118164EN-01
2020-02

alnor
systemy wentylacji

TECHNICAL DOCUMENTATION

Shut-off Fire Dampers

FDA-12-T
FDA-12-M

Wersja 007/04/18/PG

Wola Mrokowska
Kwiecień 2018 r.

Contents

FDA-12-T/FDA-12-M

CE

ALNOR Systemy Wentylacji sp. z o.o.
00-719 Warszawa, ul. Zwierzyniecka 8b
Place of production:
05-552 Wola Mrokowska,
Aleja Krakowska 10, POLEN

16

1488-CPR-0562/W

EN 15650:2010
Fire damper model/type: FDA-12-M

No.	Essential characteristics of the product	Mandated levels and/or classes
1	Nominal activation conditions/sensitivity	EI 120 (ve ho i <->o) S (300 Pa)
2	Sesing element load bearing capacity	-
3	Sensing element response temperature	≤105°
	Response delay (response time)	
4	Closure time	≤2 min
	Operational reliability	
5	Cycling	10000 cycles
	Fire resistance	
6	Integrity	EI120
7	Insulation	EI120
8	Smoke leakage	EIS120
9	Mechanical stability (under E)	E120
10	Maintenance of the cross section (under E)	E120
	Durability of response delay	
11	Sensing element response to remperature and load bearing capacity	≤105°
	Dutability of operational reliability	
12	Open and closing cycle tests	10000 cycles

Technical documentation

FDA-12-T/FDA-12-M

CE

ALNOR Systemy Wentylacji sp. z o.o.
00-719 Warszawa, ul. Zwierzyniecka 8b
Place of production:
05-552 Wola Mrokowska,
Aleja Krakowska 10, POLEN

16

1488-CPR-0562/W

EN 15650:2010
Fire damper model/type: FDA-12-M

No.	Essential characteristics of the product	Mandated levels and/or classes
1	Nominal activation conditions/sensitivity	EI 120 (ve ho i <->o) S (300 Pa)
2	Sesing element load bearing capacity	280 N
3	Sensing element response temperature	≤105°
	Response delay (response time)	
4	Closure time	≤2 min
	Operational reliability	
5	Cycling	50 cycles
	Fire resistance	
6	Integrity	EI120
7	Insulation	EI120
8	Smoke leakage	EIS120
9	Mechanical stability (under E)	E120
10	Maintenance of the cross section (under E)	E120
	Durability of response delay	
11	Sensing element response to remperature and load bearing capacity	280 N ≤105°
	Dutability of operational reliability	
12	Open and closing cycle tests	50 cycles

*applies to Alnor 71°C thermal fuse, with nominal operating temperature 86,6°C, producer: Alnor

FDA-12-T/FDA-12-M

Subject of documentation

The subject of the present documentation covers the FDA-12 round shut-off fire dampers used in the general ventilation systems as protections that prevent smoke and fire from getting between the separated neighbouring fire zones.

General characteristics

The FDA-12 shut-off dampers may be used when the ventilation system passes through the vertical and horizontal building partitions, ensuring fire integrity E, fire insulation I, smoke-leakage S 120 - EI 120 (ve ho i↔o) S, depending on the fire resistance class of the building partition.

The fire dampers are produced in the following nominal sizes of DN100, DN125, DN140, DN150, DN160, DN180, DN200, DN224, DN250, DN280, DN315. Fire dampers are provided with the mechanism with the tension spring and the thermal fuse (FDA-12-T), or the actuator with the return spring, connected with the thermal fuse (FDA-12-M). The fire dampers in question are produced at the production plant of ALNOR SYSTEMY WENTYLATCJI sp. z o. o. in Wola Mrokowska, Aleja Krakowska 10, Poland.

The shut-off dampers in question have been classified in accordance with the procedures included in PN-EN 13501-3+A1:2010P (fire classification of construction products and building elements). The fire tests have been carried out in accordance with PN-EN 1366-2:2001P (Fire resistance tests for service installations - Part 2: Fire dampers). All the production activities are in conformance with PN-EN 15650:2010.

Damper blade leakage class has been categorised into class 3 (class 2 for Ø100 and class 4 forØ315) in accordance with EN-1751:1998.
External casing leakage class C as per EN-1751:1998.

Construction of fire dampers

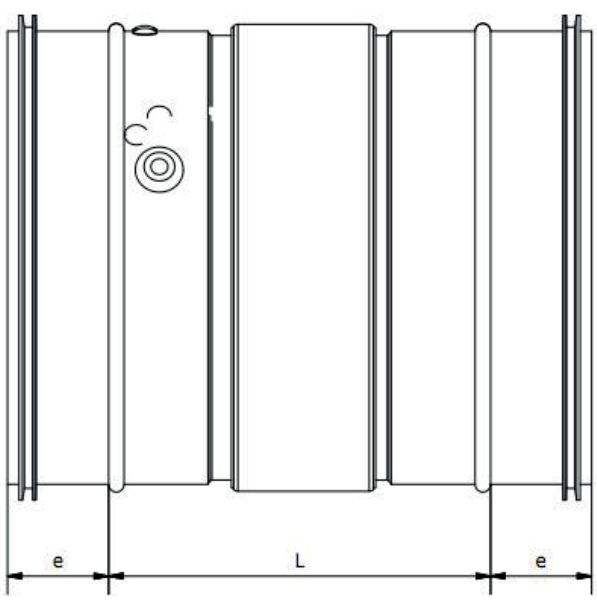
The round body is made of galvanised steel sheet DX51D + Z275, 0.5 [mm] thick for Ø100 [mm], 0.7 [mm] for Ø125-200 [mm] and 0.9 [mm] for Ø224-315 [mm]. Butt weld of the body. Body lengths for all the diameters, for the version with the tension spring - ~204 [mm] and for the version with the actuator ~320 [mm]. The damper blade is made of the fire-proof material (PROMATECT-H) produced by PROMAT TOP sp. z o.o. with the thickness of 20 [mm] for Ø100-200 [mm] and thickness of 25 [mm] for Ø224-315 [mm], lined on one side with galvanised steel sheet with the thickness of 0.5 [mm]. Inside the body, in the plane of the damper blade in the closed position, and the perforation, there is an intumescent seal - PROMASEAL-GT produced by PROMAT TOP Sp. z o.o. with the thickness of 1.8 [mm] and width of 40 [mm]. The inner tightness of the damper is ensured by the seal placed on the circumference of the damper blade , made of EPDM rubber. The tightness of the casing is ensured by EPDM seals mounted mechanically on the edges of the body. The damper blade is mounted inside the casing, on hinges made of galvanised steel, 0.9 [mm] thick. Steel blind rivet nuts M5 constitute the axis of rotation.

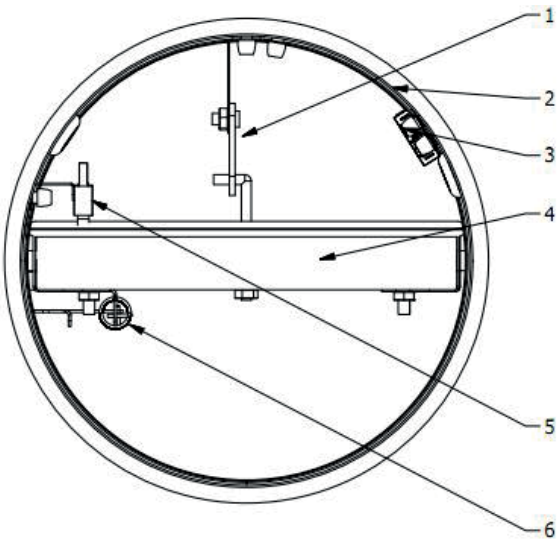
In the damper provided with the tension spring, the dampers blade is opened by its manual adjustment to the open position, tension of the spring and installation of the thermal fuse. The damper blade is closed as a result of operation of the thermal fuse with the operating temperature of 72°C. The spring is made of Ø1.2 [mm] wire. In dampers with nominal diameters of 224 [mm] and 315 [mm], two springs are mounted. In the case of all the smaller diameters, one spring is mounted. For Ø224-315 [mm], the damper blade in the closed position is locked. Inside, it is possible to install limit switches, which signal the position of the damper blade .
In the damper with the return spring, the movement of the damper blade takes place as a result of transfer of the rotary movement form the actuator to the damper blade by means of a the mechanism made of galvanised steel elements, 1.5 [mm] and 3 [mm] thick. The opening is automatic, if the supply voltage is

FDA-12-T/FDA-12-M

fed, or manual. The closure is caused by interruption of the power supply (remote or as a result of operation of the thermal fuse).

Construction of the dampers is presented in illustrations 1-4.

