

# Versio

# NS19



NS19 with grille box type V

## Description

NS19 is a square diffuser with individually adjustable nozzles. The diffuser is suitable for the horizontal supply of cooled air, where great flexibility in the dispersal pattern is required. The diffuser can also be set to a vertical supply air pattern, enabling supply of heated air. The diffuser is supplied as standard with nozzles set for swirl.

- Adjustable dispersal patterns
- No pressure change for different dispersal patterns
- Suitable for horizontal or vertical supply air
- Plenum box with several damper options

## Order code

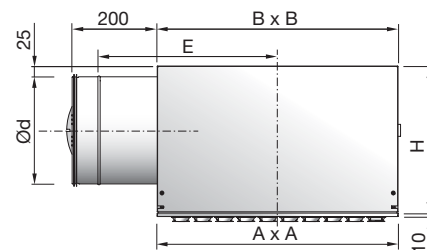
<b>Product</b>	NS	19	b	S	d	eee	f
<b>Type</b>	NS						
<b>Design</b>		19					
<b>Box type</b>			V - H - R				
<b>Functional use</b>				S = Supply air			
<b>Damper</b>							
0 = No damper	(Box				: H, V)		
1 = Damper	(Box				: H, R)		
2 = Damper / Meas.outlets	(Box				: H)		
<b>Connection dim.</b>							
Ø160-315	(Box				: V)		
Ø125-315	(Box				: H)		
200x100 - 500x100	(Box				: R)		
<b>Ceiling system</b>							
1 - 14	Go to chapter Ceiling tile adaption						

Example: NS-19-V-S-0-200-1



NS19 with plenum box type H

## Dimensions



NS19-H	A	B	H	E	m
Ød	Pattern	mm	mm	mm	kg
125	300	*-	380	215	3.30
160	400	*-	380	250	4.60
200	500	*-	460	290	6.50
250	600	*-	560	340	9.30
315	600	*-	560	405	10.1

\* Face plate dimension A x A depends on ceiling system. See "Ceiling systems" for detailed dimensions. For further details on plenum box, see "Plenum boxes".

## 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.

## Materials and finish

### Grille box/plenum box:

Material: Galvanised steel

### Face plate:

Material: Galvanised steel  
 Nozzles: White, ABS.plastic  
 Standard finish: Powder-coated  
 Standard colours: RAL 9003 and RAL 9010, gloss 30

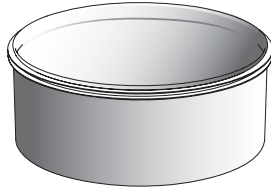
The diffuser is available in other colours. Please contact Lindab's sales department for further information.

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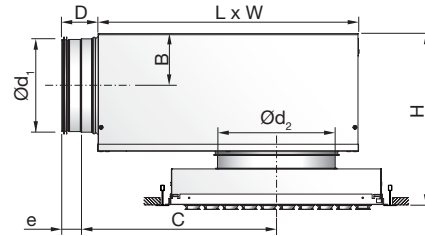
## Accessories

### Extension piece



**MBZ**

### NS19-V + MB plenum box



### Order code

<b>Product</b>	<b>MBZ</b>	<b>aaa</b>
Type		
Size		

Example: MBZ-200

Ød <sub>1</sub> mm	Ød <sub>2</sub> mm	Pattern	B	C	D	e	H*	L	W
100	160	300	62	245	78	40	255 - 295	310	260
125	160	300	75	291	78	40	280 - 320	376	310
125	200	400	75	291	78	40	280 - 320	376	310
160	160	300	92	352	78	40	314 - 354	459	380
160	200	400	92	352	78	40	314 - 354	459	380
160	250	500	92	352	78	40	314 - 354	459	380
200	200	400	112	425	78	40	355 - 395	565	460
200	250	500	112	425	78	40	355 - 395	565	460
200	315	600	112	425	78	40	355 - 395	565	460
250	250	500	137	514	118	60	405 - 445	698	540
250	315	600	137	514	118	60	405 - 445	698	540
315	315	600	170	675	118	60	470 - 510	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

### Mounting bracket

**PBB**



### Suspension

**MHS**

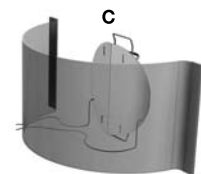
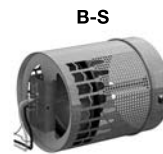


