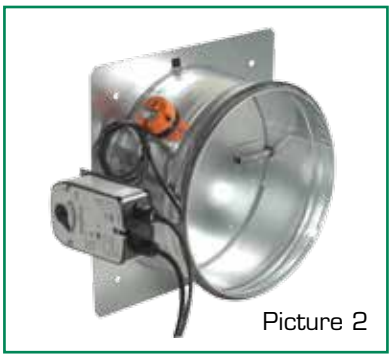
Fire damper ETPR-E-1

Picture 1



Picture 2

Fire and smoke damper ETPR-E-1 is used as a closing device for preventing the spread of fire and smoke in ventilation ducts between fire compartments. Fire dampers are equipped with fusible link and spring mechanism for closing (see picture 1) or with electrical actuator (see picture 2).

ETPR-E-1 is CE marked based on product standard EN 15650:2010 and conforms to fire resistance class E 120 / E 60 S when installed in vertical ducting and E 90 / E 60 S in horizontal ducting. Fire damper is tested according to test standard EN 1366-2 and classified according to EN 13501-3. ETPR-E-1 is approved for installation into building elements made of concrete, lightweight concrete, brick or gypsum plate walls. The damper shaft can be installed in horizontal or vertical position. An E-classified fire damper requires fire insulation for ducts in order to comply with the compartmentation requirement (EI).

ETPR-E-1 is available in standard duct sizes 100 to 500 mm in diameter. Hot-galvanized damper casing conforms to EN 1506 and is equipped with a VELODUCT® gasket. Damper casing fulfils the requirements of tightness class C according to EN 1751. ETPR-E-1 fulfils the requirements of smoke leakage classification S according to EN 13501-3.

The standard release temperature of the fusible link is + 70 C. Other temperatures for fusible link are available to special order (+ 50 C, +100 C).

Electrical actuator is available as type 24 V or 230 V. When using control and monitoring system FICO, the actuator has to be always of type 24 V. More information of FICO systems can be found in separate brochure of FICO-128 or FICO-2.

The motorized dampers are tested 10000 times (open/close) and therefore dampers can be used also for daily ventilation purposes. The use of motorized damper enables automatic function testing (by e.g. FICO) and the use of a smoke-detector-based release system. The motor is equipped with built-in micro switches for both open and closed position. In case of a power cut, the damper closes automatically.

Product data

Sizes Ø100 - Ø500

CE marking ETPR-E-1
SP No. 0402-CPD-SC0400-12

Fire class according to EN 13501-3
E 60 (v_e i ↔ o) S
E 90 (v_e i ↔ o)
E 60 (h_o i ↔ o) S
E 120 (h_o i ↔ o)

The damper casing fulfils the requirements of tightness class C according to EN 1751.

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

ETPR-E-1 fulfills the requirements of BS 476: Part 20: 1987.

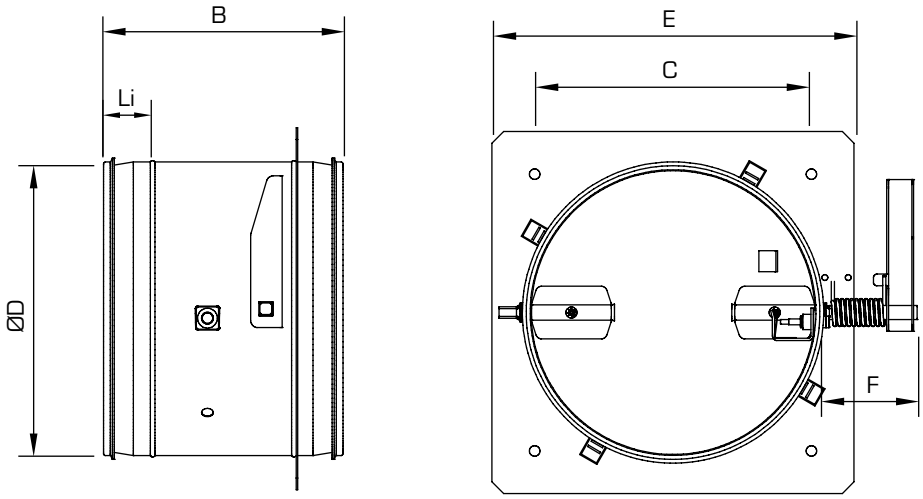
Product code example:

