

MANDÍK[®]

NON-RETURN DAMPER

NKTM



These technical specifications state a row of manufactured sizes and models of non-return dampers (further only dampers) NKTM. It is valid for production, designing, ordering, delivery, assembly and operation.

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II. GENERAL INFORMATION

Fig. 1 Non-return damper, overpressure damper



1. Description

1.1. Non-return dampers are used to close the duct automatically in case of fan being switched off.

In case of a shutdown of one of the fans at fan parallel configuration, the dampers prevent reverse airflow.

They can be installed within a duct or at its ends.

1.2. Damper characteristic

- dimensions from 200 x 200 to 1400 x 1400 mm ($A \geq 800$ with divider)
- blades pitch 82 - 136 mm
- damper length 200 mm

1.3. Working conditions

Maximum air circulation speed 12 m.s⁻¹.

Maximum pressure difference 1500 Pa.

Dampers are suitable for systems without abrasive, chemical and adhesive particles. Temperature in the place of installation is permitted to range from -20°C to +100°C.

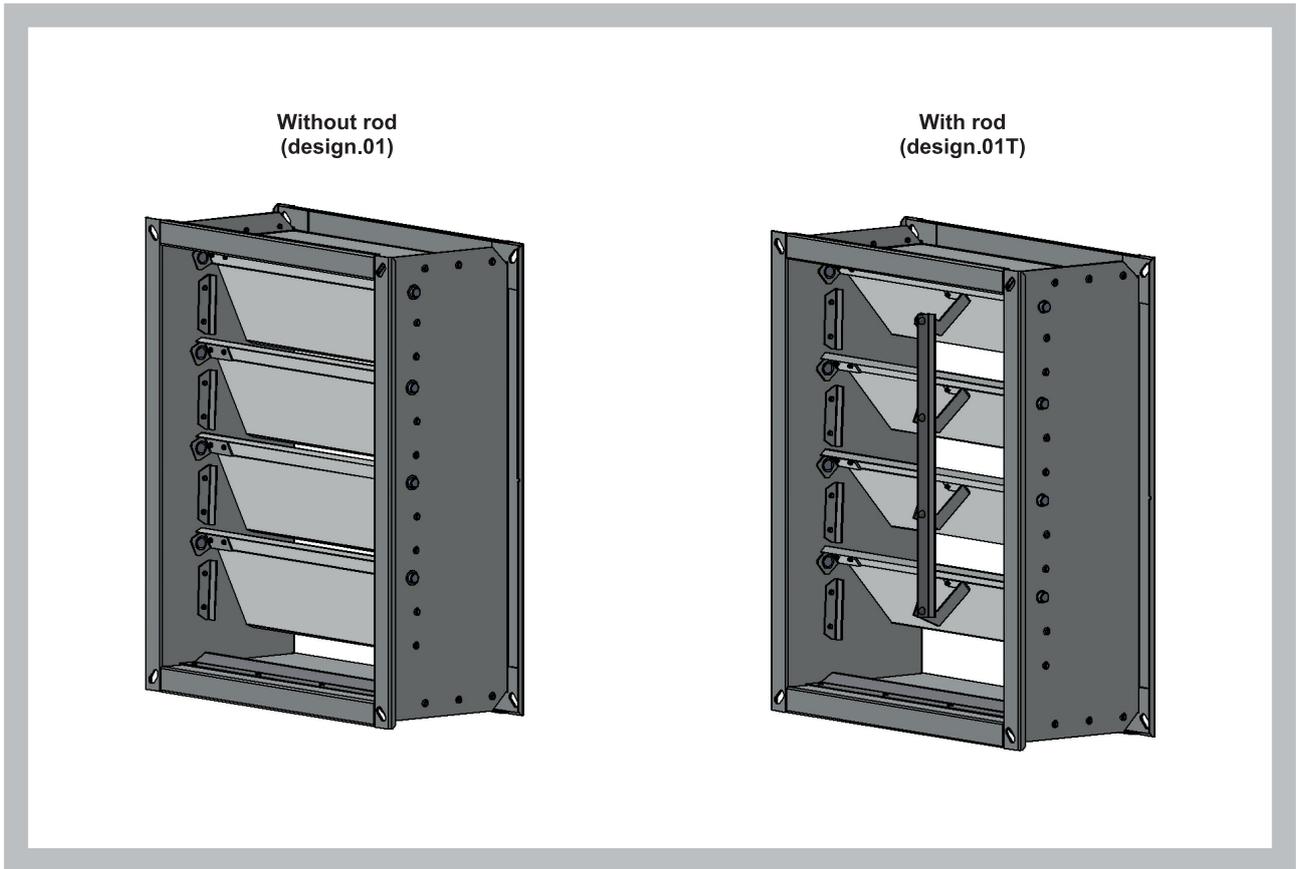
Dampers are designed for macroclimatic areas with mild climate according to EN 60 721-3-3.