### Order code

<b>Product</b>	<b>aaa</b>
Type	

Example: MHS

### Damper options



### Order code

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

Example 1: NS-19-V-S-0-200-1+MBB-160-200-S

Example 2: NS-19-V-S-0-200-1+MBC-160-200

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## NS19

## Technical data

Following NS19-V+plenum box data are valid for MBB-S .  
For MBC data, go to [www.lindQST.com](http://www.lindQST.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

## NS19-V + MBB-S

NS19-V + MBB-S		$\Delta p_t \geq 50$ Pa 30 dB(A)		$\Delta p_t \geq 50$ Pa 35 dB(A)	
duct	NS19-V	l/s	m <sup>3</sup> /h	l/s	m <sup>3</sup> /h
$\varnothing d_1$	$\varnothing d_2$				
100	160	37	133	44	158
125	160	45	162	56	202
125	200	52	187	63	227
160	160	48	173	58	209
160	200	60	216	74	266
160	250	70	252	88	317
200	200	68	245	82	295
200	250	80	288	97	349
200	315	89	320	114	410
250	250	89	320	105	378
250	315	104	374	128	461
315	315	129	464	152	547

## Supply air

## NS19 + H

NS19 + H Size $\varnothing d$ mm	Minimum		$\Delta p_t \geq 50$ Pa 30 dB(A)		$\Delta p_t \geq 50$ Pa 35 dB(A)	
	l/s	m <sup>3</sup> /h	l/s	m <sup>3</sup> /h	l/s	m <sup>3</sup> /h
125	26	93	31	112	40	144
160	33	118	50	180	60	216
200	57	204	60	216	77	277
250	71	254	95	342	113	407
315	95	342	-	-	147	529

## Sound attenuation

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



## NS19-V + MBB-S

NS19-V + MBB-S		Centre frequency Hz							
duct	NS19-V	63	125	250	500	1K	2K	4K	8K
$\varnothing d_1$	$\varnothing d_2$								
100	160	18	16	5	17	20	19	18	21
125	160	17	13	8	20	18	18	18	21
125	200	13	11	5	16	17	16	17	19
160	160	17	16	11	23	21	20	21	21
160	200	13	14	8	22	21	19	20	21
160	250	14	14	5	19	17	17	18	20
200	200	13	10	7	17	20	17	19	18
200	250	12	9	6	16	18	17	19	17
200	315	12	8	3	14	17	15	17	17
250	250	14	9	7	18	19	19	19	19
250	315	14	7	5	16	17	18	18	18
315	315	8	9	8	16	18	17	18	24

## NS19 + H

NS19 + H Size $\varnothing d$ mm	Centre frequency Hz							
	63	125	250	500	1K	2K	4K	8K
125	17	15	5	12	12	7	8	12
160	17	13	4	13	14	7	7	10
200	15	9	3	14	10	8	8	14
250	12	8	5	10	7	7	8	13
315	12	6	5	12	6	6	8	13

## Installation -and balancing instruction

For further information go to [www.lindQST.com](http://www.lindQST.com) and installation -and balancing instruction.

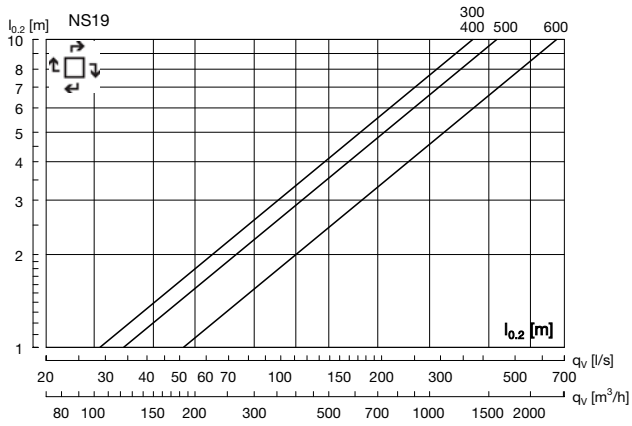
# Versio

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## Technical data

### Throw $l_{0,2}$

Throw  $l_{0,2}$  [m] is specified at a terminal velocity of 0.2 m/s. The designation by the lines specifies the pattern of dispersal.



