



PRODUCT BROCHURE

# mcr WIP LD

Multi-blade smoke control damper  
for multi-zone fire ventilation systems



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[www.mercor.com.pl/en](http://www.mercor.com.pl/en)

## 1 APPLICATION

The mcr WIP LD smoke control dampers are intended for installation in manually or automatically operated fire ventilation systems. The devices are used in fire ventilation systems or in mixed fire and comfort ventilation systems (smoke evacuation or air supply systems). The dampers prevent fire, smoke and fire gases from spreading to the adjacent compartments. During normal system operation, the damper blades are closed. The smoke control dampers blades in the fire compartment are opened, whereas in other areas the blades are closed.

## 2 DESIGN



mcr WIP LD /V, mcr WIP LD /V-M smoke control dampers consist of a casing with a rectangular cross-section, multiple moving damper blades – louvers rotating around their own axes – and a remotely activated trigger and control mechanism, which is installed inside the damper clearance. The damper casing is made of galvanized steel sheets or stainless steel sheets. The damper is also provided with a connection flange on one side. The other end is the so-called “bare-end”. The damper casing total length is 350 mm. Damper louvers are made of galvanized steel sheets or stainless steel. The damper blades revolve on their own axes, which consist of steel pins. A ventilation gasket is provided on the blades to ensure that the damper is “cold” sealed.

## 3 KEY BENEFITS



Large active area, quick installation



Certified installation with a system grille in set, as per EN 12101-8

## 4 DIMENSIONS

- » nominal width B: from 300 mm to 1100 mm
- » nominal height H from 600 mm to 2300 mm
- » maximum single damper cross-section surface up to 2.53 m<sup>2</sup>

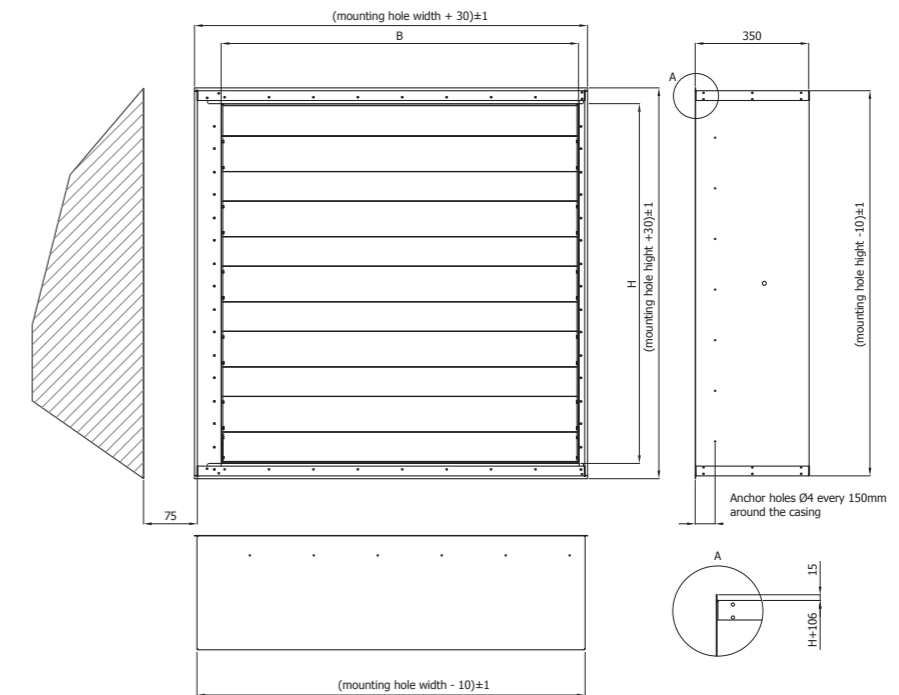
Apart from the standard dimensions, smoke control dampers may be manufactured with intermediate dimensions (at 1 mm increments within the given ranges). The exception are dampers whose height value falls within the 36-54 ranges, e.g. 136-154, 236-254...

## 5 VERSIONS

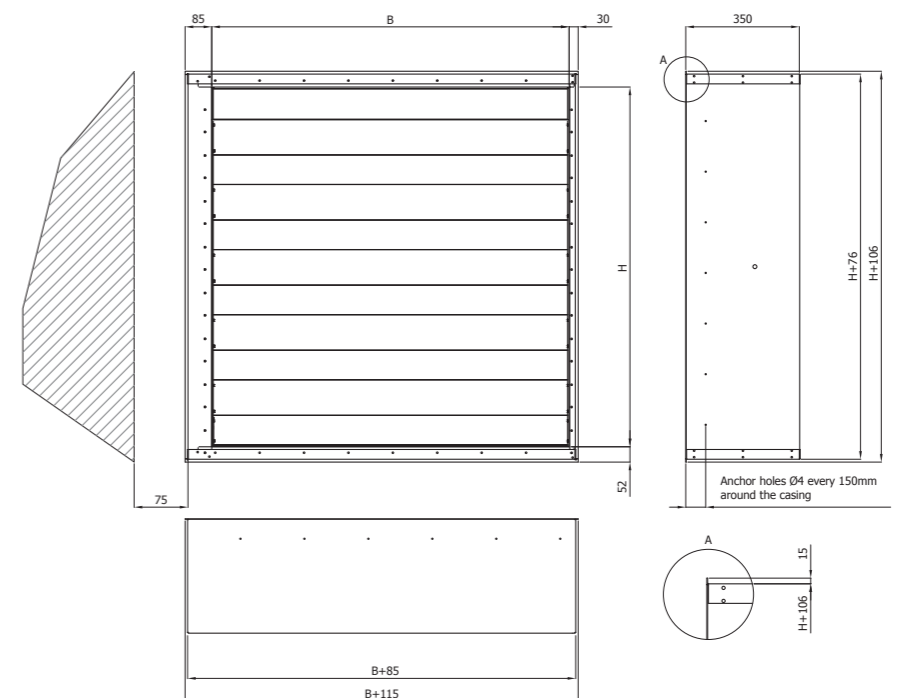
### 5.1 Damper closing and opening with an actuator