2. Design

2.1. Dampers are produced in the following designs:

- loose blades (design .01)
- rod connected blades (design .01T)

Fig. 2 Dampers design



3. Dimensions and weights

Fig. 3 Overpressure dampers dimensions

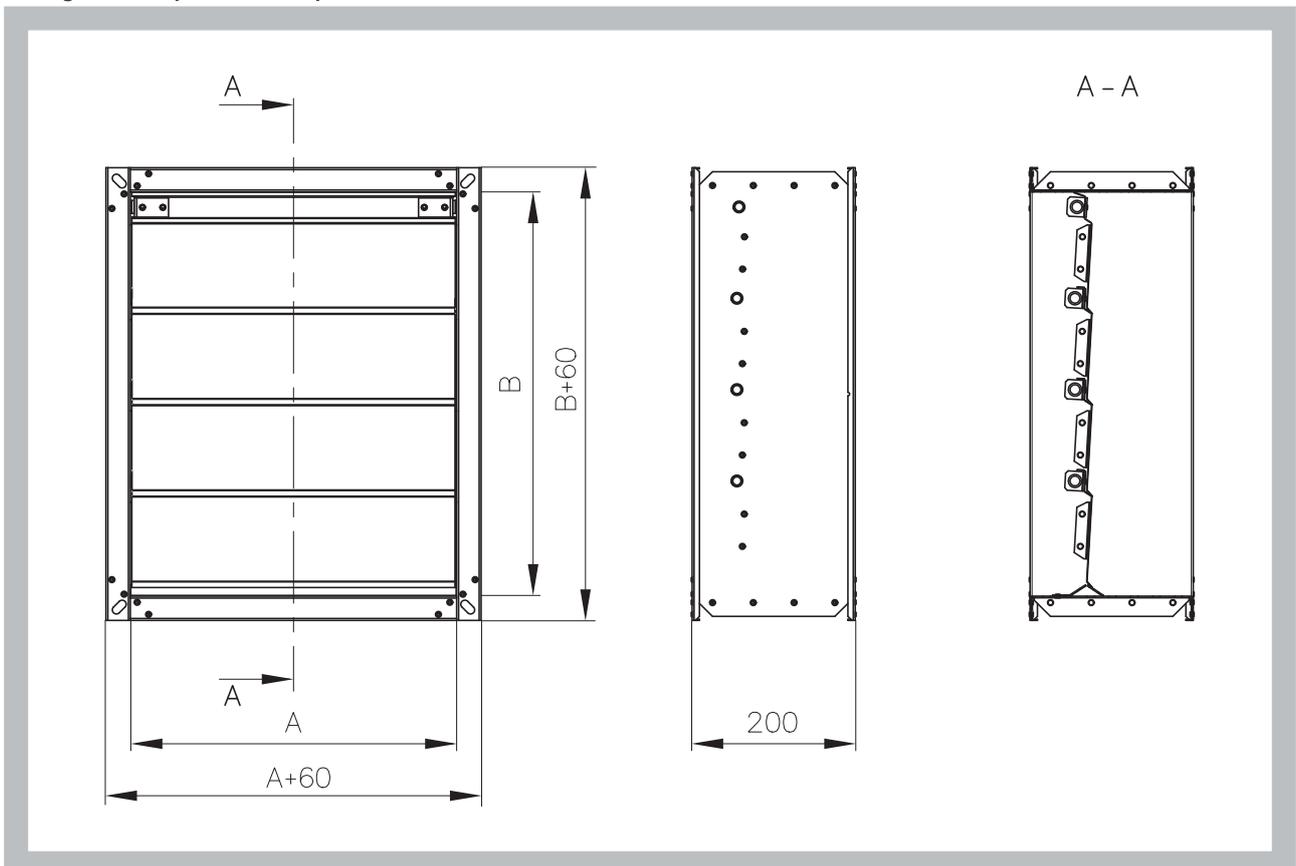
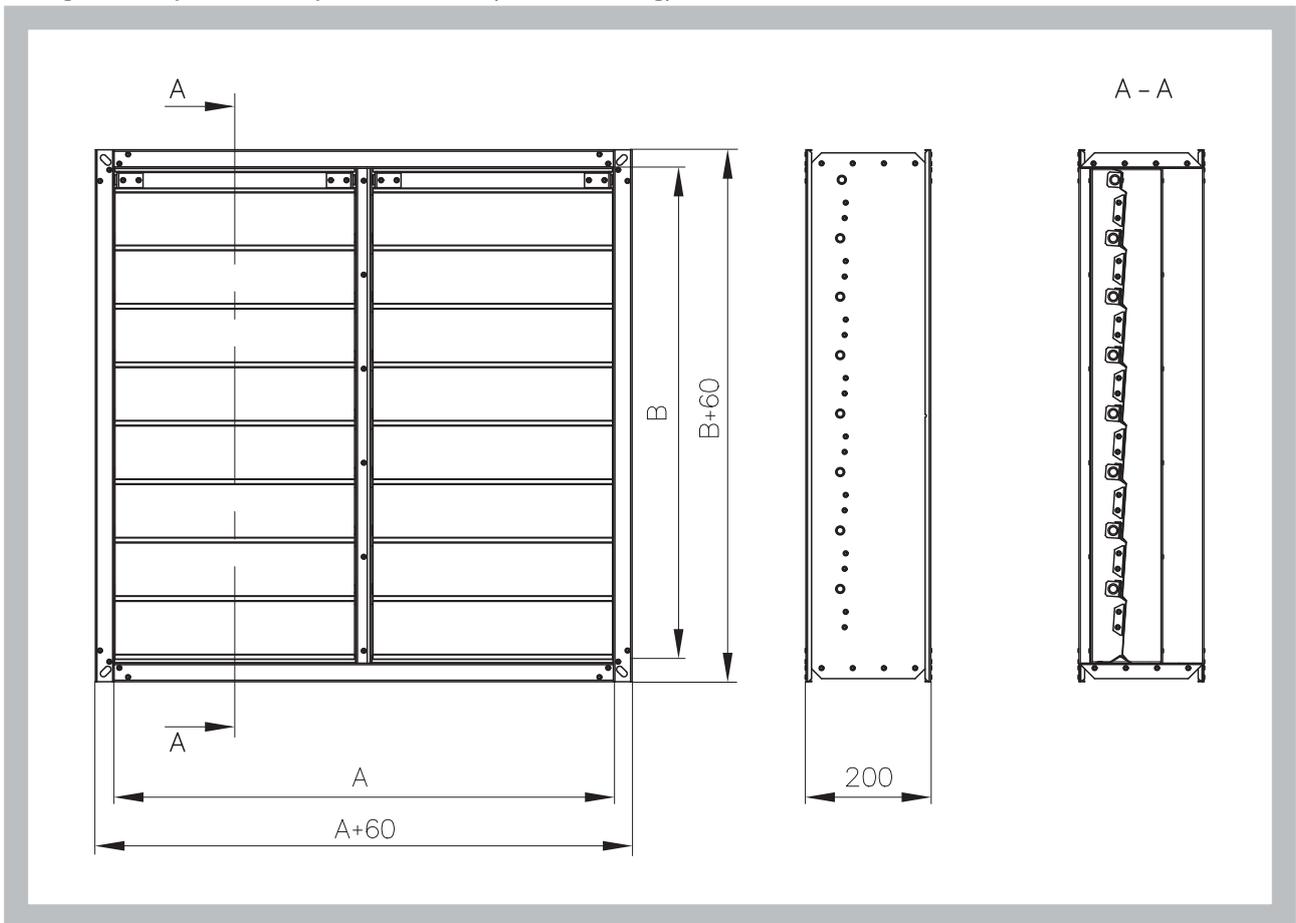


