

# **Circular shut-off fire damper FDA-12**

## Shut-off fire dampers

# FDA-12-T/FDA-12-M



### Description

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. 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. The FDA-12 shut-off dampers may be used in vertical and horizontal building partitions, ensuring the fire rating of EI 120 (ve ho i <-> o) S (depending on the fire rating class of the building partition).

The fire dampers are produced in the following nominal sizes of DN100, DN125, DN160, DN200, DN250, 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). Additionally, in the case of the version with the spring, there is a possibility of using limit switches. The casing and the elements are made of galvanised steel sheet, the shut-off damper blade is made of silicate-cement plates.

Version 005/05/16/PG

#### Available materials - marking example:

FDA-12- aaa - bbb - ccc

aaa - control: T – tension spring with the fusible thermal fuse

bbb - nominal diameter: 100, 125, 160, 200, 250, 315

ccc - additional options:

- no limit switches (standard);
- Z - limit switch (position closed);
- O - limit switch (position open);
- ZO - limit switch (position closed, open);

aaa - control: M – actuator with the return spring with the thermal fuse

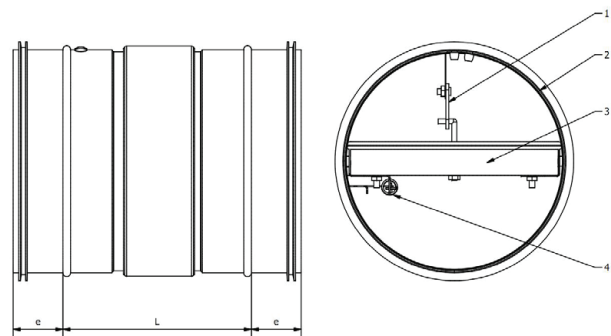
bbb - nominal diameter: 100, 125, 160, 200, 250, 315

ccc - additional options:

- B24 – Belimo BFL24-T / BLF-24-T actuator
- B230 – Belimo BFL230-T / BLF230-T actuator
- B24ST – Belimo BFL24-T-ST / BLF-24-T-ST actuator

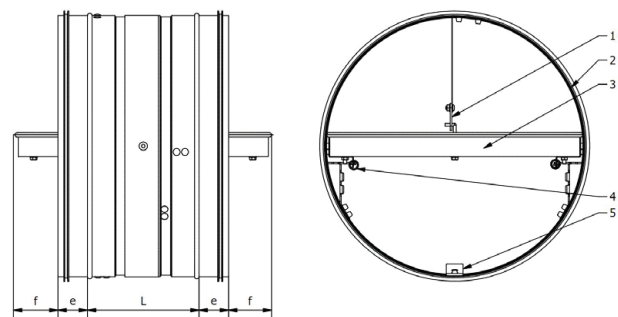
### Dimensions

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



- 1 – thermal fuse
- 2 - casing
- 3 – damper blade
- 4 – tension spring

FDA-12-T  
fire damper with a spring and a thermal fuse (Ø250-315).



- 1 – thermal fuse
- 2 - casing
- 3 – damper blade
- 4 – tension spring
- 5 - lock

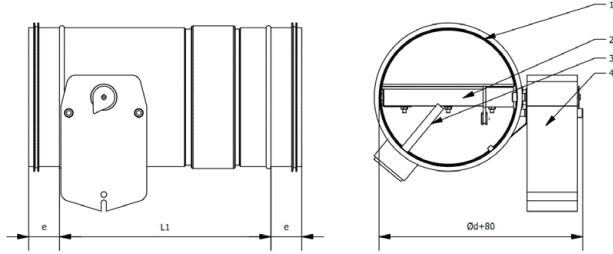
#### Example identification:

Product code: **FDA-12**    **aaa**    **bbb**    **ccc**  
 type \_\_\_\_\_  
 control \_\_\_\_\_  
 ød \_\_\_\_\_  
 additional options \_\_\_\_\_

## Shut-off fire dampers

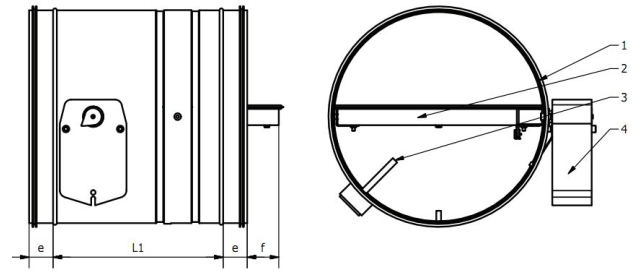
**FDA-12-T/FDA-12-M**

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



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

FDA-12-M  
fire damper with an actuator with the return spring  
(Ø250-315)



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

**Dimensions**

DN	Ød [mm]	e [mm]	L [mm]	L1 [mm]	f [mm]	FDA-12-T - weight	FDA-12-M* - weight
100	99,0	36,0	132	248	0,0	0,52	2,74
125	124,0	36,0	132	248	0,0	0,80	2,98
160	159,0	36,0	132	248	0,0	1,10	3,54
200	199,0	36,0	132	248	0,0	1,48	3,84
250	249,0	36,0	132	248	25,0	2,62	5,22
315	314,0	36,0	132	248	50,0	3,54	6,48

\*BFL actuator manufactured by Belimo Siłowniki S.A.

# Shut-off fire dampers

## FDA-12-T/FDA-12-M

### Technical data

DN	v [m/s]	q		Δp [Pa]	L <sub>w</sub> [dB/Okt]								L <sub>w</sub> [dB]	L <sub>w</sub> A [dB(A)]	
					f <sub>m</sub> [Hz]										
		[m³/s]	[l/s]	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	47	41	56	54
	10	194	54	98	54	54	54	54	53	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	

Tabela 1. Pressure drop and level of acoustic power emitted into the system.

## Shut-off fire dampers

**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 damper blade. 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 2.

<i>Type of partition</i>	<i>Minimum thickness of the partition [mm]</i>
<i>concrete ceiling</i>	<i>150</i>
<i>concrete wall</i>	<i>115</i>
<i>masonry wall made of solid brick</i>	<i>115</i>
<i>masonry wall made of cellular concrete blocks</i>	<i>115</i>
<i>wall made of gypsum plasterboards on a steel grate and fire resistance class not lower than EI 120</i>	<i>125</i>

Table 2. Permitted types of building partitions.

All the necessary information is included in the operation and maintenance manual.