



Plain diffuser

LKA



Description

LKA is a square diffuser with an unperforated face plate that can be used for both supply and exhaust air. LKA is suitable for the horizontal supply of cooled air where a high impulse is required. It can be equipped with accessories of various types. Installing an LKA diffuser in a plenum box type MBA can help to achieve a stable airflow to the diffuser as well as realise the potential for individual adjustment.

- Suitable for both supply and exhaust air
- Suitable for the horizontal supply of cooled air
- High impulse
- Option of 1, 2 and 3-way supply air

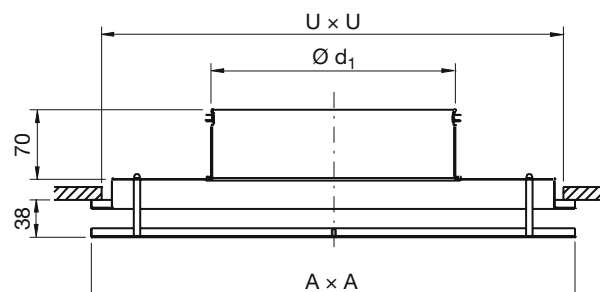
Maintenance

The face plate can be removed to enable cleaning of internal parts or to gain access to the duct or box. The visible parts of the diffuser can be wiped with a damp cloth.

Ordering example

	LKA	aaa
Product		
Size		

Dimensions



Ød ₁ Size	A mm	U mm	Free area A (m ²)	m kg
125	235	200	0,011	1,10
160	295	260	0,016	1,80
200	395	360	0,022	2,80
250	495	460	0,033	4,20
315	595	560	0,041	5,70
400	595	560	0,042	5,70

U = ceiling grid opening

Materials and finish:

Material: Galvanised steel
Standard finish: Powder-coated
Standard colour: White RAL 9010, gloss 30

The diffuser is available in other colours. Please contact Lindab's sales department for further information.



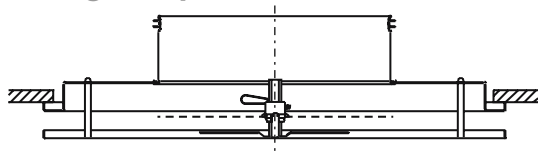
Plain diffuser

LKA

Accessories

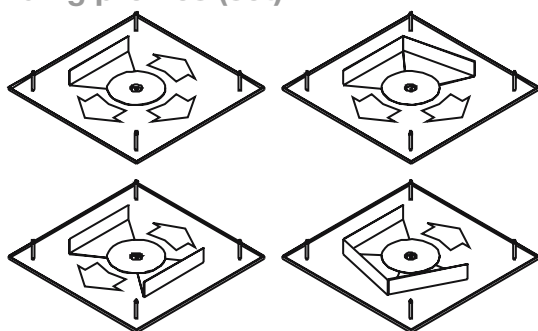
Balancing damper

DRZ



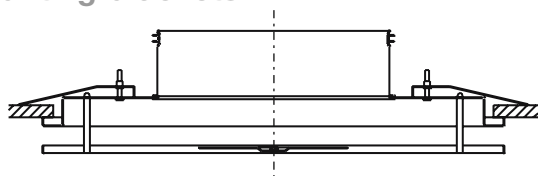
Blending profiles (set)

DAZ



Mounting brackets

DKZ

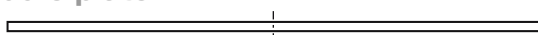


Order - accessories

Product **aaa** **bbb**
Type
Size

Module plate

LM



Order - module plate

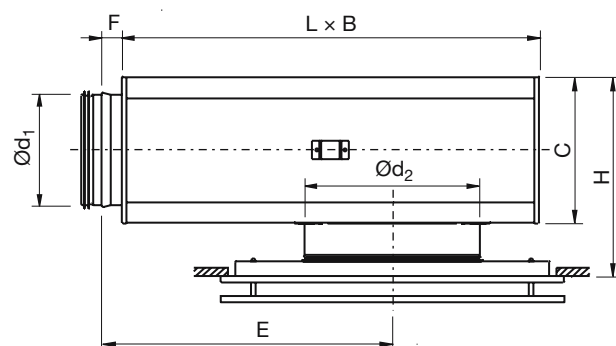
Product **LM** **a** **b** **c**
Type
Ceiling system
Diffuser
Size

Ceiling system - see introductory summary.

Dimensions



MBA



LKA + MBA

Size	Box type	Ød ₁ mm	Ød ₂ mm	B mm	C mm	E mm	F mm	H mm	L mm
125	0	125	125	320	175	450	110	205-285	500
125	1	100	125	250	150	435	110	180-260	450
160	0	160	160	420	210	500	110	240-320	600
160	1	125	160	320	175	450	110	205-285	500
160	2	100	160	250	150	435	110	180-260	450
200	0	200	200	520	250	550	110	280-360	700
200	1	160	200	420	210	500	110	240-320	600
200	2	125	200	320	175	450	110	205-285	500
250	0	250	250	620	300	630	90	330-410	800
250	1	200	250	520	250	550	110	280-360	700
250	2	160	250	420	210	500	110	240-320	600
315	0	315	315	620	365	620	90	395-475	800
315	1	250	315	620	300	630	90	330-410	800
315	2	200	315	520	250	550	110	280-360	700
400	1	315	400	620	365	620	90	395-475	800
400	2	250	400	620	300	630	90	330-410	800

Ordering example

Product **MBA** **a** **bbb** **ccc**
Type
0
1
2
Duct connection Ød₁
Diffuser connection Ød₂



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Technical data

Capacity

Volume flow q [l/s] and [m³/h], total pressure p_t [Pa], throw $l_{0.2}$ [m] and sound level L_{WA} [dB(A)] can be seen in the diagrams.

Frequency-related sound effect level

The sound effect level in the frequency band is defined as $L_{WA} + K_{ok}$. K_{ok} values are specified in chart beneath the diagrams on the following pages. K_{ok} values for LKA without a box are available on request.