During normal operation, the smoke control dampers are opened or closed. In case of fire, the smoke control dampers louvers are opened in the fire compartment area and closed in the other areas - the smoke control dampers is released remotely by feeding the supply voltage to the trigger control mechanism. mcr WIP LD /V, mcr WIP LD /V-M smoke control dampers are equipped with a trigger control mechanism in the form of a BEE, BEN, BE axial actuator without a return spring (24 V AC/DC or 230 V AC). The BE, BEE, BEN series actuators are equipped with limit switches used to monitor the damper blade position. Furthermore, a mechanical position indicator is placed on the actuator. Smoke control dampers with BEE, BEN, BE actuators can be opened/closed by supplying voltage to the actuator terminals. Dampers with those actuators may be opened/closed manually using a key.

» set in a masonry wall with the flange facing the wall



» set in a masonry wall with the flange facing the wall



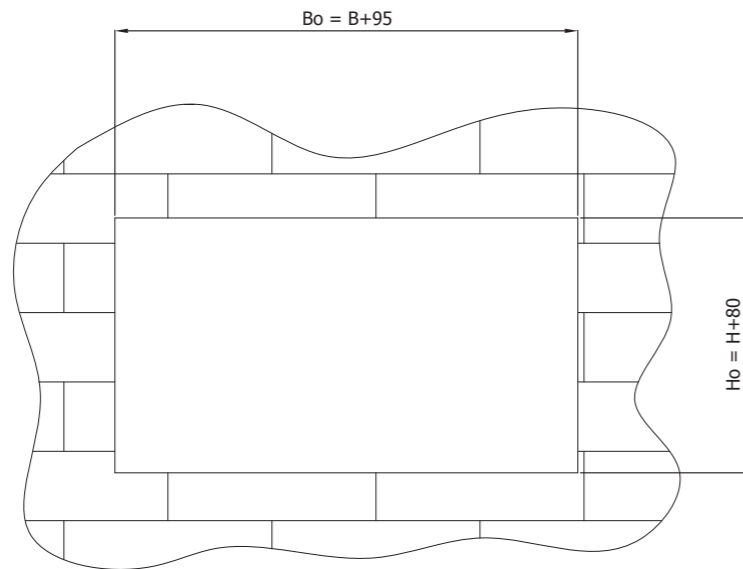
## 6 INSTALLATION

- » mcr WIP LD /V, mcr WIP LD /V-M rectangular dampers are rated EI120(v<sub>ew</sub> i→o)S 1000C<sub>10000</sub>AAmulti if installed in yielding wall/shaft partitions made from gypsum board panels with the thickness of at least 125 mm.
- » mcr WIP LD /V, mcr WIP LD /V-M rectangular dampers are rated EI120(v<sub>ew</sub> i→o)S 1000C<sub>10000</sub>AAmulti if installed in wall/shaft partitions made of concrete, bricks, hollow bricks, masonry or prefabricated slabs with a min. thickness of 125 mm.
- » mcr WIP LD /V, mcr WIP LD /V-M rectangular dampers are rated E600(v<sub>ew</sub> i→o)S 1000C<sub>10000</sub>AAmulti if installed in wall/shaft partitions made of concrete, bricks, hollow bricks, masonry or prefabricated slabs with a min. thickness of 125 mm.

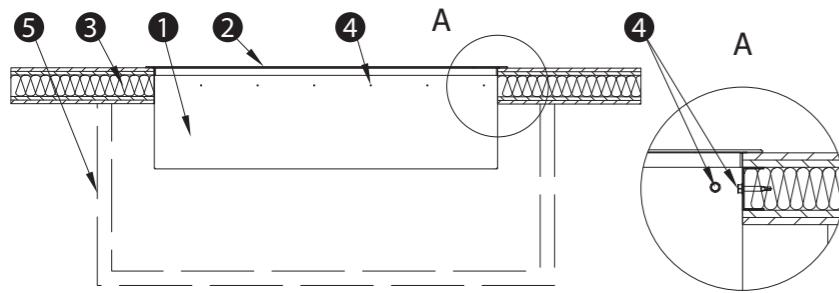
### 6.1 Preparation of installation openings

The minimum dimensions of the installation opening that permits correct installation of the mcr WIP LD /V, mcr WIP LD /V-M damper is:

