

## Swirl diffuser

## RC14



## Description

RC14 is a circular swirl diffuser with fixed bars. The RC14 diffuser can be used for both supply air and extract. The swirl pattern ensures high induction and a large dynamic range, and is therefore ideal for the horizontal supply of very cold air.

Installing a RC14 diffuser in a plenum box type MB can help to achieve a stable flow of air to the diffuser as well as realise the potential for individual adjustment.

Damper type B is a unique linear cone damper which allows to use the full operational area (0-100%) and allows to balance with a high pressure drop over the box with low sound generation. Furthermore the construction of the damper gives an accurate and reliable measurement.

Damper type C and E are with rotating blade dampers for respectively supply and extract. Typically used in applications that don't require a high balancing pressure in the plenum box.

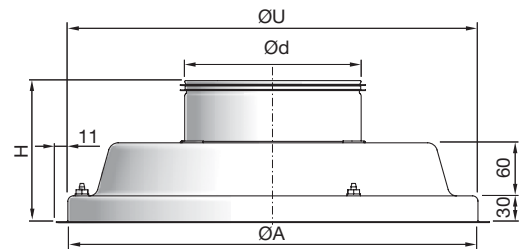
- Large dynamic range
- High induction
- Suitable for cooling at very low temperatures
- Can be used for both supply and extract air.
- Plenum box with several damper options

## Order code

<b>Product</b>	<b>RC14</b>	<b>a</b>	<b>bbb</b>
<b>Type</b>			
RC14			
<b>Functional use</b>			
S = Supply air			
E = Extract			
<b>Connection dim.</b>			
Ød 160-315			

Example: RC14-S-250

## Dimensions



RC14 Ød	ØA	H	ØU*	m
mm	mm	mm	mm	kg
160	360	140	370	5.30
200	360	140	370	5.40
250	460	140	470	7.40
315	540	140	550	8.10

\* ØU = ceiling grid opening

Ød 315, No mounting holes for MB !

## RC14



## Maintenance

The face plate and swirl insert 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.

## Materials and finish

Material:	Galvanised steel
Standard finish:	Powder-coated
Standard colours:	RAL 9003 and RAL 9010, gloss 30

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

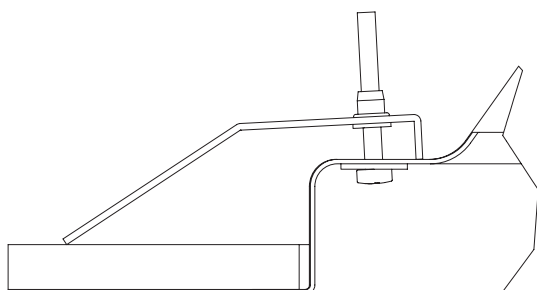
# Swirl diffuser

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## Accessories

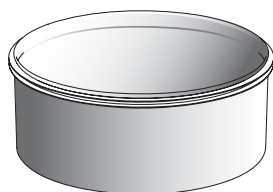
### Mounting brackets

DCZ



### Extension piece

MBZ



### Order code - accessories

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

Example: DCZ-200

### Module plate

LM



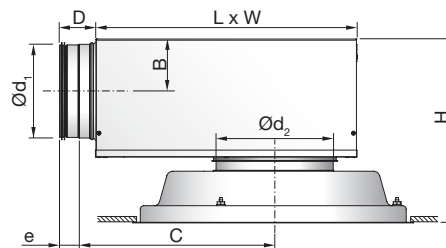
### Order code - module plate

Product                      **LM** **a** **RC14** **ccc**  
 Type                       
 Ceiling system                       
 Diffuser                       
 Size                     

Example: LM-1-RC14-250

Ceiling system - see introductory summary.

### RC14 + MB plenum box



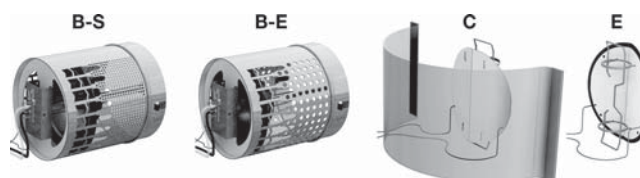
Ød <sub>1</sub> mm	Ød <sub>2</sub> mm	B	C	D	e	H*	L	W
100	160	62	245	78	40	250 - 290	310	260
125	160	75	291	78	40	275 - 315	376	310
125	200	75	291	78	40	275 - 315	376	310
160	160	92	352	78	40	309 - 349	459	380
160	200	92	352	78	40	309 - 349	459	380
160	250	92	352	78	40	309 - 349	459	380
200	200	112	425	78	40	350 - 390	565	460
200	250	112	425	78	40	350 - 390	565	460
200	315	112	425	78	40	350 - 390	565	460
250	250	137	514	118	60	400 - 440	698	540
250	315	137	514	118	60	400 - 440	698	540
315	315	170	675	118	60	465 - 505	858	540