Quick selection, supply air

Size	Box type	Minimum $P_t > 5$ Pa		$p_t = 50$ Pa		$p_t = 50$ Pa	
		l/s	m ³ /h	$L_{WA} = 30$ dB(A)		$L_{WA} = 35$ dB(A)	
125	0	19	68	40	144	49	178
125	1	15	55	33	120	40	144
160	0	32	114	57	207	71	255
160	1	19	68	49	175	60	214
160	2	15	55	36	128	45	162
200	0	54	193	76	275	97	349
200	1	32	114	68	245	93	334
200	2	19	68	49	177	63	226
250	0	80	290	124	448	147	530
250	1	54	193	92	331	130	469
250	2	32	114	97	348	119	430
315	0	111	398	166	598	195	703
315	1	80	290	134	482	169	608
315	2	54	193	100	361	152	547
400	1	111	398	188	676	241	867
400	2	80	290	126	454	203	729

Sound attenuation

Sound attenuation of the diffuser ΔL from duct to room, including end reflection, see table below

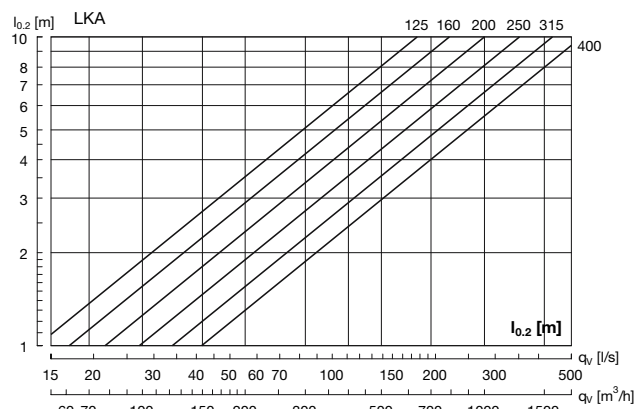
Size	Box type	Centre frequency Hz							
		63	125	250	500	1K	2K	4K	8K
125	0	20	15	11	20	16	23	23	27
125	1	16	12	7	20	18	20	22	23
160	0	18	14	13	13	24	21	23	26
160	1	21	16	12	20	18	25	23	26
160	2	21	16	11	19	20	22	23	27
200	0	19	15	13	19	22	19	22	24
200	1	20	15	11	21	21	26	24	25
200	2	19	14	11	13	23	21	22	24
250	0	17	13	10	18	18	21	23	23
250	1	21	16	9	18	19	21	23	25
250	2	20	16	10	17	18	19	22	23
315	0	12	9	9	15	14	18	20	23
315	1	19	14	10	15	22	18	21	23
315	2	16	12	8	17	17	18	22	22
400	1	19	15	8	18	16	18	21	21
400	2	10	7	7	15	10	15	18	21

Balancing

Balancing data is contained in a separate brochure.

Throw $l_{0.2}$

The throw is specified at a terminal velocity of 0.2 m/s.

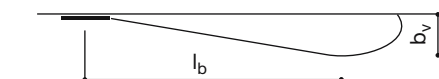


Air jet distribution

l_b = Distance from the diffuser to the point where there is maximum dispersal.

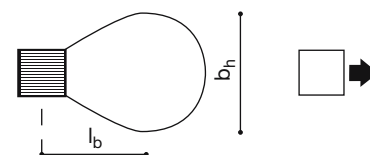
b_v = Depth of the air jet on a vertical plane.

b_h = Width of the air jet on a horizontal plane.



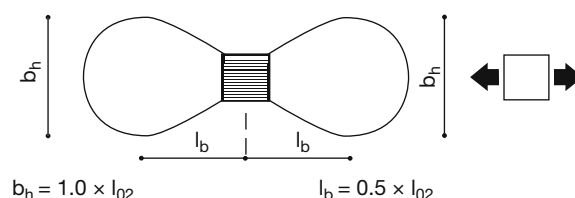
$$l_b = 0.6 \times l_{0.2}$$

$$b_v = 0.05 \times l_{0.2}$$



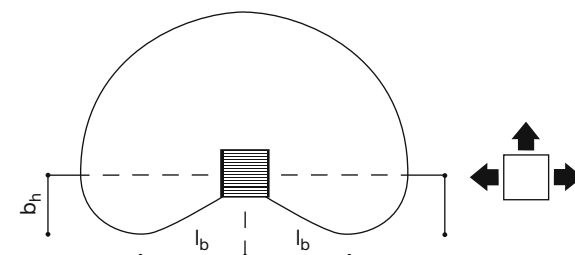
$$l_b = 0.4 \times l_{0.2}$$

$$b_h = 1.3 \times l_{0.2}$$



$$b_h = 1.0 \times l_{0.2}$$

$$l_b = 0.5 \times l_{0.2}$$

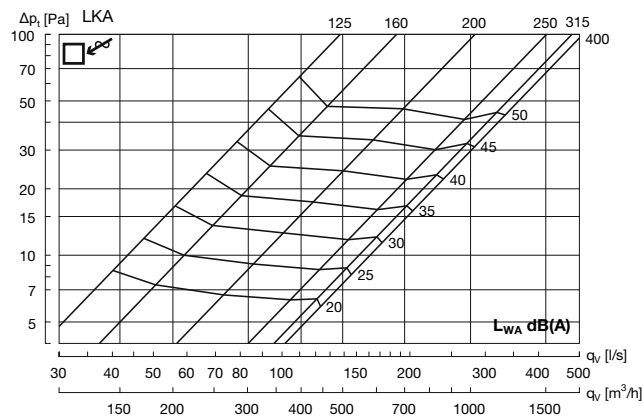
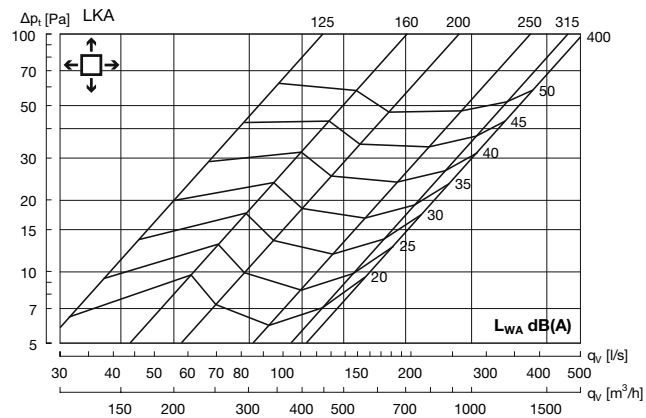


