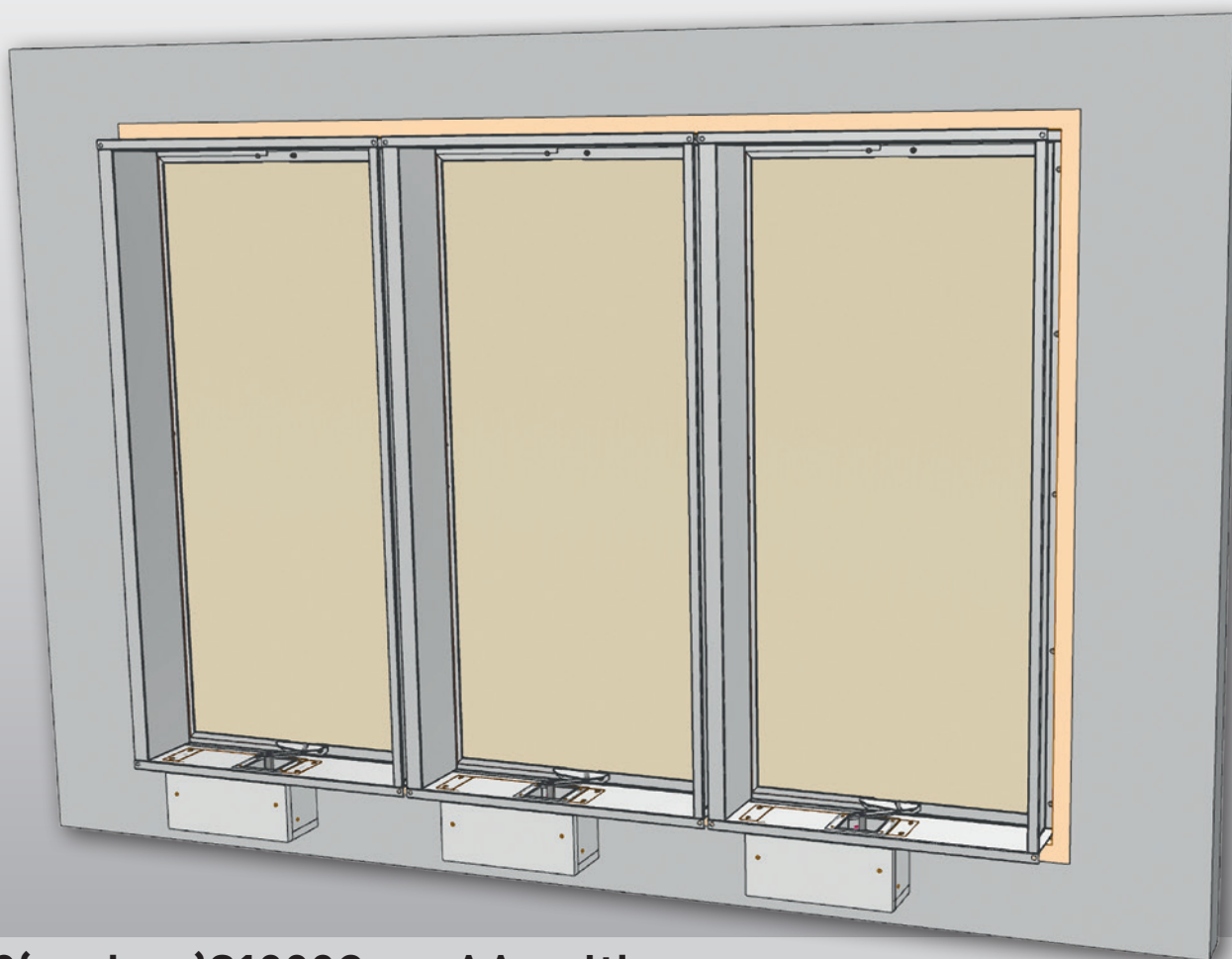


mcr FID S/V **EI120(v_{ew} i↔o)S1000C₁₀₀₀₀AAmulti**

fire dampers battery

of single-blade, cut-off dampers
for multi-zone fire ventilation systems

APPLICATION

The battery of cut-off fire dampers mcr FID S/V or mcr FID S/V-M is designed for installation in automatically actuated fire ventilation systems.