\* Using accessory MBZ the H dimension will increase:

Ød<sub>2</sub> = 160 - 200 mm => H +40 mm

Ød<sub>2</sub> = 250 - 315 mm => H +60 mm

### Damper options



### Order code

Product                      **MB** **a** **bbb** **ccc** **d**  
 Type                       
 MB                       
 Damper                       
 B = Linear cone damper  
 C = Blade damper supply  
 E = Blade damper extract  
 Duct connection Ød<sub>1</sub>                       
 Ø100-315  
 Diffuser dimension Ød<sub>2</sub>                       
 Ø160-315  
 Function ((Only for B damper))                       
 S = Supply air                      E = Extract

Example 1: RC14-S-250+MBB-200-250-S

Example 2: RC14-200+MBC-125-200

# Swirl diffuser

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## Technical data

Following RC14+plenum box data are valid for MBB-S/-E .  
**For MBC and MBE data, go to [www.lindab.com](http://www.lindab.com) .**

## Capacity

Air flow  $q_v$  [l/s] and [m<sup>3</sup>/h], total pressure  $\Delta p_t$  [Pa], throw  $l_{0,2}$  [m] and sound power level  $L_{WA}$  [dB(A)] can be seen in the diagrams.

## Frequency-related sound power level

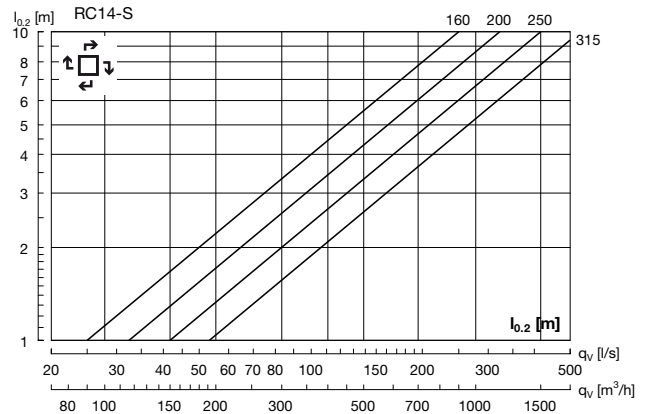
The sound power level in the frequency band is defined as  $L_{WA}+K_{ok}$ .  $K_{ok}$  values are specified in charts beneath the diagrams on the following pages.

## Quick selection, supply air

RC14 + MBB-S		$\Delta p_t \geq 50$ Pa		$\Delta p_t \geq 50$ Pa	
duct	RC14	30 dB(A)		35 dB(A)	
$\varnothing d_1$	$\varnothing d_2$	l/s	m <sup>3</sup> /h	l/s	m <sup>3</sup> /h
100	160	37	133	44	158
125	160	44	158	54	194
125	200	50	180	62	223
160	160	48	173	57	205
160	200	56	202	67	241
160	250	67	241	84	302
200	200	62	223	74	266
200	250	82	295	96	346
200	315	102	367	126	454
250	250	92	331	106	382
250	315	117	421	139	500
315	315	141	508	166	598

## Throw $l_{0,2}$

Throw  $l_{0,2}$  [m] is specified at a terminal velocity of 0.2 m/s.



## Sound attenuation

Sound attenuation of the diffusers  $\Delta L$  from duct to room, including end reflection - see table below.

RC14 + MBB-S/-E		Centre frequency Hz							
duct	RC14	63	125	250	500	1K	2K	4K	8K
$\varnothing d_1$	$\varnothing d_2$								
100	160	18	15	5	11	18	19	18	19
125	160	15	13	8	17	17	17	18	20
125	200	13	11	6	13	14	17	17	19
160	160	16	15	11	21	18	20	21	20
160	200	17	15	9	21	18	19	20	20
160	250	17	14	4	18	14	16	18	19
200	200	14	11	8	15	19	17	20	18
200	250	14	10	5	14	18	14	18	17
200	315	14	8	3	10	16	15	17	16
250	250	14	9	7	15	18	17	19	18
250	315	12	7	6	14	16	15	17	17
315	315	8	9	9	13	17	16	18	22