Preferred  
 $B_o = (B+95)$  mm  
 $H_o = (H+80)$  mm

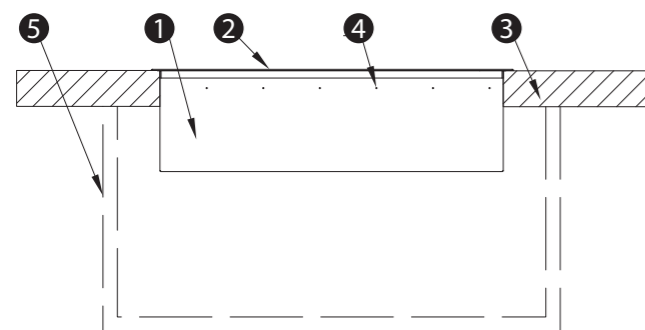


### 6.2 Installation in shaft walls



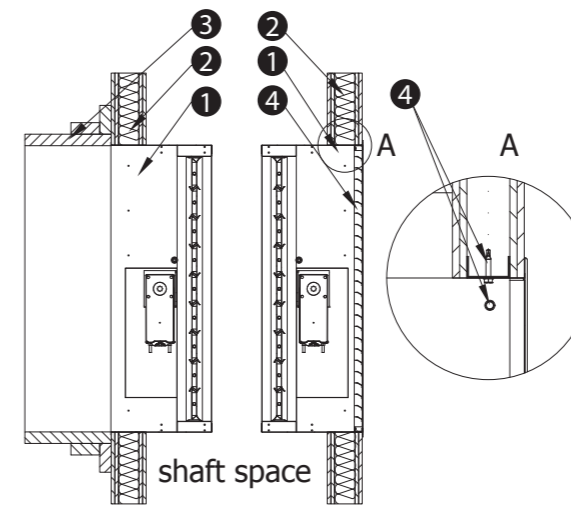
1. mcr WIP LD BxH smoke damper
2. MWS system grille (optional)
3. GK shaft wall
4. Installation anchors
5. Vertical fire ventilation shaft

### 6.3 Installation in light shaft walls



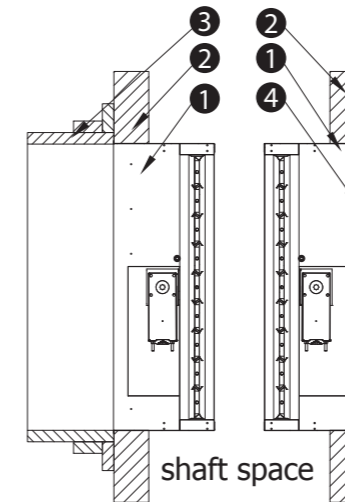
1. mcr WIP LD BxH smoke damper
2. MWS system grille (optional)
3. GB shaft wall
4. Installation anchors
5. Vertical fire ventilation shaft

### 6.4 Installation in concrete walls or masonry shafts



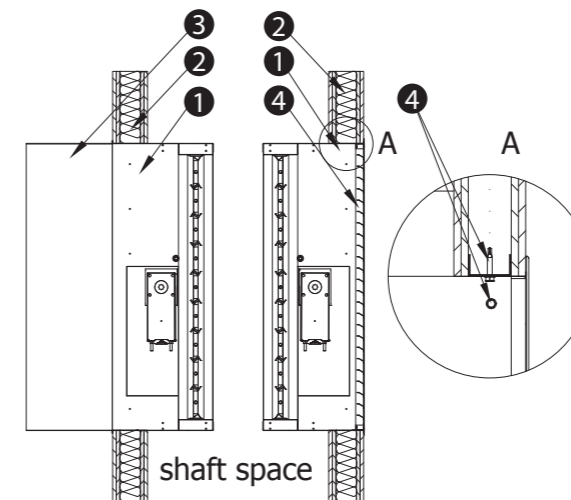
1. mcr WIP LD BxH smoke damper
2. Plasterboard wall
3. Multi-compartment smoke extract duct  
– e.g. made of fire-proof boards
4. MWS system grille (optional)

### 6.5 Sample installation in light walls and with multi-compartment ducts or grilles



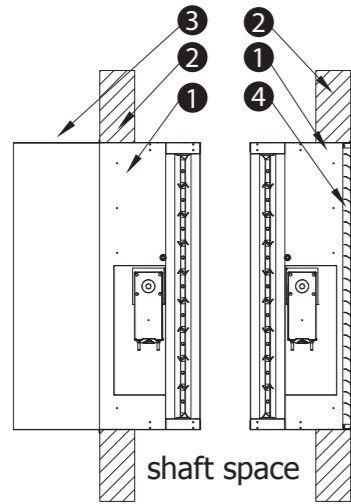
1. mcr WIP LD BxH smoke damper
2. Solid wall
3. Multi-compartment smoke extract duct  
– e.g. made of fire-proof boards
4. MWS system grille (optional)

### 6.6 Sample installation in concrete or masonry walls and with multi-compartment ducts or grilles



1. mcr WIP LD BxH smoke damper
2. Plasterboard wall
3. Single-compartment smoke extract duct  
– e.g. made of metal sheets
4. MWS system grille (optional)

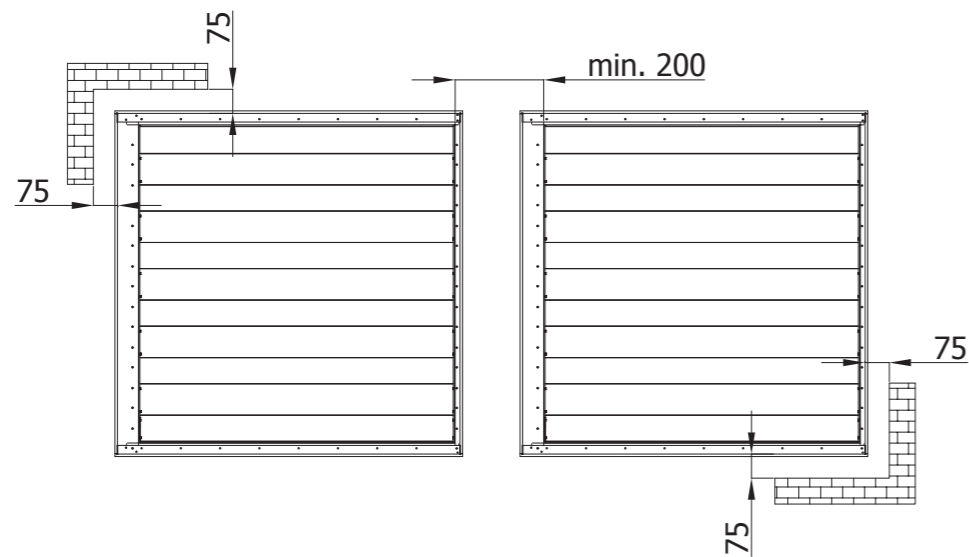
6.7 Sample installation in light walls and with single-compartment ducts or grilles



1. mcr WIP LD BxH smoke damper
2. Solid wall
3. Multi-compartment smoke extract duct  
- e.g. made of fire-proof boards
4. MWS system grille (optional)

\* Smoke extraction ducts should be made in accordance with the ducts manufacturer's guidelines. The ducts must have an adequate fire resistance rating in accordance with the fire resistance rating provided for the entire solution. Seal all connections between the damper, wall and the ducts with the appropriate grout/glue/gaskets, ensuring that the fire resistance rating is maintained. A masking grille may terminate the system.