Fire damper ETPR-E-1-315-03-2

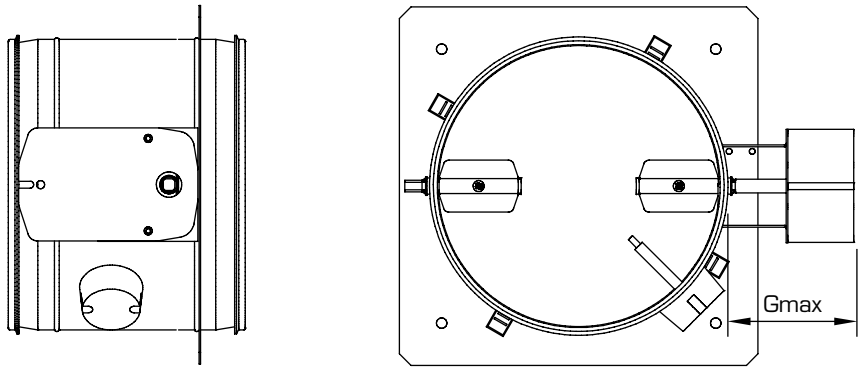
Dimensions and weights

Dimensions and weights

Damper with thermal fuse



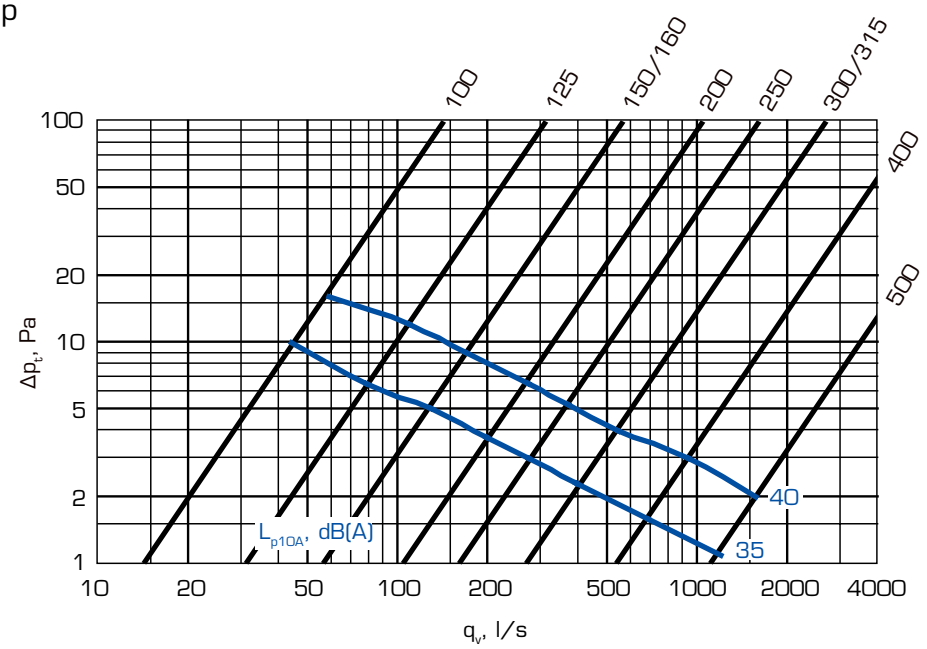
Motorized damper



Size	D	B	C	E	F	Gmax	Li	Weight (kg) damper with thermal fuse	Weight (kg) motorized damper
100	100	205	129	160	80	125	35	1,0	2,6
125	125	205	134	185	80	125	35	1,4	3,1
150	150	205	159	220	80	125	35	1,7	3,4
160	160	205	159	220	80	130	35	1,7	3,4
200	200	205	203	260	80	130	35	2,0	3,7
250	250	205	237	310	80	130	40	2,6	4,2
300	300	205	381	380	80	130	40	3,7	5,4
315	315	205	281	380	80	130	40	3,7	5,4
400	400	280	390	470	80	130	60	5,8	7,4
500	500	280	480	570	80	130	60	7,7	9,4

Pressure drop

Pressure drop



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

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

Definitions

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

Product code and accessories

Description

Fläkt Woods CE marked fire damper ETPR-E-1 which is suitable for installation into building elements of fire class EI 60 / EI 90 / EI 120 made of concrete, lightweight concrete, brick or gypsum plate walls of the same class. The dampers are installed according to the mounting instructions provided by the manufacturer.