## Balancing

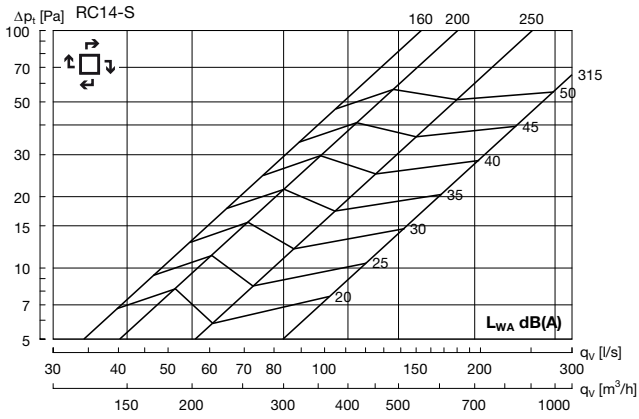
Balancing data is contained in a separate brochure.

# Swirl diffuser

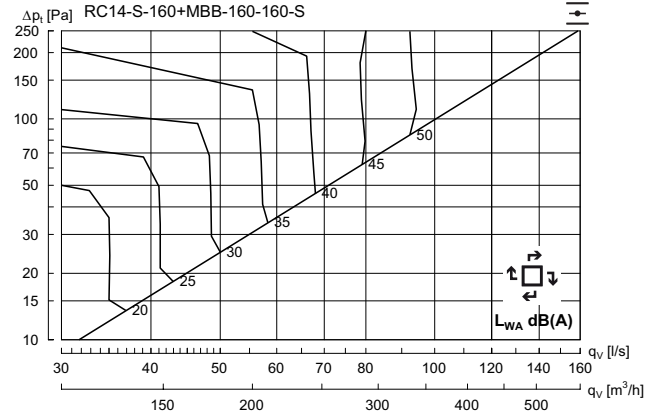
# RC14

## Technical data

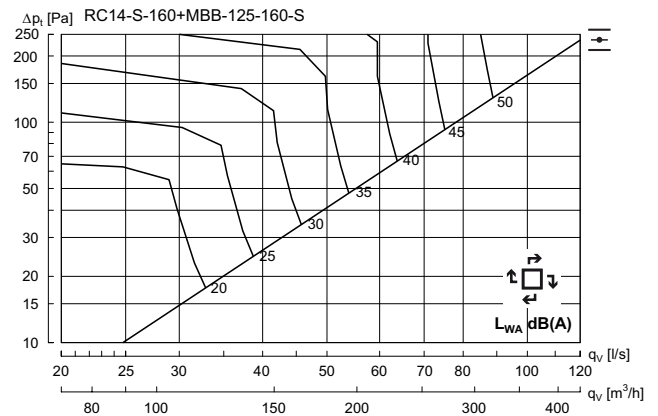
### RC14 without box – supply air



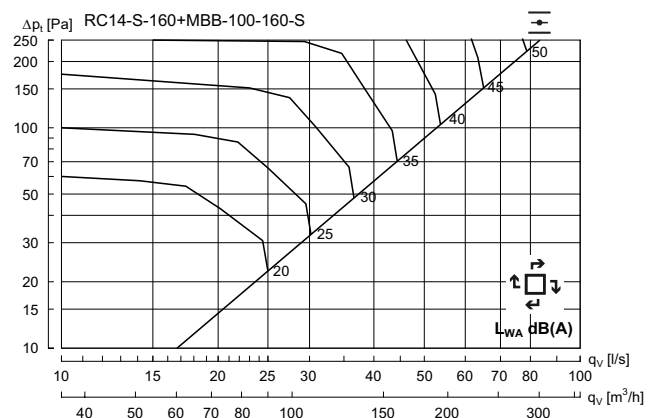
### RC14 - 160 + MBB-S - Supply air



Hz	63	125	250	500	1K	2K	4K	8K
K <sub>ok</sub>	6	2	-3	0	-4	-15	-26	-32



Hz	63	125	250	500	1K	2K	4K	8K
K <sub>ok</sub>	9	5	0	-1	-5	-13	-19	-25



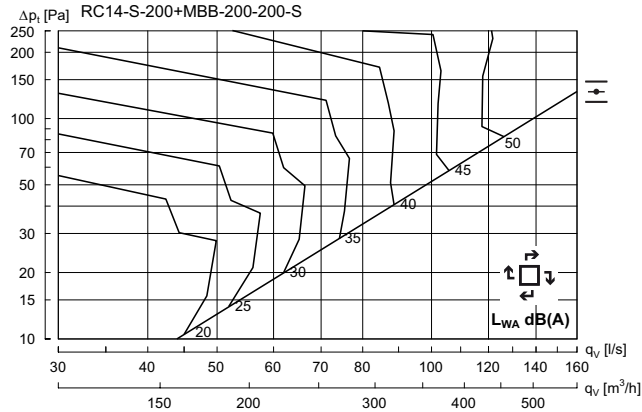
Hz	63	125	250	500	1K	2K	4K	8K
K <sub>ok</sub>	9	4	0	0	-6	-12	-16	-20