» Distance between systems and partitions



7 MCR WIP LD RECTANGULAR DAMPERS TECHNICAL PARAMETERS

B – nominal width [mm]  
H – nominal height [mm]

v – velocity [m/s]  
S<sub>k</sub> – duct cross-section [m<sup>2</sup>]  
S<sub>e</sub> – damper active cross-section [m<sup>2</sup>]

Q – flow [m<sup>3</sup>/h]  
d<sub>p</sub> – pressure drop [Pa]  
L<sub>WA</sub> – damper noise level [dB]

width B [mm]		height H [mm]															
		600					700					800					
		v [m/s]	S <sub>k</sub> [m <sup>2</sup> ]	S <sub>e</sub> [m <sup>2</sup> ]	Q [m <sup>3</sup> /s]	d <sub>p</sub> [Pa]	L <sub>WA</sub> [dB]	S <sub>k</sub> [m <sup>2</sup> ]	S <sub>e</sub> [m <sup>2</sup> ]	Q [m <sup>3</sup> /s]	d <sub>p</sub> [Pa]	L <sub>WA</sub> [dB]	S <sub>k</sub> [m <sup>2</sup> ]	S <sub>e</sub> [m <sup>2</sup> ]	Q [m <sup>3</sup> /s]	d <sub>p</sub> [Pa]	L <sub>WA</sub> [dB]
300	4	0,18	0,15	2 151	5	30	0,21	0,17	2 510	5	30	0,24	0,20	2 868	5	31	
	6			3 227	12	41			3 765	11	41			4 303	11	41	
	8			4 303	21	48			5 020	20	48			5 737	19	48	
	10	5 378	32	54	6 275	31	54	7 171	30	54							
	350	4	0,21	0,17	2 510	5	30	0,25	0,20	2 928	5	31	0,28	0,23	3 347	5	32
		6			3 765	11	41			4 392	11	41			5 020	10	41
		8			5 020	20	48			5 856	19	48			6 693	19	49
		10			6 275	31	54			7 321	30	54			8 366	29	55
	400	4	0,24	0,20	2 868	5	31	0,28	0,23	3 347	5	32	0,32	0,27	3 825	5	32
		6			4 303	11	41			5 020	11	42			5 737	10	41
		8			5 737	20	49			6 693	19	49			7 649	19	50
		10			7 171	31	55			8 366	30	55			9 562	29	55
450	4	0,27	0,22	3 227	5	31	0,32	0,26	3 765	5	32	0,36	0,30	4 303	5	33	
	6			4 841	11	42			5 647	11	42			6 454	10	42	
	8			6 454	20	50			7 530	19	50			8 605	19	50	
	10			8 068	31	55			9 412	30	55			10 757	29	56	
500	4	0,30	0,25	3 586	5	32	0,35	0,29	4 183	5	33	0,40	0,33	4 781	5	33	
	6			5 378	11	42			6 275	11	43			7 171	10	42	
	8			7 171	20	50			8 366	19	50			9 562	19	51	
	10			8 964	31	56			10 458	30	56			11 952	29	56	
550	4	0,33	0,27	3 944	5	32	0,39	0,32	4 602	5	33	0,44	0,37	5 259	5	34	
	6			5 916	11	43			6 902	11	43			7 888	10	43	
	8			7 888	20	50			9 203	19	50			10 518	19	51	
	10			9 860	31	56			11 504	30	56			13 147	29	56	
600	4	0,36	0,30	4 303	5	33	0,42	0,35	5 020	5	33	0,48	0,40	5 737	5	34	
	6			6 454	11	43			7 530	11	44			8 605	10	43	
	8			8 605	19	50			10 040	19	51			11 474	19	51	
	10			10 757	30	56			12 550	30	57			14 342	29	57	
650	4	0,39	0,32	4 661	5	33	0,46	0,38	5 438	5	34	0,52	0,43	6 215	5	34	
	6			6 992	11	43			8 157	10	43			9 323	10	43	
	8			9 323	19	50			10 876	19	51			12 430	19	52	
	10			11 653	30	56			13 595	29	57			15 538	29	57	
700	4	0,42	0,35	5 020	5	33	0,49	0,41	5 856	5	34	0,56	0,46	6 693	4	32	
	6			7 530	11	44			8 785	10	43			10 040	10	44	
	8			10 040	19	51			11 713	19	51			13 386	18	51	
	10			12 550	30	57			14 641	29	57			16 733	28	57	
750	4	0,45	0,37	5 378	5	34	0,53	0,44	6 275	5	34	0,60	0,50	7 171	4	32	
	6			8 068	11	44			9 412	10	43			10 757	10	44	
	8			10 757	19	51			12 550	19	52			14 342	18	52	
	10			13 446	30	57			15 687	29	57			17 928	28	57	
800	4	0,48	0,40	5 737	5	34	0,56	0,46	6 693	4	32	0,64	0,53	7 649	4	32	
	6			8 605	10	43			10 040	7	39			11 474	10	44	
	8			11 474	19	51			13 386	11	45			15 299	18	52	
	10			14 342	29	57			16 733	28	57			19 123	28	58	
850	4	0,51	0,42	6 096	4	31	0,60	0,49	7 111	4	32	0,68	0,56	8 127	4	33	
	6			9 143	10	43			10 667	10	44			12 191	10	45	
	8			12 191	18	51			14 223	18	52			16 255	17	51	
	10			15 239	28	57			17 779	28	57			20 318	27	57	
900	4	0,54	0,45	6 454	4	32	0,63	0,52	7 530	4	32	0,72	0,60	8 605	4	33	
	6			9 681	10	44			11 295	10	44			12 908	10	45	
	8			12 908	18	51			15 060	17	51			17 211	17	52	
	10			16 135	28	57			18 824	27	57			21 514	27	58	
950	4	0,57	0,47	6 813	4	32	0,67	0,55	7 948	4	32	0,76	0,63	9 084	4	33	
	6			10 219	10	44			11 922	10	44			13 625	10	44	
	8			13 625	18	51			15 896	17	51			18 167	17	52	
	10			17 032	28	57			19 870	27	57			22 709	27	58	
1000	4	0,60	0,50	7 171	4	32	0,70	0,58	8 366	4	33	0,80	0,66	9 562	4	33	
	6			10 757	10	44			12 550	10	45			14 342	9	44	
	8			14 342	18	52			16 733	17	52			19 123	17	52	
	10			17 928	28	57			20 916	27	58			23 904	26	58	
1050	4	0,63	0,52	7 530	4	32	0,74	0,61	8 785	4	33	0,84	0,70	10 040	4	34	
	6			11 295	10	44			13 177	10	45			15 060	9	44	
	8			15 060	18	52			17 569	17	52			20 079	17	52	
	10			18 824	28	58			21 962	27	58			25 099	26	58	
1100	4	0,66	0,55	7 888	4	33	0,77	0,64	9 203	4	34	0,88	0,73	10 518	4	34	
	6			11 832	10	45			13 805	10	45			15 777	9	44	
	8			15 777	18	52			18 406	17	52			21 036	17	53	
	10			19 721	28	58			23 008	27	58			26 294	26	58	