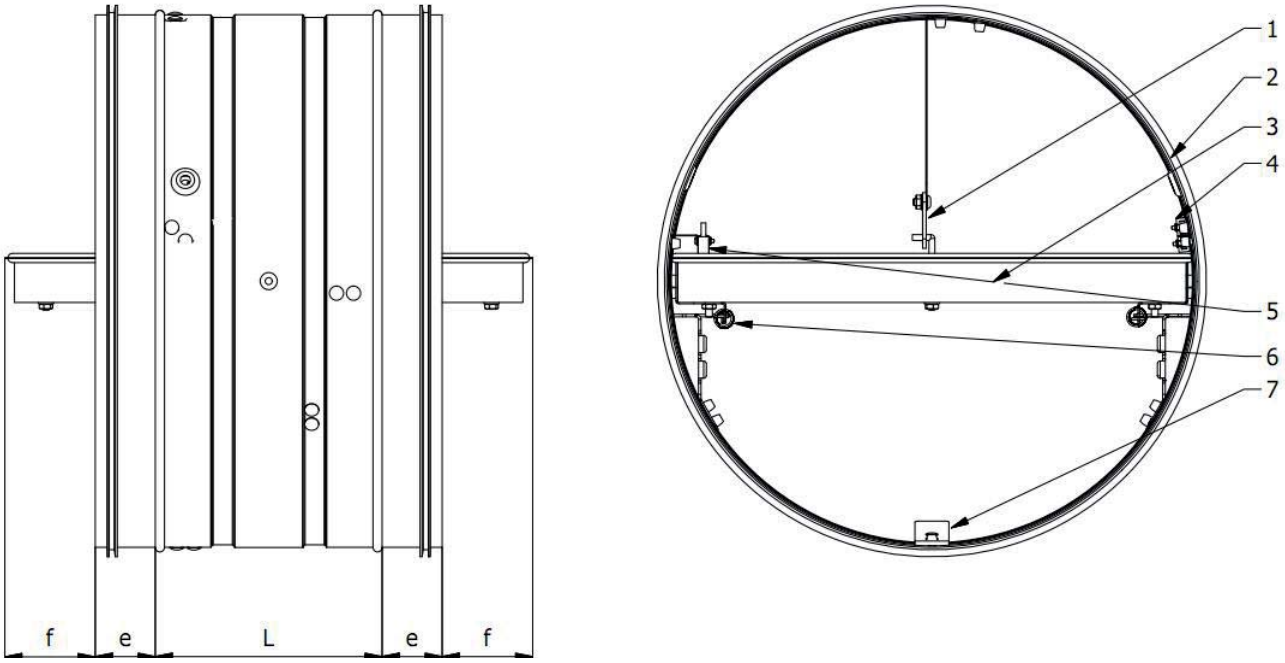




1 – thermal fuse
2 – casing
3 – limit switch - CLOSED (option)
4 – damper blade
5 – limit switch - OPENED (option)
6 – tension spring

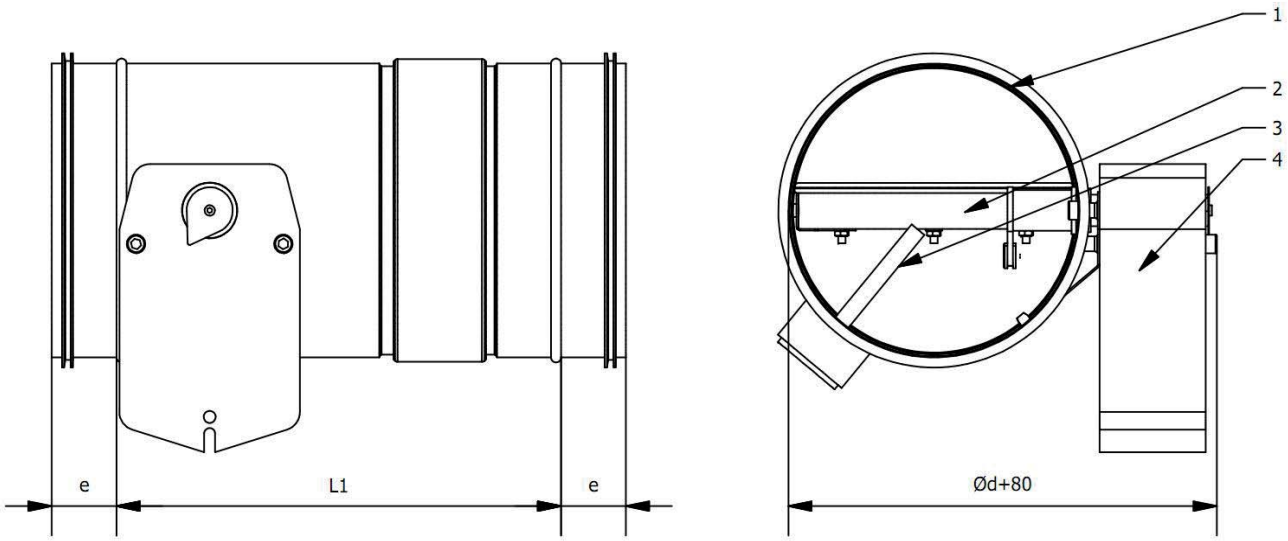
Fig. 1 FDA-12-T, fire damper with a spring and a thermal fuse (Ø100-200).

FDA-12-T/FDA-12-M



1 – thermal fuse
2 – casing
3 – damper blade
4 – limit switch - CLOSED (option)
5 – limit switch - OPENED (option)
6 – tension spring
7 – lock

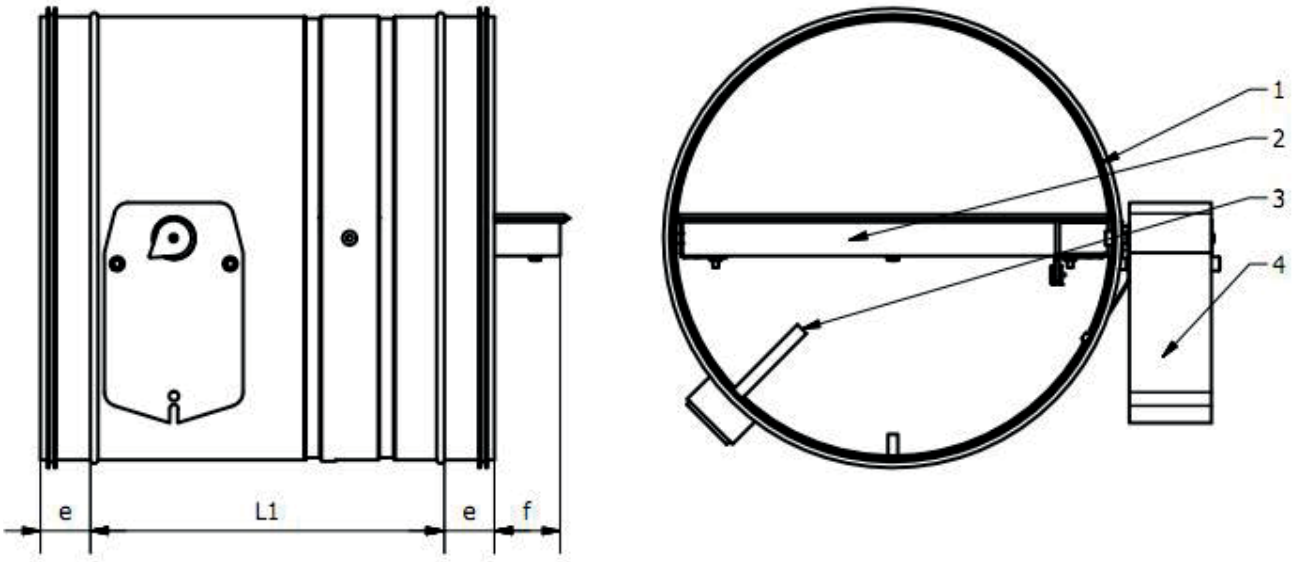
Fig. 2 FDA-12-T, fire damper with a spring and a thermal fuse (Ø224-315).



1 – casing
2 – damper blade
3 – release
4 – actuator

Fig. 3 FDA-12-M, fire damper with an actuator with the return spring (Ø100-200).

FDA-12-T/FDA-12-M



1 – casing
2 – damper blade
3 – release
4 – actuator

Fig. 4 FDA-12-M, fire damper with an actuator with the return spring (Ø224-315).

Specification of dimensions and weights of FDA-12 dampers

DN	*Ød [mm]*	*e [mm]*	*L [mm]*	*L1 [mm]*	*f [mm]*	*FDA-12-T weight [kg]*	*FDA-12-M* weight [kg]*
100	99.0	36.0	132	248	0.0	0.5	2.3
125	124.0	36.0	132	248	0.0	0.8	2.7
140	139.0	36.0	132	248	0.0	0.9	2.8
150	149.0	36.0	132	248	0.0	1.0	2.9
160	159.0	36.0	132	248	0.0	1.1	3.1
180	178.9	36.0	132	248	0.0	1.3	3.3
200	199.,0	36.0	132	248	0.0	1.5	3.5
224	222,9	36.0	132	248	10.0	2.2	4.4
250	249.0	36.0	132	248	25.0	2.6	4.9
280	278.9	36.0	132	248	40.0	3.0	5.4
315	314.0	36.0	132	248	50.0	3.6	6.0

*BFL actuator manufactured by Belimo Siłowniki S.A.

Table 1. Specification of dimensions of FDA-12 dampers.