# Swirl diffuser

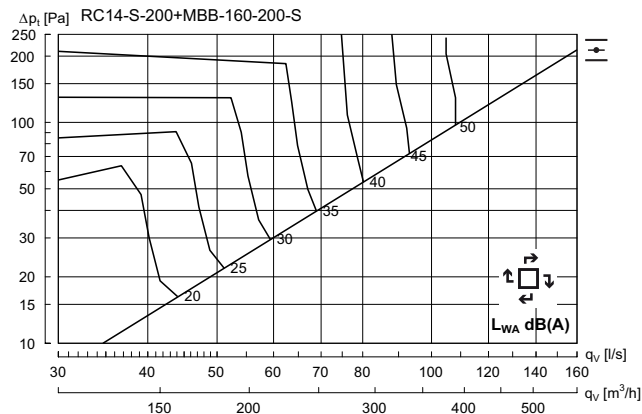
# RC14

## Technical data

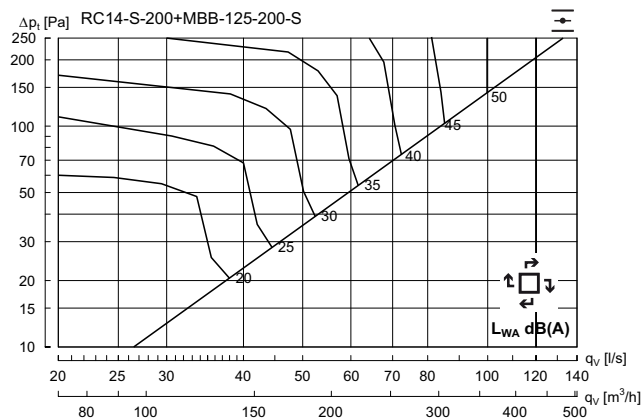
### RC14 - 200 + MBB-S - Supply air



Hz	63	125	250	500	1K	2K	4K	8K
$K_{ok}$	11	3	-3	-1	-5	-12	-24	-33

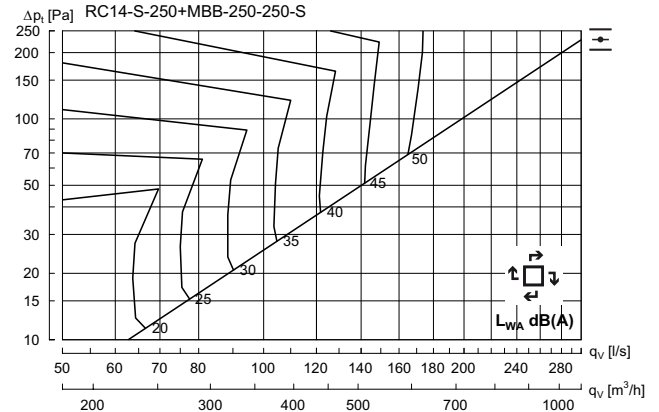


Hz	63	125	250	500	1K	2K	4K	8K
$K_{ok}$	14	4	-2	-2	-4	-12	-22	-30

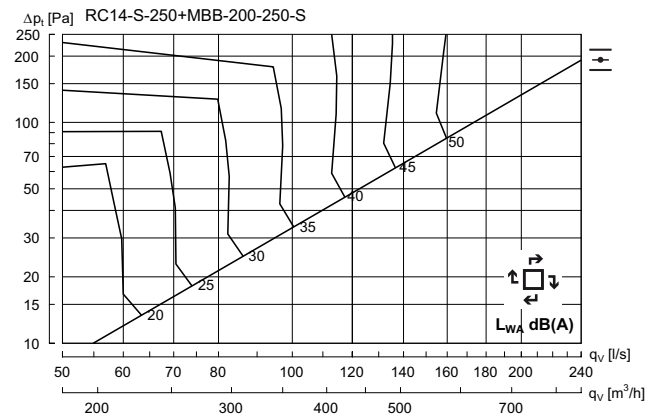


Hz	63	125	250	500	1K	2K	4K	8K
$K_{ok}$	8	6	1	-2	-6	-12	-17	-23

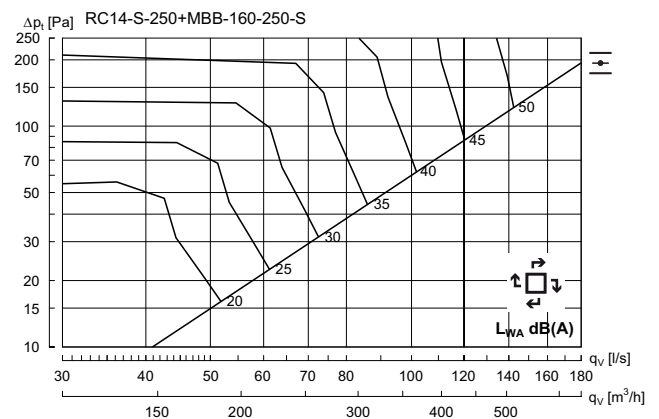
### RC14 - 250 + MBB-S - Supply air



Hz	63	125	250	500	1K	2K	4K	8K
$K_{ok}$	10	1	-4	-1	-4	-14	-26	-37



Hz	63	125	250	500	1K	2K	4K	8K
$K_{ok}$	9	5	-3	-2	-3	-12	-24	-32



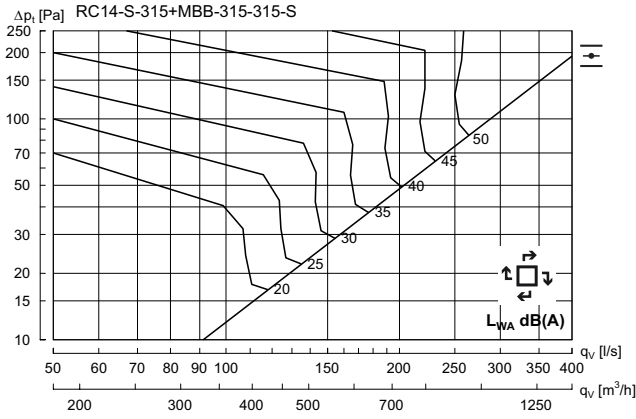
Hz	63	125	250	500	1K	2K	4K	8K
$K_{ok}$	13	4	-1	-3	-4	-13	-21	-26