### 8 DAMPER ACTIVE SURFACE QUICK SELECTION TABLE [m²] (FREE AREA – APERTURE SIZES IN MM AND AREA IN MSQ)

B – nominal width [mm]  
H – nominal height [mm]

v – velocity [m/s]  
S<sub>k</sub> – duct cross-section [m²]  
S<sub>e</sub> – damper active cross-section [m²]

Q – flow [m³/h]  
d<sub>p</sub> – pressure drop [Pa]  
L<sub>WA</sub> – damper noise level [dB]

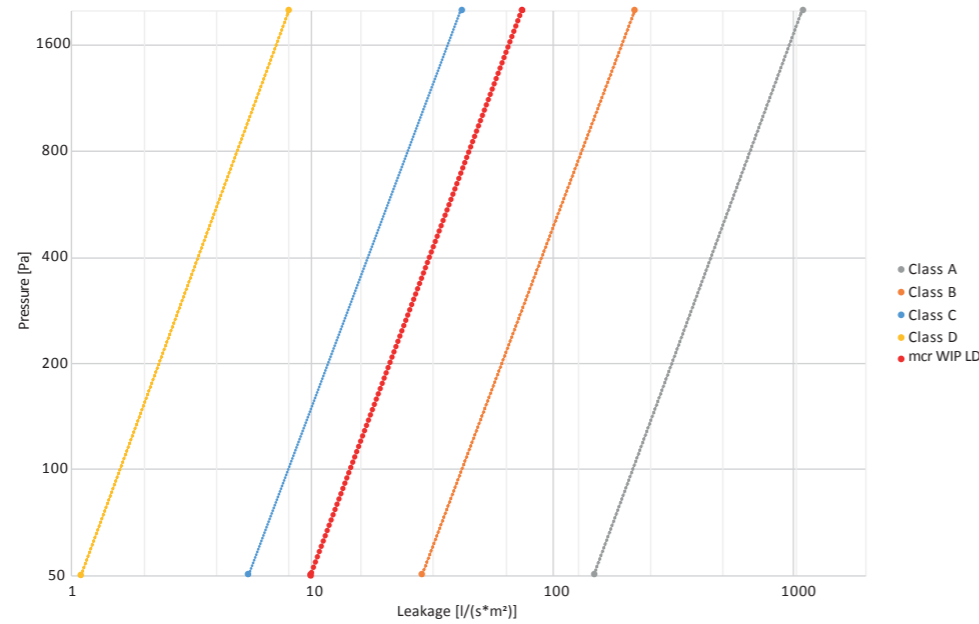
width B [mm]		height H [mm]																	
		2100						2200						2300					
		v [m/s]	S <sub>k</sub> [m²]	S <sub>e</sub> [m²]	Q [m³/s]	d <sub>p</sub> [Pa]	L <sub>WA</sub> [dB]	S <sub>k</sub> [m²]	S <sub>e</sub> [m²]	Q [m³/s]	d <sub>p</sub> [Pa]	L <sub>WA</sub> [dB]	S <sub>k</sub> [m²]	S <sub>e</sub> [m²]	Q [m³/s]	d <sub>p</sub> [Pa]	L <sub>WA</sub> [dB]		
300	4	0,63	0,52	7 530	5	35	0,66	0,55	7 888	5	35	0,69	0,57	8 247	5	36			
	6			11 295	5	34			11 832	4	32			12 370	4	31			
	8			15 060	14	48			15 777	13	48			16 494	13	47			
	10			18 824	21	54			19 721	20	53			20 617	19	53			
	350	4	0,74	0,61	8 785	1,25	18	0,77	0,64	9 203	1	15	0,81	0,67	9 621	0,75	12		
		6			13 177	7	41			13 805	7	40			14 432	7	40		
		8			17 569	13	48			18 406	12	47			19 243	12	47		
		10			21 962	20	54			23 008	19	53			24 053	18	53		
	400	4	0,84	0,70	10 040	1,25	18	0,88	0,73	10 518	1	16	0,92	0,76	10 996	0,75	12		
		6			15 060	7	41			15 777	7	41			16 494	7	41		
		8			20 079	13	48			21 036	12	48			21 992	12	48		
		10			25 099	20	54			26 294	19	54			27 490	18	54		
450	4	0,95	0,78	11 295	1,25	19	0,99	0,82	11 832	1	16	1,04	0,86	12 370	0,75	13			
	6			16 942	7	42			17 749	7	42			18 555	7	41			
	8			22 589	9	44			23 665	8	43			24 741	7	42			
	10			28 237	16	52			29 581	15	51			30 926	14	51			
500	4	1,05	0,87	12 550	1,25	19	1,10	0,91	13 147	1	17	1,15	0,95	13 745	0,75	13			
	6			18 824	7	42			19 721	7	42			20 617	7	42			
	8			25 099	9	45			26 294	8	44			27 490	7	43			
	10			31 374	16	53			32 868	15	52			34 362	14	51			
550	4	1,16	0,96	13 805	1,25	20	1,21	1,00	14 462	1	17	1,27	1,05	15 119	0,75	13			
	6			20 707	7	43			21 693	7	42			22 679	7	42			
	8			27 609	9	45			28 924	8	44			30 239	7	43			
	10			34 511	16	53			36 155	15	52			37 798	14	52			
600	4	1,26	1,05	15 060	1,25	20	1,32	1,10	15 777	1	17	1,38	1,15	16 494	0,75	14			
	6			22 589	7	43			23 665	7	43			24 741	7	42			
	8			30 119	12	49			31 553	11	49			32 988	11	48			