Fig. 4 Overpressure dampers dimensions (with centre rung)

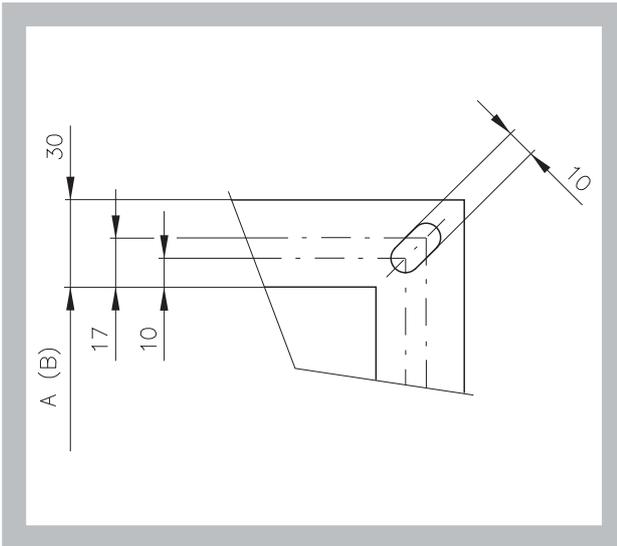


Tab. 3.1.1. Overpressure dampers - dimensions and weights

A x B	Number of blades	Weights	A x B	Number of blades	Weights
200 x 200	2	4,0	630 x 200	2	7,5
200 x 250	2	4,0	630 x 250	2	8,0
200 x 315	3	5,0	630 x 315	3	8,5
200 x 400	4	5,5	630 x 400	4	10,0
200 x 500	4	6,5	630 x 500	4	10,5
200 x 630	6	7,5	630 x 630	6	12,5
200 x 800	8	9,5	630 x 800	8	14,5
200 x 1000	8	11,0	630 x 1000	8	16,5
200 x 1250	10	13,0	630 x 1250	10	19,0
200 x 1400	11	14,5	630 x 1400	11	21,0
250 x 200	2	4,5	800 x 200	4	9,5
250 x 250	2	4,5	800 x 250	4	10,5
250 x 315	3	5,5	800 x 315	6	11,5
250 x 400	4	6,0	800 x 400	8	13,0
250 x 500	4	7,0	800 x 500	8	14,5
250 x 630	6	8,5	800 x 630	12	17,0
250 x 800	8	10,0	800 x 800	16	20,0
250 x 1000	8	11,5	800 x 1000	16	22,5
250 x 1250	10	13,5	800 x 1250	20	27,0
250 x 1400	11	15,0	800 x 1400	22	29,5
315 x 200	2	5,0	1000 x 200	4	11,5
315 x 250	2	5,0	1000 x 250	4	12,0
315 x 315	3	6,0	1000 x 315	6	13,5
315 x 400	4	7,0	1000 x 400	8	15,0
315 x 500	4	7,5	1000 x 500	8	16,5
315 x 630	6	9,0	1000 x 630	12	19,0
315 x 800	8	10,5	1000 x 800	16	22,5
315 x 1000	8	12,5	1000 x 1000	16	25,5
315 x 1250	10	14,5	1000 x 1250	20	30,0
315 x 1400	11	16,0	1000 x 1400	22	32,5
400 x 200	2	5,5	1250 x 200	4	13,5
400 x 250	2	6,0	1250 x 250	4	14,0
400 x 315	3	6,5	1250 x 315	6	15,5
400 x 400	4	7,5	1250 x 400	8	17,5
400 x 500	4	8,5	1250 x 500	8	19,0
400 x 630	6	10,0	1250 x 630	12	22,0
400 x 800	8	11,5	1250 x 800	16	25,5
400 x 1000	8	13,5	1250 x 1000	16	28,5
400 x 1250	10	16,0	1250 x 1250	20	33,5
400 x 1400	11	17,5	1250 x 1400	22	36,0
500 x 200	2	6,5	1400 x 200	4	15,5
500 x 250	2	7,0	1400 x 250	4	16,0
500 x 315	3	7,5	1400 x 315	6	17,5
500 x 400	4	8,5	1400 x 400	8	19,5
500 x 500	4	9,5	1400 x 500	8	21,0
500 x 630	6	11,0	1400 x 630	12	24,5
500 x 800	8	13,0	1400 x 800	16	28,0
500 x 1000	8	14,5	1400 x 1000	16	31,0
500 x 1250	10	17,5	1400 x 1250	20	36,5
500 x 1400	11	19,0	1400 x 1400	22	39,0

Atypical dimensions of the overpressure dampers are to be discussed with the manufacturer in advance.