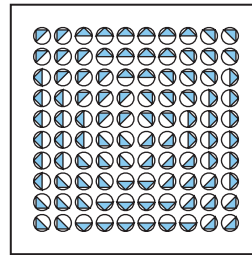
### Correction throw

4-way	3-way	2-way	1-way
1,3	2	2,5	4,6

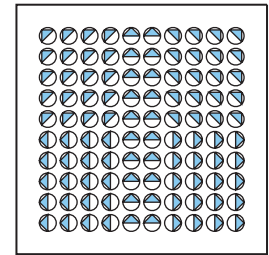
## Air patterns



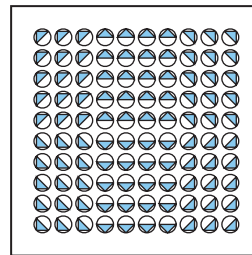
4 - ways



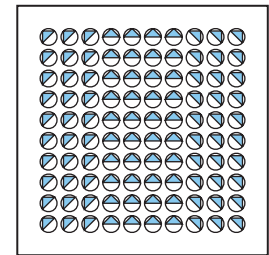
3 - ways



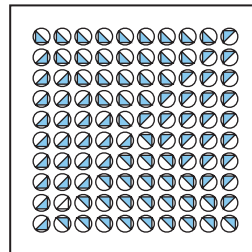
2 - ways



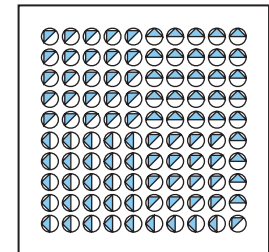
1 - ways



Rotation



2 - ways corner



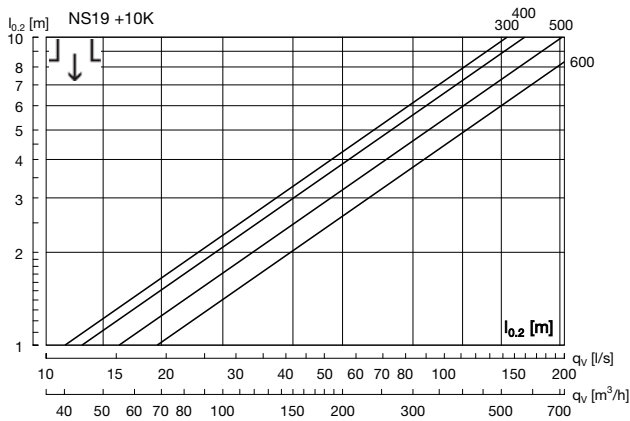
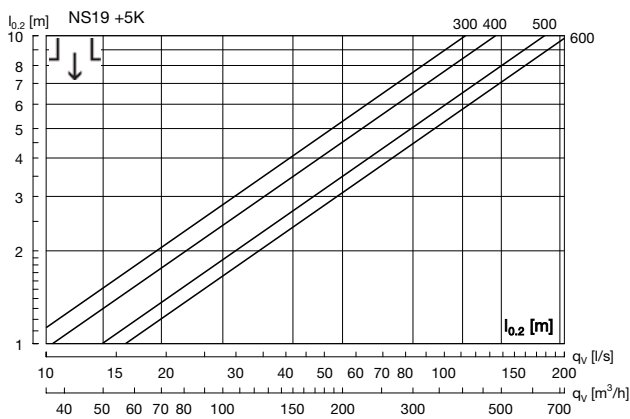
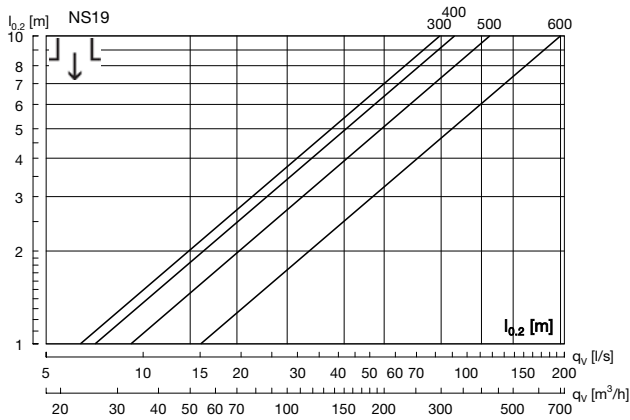
# Versio