	10			37 649	19	55			39 442	18	55			41 234	17	55			
650	4	1,37	1,13	16 314	1,25	20	1,43	1,19	17 091	1	18	1,50	1,24	17 868	0,75	14			
	6			24 472	7	43			25 637	7	43			26 802	7	43			
	8			32 629	12	49			34 183	11	49			35 736	11	49			
	10			40 786	19	56			42 728	18	55			44 671	17	55			
700	4	1,47	1,22	17 569	1,25	21	1,54	1,28	18 406	1	18	1,61	1,34	19 243	0,75	15			
	6			26 354	4	34			27 609	3	32			28 864	3	30			
	8			35 139	12	50			36 812	11	49			38 485	11	49			
	10			43 924	15	53			46 015	14	52			48 107	13	52			
750	4	1,58	1,31	18 824	1,25	21	1,65	1,37	19 721	1	18	1,73	1,43	20 617	0,75	15			
	6			28 237	4	34			29 581	3	33			30 926	3	30			
	8			37 649	12	50			39 442	11	50			41 234	11	49			
	10			47 061	15	53			49 302	14	53			51 543	13	52			
800	4	1,68	1,39	20 079	1,25	21	1,76	1,46	21 036	1	19	1,84	1,53	21 992	0,75	15			
	6			30 119	6	42			31 553	6	42			32 988	6	42			
	8			40 159	12	50			42 071	11	50			43 983	11	49			
	10			50 198	18	56			52 589	17	56			54 979	16	55			
850	4	1,79	1,48	21 334	4	37	1,87	1,55	22 350	4	37	1,96	1,62	23 366	4	37			
	6			32 001	6	43			33 525	6	42			35 049	6	42			
	8			42 669	14	53			44 700	14	53			46 732	14	53			
	10			53 336	21	58			55 876	20	58			58 415	20	58			
900	4	1,89	1,57	22 589	4	37	1,98	1,64	23 665	4	37	2,07	1,72	24 741	4	37			
	6			33 884	6	43			35 497	6	43			37 111	6	42			
	8			45 179	11	50			47 330	10	49			49 481	10	49			
	10			56 473	17	56			59 162	16	55			61 852	15	55			
950	4	2,00	1,66	23 844	4	37	2,09	1,73	24 980	4	37	2,19	1,81	26 115	4	38			
	6			35 766	6	43			37 470	6	43			39 173	6	42			
	8			47 688	9	47			49 959	8	46			52 230	7	46			
	10			59 611	15	54			62 449	14	54			65 288	13	53			
1000	4	2,10	1,74	25 099	4	37	2,20	1,83	26 294	4	38	2,30	1,91	27 490	4	38			
	6			37 649	6	43			39 442	6	43			41 234	6	43			
	8			50 198	7	44			52 589	6	43			54 979	5	41			
	10			62 748	13	53			65 736	12	52			68 724	11	51			
1050	4	2,21	1,83	26 354	4	38	2,31	1,92	27 609	4	38	2,42	2,00	28 864	4	38			
	6			39 531	6	44			41 414	6	43			43 296	6	43			
	8			52 708	7	45			55 218	6	43			57 728	5	42			
	10			65 885	13	53			69 023	12	52			72 160	11	51			
1100	4	2,31	1,92	27 609	4	38	2,42	2,01	28 924	4	39	2,53	2,10	30 239	4	39			
	6			41 414	6	44			43 386	6	44			45 358	6	43			
	8			55 218	7	45			57 848	6	44			60 477	5	42			
	10			69 023	13	53			72 310	12	53			75 596	11	52			