FDA-12-T/FDA-12-M

Specification of hydraulic and acoustic parameters of FDA-12 dampers

DN	v	q	Δp	LW [dB/Okt]								LW [dB]	LWA [dB(A)]
				fm [Hz]									
	[m/s]	[m3/h]	[l/s]	[Pa]	63	125	250	500	1000	2000	4000	8000		
100	2	39	11	4	12	12	11	11	11	5	-3	-11	19	14
	4	78	22	16	30	30	30	29	29	29	23	15	37	34
	6	116	32	35	41	41	40	40	40	40	38	30	48	46
	8	155	43	63	48	48	48	48	47	47	47	41	56	54
	10	194	54	98	54	54	54	54	53	53	53	49	62	60
125	2	66	18	2	11	11	10	10	8	0	-8	-16	17	11
	4	132	37	10	29	29	29	28	28	26	18	10	36	32
	6	198	55	22	40	40	39	39	39	39	33	25	47	44
	8	264	73	40	47	47	47	47	46	46	44	36	55	52
	10	330	92	62	53	53	53	53	52	52	52	44	61	59
160	2	116	32	2	10	10	10	10	3	-5	-13	-20	16	9
	4	232	64	6	28	28	28	28	28	21	13	5	35	31
	6	348	97	14	39	39	39	38	38	36	28	21	46	43
	8	464	129	25	47	47	46	46	46	46	39	31	54	51
	10	580	161	39	53	52	52	52	52	52	47	40	60	57
200	2	190	53	1	10	10	9	7	-1	-8	-16	-24	15	7
	4	380	105	4	28	28	28	28	27	20	12	4	35	30
	6	570	158	9	39	39	38	38	38	33	25	17	46	41
	8	759	211	16	46	46	46	46	46	43	35	28	54	50
	10	949	264	25	52	52	52	52	51	51	44	36	60	57
250	2	298	83	1	12	12	11	7	-1	-9	-17	-24	17	7
	4	596	166	4	30	30	30	30	25	17	9	1	36	30
	6	894	248	9	41	41	40	40	40	32	24	17	48	43
	8	1192	331	17	48	48	48	48	48	43	35	27	55	51
	10	1490	414	26	54	54	54	54	54	51	43	36	61	58
315	2	490	136	1	12	11	11	3	-5	-13	-20	-28	16	5
	4	981	272	3	30	30	30	29	21	13	6	-2	36	28
	6	1471	409	6	41	40	40	40	36	28	21	13	47	41
	8	1961	545	10	48	48	48	48	47	39	31	24	55	50
	10	2451	681	16	54	54	54	54	53	48	40	32	61	57

Table 2. Pressure drop and level of acoustic power emitted into the system.

Technical documentation

FDA-12-T/FDA-12-M

Electric actuators used with FDA-12-M shut-off fire dampers

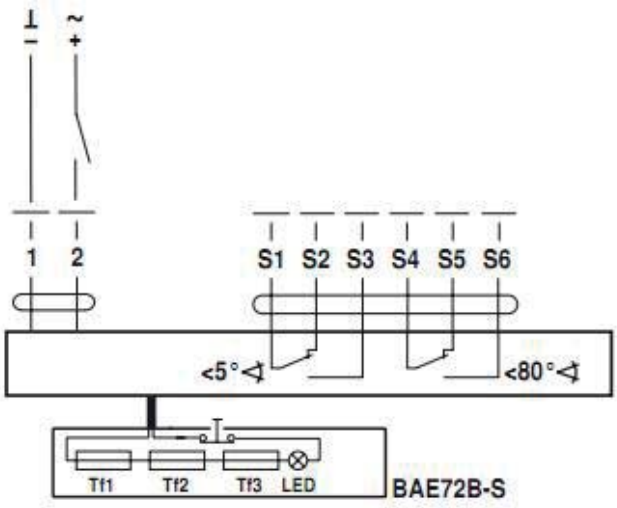
Belimo actuators ***BLF24-T(-ST) BLF230-T***

type	BLF24-T	BLF230-T
torque	6/4Nm	
movement time	motor 40...75s; spring~20s	
nominal voltage	AC24V 50/60Hz DC24V	AC230V 50/60Hz
power consumption	5W motor, 2.5W maintenance	6W motor , 3W maintenance
power cord	2x0.75mm2	
weight	1.6kg	1.73kg
auxiliary switch	yes	
direction of rotation	depending on the method of assembly	
angle of rotation	max 95°	
position indicator	mechanical, including the needle	
manual rotation	yes	
load capacity of auxiliary switches	1mA...3(0.5)A, 5V DC...AC250V	
acoustic power level	max 45dB(A) during motor operation, ~62dB(A) during spring operation	
protection class against electric shock	III	II
protection degree against electric shock	IP54	
ambient temperature for operation	-30 ... +50°C	
ambient humidity for operation	95% RH	
storage temperature	-40 ... +50°C	

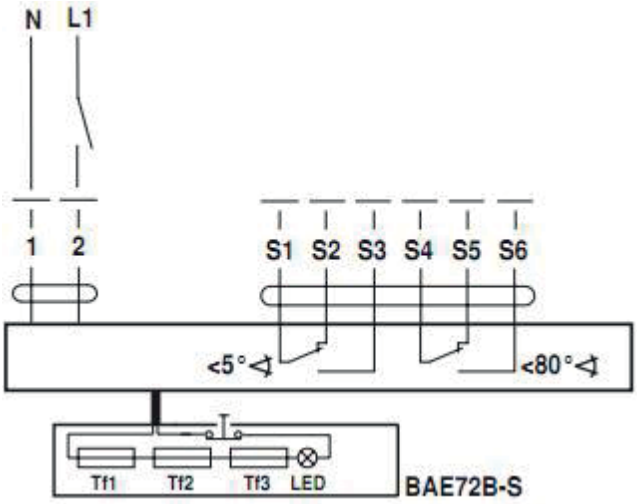
FDA-12-T/FDA-12-M

Wiring diagram

BLF24-T



BLF230-T



The integral part of the actuator is the thermal fuse - the BAE72B-S model.
The fuse controls the temperature both inside the ventilation duct and outside it. In both cases, the operation temperature of the fuse is >72°C.

Technical documentation

FDA-12-T/FDA-12-M

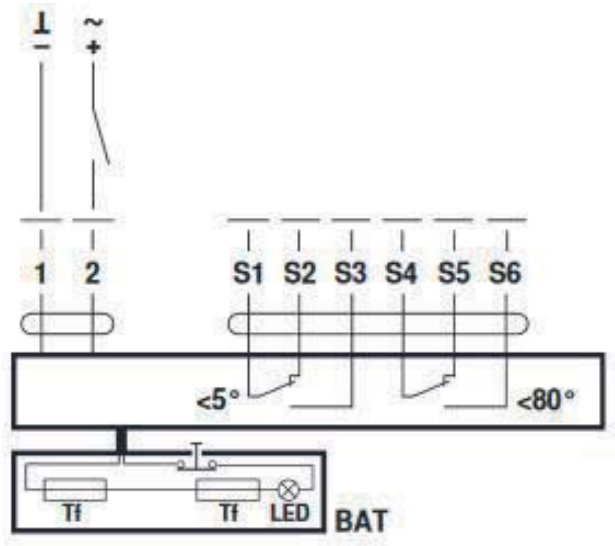
Belimo actuators ***BFL24-T(-ST) BFL230-T***

type	BFL24-T	BFL230-T
torque	4/3Nm	
movement time	motor <60s; spring 20s 20s (-10 … 55oC) / <60s (-30 … -10oC)	
nominal voltage	AC24V 50/60Hz DC24V	AC230V 50/60Hz
power consumption	2.5W motor, 0.8W maintenance	3.5W motor, 1.1W maintenance
power cord	2x0.75mm^2	2x0,75mm^2
weight	1.2kg	
auxiliary switch	yes	
direction of rotation	depending on the method of assembly	
angle of rotation	max 95°	
position indicator	mechanical, including the needle	
manual rotation	yes	
load capacity of auxiliary switches	1mA…3(0.5)A, AC250V	
acoustic power level	max 43dB(A) during motor operation, max 62dB(A) during spring operation	
protection class against electric shock	III	II
protection degree against electric shock	IP54	
ambient temperature for operation	-30 … +55°C	
ambient humidity for operation	95% RH	
storage temperature	-40 … +55°C	

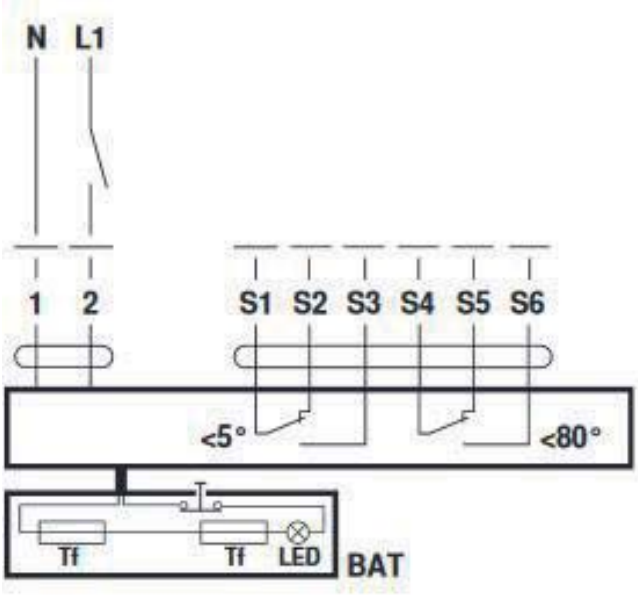
FDA-12-T/FDA-12-M

Wiring diagram

BLF24-T



BLF230-T



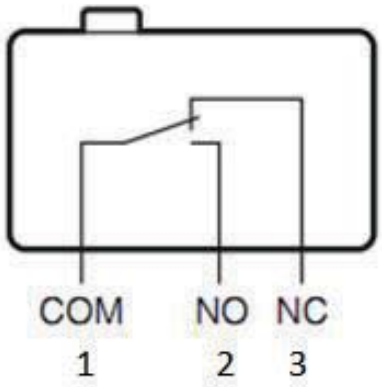
The integral part of the actuator is the thermal fuse - the BAT model.
The fuse controls the temperature both inside the ventilation duct and outside it. In both cases, the operation temperature of the fuse is >72°C.