Fig. 5 Flage of square damper



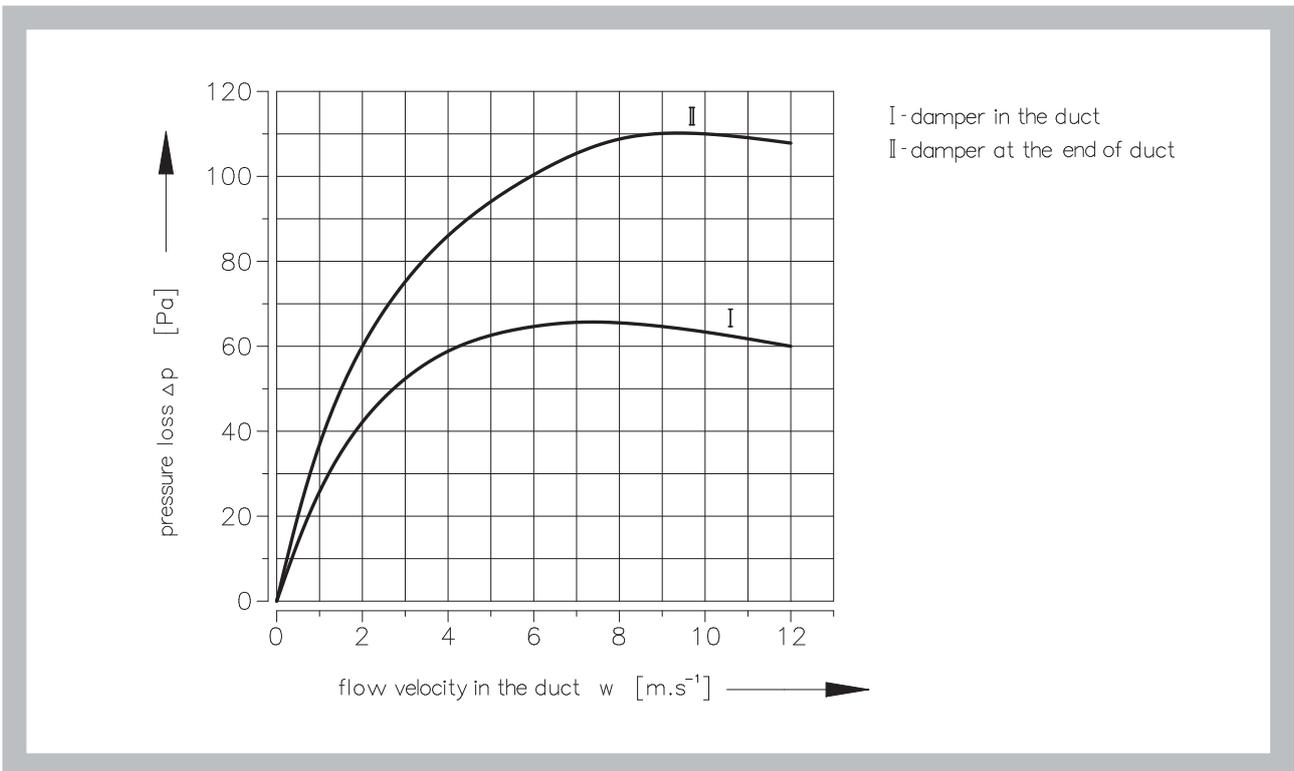
4. Placement and installation

- 4.1. Dampers are designed for installation into air condition duct or at its ends.
- 4.2. Dampers are designated for installation in vertical or horizontal ducts. In the case of installation in horizontal duct the blade axis has to be in horizontal position. Damper must be installed in a way it opens in flow matching direction.