# Swirl diffuser

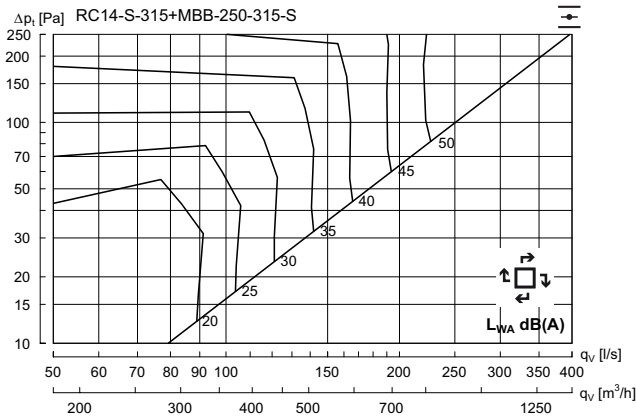
# RC14

## Technical data

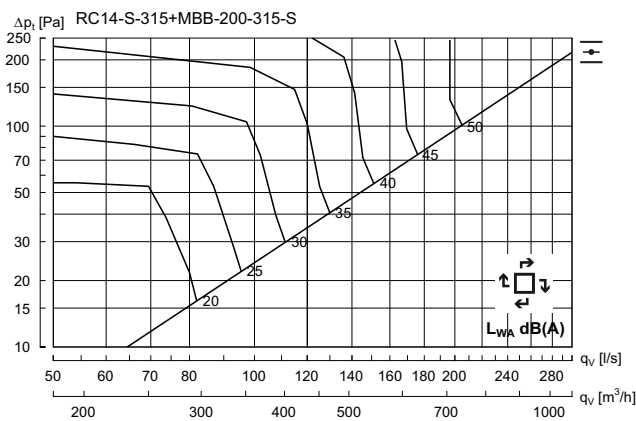
### RC14 - 315 + MBB-S - Supply air



Hz	63	125	250	500	1K	2K	4K	8K
$K_{\text{ok}}$	14	3	-1	-1	-4	-13	-24	-33



Hz	63	125	250	500	1K	2K	4K	8K
$K_{\text{ok}}$	11	3	-2	-2	-4	-11	-21	-30



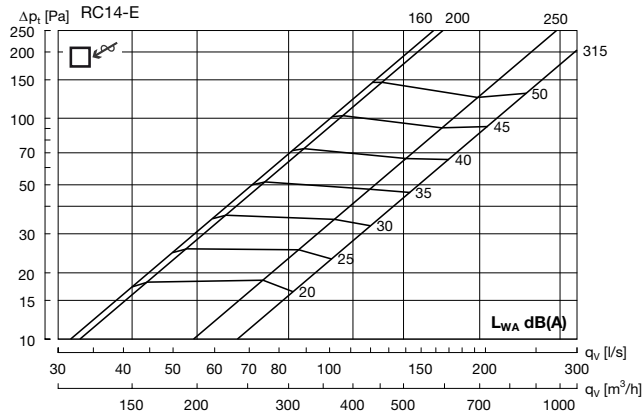
Hz	63	125	250	500	1K	2K	4K	8K
$K_{\text{ok}}$	10	7	-1	-2	-4	-13	-21	-27

# Swirl diffuser

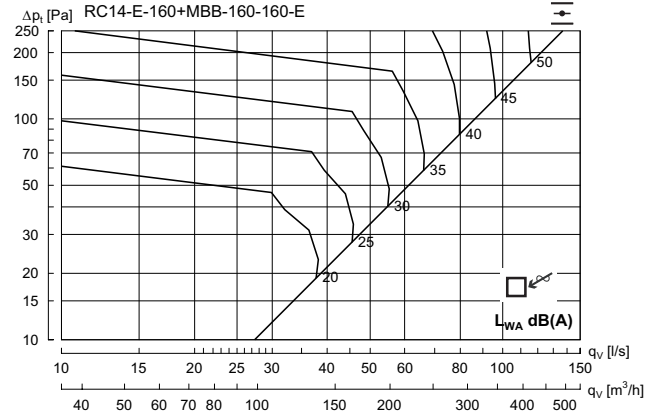