FDA-12-T/FDA-12-M

Limit switches used with FDA-12-T shut-off fire dampers

	Limit switch
Red colour of the wire	damper blade in the closed position
Blue colour of the wire	damper blade in the open position
Length and section of the control wire	1 m / 3 x 0,5 mm^2
Insulation class	IP40
Configuration of contacts	SPDT
AC contact load	5 A / 125 VAC

Wiring diagram



1,2,3 – core marking in the signal wire

FDA-12-T/FDA-12-M

Destination and scope of application

The aim of the round shut-off fire dampers used in general ventilation, built in the system at the place of passage through building partitions, is to map the features and protective functions of the partition. In normal conditions, the damper blade remains open, its closure is automatic as a result of fire.

The dampers in question may be assembled in the following partitions, in accordance with table 3.

type of partition	*minimum thickness of the partition [mm]*
concrete ceiling	150
concrete wall	115
masonry wall made of solid brick	115
masonry wall made of cellular concrete blocks	115
wall made of gypsum plasterboards resting on the steel construction	125

Table 3. Permitted types of building partitions.

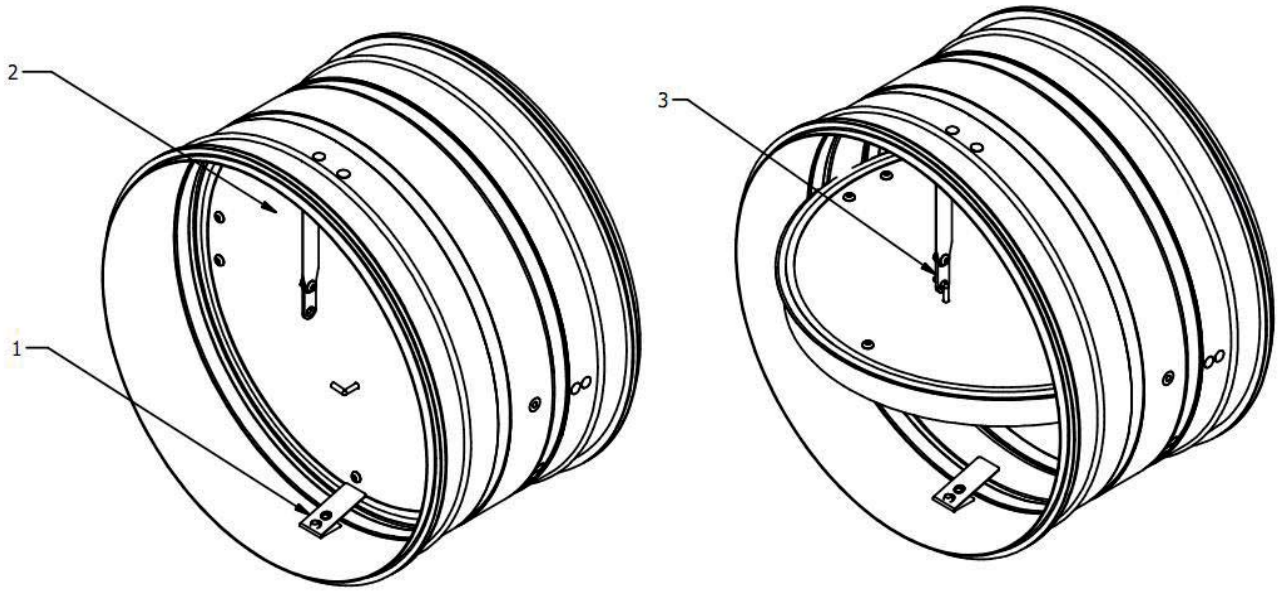
The methods of assembly of dampers in partitions have been presented in figures 7 - 14.

Each time, before proceeding with the damper installation, carry out the visual evaluation, adjust the partition to the open position and perform the automatic closure of the fire-proof partition.

Use the dampers in the ventilation system, where the maximum speed of the air flowing though the damper is 12 m/s. The flowing air should be free of particles, abrasives, chemicals and adhesive particles.

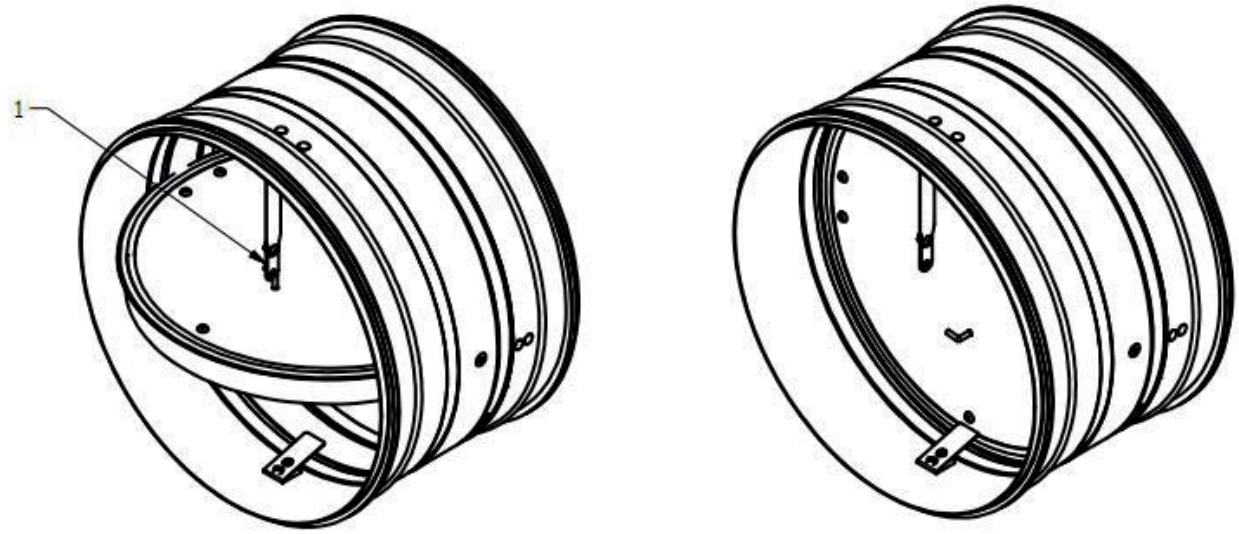
Opening and closure of the partition:
FDA-12-M
The partition is opened automatically in the case of feeding supply voltage or manually (using the key attached to the actuator). The closure is caused by interruption of the power supply (remote or as a result of operation of the thermal fuse - an increase in temperature or release with the TEST button).
FDA-12-T
The partition is opened by manual turning of the partition by 90° from the closed position to the open one, and the assembly of the thermal release. In the case of the dampers with Ø224 and Ø315, before opening the partition, press the lock to the casing in order to enable the opening of the partition. The partition is closed automatically as a result of an increase in the temperature of air flowing through the damper or manual release of the release from the fixing hook.

FDA-12-T/FDA-12-M



1 – press the lock
2 – open the damper blade
3 – hook the release

Fig. 5 Adjustment of the partition in the open position, FDA-12-T damper.



1 - release the release from the hook

Fig. 6 Adjustment of the partition in the closed position, FDA-12-T damper.