# NS19

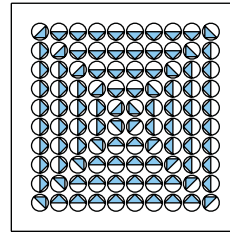
## Technical data

### Throws/turning points

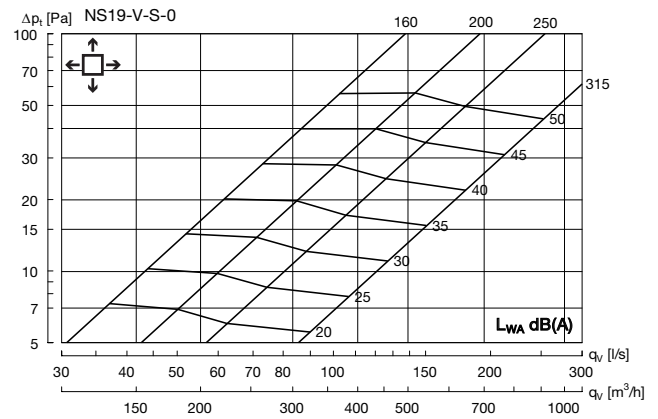
Throw  $l_{0,2}$  [m] can be seen in the diagram. The throw applies for isothermal air at a terminal velocity of 0.2 m/s. Turning point  $l_{0,0}$  (m) can be seen in the diagram for heated air, +5 K and +10 K respectively. The designation by the lines specifies the pattern of dispersal.