# RC14

## Technical data

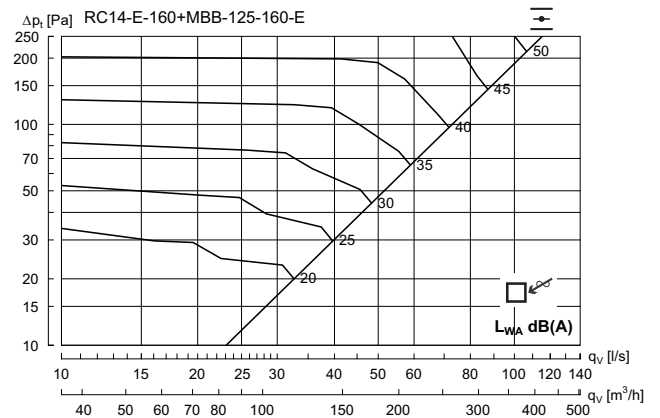
### RC14 without box – Extract air



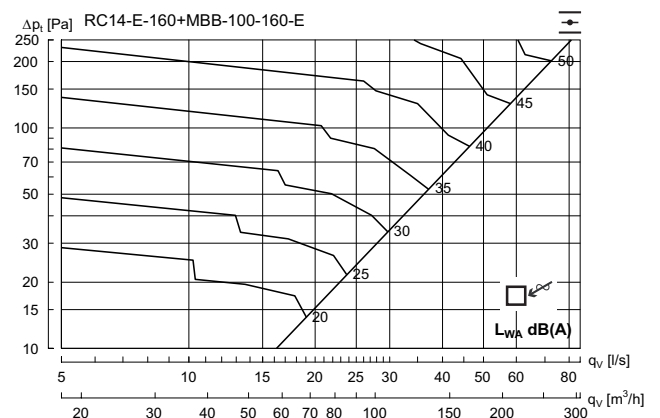
### RC14 - 160 + MBB-E - Extract air



Hz	63	125	250	500	1K	2K	4K	8K
K <sub>ok</sub>	14	4	-2	-2	-4	-13	-20	-26



Hz	63	125	250	500	1K	2K	4K	8K
K <sub>ok</sub>	13	6	1	-1	-6	-13	-16	-22



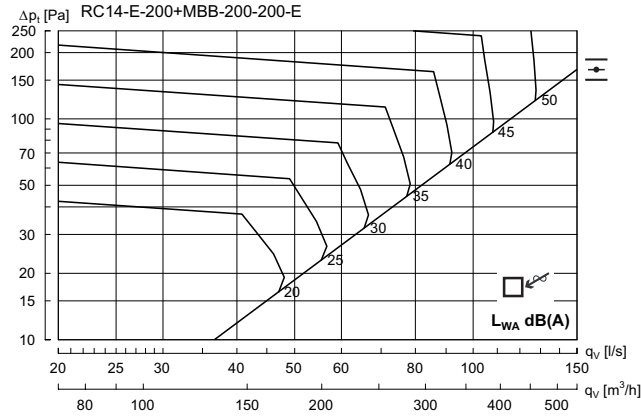
Hz	63	125	250	500	1K	2K	4K	8K
K <sub>ok</sub>	9	0	4	-1	-10	-12	-18	-24