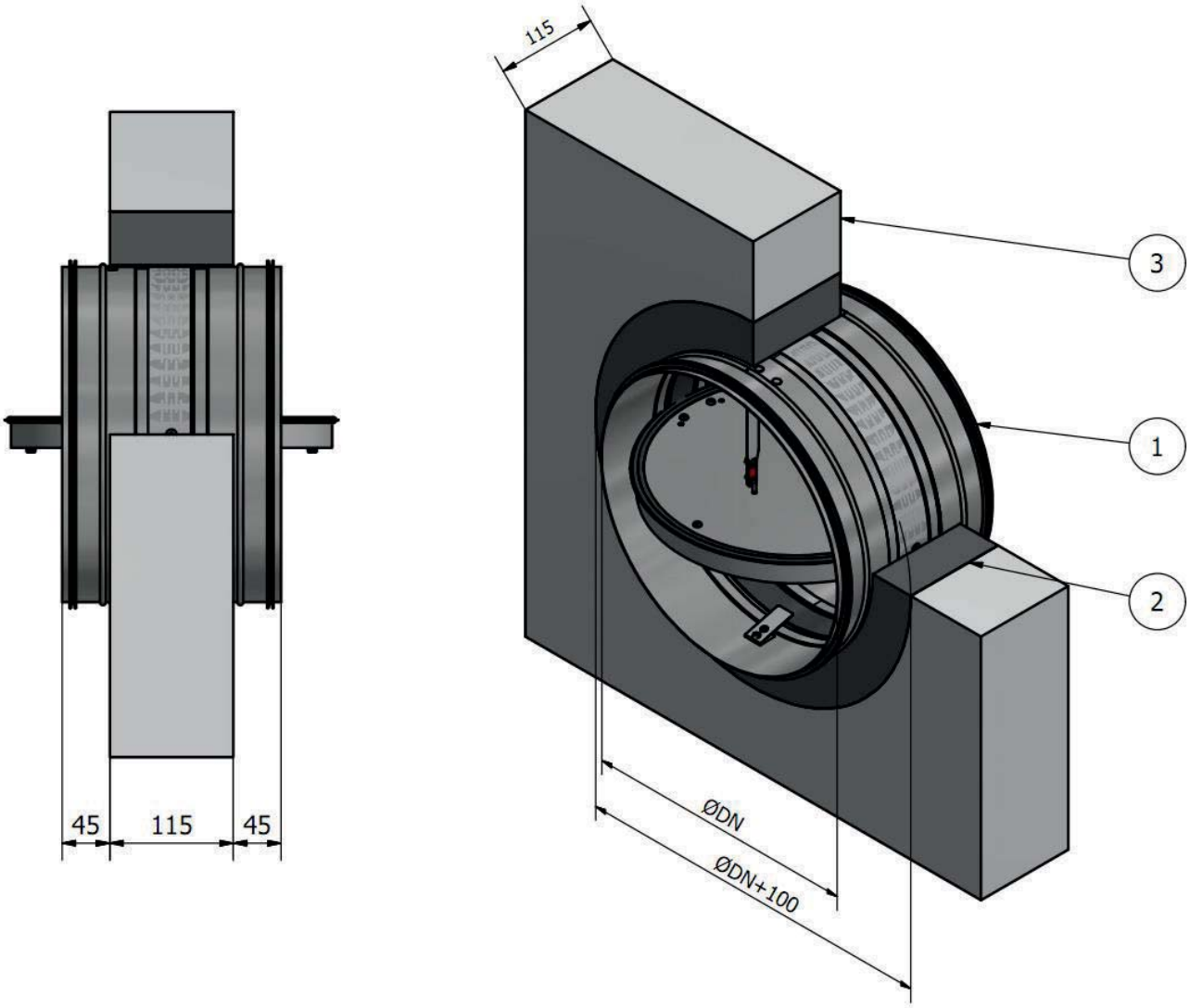
FDA-12-T/FDA-12-M

FDA-12 shut of dampers should be installed maintaining the following minimum distances:
- 200 mm between the dampers installed in the ventilation systems running in parallel;
- 75 mm between the shut-off damper and the building partition (wall or ceiling).

Assembly in the concrete wall, masonry wall made of cellular concrete blocks or masonry wall made of solid bricks.

The assembly in the concrete wall, masonry wall made of cellular concrete blocks or masonry wall made of solid bricks must be performed in accordance with figures No. 7 and 8. The minimum thickness of the partition in question is 115 mm. Each time it is necessary to pay attention to the following guidelines:
- place the dampers in the previously prepared holes with the diameter larger by 100 mm than the nominal diameter of the assembled fire damper; assembly by means of supports, clips or other assembly elements.
- the assembly of the dampers must be planned in such a way as to place the fire-resistant partition in the closed position as close as possible to the nearest axis of symmetry of the wall;
- in the case of partitions with the thickness greater than 115 mm, before the assembly of the fire damper, extend the casing of the damper by connection with a section of the duct, insulation of the connection and placement of the damper in accordance with the previous guidelines;
- the sealing of the fire damper - building partition system (wall) must be provided using fire-resistant materials (e.g. concrete, mortar) and the joint should be tight and deprived of any gaps, etc.; during the sealing process, adjust the partition in the damper in the closed position;
- the direction of assembly of the fire damper is of no significance;
- it is necessary to pay attention to the position of the axis of rotation of the fire-resistant partition of the damper, which should be in the vertical position;
- particular attention must be paid to the lack of deformations of the casing of the fire dampers and the correctness of operation, both before and after the assembly of the dampers;

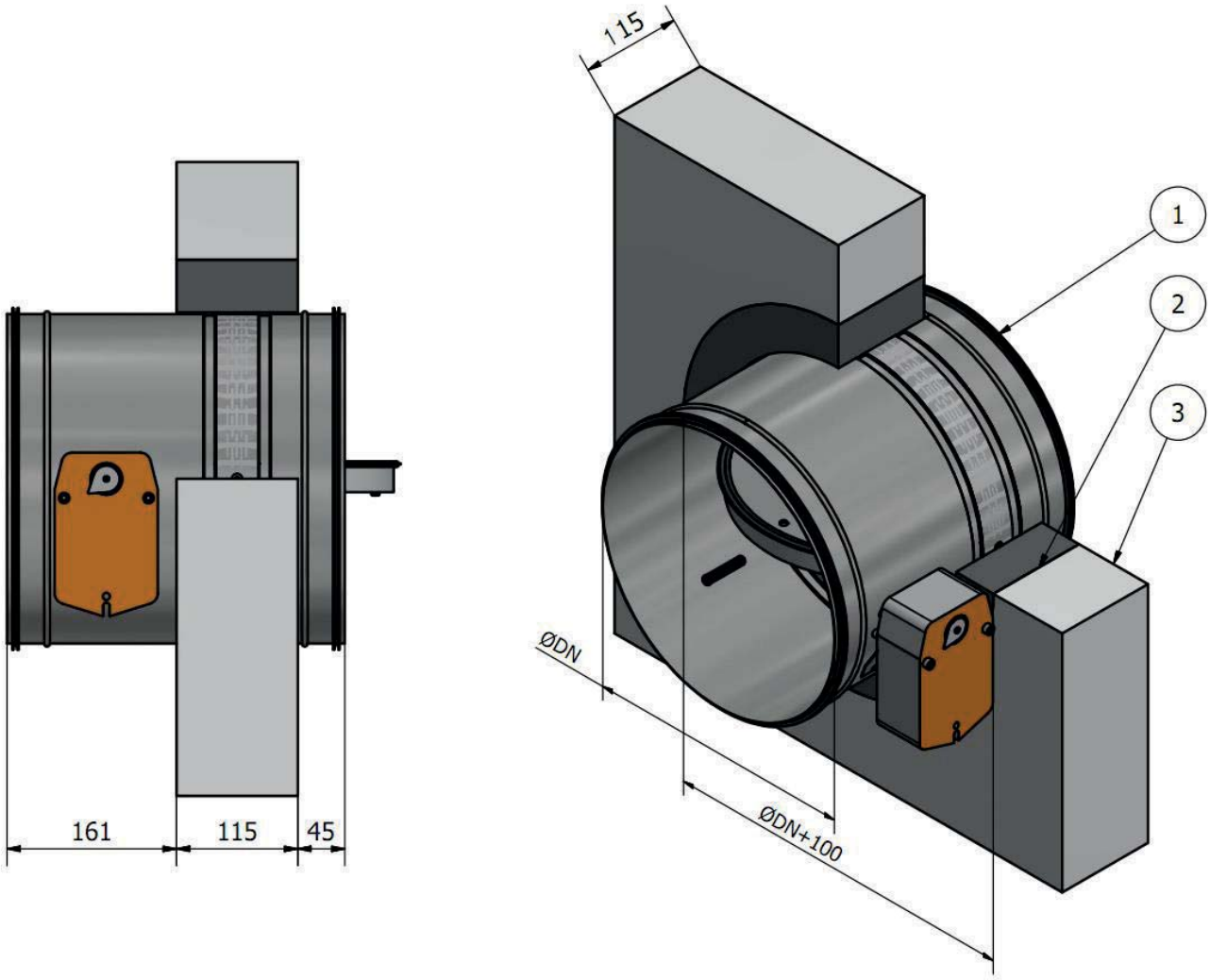
FDA-12-T/FDA-12-M



(1) FDA-12-T fire damper
(2) Concrete, mortar, fire-resistant gypsum;
(3) Concrete wall, made of solid bricks, made of cellular concrete blocks;

Fig. 7 – Assembly of the FDA-12-T damper in the wall.