The battery of dampers can consist of two or three mcr FID S/V or mcr FID S/V-M dampers, each with a vertical axis of rotation. The size of a single damper in the battery can range between 200x200 mm and 1500x710 mm (1 mm accuracy).

- ▶ Certificate of constancy of performance 2434-CPR-0029.
- ▶ The battery of dampers is certified for compliance with EN 12101-8.
- ▶ The battery of dampers is classified according to EN 13501-4 and tested according to EN 1366-10.
- ▶ The battery of dampers with fire-resistance independent of the air flow direction and installation side.

FIRE RESISTANCE CLASS

The battery of single-blade, cut-off dampers mcr FID S/V for multi-zone fire ventilation systems is classified in fire resistance class **EI120(v_{ew} i↔o)S1000C_{10 000}AAmulti**.

ADVANTAGES

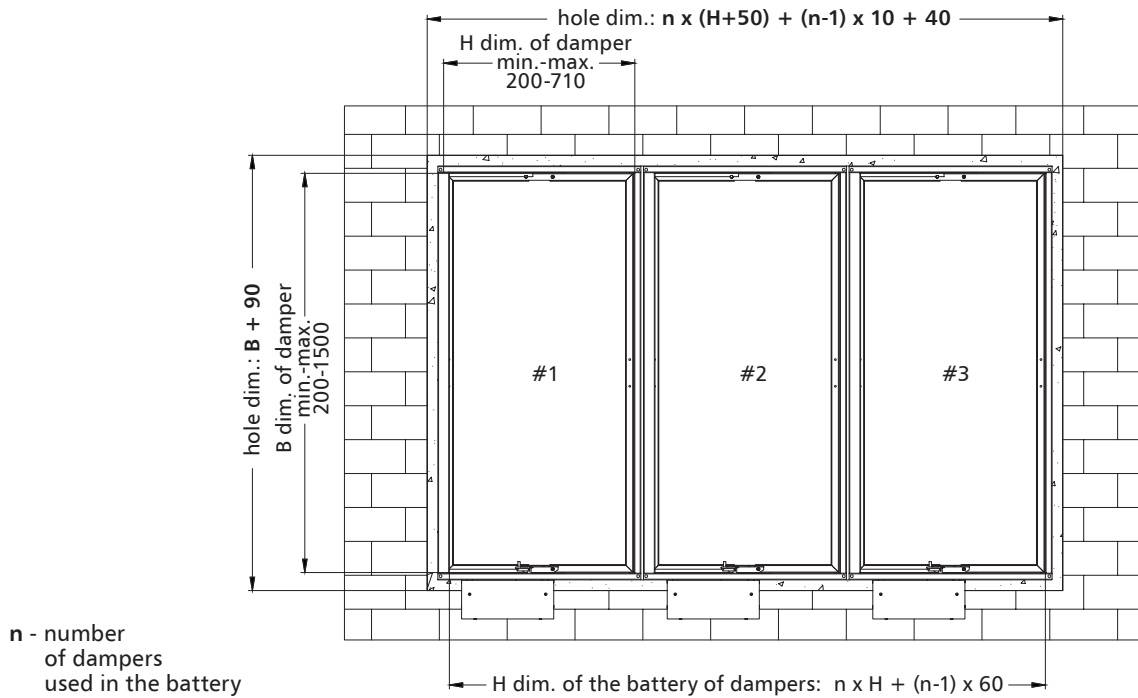
- ▶ certified installation
- ▶ larger active surface with smaller size of the solution
- ▶ full range of controls
- ▶ mounted in walls and in rigid shafts (solid, masonry)
- ▶ control mechanism can be mounted at the top or bottom of the battery

INSTALLATION

The battery of dampers can be installed in vertical, rigid building-partition walls made of masonry blocks or solid (walls, shafts) with a minimum thickness of 120 mm. It is also possible to install the battery of dampers in walls and shafts, which are additionally lined with fireproof (prefabricated) panels in order to achieve their smoke tightness (S).