# Swirl diffuser

# RC14

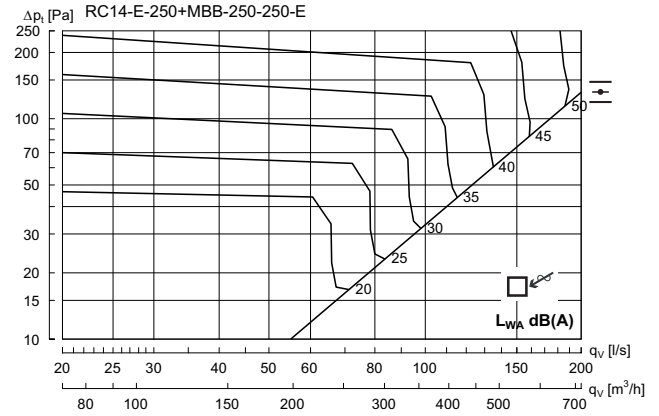
## Technical data

### RC14 - 200 + MBB-E - Extract air

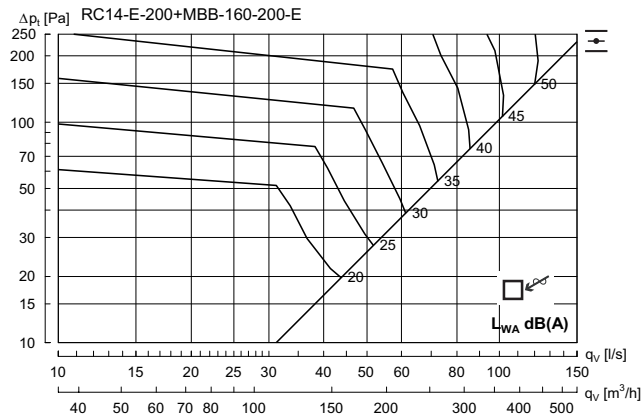


Hz	63	125	250	500	1K	2K	4K	8K
$K_{ok}$	13	2	-4	-2	-3	-13	-22	-31

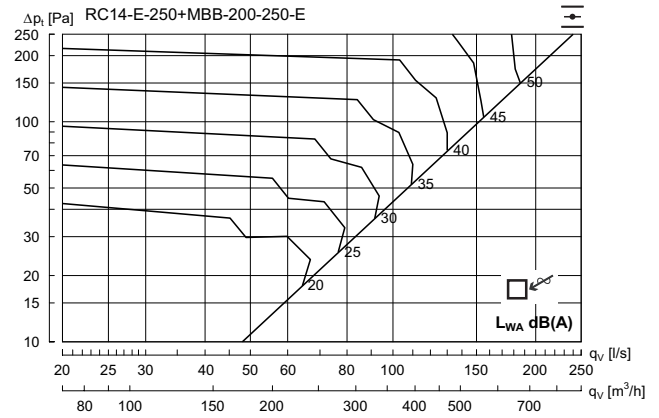
### RC14 - 250 + MBB-E - Extract air



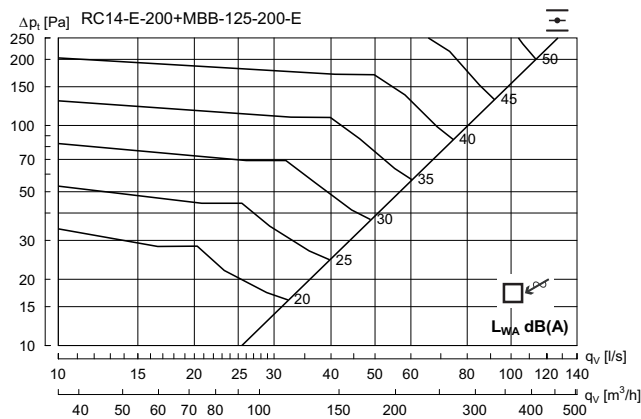
Hz	63	125	250	500	1K	2K	4K	8K
$K_{ok}$	13	4	0	-2	-4	-12	-22	-31