III. TECHNICAL DATA

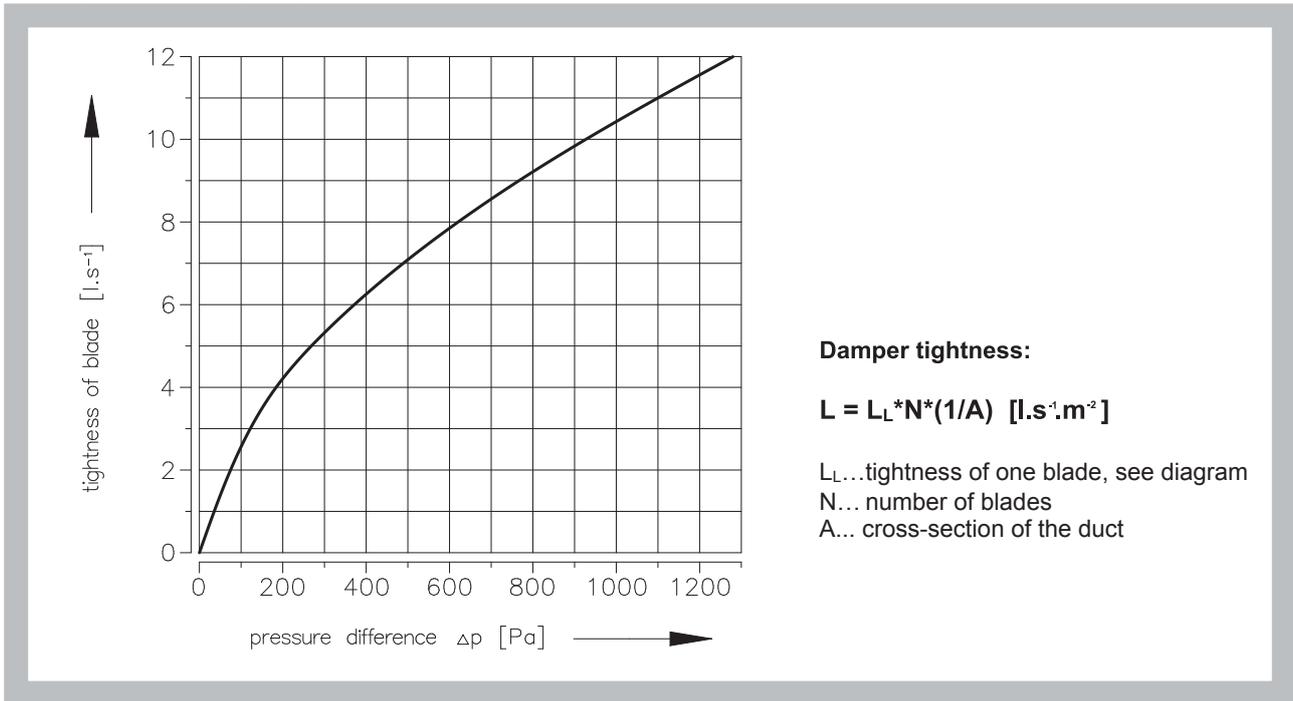
5. Pressure loss

Diagram 5.1.1. Pressure loss of overpressure dampers



6. Damper tightness

Diagram 6.1.1. Damper tightness



7. Noise data

7.1. Air-regenerated Noise

- \dot{V} [m/s] - air flow volume
- L_{WA} [dB(A)] - total level of acoustic power corrected by filter A
- L_w [dB/Okt.] - level of acoustic power in the octave band
- f_m [Hz] - mean frequencies in the octave bands

Tab. 7.1.1. Air-regenerated Noise

NKTM	\dot{V} [m/s]	f_m [Hz]								L_{WA} [dB(A)]
		63	125	250	500	1000	2000	4000	8000	
L_w [dB]	2	30	33	35	34	32	25	<25	<25	35
	3	40	43	42	39	38	33	25	<25	41
	4	46	47	45	44	43	40	32	25	44
	6	49	52	51	50	49	45	40	32	49
	8	54	55	54	54	53	51	47	39	54
	10	57	60	57	60	57	54	52	48	60

IV. MATERIAL, FINISHING

8. Material

- 8.1. Damper bodies and blades are supplied in the standard design made of galvanized plate without any other surface finish.
- 8.2. Sliding bearings are made of resistant self-extinguishing nylon.

V. INSPECTION, TESTING

9. Inspection, testing