FDA-12-T/FDA-12-M



(1) FDA-12-M fire damper;
(2) Concrete, mortar, fire-resistant gypsum;
(3) Concrete wall, made of solid bricks, made of cellular concrete blocks;

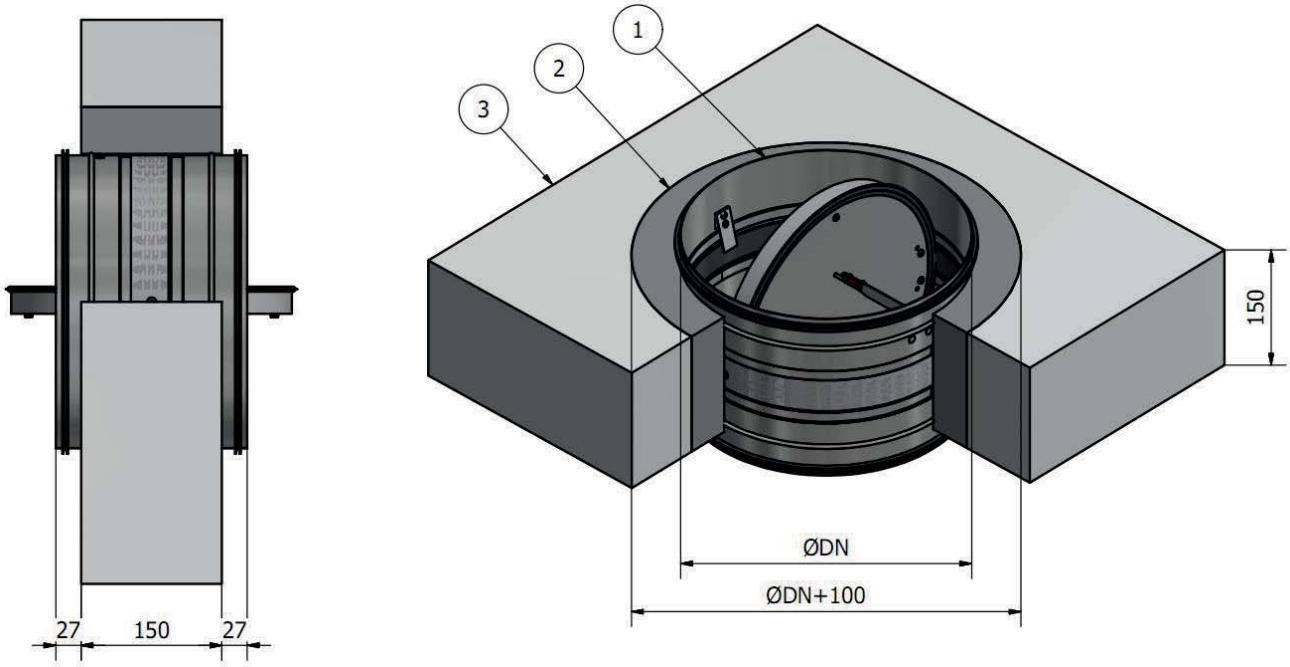
Fig. 8 – Assembly of the FDA-12-M damper in the wall.

Assembly in the ceiling

The assembly of the dampers in the ceiling must be performed in accordance with figures No. 9 and 10. The minimum thickness of the horizontal ceiling partition is 150 mm. Each time it is necessary to pay attention to the following guidelines:

- place the dampers in the previously prepared holes with the diameter larger by 100 mm than the nominal diameter of the assembled fire damper; assembly by means of supports, clips or other assembly elements.
- the assembly of the damper must be planned in such a way as to place the fire-resistant partition in the closed position as close as possible ot the nearest axis of symmetry of the ceiling;
- in the case of the ceiling with the thickness greater than 150 mm, before the assembly of the damper, extend the casing of the damper by connection with a section of the duct, insulation of the connection and placement of the damper in accordance with the previous guidelines;
- the sealing of the fire damper - building partition system (ceiling) must be provided using fire-resistant

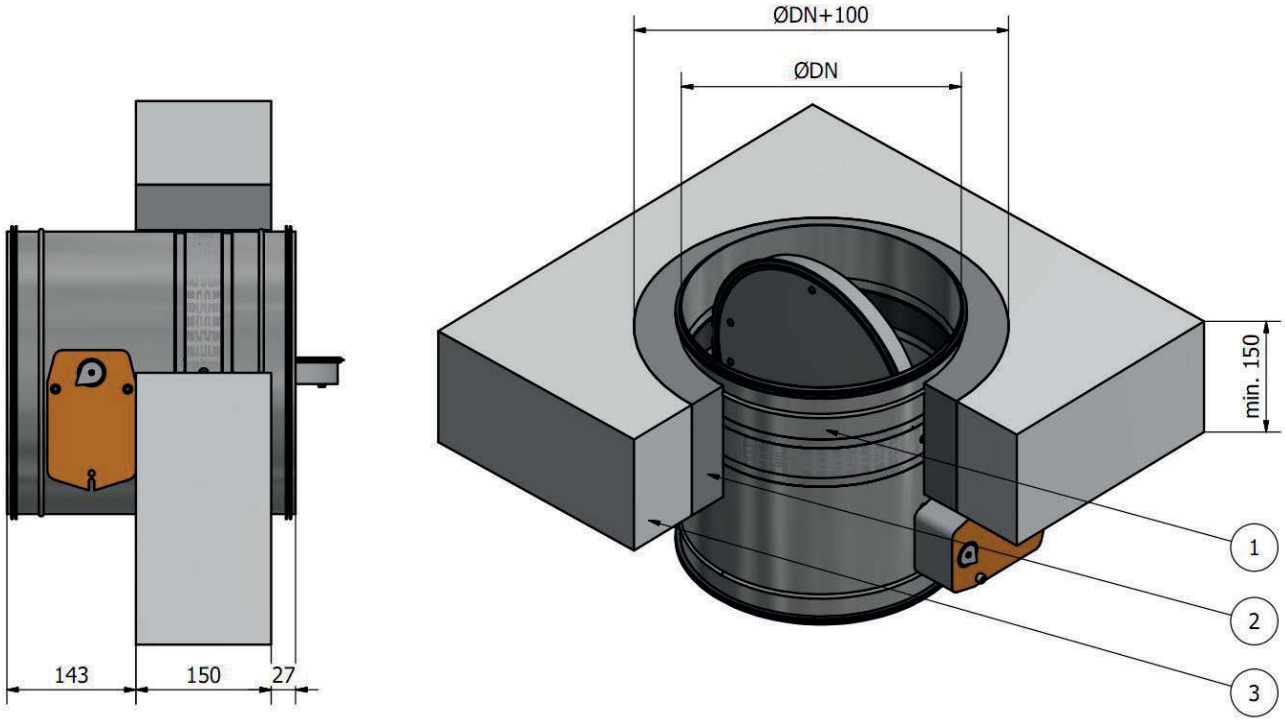
materials (e.g. concrete, mortar) and the joint should be tight and deprived of any gaps, etc.; during the sealing process, adjust the partition in the damper in the closed position;
- the direction of assembly of the fire damper is of no significance;
- particular attention must be paid to the lack of deformations of the casing of the fire dampers and the correctness of operation, both before and after the assembly of the dampers;



(1) FDA-12-T fire damper;
(2) Concrete, mortar, fire-resistant gypsum;
(3) Concrete ceiling;

Fig. 9 – Assembly of the FDA-12-T damper in the concrete ceiling.

FDA-12-T/FDA-12-M



(1) FDA-12-M fire damper;
(2) Concrete, mortar, fire-resistant gypsum;
(3) Concrete ceiling;

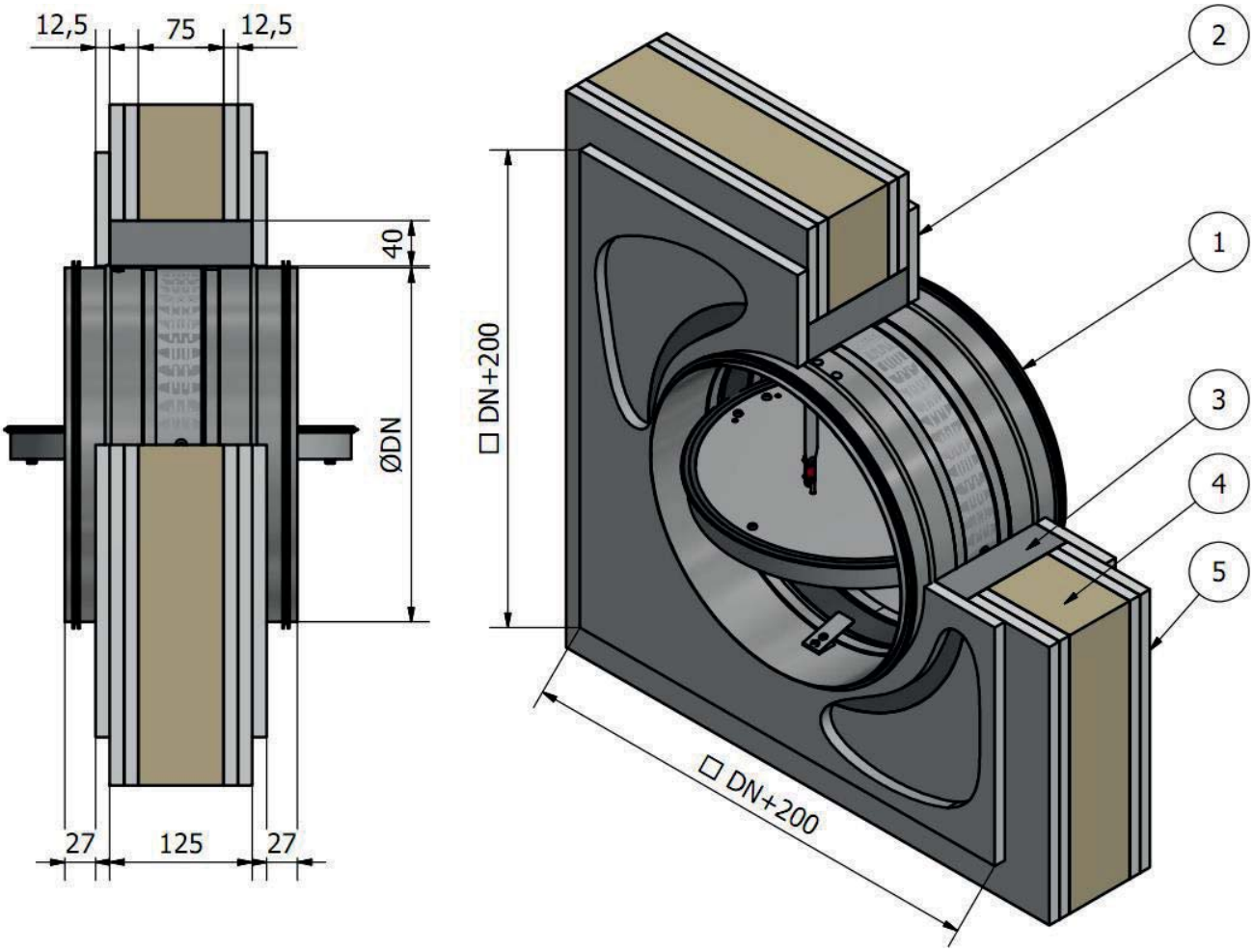
Fig. 10 – Assembly of the FDA-12-M damper in the concrete ceiling.