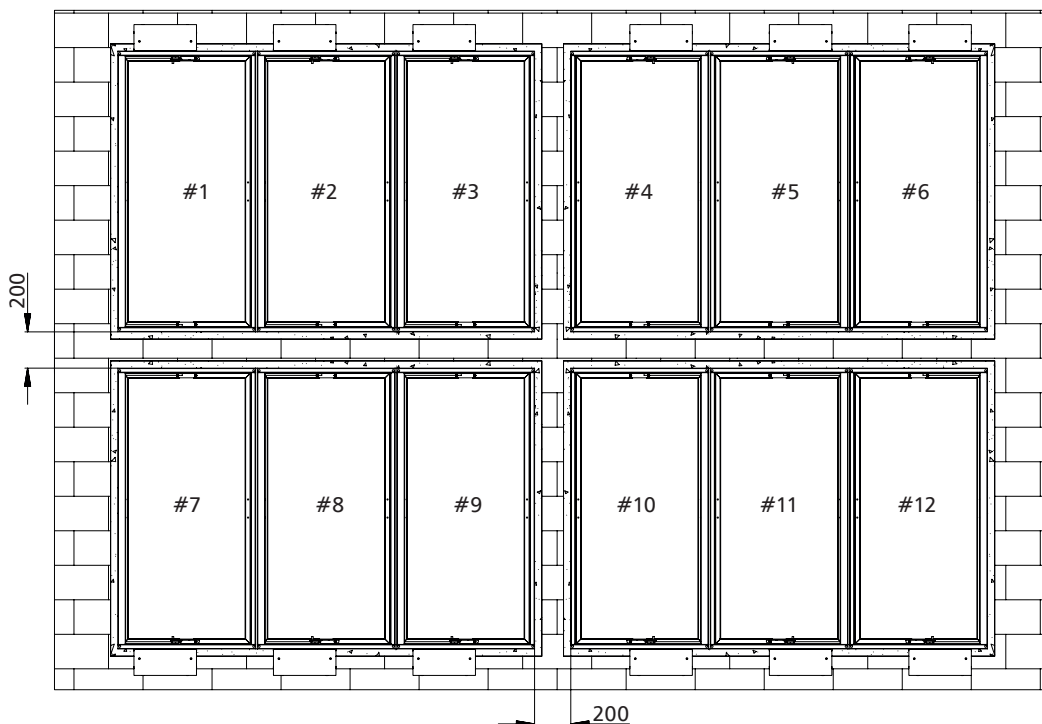
INSTALLATION EXAMPLES

Fig. 1. Preparation of the mounting hole



The space between the dampers used in the battery should be filled with mineral wool of a density at least 100 kg/m^3 and reaction to fire class A1. The dampers are bolted together with C-profiles.

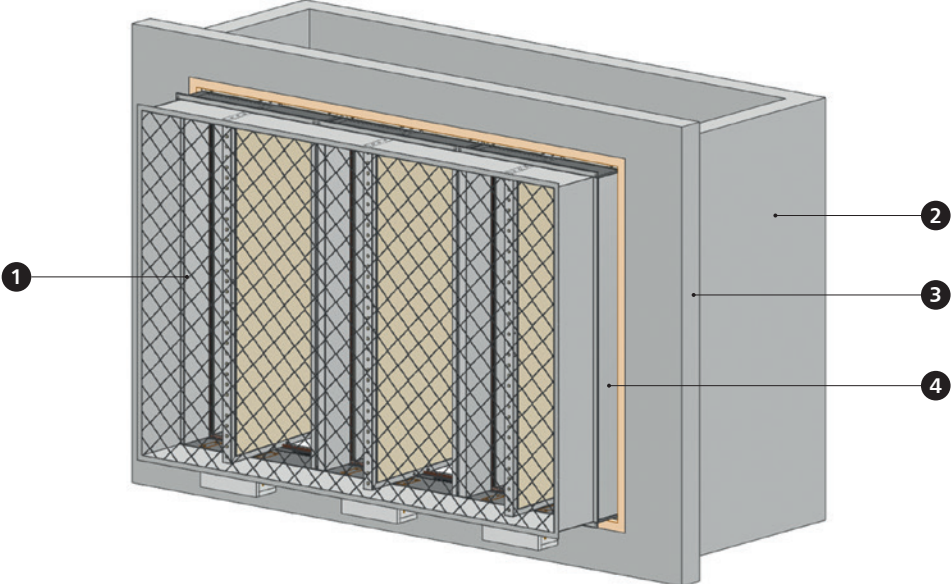
Fig. 2. Batteries of dampers combined into multiple sets