Product code

Fire damper (circular) **ETPR-E-1 - aaa - bb - c**

Size (diameter mm)
100, 125, 150, 160, 200, 250, 300, 315, 400, 500

Actuator
01 = fuse +70°C
03 = 24V AC/DC and thermal trip
05 = 230V AC and thermal trip
08 = auxiliary device microswitch open +70° C
12 = auxiliary device pneumatic cylinder, long fuse +70° C

Actuator model
0 = without actuator
2 = FWB
3 = FWG (always with size 500)

Replacement fuse **ETPR - 99 - 01 - c**

4 = fuse 70°C
6 = long fuse 70°C *)
7 = fuse 100°C
*) for electric and gas release

Accessories

Extension piece **FLD-aaa-1**

Size (diameter mm)
100, 125, 150, 160, 200, 250, 300, 315, 400, 500

Inspection piece **FWD-aaa-1**

Size (diameter mm)
100, 125, 150, 160, 200, 250, 300, 315, 400, 500

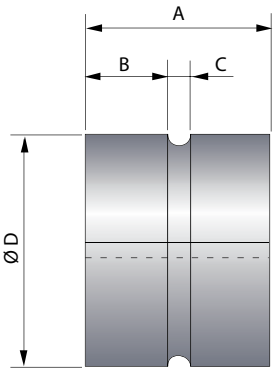
Grille **FND-aaa-1-1**

Size (diameter mm)
100, 125, 150, 160, 200, 250, 300, 315, 400, 500

Control system **FICO-128 / FICO-2**

See a separate brochure.

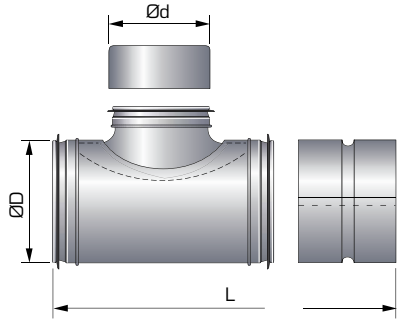
Extension piece FLD-aaa-1



Size D	A	B	C
100	80	35	10
125	80	35	10
150	80	35	10
160	80	35	10
200	80	35	10
250	100	45	10
300	100	45	10
315	100	45	10
400	162	75	12
500	162	75	12

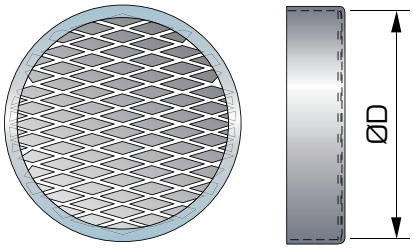
Consists of piece BDEM. Extension 200 mm.

Inspection piece FWD-aaa-1



FWD length L (consists of pieces BDEG+BDEM+BDET)
L = 200 mm Ø100 - Ø200, 310 mm Ø250 - Ø315 and 430 mm Ø400 - Ø630.

Grille FND-aaa-1-1



Auxiliary devices

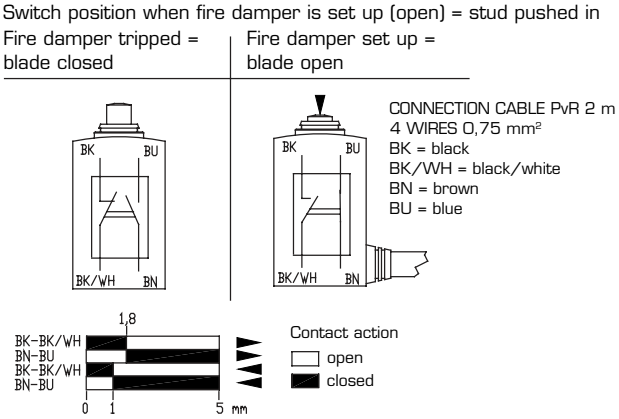
Pneumatic release

A fire damper equipped with a pressure cylinder closes either when the thermal fuse blows or by means of a pressure impact when the pressure is switched on. The pressure is obtained from HALON / CO2 or other automatic extinction system network. The required pressure impulse for the cylinder is approximately 200 kPa. The pressure cylinder is connected to the system by a Cu D8 pipe.

Microswitch

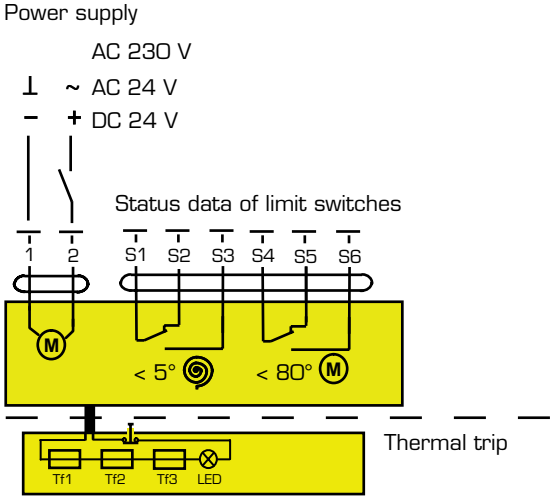
The microswitch indicates blade position, sends an impulse after the blade has been closed to other fire dampers equipped for remote release, gives an alarm in the control system or stops / starts the operation of fans depending on the designed system. The microswitch has no effect on the thermal fuse , nor does it cause the release of the fire damper.
The microswitch can also be installed in contact with pneumatic or electrical release. In that case, it must be specified in order.