$$b_h = 0.4 \times l_{0.2}$$

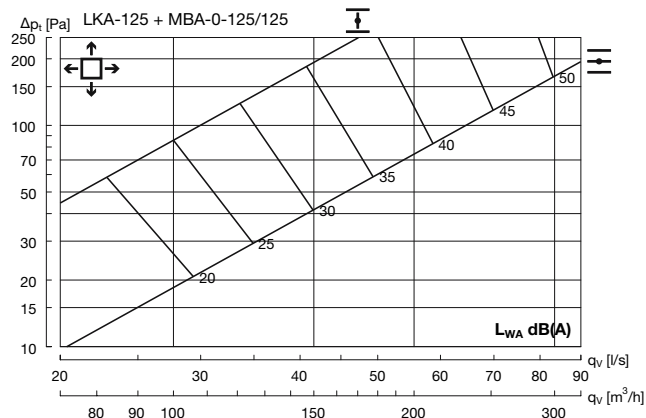
$$l_b = 0.5 \times l_{0.2}$$



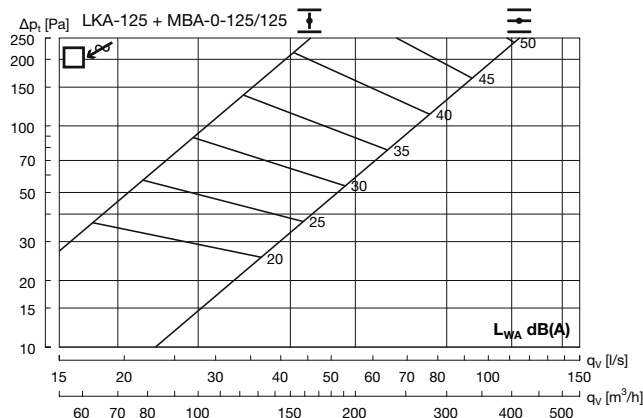
LKA without box



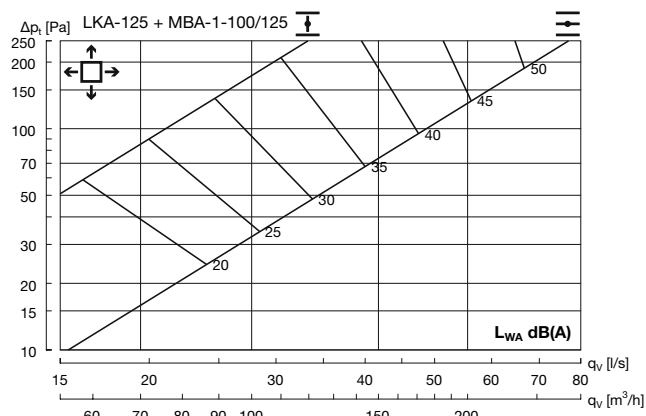
LKA + MBA



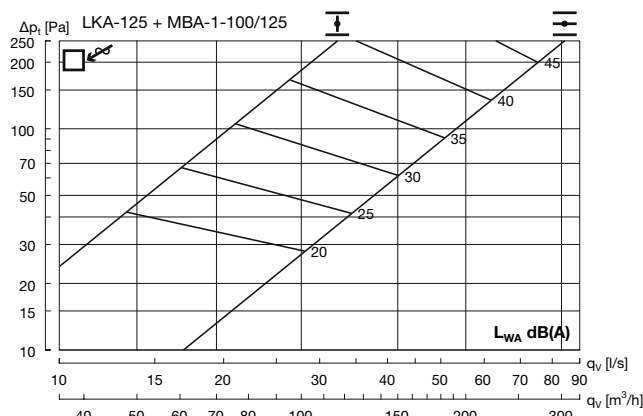
Hz	63	125	250	500	1K	2K	4K	8K
K _{ek}	9	6	2	-2	-6	-14	-17	-22



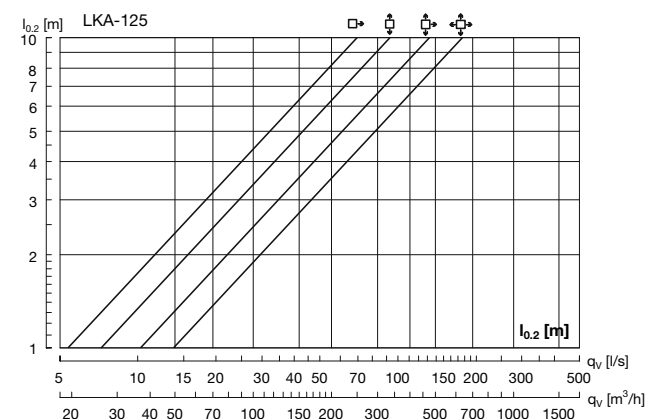
Hz	63	125	250	500	1K	2K	4K	8K
K _{ek}	9	6	3	-4	-6	-11	-14	-21



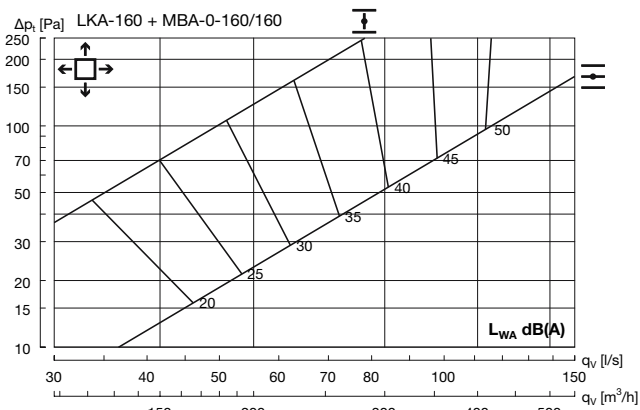
Hz	63	125	250	500	1K	2K	4K	8K
K _{ek}	7	4	2	-1	-6	-14	-15	-25



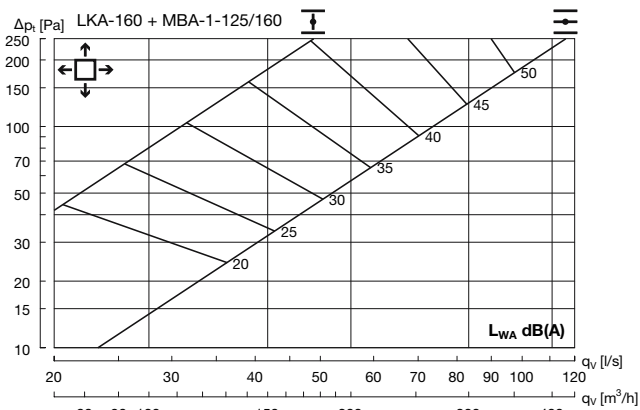
Hz	63	125	250	500	1K	2K	4K	8K
K _{ek}	7	4	2	-3	-6	-10	-12	-18



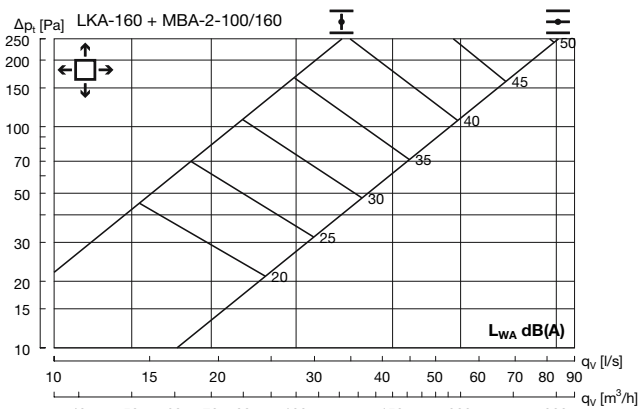
	MBA	→	↕
		Δp _t [Pa] ΔL _{WA} [dB]	Δp _t [Pa] ΔL _{WA} [dB]
→	0	x 1.35 + 10	x 1.1 + 7
→	1	x 1.3 + 10	x 1.1 + 3
↕	0	x 1.1 + 6	x 1 + 3
↕	1	x 1.1 + 4	x 1 + 1
↕	0	x 1.05 + 4	x 1 + 1
↕	1	x 1.05 + 2	x 1 + 0