- 9.1. The appliance is constructed and preset by the manufacturer, its operation is dependent on proper installation and adjustment.

VI. TRANSPORTATION AND STORAGE

10. Logistic terms

- 10.1. Dampers are transported by box freight vehicles without direct weather impact, there must not occur any sharp shocks and ambient temperature must not exceed +40°C. Dampers must be protected against mechanic damages when transported and manipulated.
- 10.2. Dampers are stored indoor in environment without any aggressive vapours, gases or dust. Indoortemperature must be in the range from -5°C to +40°C and maximum relative humidity 80%. Dampers must be protected against mechanic damages when transported and manipulated.

VII. ASSEMBLY, ATTENDANCE, MAINTENANCE AND REVISIONS

11. Assembly

- 11.1. Assembly consists of installing dampers in the ventilation duct system.

12. Maintenance

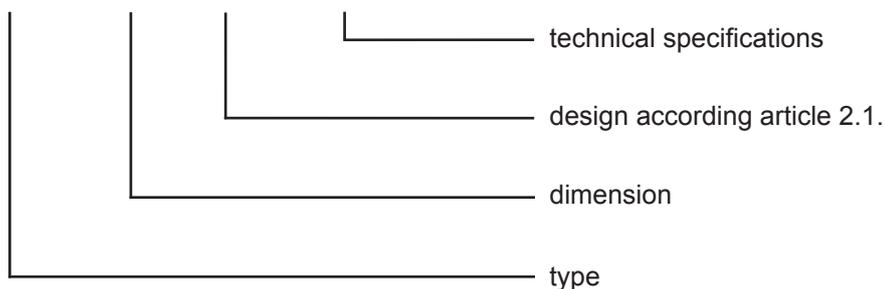
- 12.1. Non-return dampers are maintenance-free.

VIII. ORDERING INFORMATION

13. Ordering key

- 13.1. Non-return damper

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