Switch position when fire damper is set up (open) = stud pushed in



ELECTRICAL PROPERTIES: OPERATING TEMPERATURE -25 ... +70°C
AC-15: B300 (Ue=230VAC, Ie=1,5A)
DC-13: R300 (Ue=24VDC, Ie =3A)

Wiring diagram for damper motor



Actuator electrical data

Fire damper size	Actuator	Voltage	Equipment	Max power hold/drive	Power for wire sizing
100 - 315	ETMF-99-S-03	24V AC/DC	Thermal trip	2,5W/5,5W	8 VA
100 - 315	ETMF-99-S-05	230V AC	Thermal trip	3W/5W	8 VA
400 - 500	ETMF-99-L-03	24V AC/DC	Thermal trip	3,5W/7W	10 VA
400 - 500	ETMF-99-L-05	230V AC	Thermal trip	3,5W/8W	12,5 VA

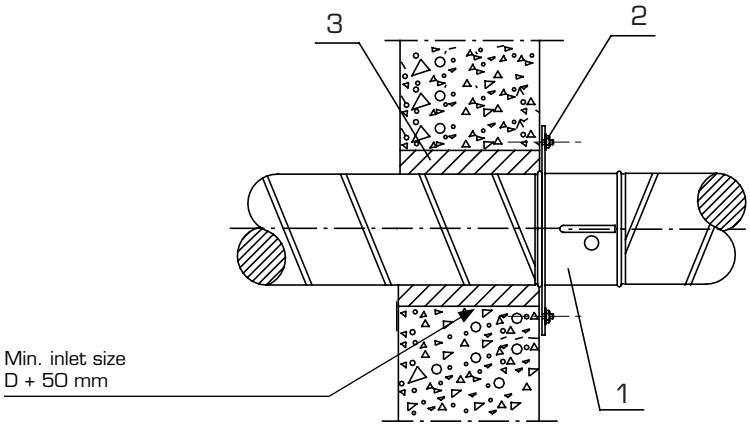
Storage temperature of fire damper actuator should not exceed +50°C.

Installation

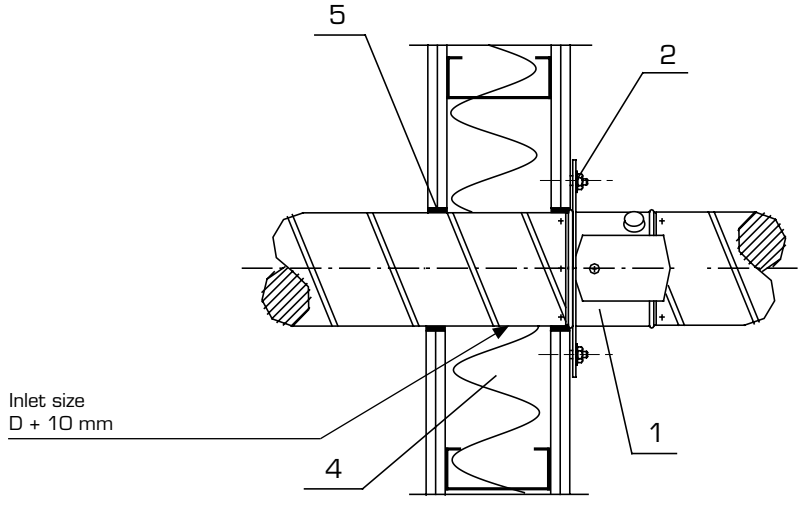
Installation

To secure the performance and operation of the fire damper, it is necessary to do the installation according to these instructions and local regulations.
Fire damper ETPR-E-1 can be fitted with either to horizontal or vertical ducting. Max. velocity of air flow through the damper is 15 m/s, and operation in not dependent on the air flow direction.

The body has to be fixed firmly into building element. Damper has a factoryfitted installation plate for mounting. Fire damper is installed into building element according to installation drawings below.
Fire damper has to be fitted into ducting so, that it is easy to inspect and clean.



Installation of fire damper into building elements (walls and intermediate floors) made of concrete or masonry, construction thickness ≥ 110 mm. The blade shaft can be placed in any position.



Installation of fire damper into lightweight plasterboard building elements (gypsum board or similar), wall thickness ≥ 116 mm. The blade shaft can be placed in any position.

1. Fire damper
2. Fastening into concrete or masonry building element:
   steel anchor ≥ M6, 4 pcs
   Fastening into lightweight plasterboard building element:
   steel anchors suited for boards ≥ M6, 4 pcs
3. Grouting, gypsum or concrete based, 25-35 mm thick
4. Mineral wool, min. density 40 kg/m^3
5. Fire resistant mass