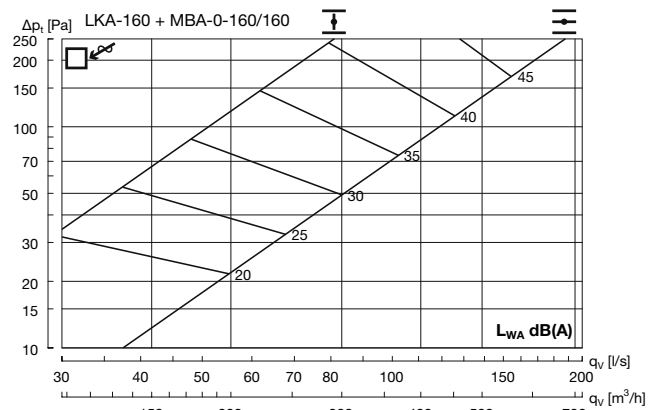
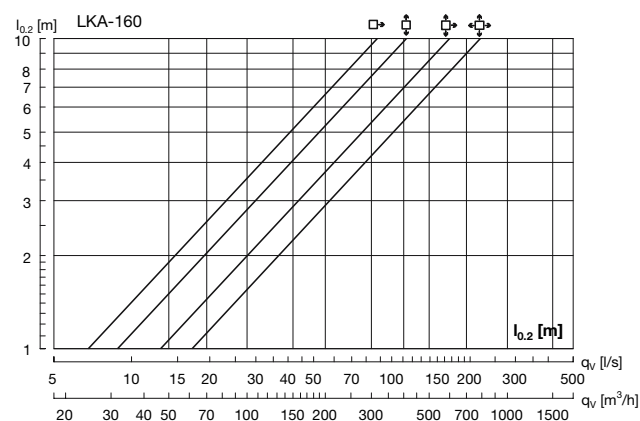
Hz	63	125	250	500	1K	2K	4K	8K
K_{ok}	8	5	1	-3	-5	-10	-17	-21



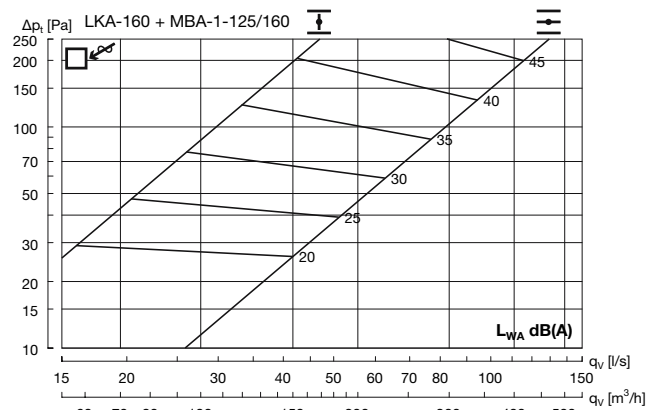
Hz	63	125	250	500	1K	2K	4K	8K
K_{ok}	9	6	3	-3	-7	-12	-16	-20



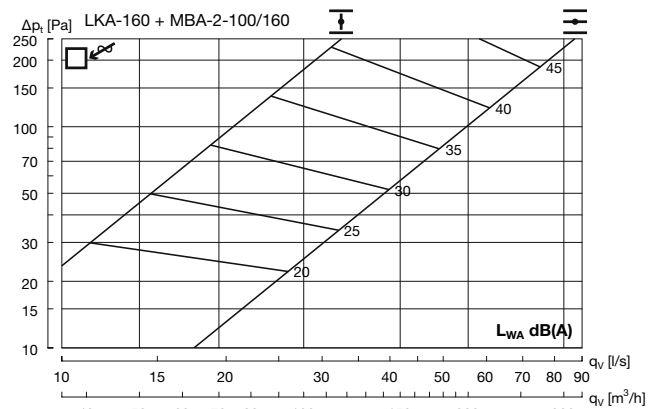
Hz	63	125	250	500	1K	2K	4K	8K
K_{ok}	7	4	3	-2	-8	-13	-15	-20