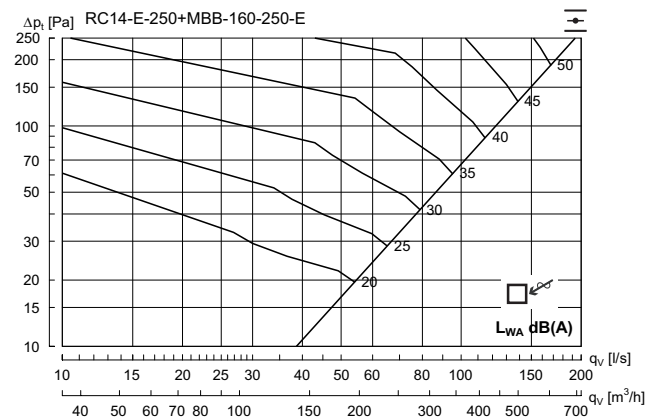
Hz	63	125	250	500	1K	2K	4K	8K
$K_{ok}$	16	5	-2	-3	-4	-12	-21	-26



Hz	63	125	250	500	1K	2K	4K	8K
$K_{ok}$	12	4	0	-2	-4	-11	-19	-27



Hz	63	125	250	500	1K	2K	4K	8K
$K_{ok}$	12	3	1	-1	-6	-12	-17	-23



Hz	63	125	250	500	1K	2K	4K	8K
$K_{ok}$	15	6	0	-2	-6	-11	-16	-22

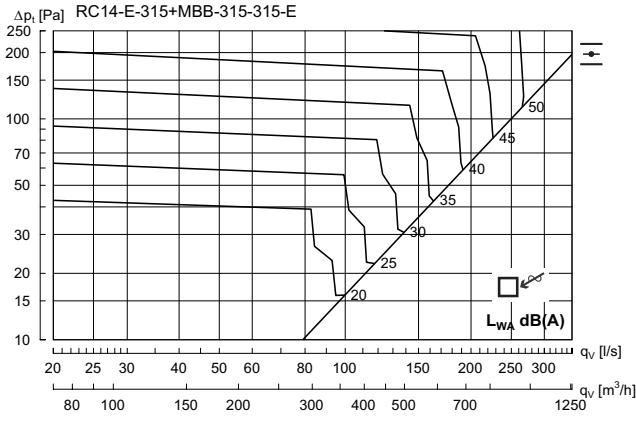


# Swirl diffuser

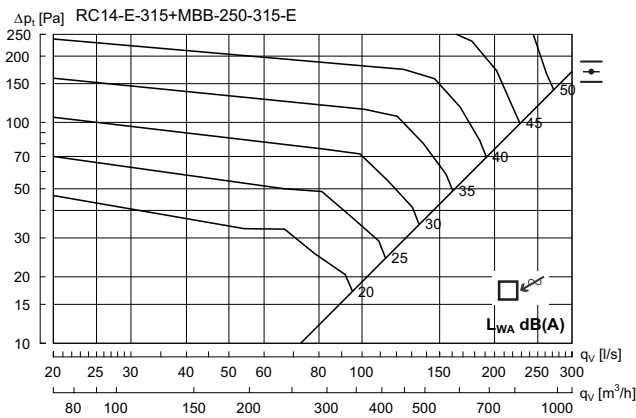
# RC14

## Technical data

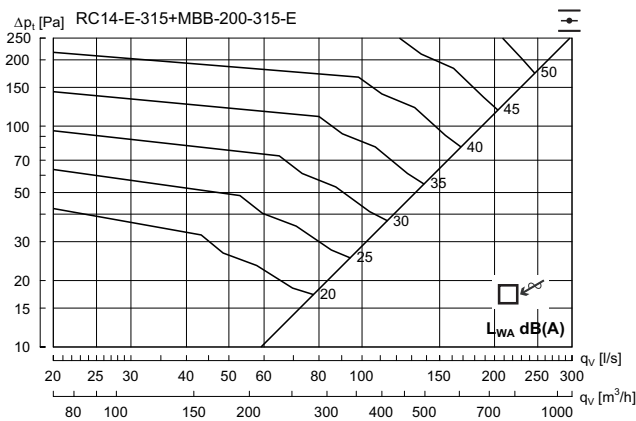
### RC14 - 315 + MBB-E - Extract air



Hz	63	125	250	500	1K	2K	4K	8K
$K_{\text{ok}}$	10	3	1	-2	-4	-16	-24	-34



Hz	63	125	250	500	1K	2K	4K	8K
$K_{\text{ok}}$	9	5	1	-2	-5	-13	-18	-26



Hz	63	125	250	500	1K	2K	4K	8K
$K_{\text{ok}}$	14	6	1	-2	-6	-11	-16	-24