It is possible to build customized multiple sets consisting of two or three batteries of dampers, as long as a 200 mm spacing between the batteries is maintained. The above figure shows the multiple set of four batteries of dampers.

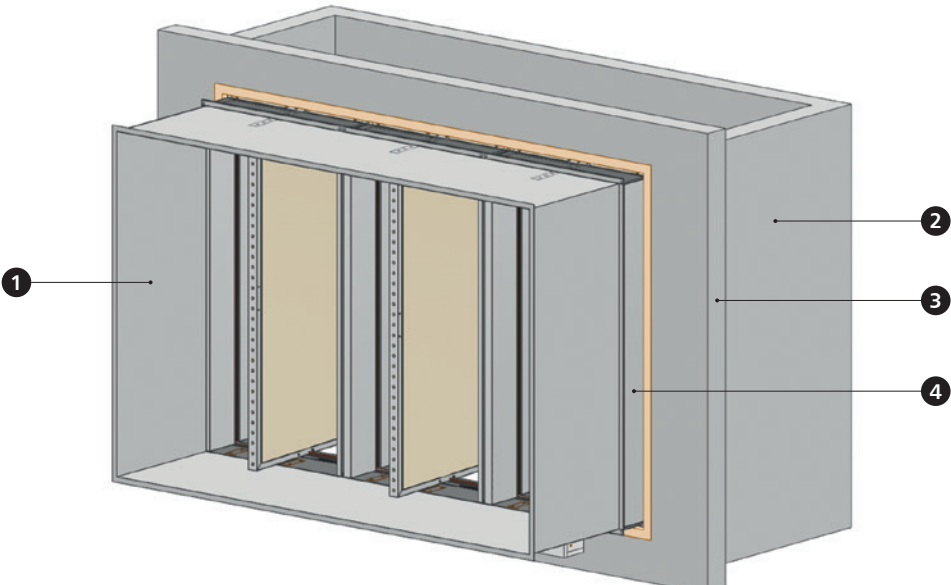
INSTALLATION EXAMPLES

Fig. 3. Installation: grille - shaft



- 1. masking grille
- 2. rigid shaft (masonry or reinforced concrete)
- 3. rigid wall (masonry or reinforced concrete)
- 4. battery of dampers mcr FID S/V

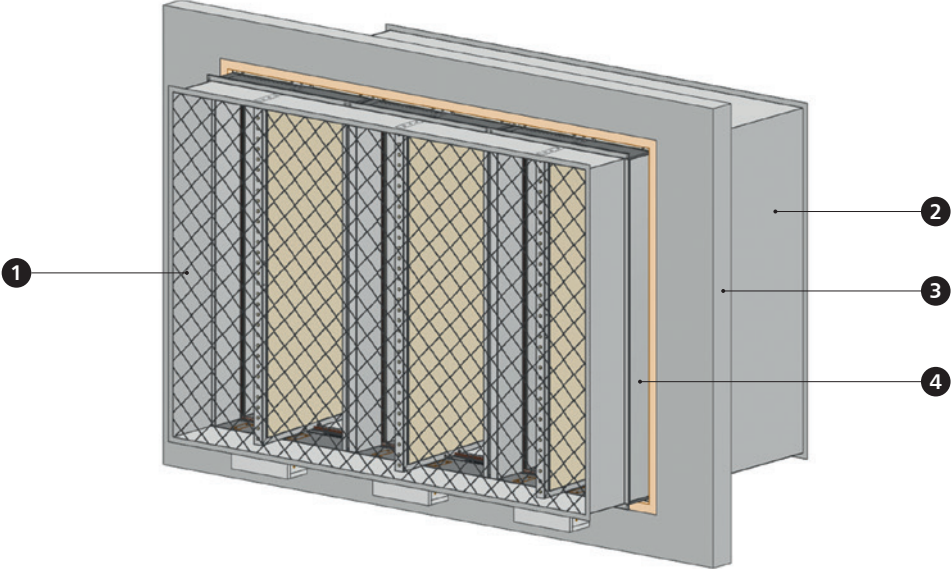
Fig. 4. Installation: ventilation duct - shaft



