	45	Slip
400	400	400	85	Slip
500	500	500	70	Slip
630	650	650	80	Slip
800	800	800	140	Slip
1000	1000	1000	140	Slip

Accessories

Grille FNR

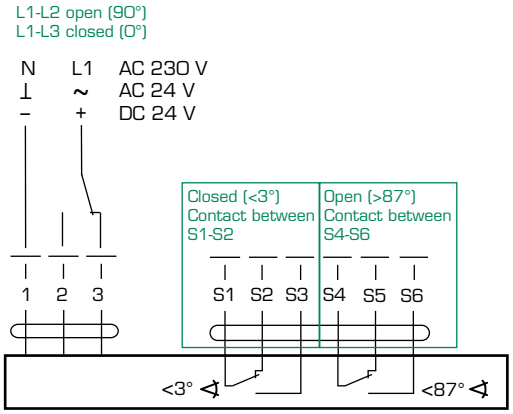


B	x	H	y
200	120	200	120
250	145	250	145
300	170	300	170
350	195	350	195
400	120	400	120
450	145	450	145
500	170	500	170
600	120	600	120
700	170	700	170
800	120	800	120
900	170	900	170
1000	120	1000	120
1100	170	1100	170
1200	120	1200	120

Wiring diagram for damper motor

Wiring diagram for damper motor

Wiring of the actuator has to be done inside the fire resistant calcium-silicate box, since the cable delivered with the actuator is non fire resistant.
The wiring of ESAS smoke control damper must always be done using fire resistant cables and switch boxes in order to guarantee the damper's operation in case of fire.



Actuator electrical data

Actuator volltage	Max power hold/drive	Power for wire sizing
24V AC/DC	0,5 W / 12 W	18 VA
230V AC	0,5 W / 8 W	15 VA

Descriptions

v	flow velocity	(m/s)
L_{Wokt}	sound power level in the duct	(dB)
L_{Wt}	sound power level	(dB)
K_{okt}	correction	(dB)
Δp_s	static pressure drop	(Pa)

Product code and installation

Description

Smoke control damper ESAS

- Fläkt Woods Smoke Control Damper ESAS for Single Compartment smoke control systems
- With factory mounted safety actuator, which is placed inside fire resistant calcium-silicate box
- Opening and closing with electrically driven actuator 24 V or 230 V
- Fire tested and CE marked according the harmonised product standard EN 12101-8
- Fire class according to EN 13501-4; E_{600} 120 (v_e i ↔ o) 500C_{300}MAsingle
- Fläkt Woods ESAS fullfills the requirements for MA class for opening / closing (25 min, 600 °C)

Suitable both for AA and MA smoke control systems

Installation

Installation instructions from Fläkt Woods has to be followed to be able to fulfill fire classification.

The duct outlet must be placed so that the smoke extraction damper is protected from water coming from outside as well as ice and snow that could hinder the opening of the damper.

The ductwork section between the smoke extraction damper and duct outlet must be designed and insulated so that the fire resistance and tightness requirements are met. Also take account of possible condensation.

Product code

Smoke control damper **ESAS - aaaabbbbCdde**

Size (aaaabbbb)
Width (aaaa) x Height (bbbb)
200x200 - 1200x1200 mm

Joint (C)
A = Slip
B = Flange

Actuator (dd)
54 = 24 V AC/DC
56 = 230 V AC

Actuator model (e)
1 = Standard

Smoke control damper with round connection pieces **ESAS - aaaabbc-Dd**

Connection diameter, mm (aaaa)
0200, 0250, 0315, 0400, 0500, 0630, 0800, 1000

Actuator (bb)
54 = 24 V AC/DC
56 = 230 V AC

Actuator model (c)
1 = Standard

Round connection piece (Dd)
D1 = on one side
D2 = on both sides

Accessories

Grille **FNR - aaaa - bbbb - c - d**

Size (LxK , mm)
Width (aaaa)
0200, 0250, 0300, 0350, 0400, 0450, 0500,
0600, 0700, 0800, 0900, 1000, 1100, 1200
Height (bbbb)
0200, 0250, 0300, 0350, 0400, 0450, 0500,
0600, 0700, 0800, 0900, 1000, 1100, 1200

Joint (c)
1 = Slip
2 = Flange

Material (d)
1 = Hot-galvenized steel