Assembly in the gypsum plasterboard wall

The dampers must be assembled in the gypsum plasterboard wall in accordance with figures No. 11,12, 13,14. The minimum thickness of the partition is 125 mm. Each time it is necessary to pay attention to the following guidelines:

- place the dampers in the previously prepared holes with the diameter larger by 80 mm; support construction provided in the standard for the gypsum plasterboard walls; assembly by means of supports, clips or other assembly elements.
- the assembly of the dampers must be planned in such a way as to place the fire-resistant partition in the closed position as close as possible ot the nearest axis of symmetry of the gypsum plasterboard wall;
- filling of the hole - fire damper - building partition (gypsum plasterboard wall) must be performed from fire-resistant materials (e.g. concrete, mortar, mineral wool) and then masked with the gypsum plasterboard - ØDN + 200; during he work, adjust the partition in the damper in the closed position;
- the direction of assembly of the fire damper is of no significance;
- there is a possibility of carrying out another variant of assembly with the use of appropriate materials, however, each time, the designed class of resistance of the fire partition should be ensured;
- particular attention must be paid to the lack of deformations of the casing of the fire dampers and the correctness of operation, both before and after the assembly of the dampers;

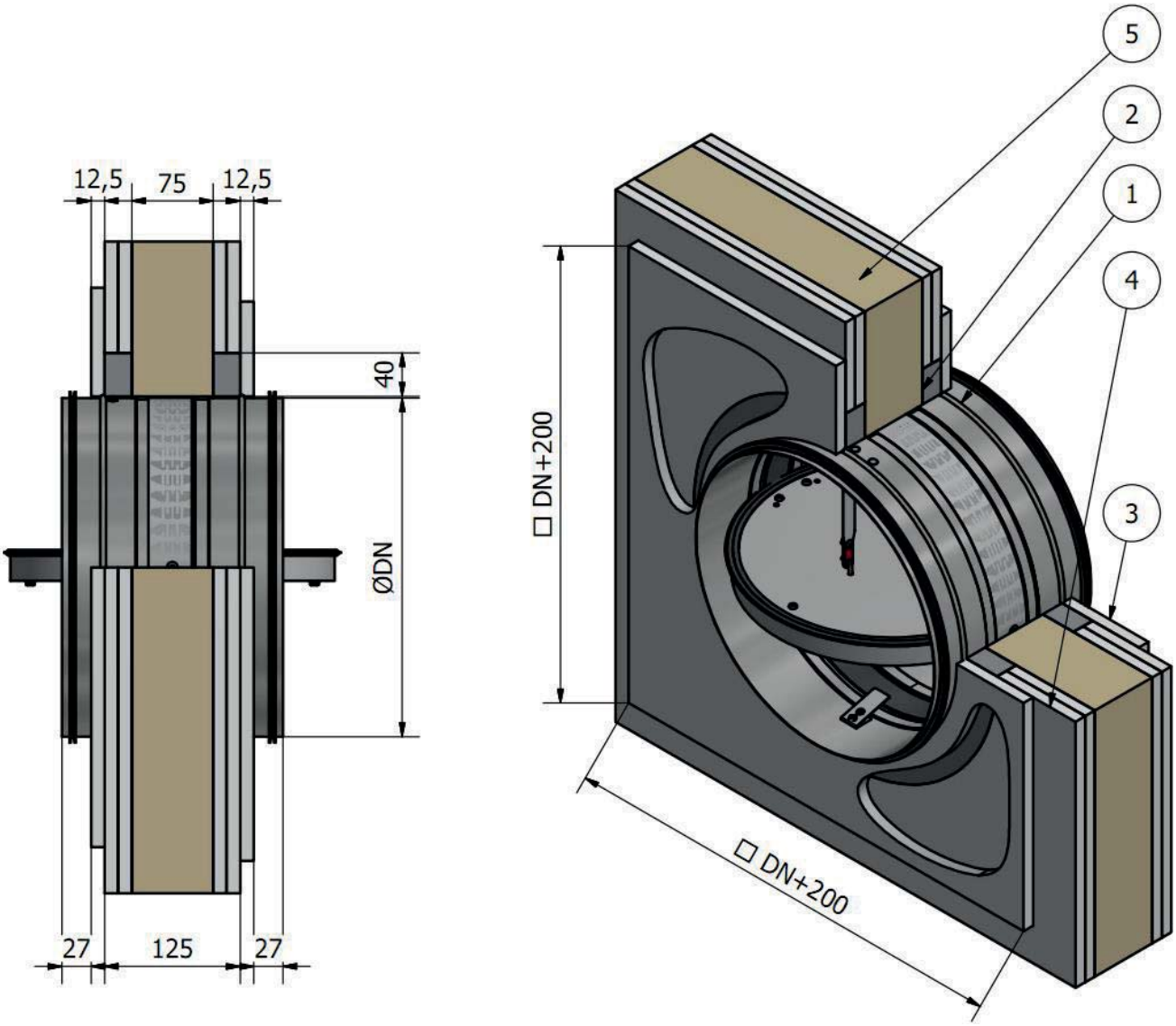
FDA-12-T/FDA-12-M



(1) FDA-12-T fire damper;
(2) Fire-resistant, masking gypsum plasterboard, 12.5 mm thick (2 pieces);
(3) Concrete, mortar, fire-resistant gypsum;
(4) Mineral wool, density > 100 kg/m3, melting temperature > 1000 °C;
(5) Fire-resistant gypsum plasterboard, 12.5 mm thick (2 x 2 pieces);

Fig. 11 – Assembly of the FDA-12-T damper in the gypsum plasterboard wall.