Hz	63	125	250	500	1K	2K	4K	8K
K_{ok}	11	8	2	-5	-7	-10	-14	-13

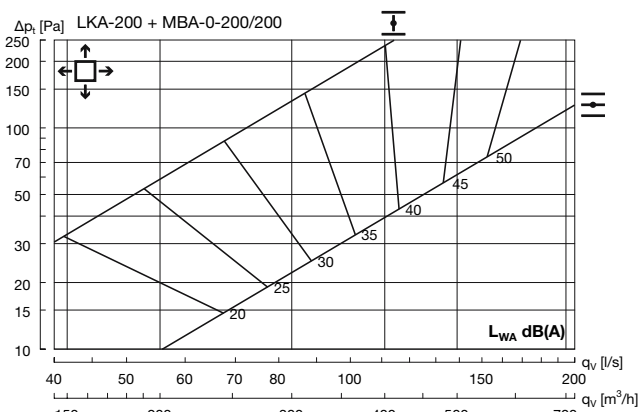


Hz	63	125	250	500	1K	2K	4K	8K
K_{ok}	8	5	3	-4	-6	-10	-13	-19

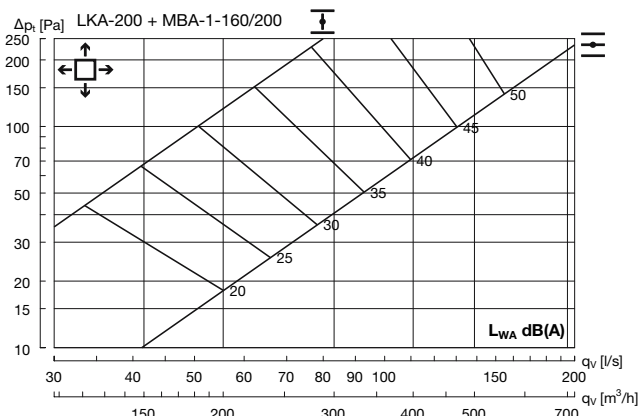


Hz	63	125	250	500	1K	2K	4K	8K
K_{ok}	8	5	3	-2	-7	-12	-13	-20

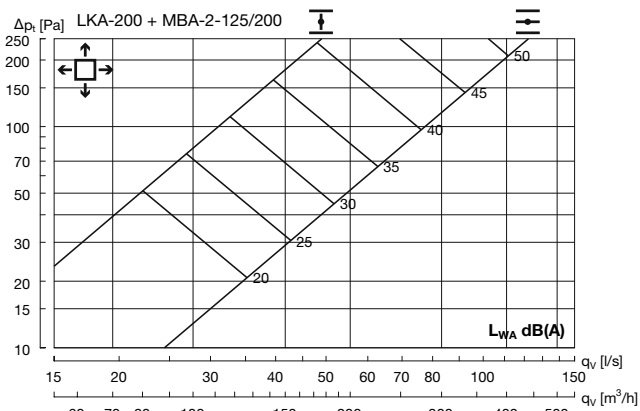
	MBA	Δp_t [Pa] ΔL_{WA} [dB]		Δp_t [Pa] ΔL_{WA} [dB]	
		Δp_t [Pa]	ΔL_{WA} [dB]	Δp_t [Pa]	ΔL_{WA} [dB]
	0	x 1.8	+ 13	x 1.1	+ 9
	1	x 1.4	+ 10	x 1.1	+ 1
	2	x 1.1	+ 5	x 1	+ 1
	0	x 1.3	+ 6	x 1	+ 2
	1	x 1.1	+ 4	x 1	+ 0
	2	x 1.05	+ 2	x 1	+ 0
	0	x 1.1	+ 2	x 1	+ 0
	1	x 1	+ 1	x 1	+ 0
	2	x 1	+ 1	x 1	+ 0



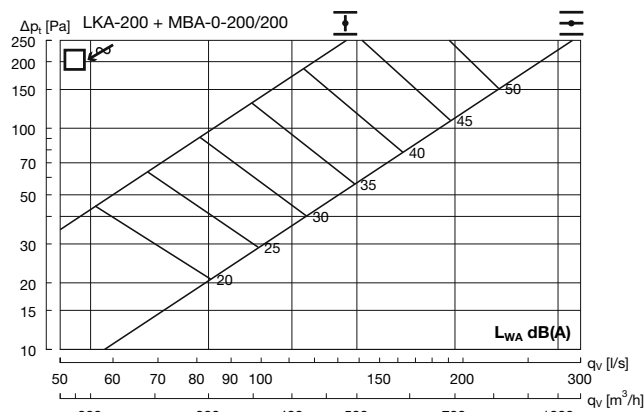
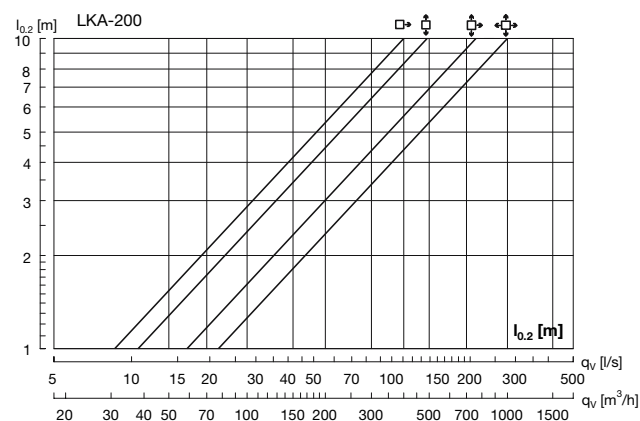
Hz	63	125	250	500	1K	2K	4K	8K
K_{ek}	10	7	0	-2	-7	-11	-13	-19



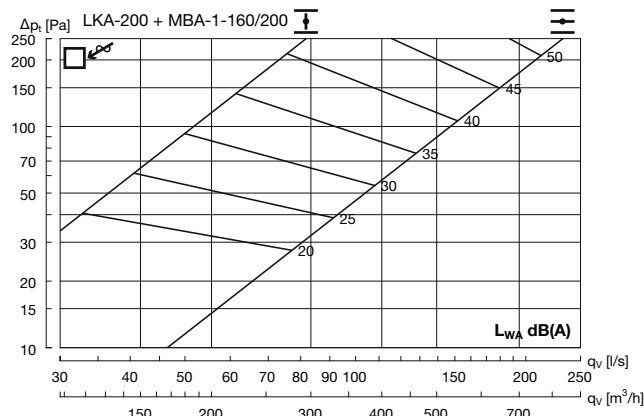
Hz	63	125	250	500	1K	2K	4K	8K
K_{ek}	9	6	1	-1	-7	-12	-17	-21



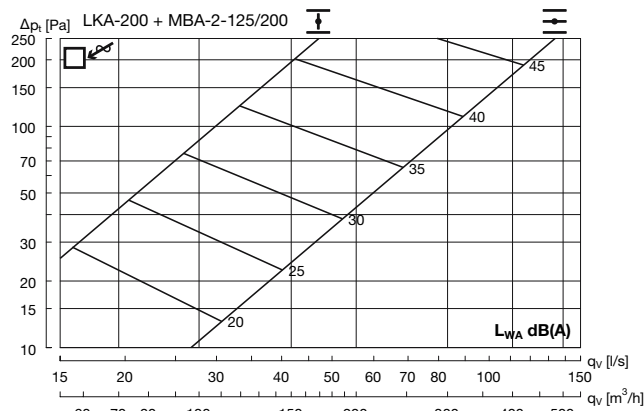
Hz	63	125	250	500	1K	2K	4K	8K
K_{ek}	9	6	4	-2	-9	-15	-17	-20