Active surface a [m²]	Width Bo [mm]																	
	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1195
600	0,08	0,10	0,12	0,14	0,16	0,18	0,20	0,22	0,24	0,26	0,28	0,30	0,32	0,34	0,36	0,38	0,40	0,44
700	0,09	0,12	0,14	0,17	0,19	0,22	0,24	0,26	0,29	0,31	0,34	0,36	0,39	0,41	0,43	0,46	0,48	0,53
800	0,11	0,14	0,17	0,20	0,22	0,25	0,28	0,31	0,34	0,37	0,40	0,42	0,45	0,48	0,51	0,54	0,57	0,62
900	0,13	0,16	0,19	0,22	0,26	0,29	0,32	0,36	0,39	0,42	0,45	0,49	0,52	0,55	0,58	0,62	0,65	0,71
1000	0,14	0,18	0,22	0,25	0,29	0,33	0,36	0,40	0,44	0,47	0,51	0,55	0,58	0,62	0,66	0,69	0,73	0,80
1100	0,16	0,20	0,24	0,28	0,32	0,36	0,41	0,45	0,49	0,53	0,57	0,61	0,65	0,69	0,73	0,77	0,81	0,89
1200	0,18	0,22	0,27	0,31	0,36	0,40	0,45	0,49	0,54	0,58	0,63	0,67	0,72	0,76	0,81	0,85	0,90	0,98
1300	0,19	0,24	0,29	0,34	0,39	0,44	0,49	0,54	0,59	0,64	0,68	0,73	0,78	0,83	0,88	0,93	0,98	1,07
1400	0,21	0,26	0,32	0,37	0,42	0,48	0,53	0,58	0,64	0,69	0,74	0,80	0,85	0,90	0,96	1,01	1,06	1,16
1500	0,23	0,28	0,34	0,40	0,46	0,51	0,57	0,63	0,69	0,74	0,80	0,86	0,92	0,97	1,03	1,09	1,15	1,25
1600	0,24	0,30	0,37	0,43	0,49	0,55	0,61	0,67	0,74	0,80	0,86	0,92	0,98	1,04	1,11	1,17	1,23	1,35
1700	0,26	0,32	0,39	0,46	0,52	0,59	0,65	0,72	0,78	0,85	0,92	0,98	1,05	1,11	1,18	1,25	1,31	1,44
1800	0,27	0,34	0,41	0,48	0,55	0,62	0,69	0,76	0,83	0,90	0,97	1,04	1,11	1,18	1,25	1,32	1,39	1,53
1900	0,29	0,37	0,44	0,51	0,59	0,66	0,74	0,81	0,88	0,96	1,03	1,11	1,18	1,25	1,33	1,40	1,48	1,62
2000	0,31	0,39	0,46	0,54	0,62	0,70	0,78	0,86	0,93	1,01	1,09	1,17	1,25	1,32	1,40	1,48	1,56	1,71
2100	0,32	0,41	0,49	0,57	0,65	0,74	0,82	0,90	0,98	1,07	1,15	1,23	1,31	1,40	1,48	1,56	1,64	1,80
2200	0,34	0,43	0,51	0,60	0,69	0,77	0,86	0,95	1,03	1,12	1,21	1,29	1,38	1,47	1,55	1,64	1,73	1,89
2300	0,36	0,45	0,54	0,63	0,72	0,81	0,90	0,99	1,08	1,17	1,26	1,35	1,45	1,54	1,63	1,72	1,81	1,98
2385	0,38	0,47	0,56	0,66	0,75	0,85	0,94	1,04	1,13	1,23	1,32	1,42	1,51	1,61	1,70	1,80	1,89	2,07

### 9 ESTIMATED WEIGHT OF THE MCR WIP LD DAMPERS [kg]

Height H [mm]	Width B [mm]								
	300	400	500	600	700	800	900	1000	1100
600	20	21	23	26	30	35	37	39	41
700	21	23	25	28	32	35	38	40	42
800	22	24	29	35	37	41	43	49	55
900	25	28	33	35	39	43	49	52	55
1000	32	33	36	42	43	47	53	60	67
1100	35	36	37	38	39	41	42	44	46
1200	38	39	40	41	42	44	45	47	49
1300	41	42	43	44	46	47	49	51	52
1400	44	45	46	48					