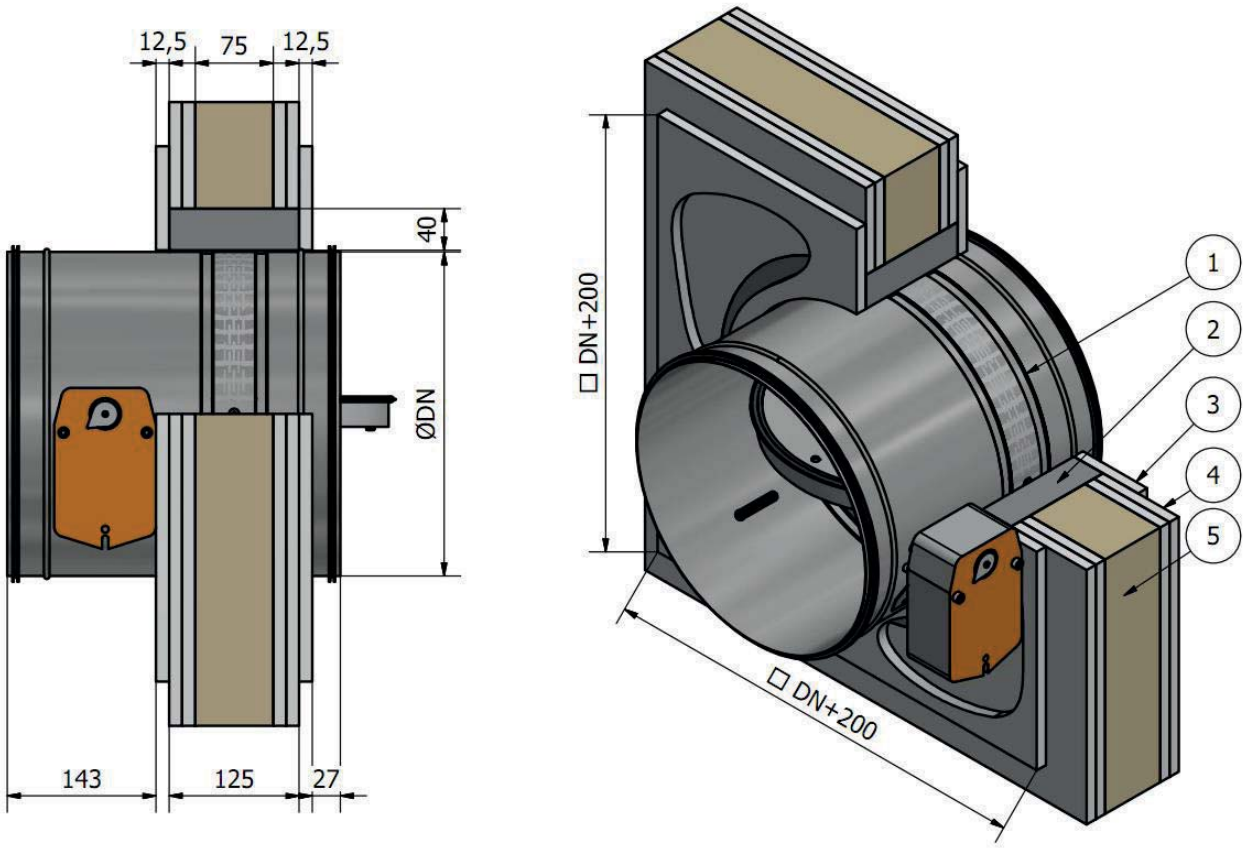
FDA-12-T/FDA-12-M



(1) FDA-12-T fire damper;
(2) Concrete, mortar, fire-resistant gypsum;
(3) Fire-resistant, masking gypsum plasterboard, 12.5 mm thick (2 pieces);
(4) Fire-resistant gypsum plasterboard, 12.5 mm thick (2 x 2 pieces);
(5) Mineral wool, density > 100 kg/m3, melting temperature > 1000 °C;

Fig. 12 – The optional method of assembly of the FDA-12-T damper in the gypsum plasterboard wall.

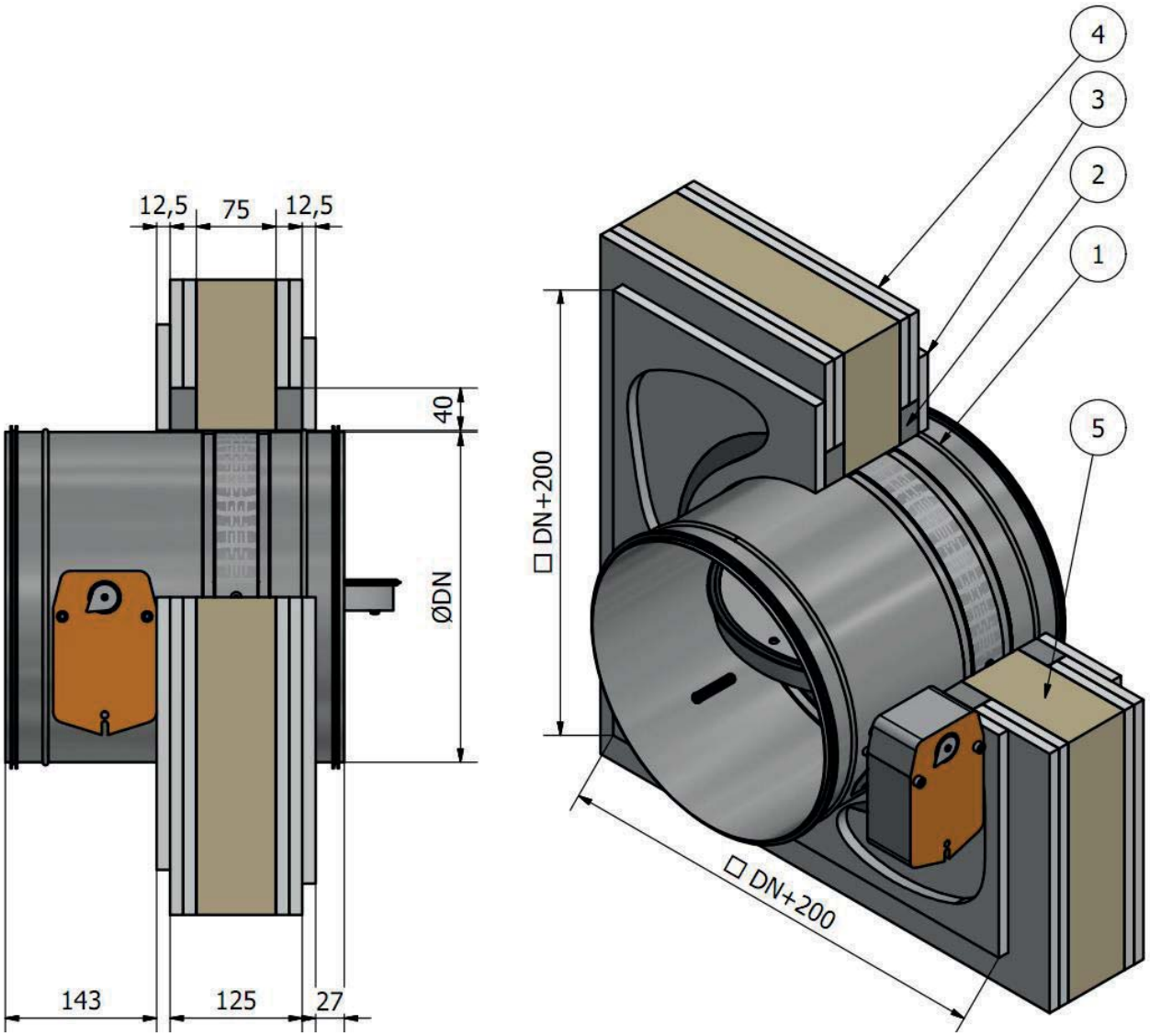
FDA-12-T/FDA-12-M



(1) FDA-12-M fire damper;
(2) Concrete, mortar, fire-resistant gypsum;
(3) Fire-resistant, masking gypsum plasterboard, 12.5 mm thick (2 pieces);
(4) Fire-resistant gypsum plasterboard, 12.5 mm thick (2 x 2 pieces);
(5) Mineral wool, density > 100 kg/m3, melting temperature > 1000 °C;

Fig. 13 – Assembly of the FDA-12-M damper in the gypsum plasterboard wall.

FDA-12-T/FDA-12-M



(1) FDA-12-M fire damper;
(2) Concrete, mortar, fire-resistant gypsum;
(3) Fire-resistant, masking gypsum plasterboard, 12.5 mm thick (2 pieces);
(4) Fire-resistant gypsum plasterboard, 12.5 mm thick (2 x 2 pieces);
(5) Mineral wool, density > 100 kg/m3, melting temperature > 1000 °C;

Fig. 14 – The optional method of assembly of the FDA-12-M damper in the gypsum plasterboard wall.

Storage and transport conditions

Each FDA-12 damper after the stage of labelling and control, depending on the size of the production batch and planned method of transport, is initially protected with stretch foil and then placed in the collective packaging (carton, pallet, etc.).
Because of the function of the fire damper, it must be fully protected against the effect of weather factors and mechanical damage (during the transport and at the stage of assembly). The storage place should be the indoor space, the conditions inside it are to be normal and dry. The dampers must be protected against being hit and dropped.

Periodical control and checking of the state of fire dampers

The fire dampers, as protective equipment and as components of the ventilation system, require periodical control and verification after assembly and start-up of the whole system. The activities should be performed with the frequency of minimum once every 6 months.
The checkpoints, which the qualified personnel should verify are listed below. the records from the control should be documented.

activity to be performed	data / result / signature	data / result / signature	data / result / signature	data / result / signature
checking of the power cables of the actuator (if applicable)				
checking of the control wires of limit switches (if applicable)				
checking of the cleanliness of the damper's interior and possible cleaning				
checking of the state of the damper blade and sealings, possible maintenance				
confirm the automatic closure of the damper blade				
confirm the automatic or manual opening of the damper blade				
confirm the operation of the limit switches for the damper blade in the open and closed position				
confirm the position of the damper blade in the working position				

During the assembly of the fire dampers, it is recommended to apply the inspection systems enabling the performance of periodical control in front of and behind the dampers.

FDA-12-T/FDA-12-M

Product labelling

Fire damper

FDA-12-T-125

SN:	161006521/4	
Fire Protection Class:	EI 120 (ve ho i↔o)S	
Cert. No.:	1488-CPR-0562/W	16
Norm:	EN-15650:2010	
Declaration of Performance:	006/01/2017	
Technical doc.:	007/04/18	

alnor® systemy wentylacji

Alnor Systemy Wentylacji Sp. z o.o.
Aleja Krakowska 10,
05-552 Wola Mrokowska, POLSKA

CE
1488

Warranty conditions

The product is covered by the 24-month warranty of the seller, commencing from the date of sale. The seller guarantees that the defects occurring during the warranty period, which enable the operation of the product, will be removed within 21 working days of the date of reporting of the fault. The warranty is subject to extension by the period form the reporting of the defect to the date of completion of the warranty repair. Transport and storage conditions, necessary to fulfil the requirements of the warranty are included in this documentation. The manufacturer is exempted from the warranty and any obligations resulting from the warranty as a result of improper transport or unloading of the goods, improper assembly and improper operation of the purchased components, defects resulting from improper storage of the product, performance of structural modifications by the user, occurrence of defects as a consequence of improper maintenance.
As part of he complaint procedure, the manufacturer deducts the equivalent of the elements missing / damaged by fault of the buyer or user and the costs of their replacement.