Hz	63	125	250	500	1K	2K	4K	8K
K_{ek}	9	6	0	-2	-7	-10	-13	-28

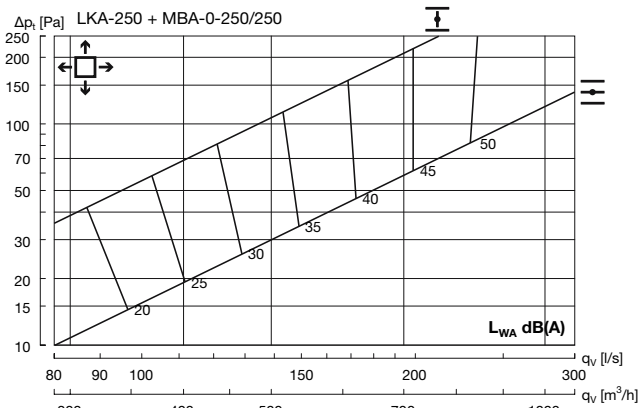


Hz	63	125	250	500	1K	2K	4K	8K
K_{ek}	10	7	2	-3	-9	-9	-13	-15

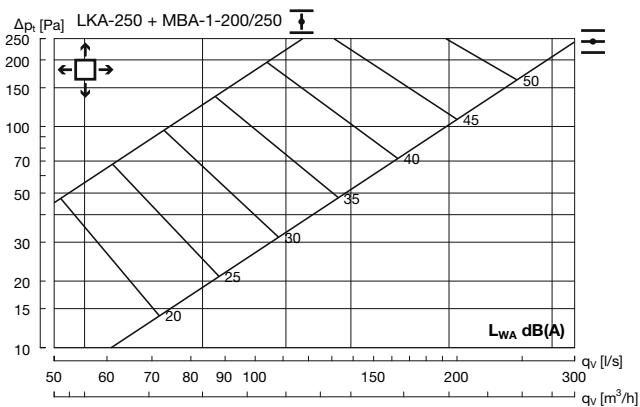


Hz	63	125	250	500	1K	2K	4K	8K
K_{ek}	11	8	4	-4	-8	-12	-14	-20

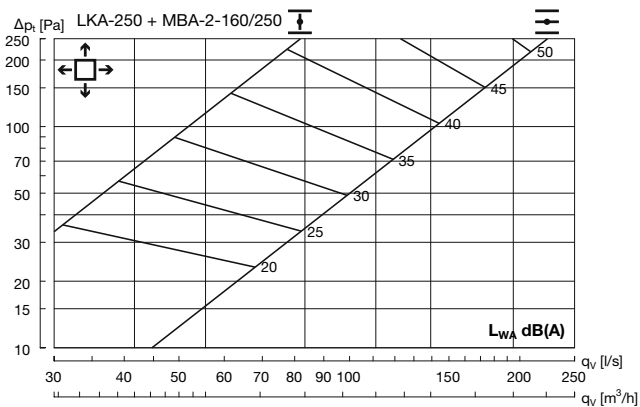
	MBA	Δp_t [Pa]	ΔL_{WA} [dB]	Δp_t [Pa]	ΔL_{WA} [dB]
	0 1 2	x 2.3 x 1.7 x 1.2	+ 17 + 16 + 4	x 1.1 x 1.1 x 1	+ 11 + 7 + 1
	0 1 2	x 1.4 x 1.2 x 1.05	+ 11 + 10 + 2	x 1.1 x 1.1 x 1	+ 5 + 1 + 0
	0 1 2	x 1.1 x 1.05 x 1	+ 7 + 4 + 1	x 1 x 1 x 1	+ 1 + 0 + 0



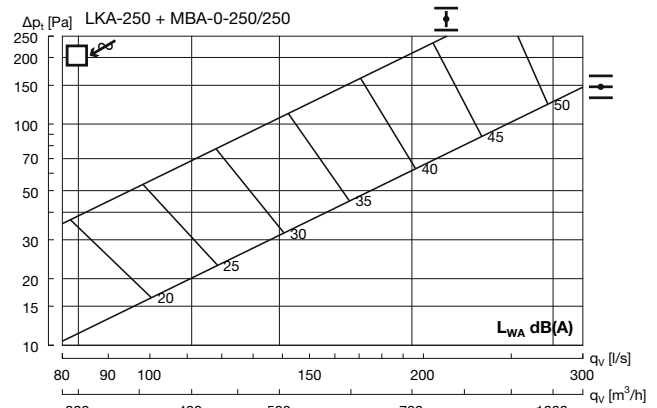
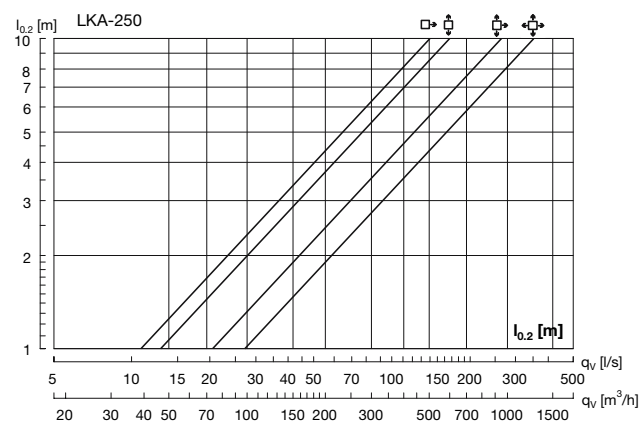
Hz	63	125	250	500	1K	2K	4K	8K
K_{ek}	9	6	0	-1	-6	-12	-15	-16



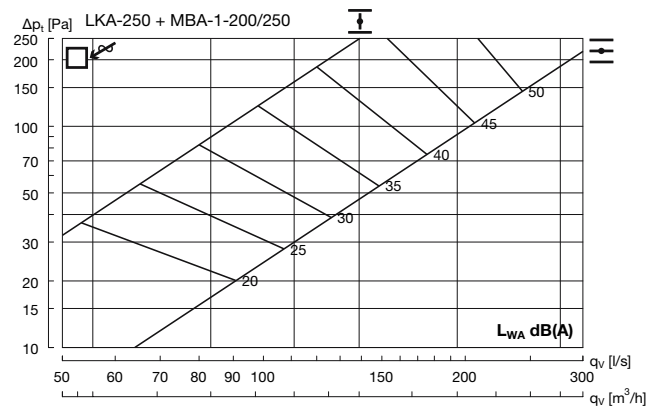
Hz	63	125	250	500	1K	2K	4K	8K
K_{ek}	10	7	1	-1	-8	-12	-15	-14



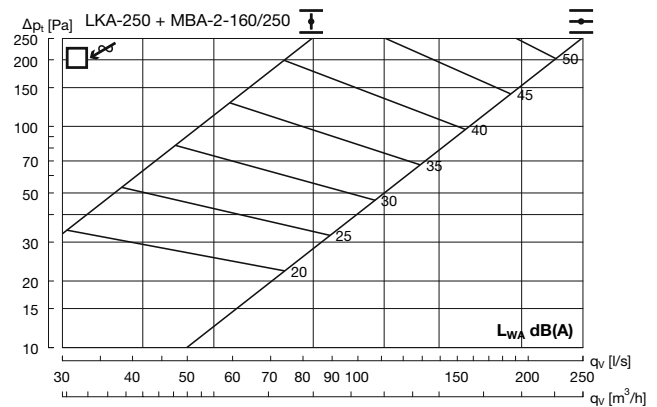
Hz	63	125	250	500	1K	2K	4K	8K
K_{ek}	9	6	2	-1	-8	-12	-14	-21



