

ESAR Smoke control damper



Circular smoke control damper ESAR is specially designed to use in single fire compartment applications as a closing or as an opening damper for smoke extract purposes. ESAR 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 S with pressure class 1000 Pa and temperature class 600 °C.

ESAR 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. ESAR 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 ESAR is always delivered with factory mounted electrical actuator 24 V or 230 V. Actuator is placed inside calcium-silicate box.

Product data

Sizes Ø100 - Ø630 mm
(rectangular ESAS dampers with round connection pieces are used for bigger sizes)

CE marking ESAR
MPA No. 0761-CPD-0278

Fire class according to EN 13501-4
E₆₀₀ 120 (v_e i ↔ o) S1000C₃₀₀ MAsingle

The fire damper fulfills the requirements of leakage class 3 according to EN 1751.

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

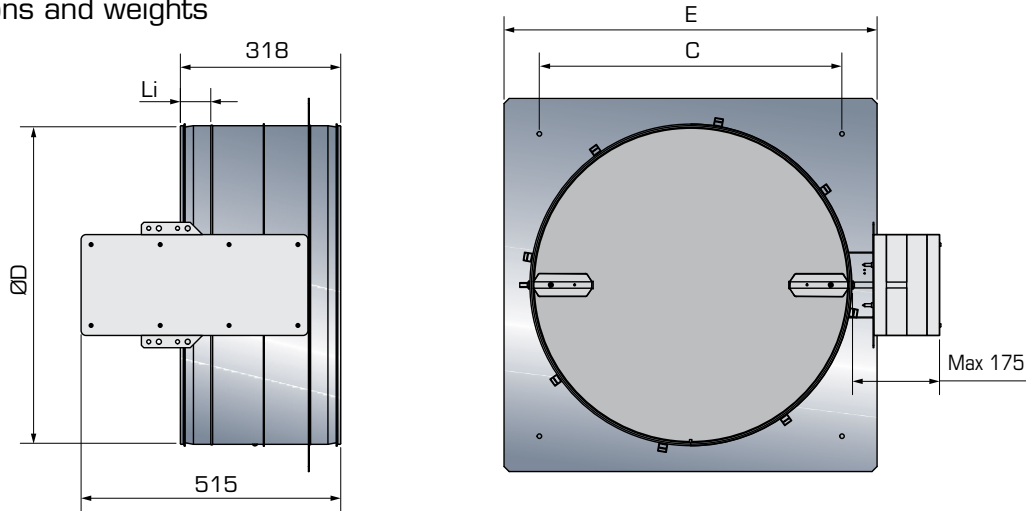
Pressure drop across a closed damper may amount to 2500 Pa.

Product code example:

Smoke control damper
ESAR-315-54-1

Dimensions and weights, pressure drop

Dimensions and weights

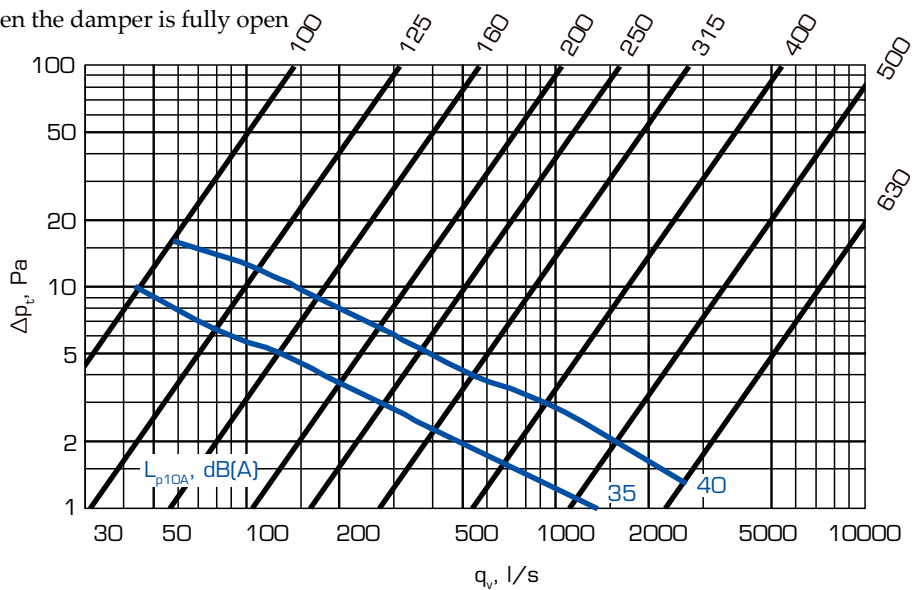


Size	ØD	C	E	Li	Weight (kg)
100 *	160	159	220	35	10,7
125 *	160	159	220	35	10,7
160	160	159	220	35	10,3
200	200	203	260	35	10,8
250	250	237	310	40	11,2
315	315	281	380	40	13,3
400	400	390	470	60	14,7
500	500	480	570	60	17,2
630	630	600	740	60	21,6

* Delivered with extension piece BDED, when the total length is 495 mm (Ø100) or 465 mm (Ø125).

Pressure drop

Pressure drop, when the damper is fully open



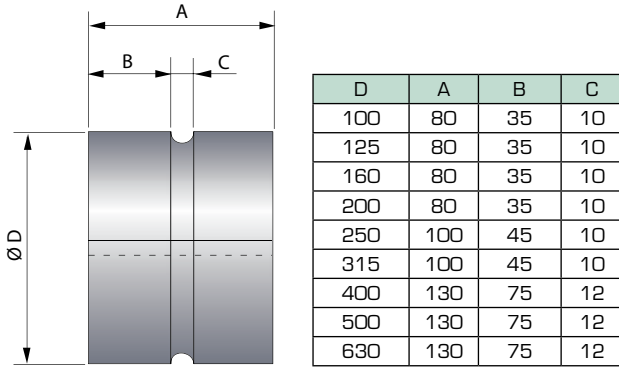
Sound power level correction by octave bands

OCTAVE BAND (Hz)	125	250	500	1000	2000	4000	8000
CORRECTION K_{oct}	16	10	5	0	-7	-13	-18
TOLERANCE +/-	6	3	3	3	3	3	3

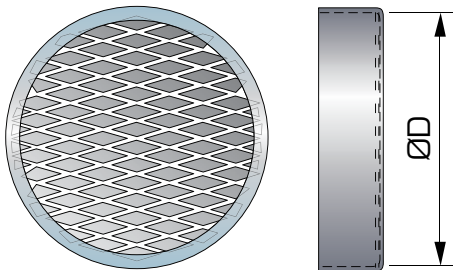
$$L_{Woct} = L_{p10A} + K_{oct}$$

Accessories and wiring diagram for damper motor

Extension piece FLD

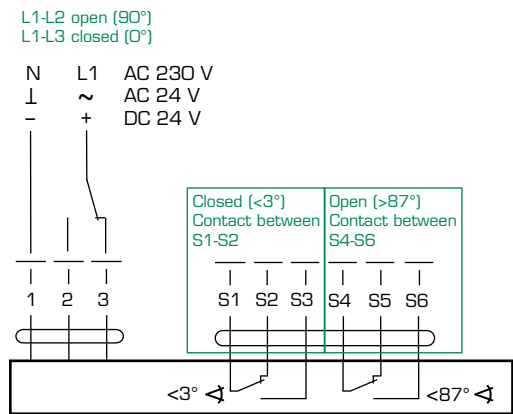


Grille FND



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.



Definitions

q_v	Air flow	l/s
$L_{W_{oct}}$	Sound power level in kanal by octave bands	dB
L_{p10A}	Sound pressure level with 4 dB room attenuation (10 m ² sab)	dB(A)
K_{oct}	Correction	dB
Δp_s	Pressure drop	Pa

Actuator electrical data

Actuator voltage	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

Product code and installation

Description

Smoke control damper ESAR

- Fläkt Woods Smoke Control Damper ESAR 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; E₆₀₀ 120 (v_e i ↔ o) S1000C₃₀₀ MA_{single}
- Fläkt Woods ESAR 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 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 ESAR - aaa - bb - c

Size (aaa) _____
Connection diameter 100...630 mm

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

Actuator model (c) _____
1 = Standard

Accessories

Extension piece FLD - aaa - 1

Size (aaa) _____
Connection diameter 100...630 mm

Grille FND - aaa - 1 -1

Size (aaa) _____
Connection diameter 100...630 mm