- 1. ventilation duct
- 2. rigid shaft (masonry or reinforced concrete)
- 3. rigid wall (masonry or reinforced concrete)
- 4. battery of dampers mcr FID S/V

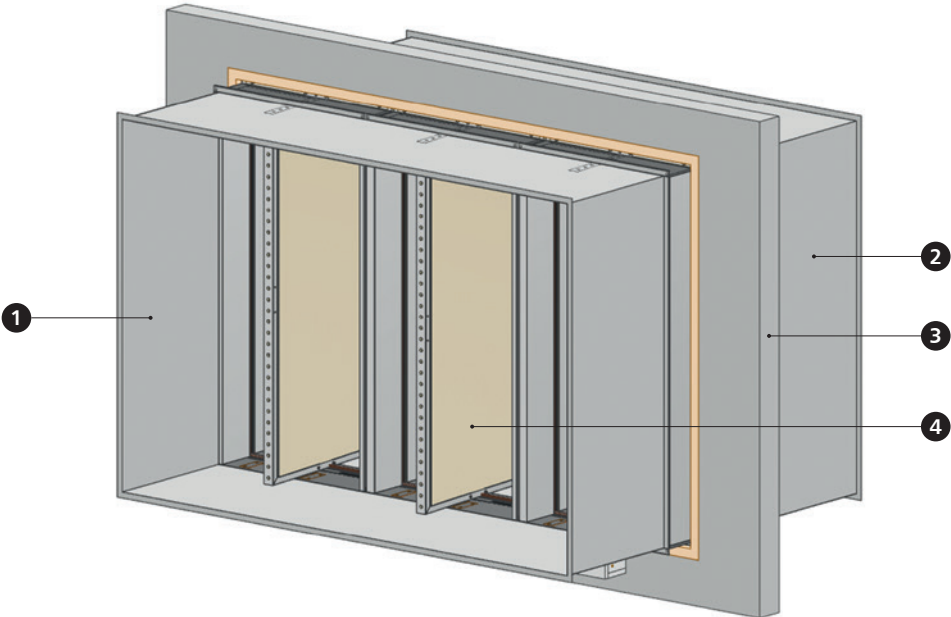
INSTALLATION EXAMPLES

Fig. 5. Installation: grille – ventilation duct



- 1. masking grille
- 2. ventilation duct
- 3. rigid wall (masonry or reinforced concrete)
- 4. battery of dampers mcr FID S/V