Hz	63	125	250	500	1K	2K	4K	8K
K_{ek}	9	6	2	-4	-6	-10	-14	-19

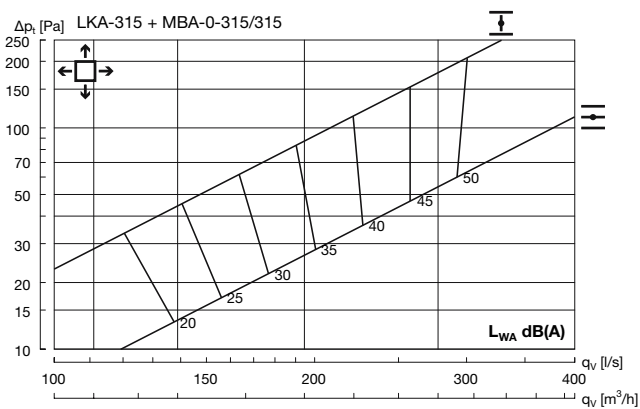


Hz	63	125	250	500	1K	2K	4K	8K
K_{ek}	11	8	1	-3	-7	-10	-14	-26

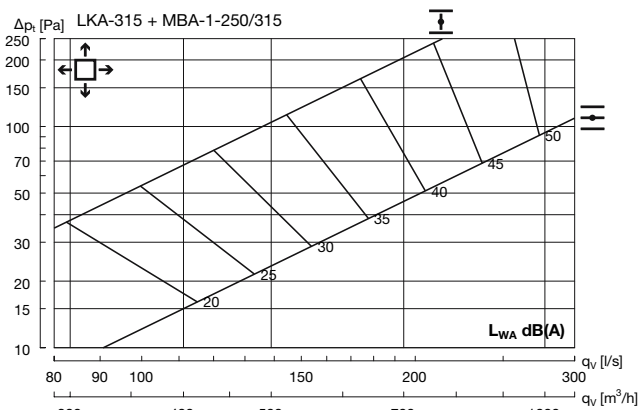


Hz	63	125	250	500	1K	2K	4K	8K
K_{ek}	11	8	4	-4	-10	-9	-14	-18

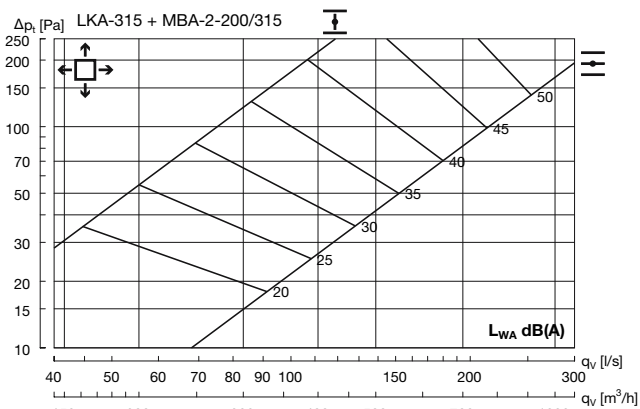
	MBA	Δp_t [Pa]	ΔL_{WA} [dB]	Δp_t [Pa]	ΔL_{WA} [dB]
	0	x 2.1	+ 21	x 1.2	+ 19
	1	x 1.8	+ 13	x 1.1	+ 5
	2	x 1.3	+ 10	x 1.1	+ 1
	0	x 1.4	+ 11	x 1.1	+ 8
	1	x 1.2	+ 6	x 1	+ 0
	2	x 1.1	+ 6	x 1	+ 0
	0	x 1.2	+ 7	x 1	+ 4
	1	x 1.1	+ 4	x 1	+ 0
	2	x 1	+ 3	x 1	+ 0



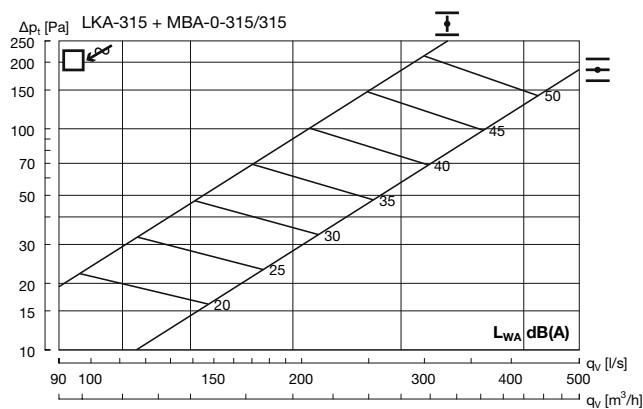
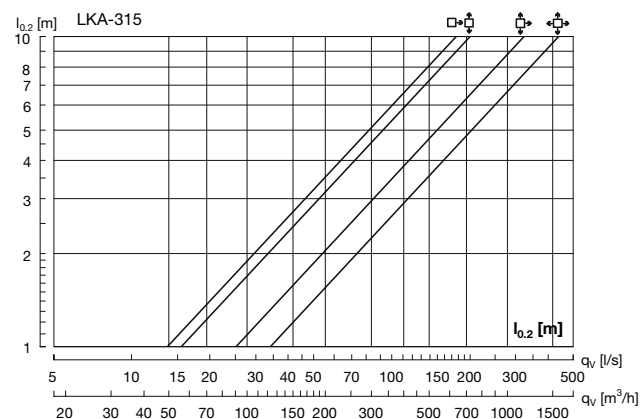
Hz	63	125	250	500	1K	2K	4K	8K
K_{ek}	7	4	-1	-1	-5	-13	-18	-20



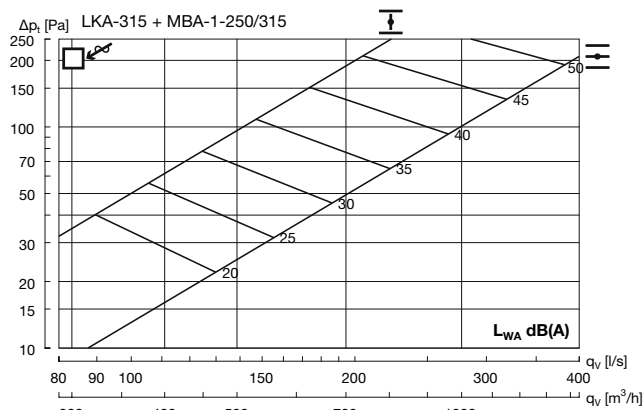
Hz	63	125	250	500	1K	2K	4K	8K
K_{ek}	10	7	0	-3	-6	-11	-15	-14



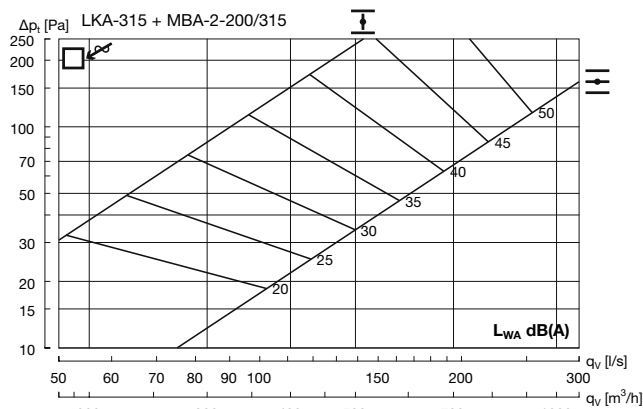
Hz	63	125	250	500	1K	2K	4K	8K
K_{ek}	9	6	3	-2	-8	-12	-15	-16