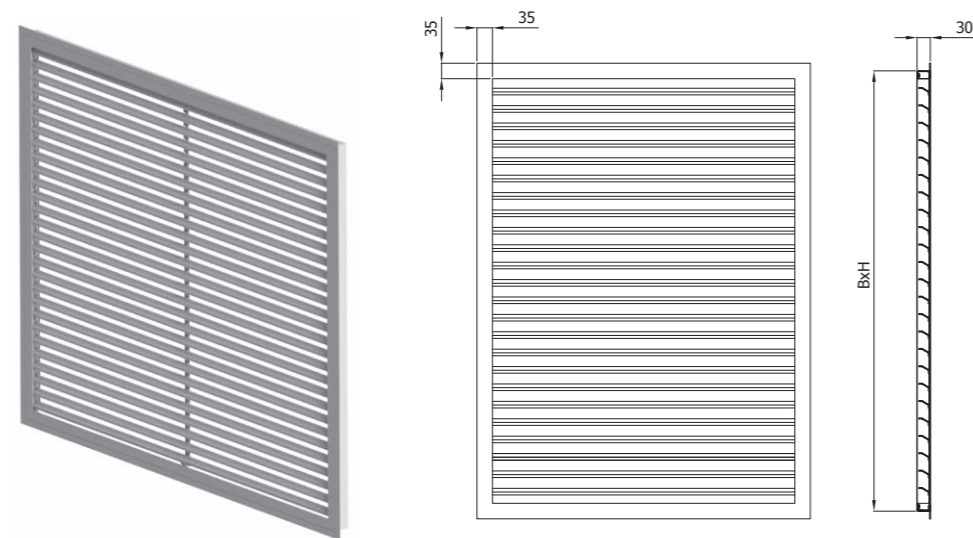
## 10 SEALED DAMPER BLADE TIGHTNESS ACCORDING TO EN1751



## 11 ACCESSORIES

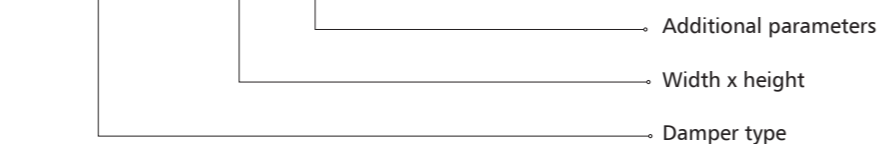
### 11.1 mcr MWS system masking element

MWS system masking elements are designed to fulfill either supply or exhaust function. They enable the transfer of air through construction partitions. They come with fixed steel louvers with a 40 mm span, obscuring damper visibility. Bolts embedded in the damper are used to attach the masking element body. After installation, an outer frame is mounted on the masking element body so that the holes and bolts cannot be seen from the outside. Such a solution allows for installing the product even in the most visually-demanding applications. The masking elements are painted in RAL 9010 as a standard (available in any colour from the RAL range on request).



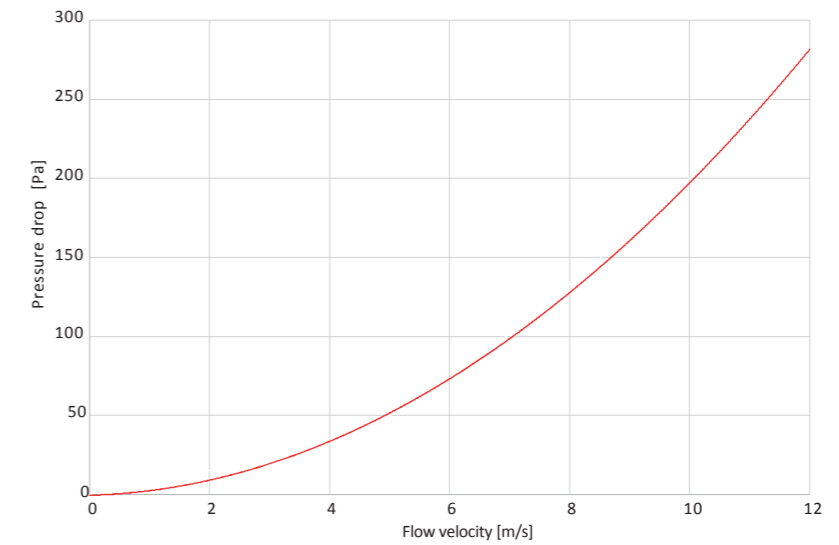
Marking:

**mcr MWS / B x H / X**



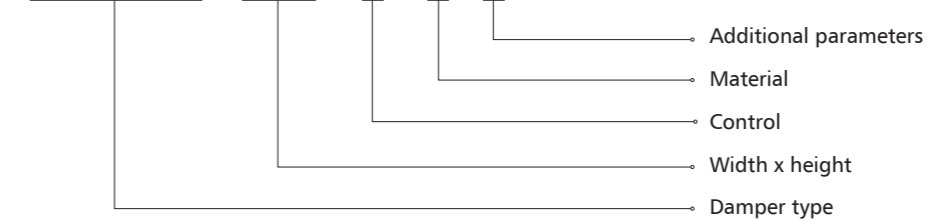
X – material  
 [no symbol] – RAL9010  
 RALXXXX – selected color code from the RAL palette

### » Pressure drop on masking grilles



## 12 MARKING

**mcr WIP LD / B x H / 1 / 2 / 3**



### 1 – control

#### » trigger control mechanism

- BE24 – actuator without a return spring, U = 24 V AC/DC
- BE24-ST (with the BKE230-24 option) – actuator without a return spring, for the SBS Control system
- BE230 – actuator without a return spring, U = 230 V AC/DC
- BEE24 – actuator without a return spring, U = 24 V AC/DC
- BEN24 – actuator without a return spring, U = 24 V AC/DC
- BEE24-ST (with the BKE230-24 option) – actuator without a return spring, for the SBS Control system
- BEN24-ST (with the BKE230-24 option) – actuator without a return spring, for the SBS Control system
- BEE230 – actuator without a return spring, U = 230 V AC/DC
- BEN230 – actuator without a return spring, U = 230 V AC/DC

### 2 – material

- [no symbol] – galvanized steel, Zn 275 m<sup>2</sup> coating
- KN – stainless steel
- KK – 1.4404 acid-proof steel

### 3 – additional parameters

#### » Damper axis of rotation

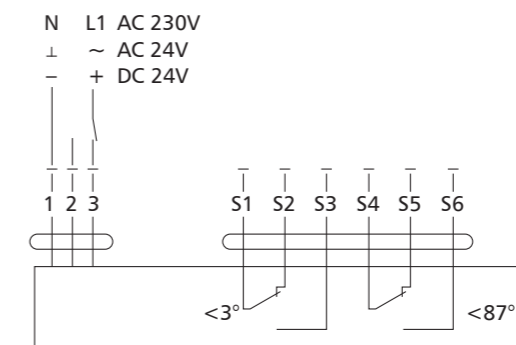
- [no symbol] – horizontal axis of rotation
- [no symbol] – left damper
- [no symbol] – not painted
- RAL9005 – damper blades and internal casing from the side of the actuator are painted black

**Note:** separate additional parameters entered with the “/” sign

**example marking:** mcr WIP LD /V 400 x 400 BLE24

Door-type smoke control damper with a 24 V actuator with limit switches.

## 13 CONTROL







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