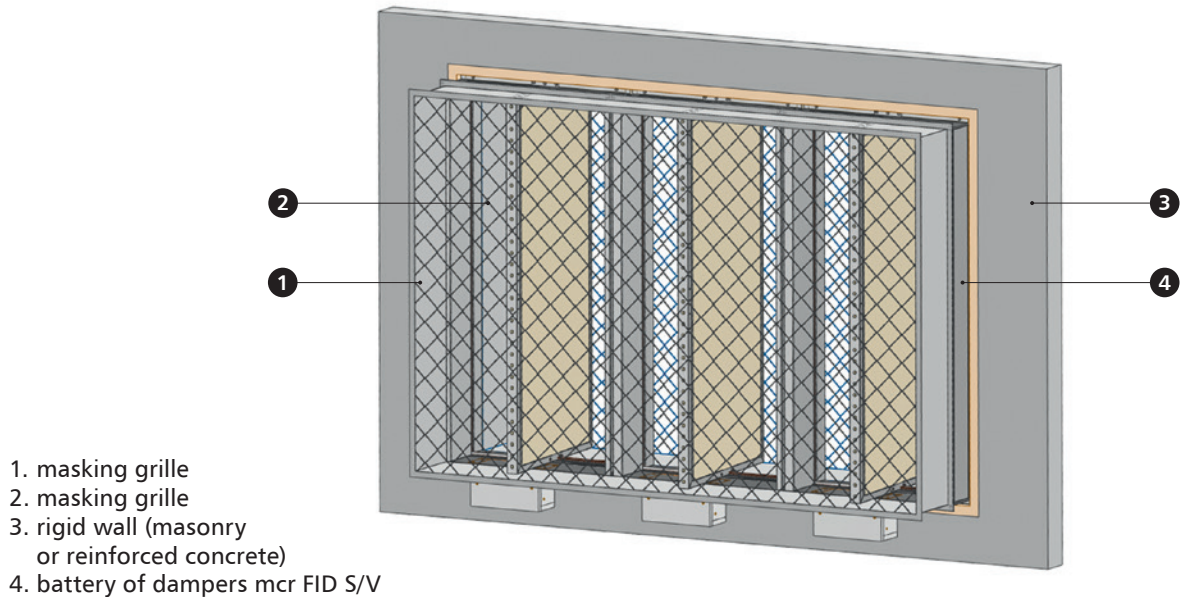
Fig. 6. Installation: ventilation duct – ventilation duct



- 1. ventilation duct
- 2. ventilation duct
- 3. rigid wall (masonry or reinforced concrete)
- 4. battery of dampers mcr FID S/V

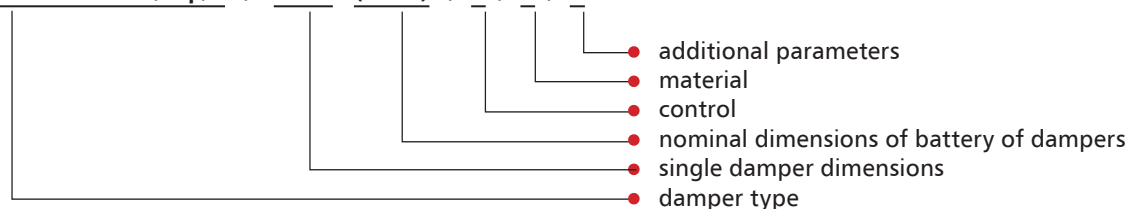
INSTALLATION EXAMPLES

Fig. 7. Installation: grille - grille



MARKING

Battery of n dampers mcr FID S/V p/P / B x H (B x H) / 1 / 2 / 3



1 – control:

- Belimo trigger and control system
- BE24 – actuator without return spring, U = 24 V AC/DC
- BLE24 – actuator without return spring, U = 24 V AC/DC
- BE24-ST (with BKNE230-24 option) – actuator without return spring, U = 24 V AC/DC, with SBS control system plug
- BLE24-ST (with BKNE230-24) – actuator without return spring, U = 24 V AC/DC, with SBS control system plug
- BE230 – actuator without return spring, U = 230 V AC
- BLE230 – actuator without return spring, U = 230 V AC

2 – material:

- [no symbol] – galvanized steel, Zn 275 g/m² coating
- KN – stainless steel
- KK – 1.4404 acid-proof steel

3 – additional parameters (separated by "/")

Position of the control mechanism

- [no symbol] – perpendicular to the rotation axis of the damper
- WOK – along the rotation axis of the damper

Rotation axis of the damper

- PP – vertical
- PP_D – vertical - mechanism at the bottom of the battery
- PP_G – vertical - mechanism at the top of the battery

Extended damper casing

- [no symbol] – standard length
- 400 – 400 mm long casing

BATTERY OF DAMPERS – SELECTED TECHNICAL PARAMETERS

B – nominal dimension [mm]
H – nominal dimension [mm]

v – velocity [m/s]
Sk – duct cross-section [m²]
Se – battery active cross-section [m²]