Hz	63	125	250	500	1K	2K	4K	8K
K_{ek}	6	3	1	-1	-5	-11	-25	-27



Hz	63	125	250	500	1K	2K	4K	8K
K_{ek}	11	8	3	-3	-6	-21	-23	-23



Hz	63	125	250	500	1K	2K	4K	8K
K_{ek}	11	8	1	-4	-6	-8	-13	-24

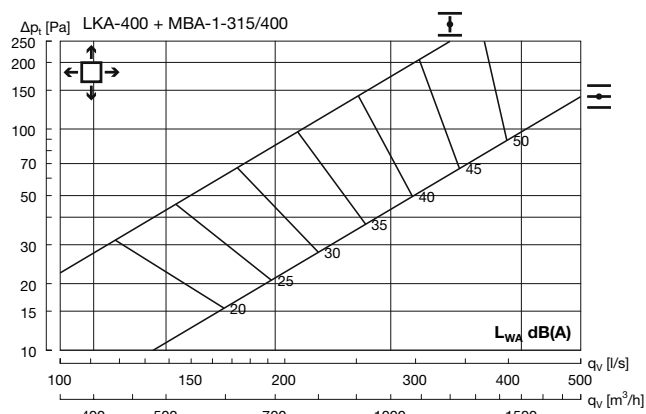
	MBA	Δp_t [Pa]	ΔL_{WA} [dB]	Δp_t [Pa]	ΔL_{WA} [dB]
	0	x 2.1	+ 21	x 1.2	+ 19
	1	x 1.8	+ 19	x 1.2	+ 13
	2	x 1.5	+ 9	x 1.1	+ 1
	0	x 1.3	+ 10	x 1.1	+ 9
	1	x 1.2	+ 7	x 1	+ 1
	2	x 1.1	+ 4	x 1	+ 0
	0	x 1.1	+ 4	x 1	+ 2
	1	x 1.1	+ 3	x 1	+ 0
	2	x 1.05	+ 0	x 1	+ 0



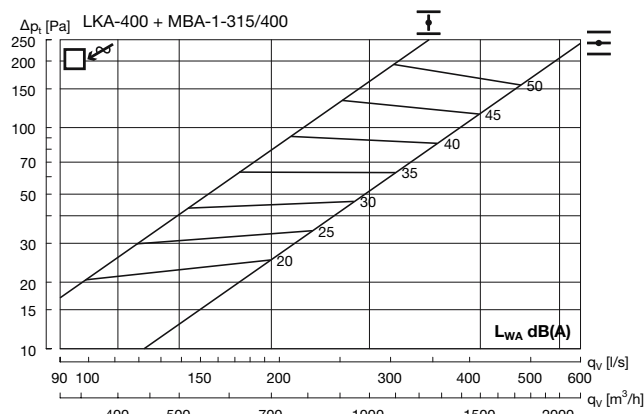
Plain diffuser

LKA

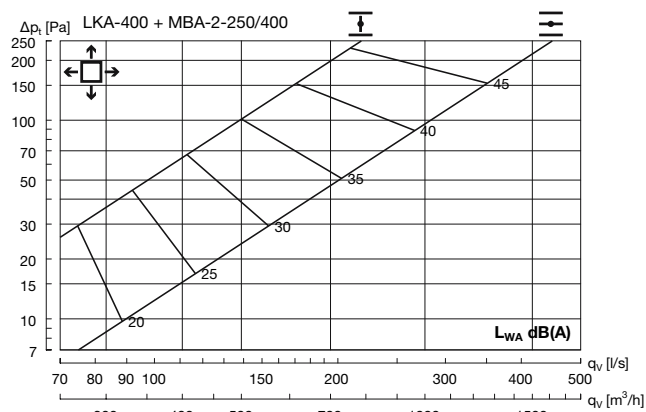
Technical data



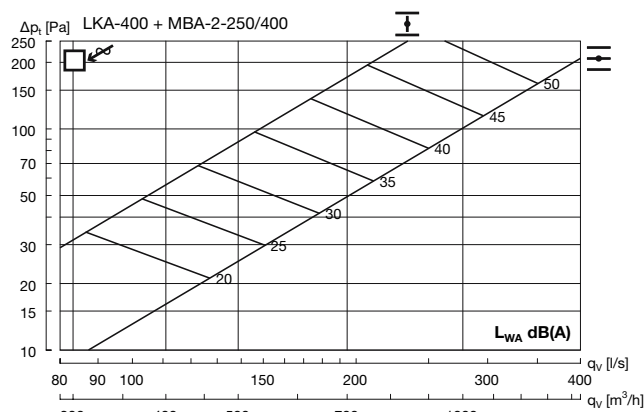
Hz	63	125	250	500	1K	2K	4K	8K
K_{ek}	7	4	2	-2	-5	-11	-22	-26



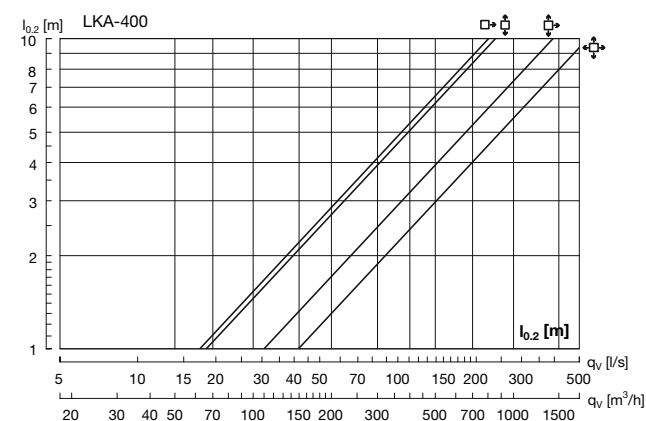
Hz	63	125	250	500	1K	2K	4K	8K
K_{ek}	8	5	1	-1	-6	-9	-22	-25



Hz	63	125	250	500	1K	2K	4K	8K
K_{ek}	9	6	2	-2	-7	-12	-14	-13



Hz	63	125	250	500	1K	2K	4K	8K
K_{ek}	9	6	1	-5	-6	-8	-14	-16



	MBA				
		Δp_t [Pa]	ΔL_{WA} [dB]	Δp_t [Pa]	ΔL_{WA} [dB]
	1	x 1.8	+ 21	x 1.2	+ 23
	2	x 1.5	+ 10	x 1.1	+ 4
	1	x 1.5	+ 8	x 1	+ 9
	2	x 1.2	+ 6	x 1	+ 0
	1	x 1.2	+ 3	x 1	+ 4
	2	x 1	+ 0	x 1	+ 0