Q – air flow [m³/h]
dp – pressure drop [Pa]
L_{WA} – battery noise level [dB]

		dimension H [mm]					
		dim. H of the battery/2250					
		number and dimensions of individual dampers/3x710					
dimension B [mm]	1500	v [m/s]	Sk [m ²]	Se [m ²]	Q [m ³ /h]	dp [Pa]	L _{WA} [dB]
		4	3.195	2.95	42 444	3	35
		6			63 666	6	45
		8			84 888	11	53
	10	106 110			17	59	
	1000	4	2.13	1.97	28 296	3	32
		6			42 444	6	43
		8			56 592	10	50
		10			70 740	16	56
	500	4	1.065	0.98	14 148	4	34
		6			21 222	8	44
		8			28 296	15	52
10		35 370			23	58	

		dimension H [mm]					
		dim. H of assembly/1480					
		number and dimensions of individual dampers/2x710					
dimension B [mm]	1500	v [m/s]	Sk [m ²]	Se [m ²]	Q [m ³ /h]	dp [Pa]	L _{WA} [dB]
		4	2.13	1.97	28 296	3	33
		6			42 444	6	44
		8			56 592	11	51
	10	70 740			17	57	
	1000	4	1.42	1.31	18 864	3	30
		6			28 296	6	41
		8			37 728	10	49
		10			47 160	16	54
	500	4	0.71	0.66	9 432	4	32
		6			14 148	8	43
		8			18 864	15	50
10		23 580			23	56	

		dimension H [mm]					
		dim. H of the battery/1920					
		number and dimensions of individual dampers/3x600					
dimension B [mm]	1500	v [m/s]	Sk [m ²]	Se [m ²]	Q [m ³ /h]	dp [Pa]	L _{WA} [dB]
		4	2.7	2.45	35 316	3	35
		6			52 974	7	46
		8			70 632	12	53
	10	88 290			19	59	
	1000	4	1.8	1.64	23 544	3	35
		6			35 316	8	46
		8			47 088	13	53
		10			58 860	21	59
	500	4	0.9	0.82	11 772	4	34
		6			17 658	9	44
		8			23 544	15	52
10		29 430			24	58	


		dimension H [mm]					
		dim. H of assembly/1260					
		number and dimensions of individual dampers/2x600					
dimension B [mm]	1500	v [m/s]	Sk [m ²]	Se [m ²]	Q [m ³ /h]	dp [Pa]	L _{WA} [dB]
		4	1.8	1.64	23 544	3	34
		6			35 316	7	44
		8			47 088	12	52
	10	58 860			19	57	
	1000	4	1.2	1.09	15 696	3	33
		6			23 544	8	44
		8			31 392	13	51
		10			39 240	21	57
	500	4	0.6	0.55	7 848	4	32
		6			11 772	9	42
		8			15 696	15	50
10		19 620			24	56	


		dimension H [mm]					
		dim. H of assembly/1620					
		number and dimensions of individual dampers/3x500					
dimension B [mm]	1500	v [m/s]	Sk [m ²]	Se [m ²]	Q [m ³ /h]	dp [Pa]	L _{WA} [dB]
		4	2.25	2.00	28 836	3	35
		6			43 254	7	46
		8			57 672	13	53
	10	72 090			20	59	
	1000	4	1.5	1.34	19 224	3	34
		6			28 836	8	45
		8			38 448	13	52
		10			48 060	21	58
	500	4	0.75	0.67	9 612	4	32
		6			14 418	8	42
		8			19 224	14	50
10		24 030			20	54	


		dimension H [mm]					
		dim. H of assembly/1060					
		number and dimensions of individual dampers/2x500					
dimension B [mm]	1500	v [m/s]	Sk [m ²]	Se [m ²]	Q [m ³ /h]	dp [Pa]	L _{WA} [dB]
		4	1.5	1.34	19 224	3	33
		6			28 836	7	44
		8			38 448	13	51
	10	48 060			20	57	
	1000	4	1	0.89	12 816	3	32
		6			19 224	8	43
		8			25 632	13	50
		10			32 040	21	56
	500	4	0.5	0.45	6 408	4	30
		6			9 612	8	41
		8			12 816	14	48
10		16 020			20	53	

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