### Nozzle setting - vertical



### NS19-V without plenum box

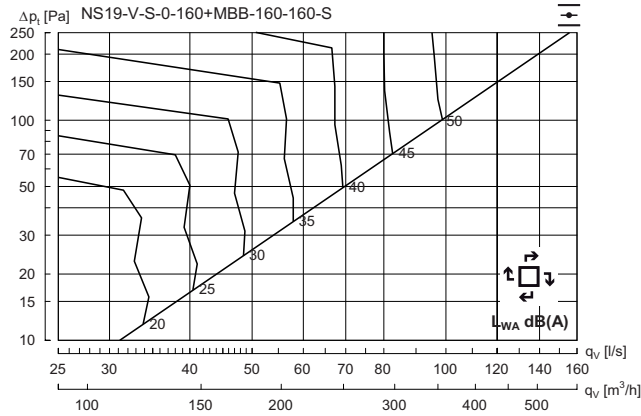


# Versio

# NS19

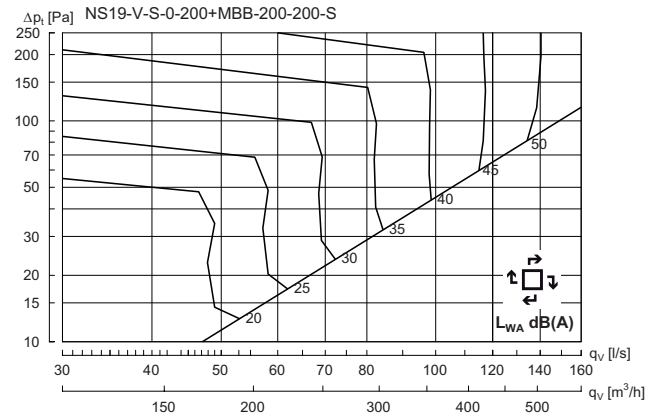
## Technical data

### NS19-V 160 + MBB - Supply air

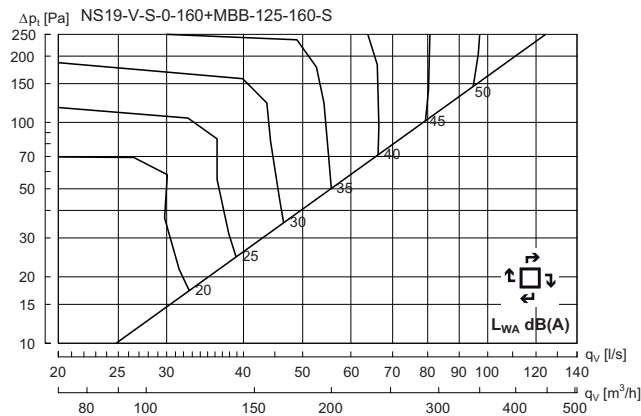


Hz	63	125	250	500	1K	2K	4K	8K
$K_{ok}$	10	4	-2	1	-6	-15	-22	-33

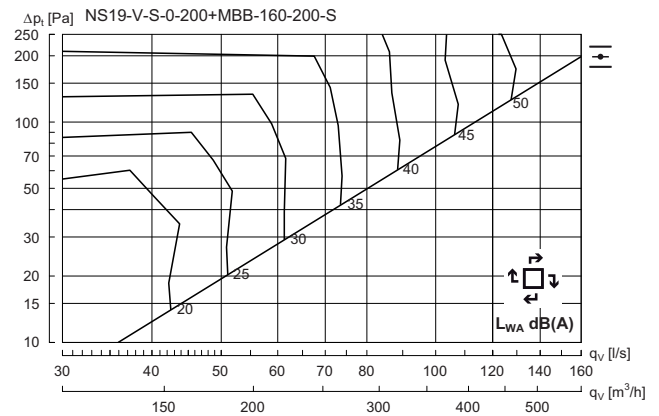
### NS19-V 200 + MBB - Supply air



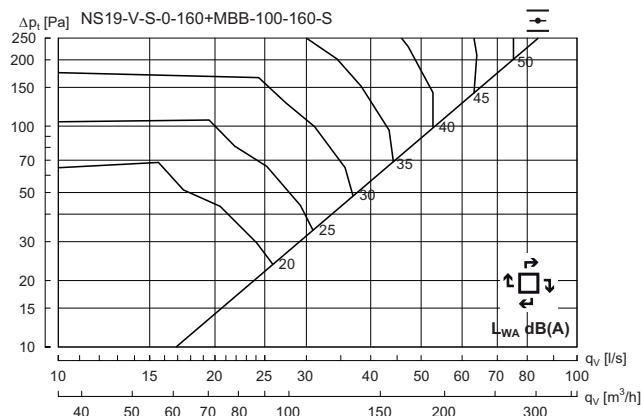
Hz	63	125	250	500	1K	2K	4K	8K
$K_{ok}$	11	4	-3	0	-5	-16	-23	-33



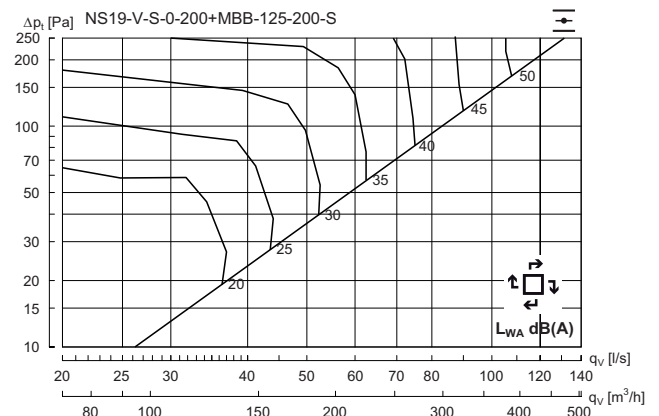
Hz	63	125	250	500	1K	2K	4K	8K
$K_{ok}$	8	5	-1	0	-6	-13	-18	-28



Hz	63	125	250	500	1K	2K	4K	8K
$K_{ok}$	12	5	-1	-1	-5	-13	-19	-26



Hz	63	125	250	500	1K	2K	4K	8K
$K_{ok}$	11	4	2	-1	-8	-12	-16	-22



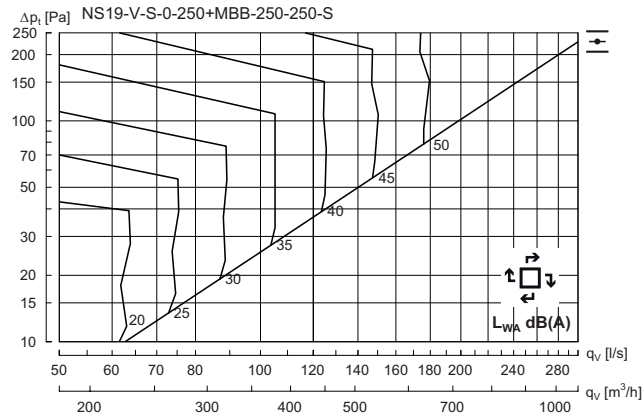
Hz	63	125	250	500	1K	2K	4K	8K
$K_{ok}$	8	6	2	-1	-7	-13	-18	-26

# Versio

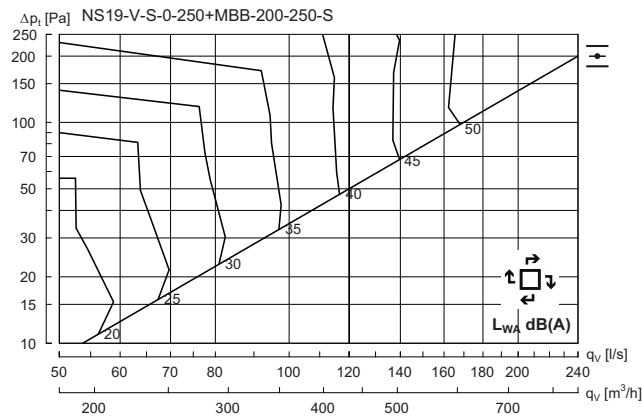
# NS19

## Technical data

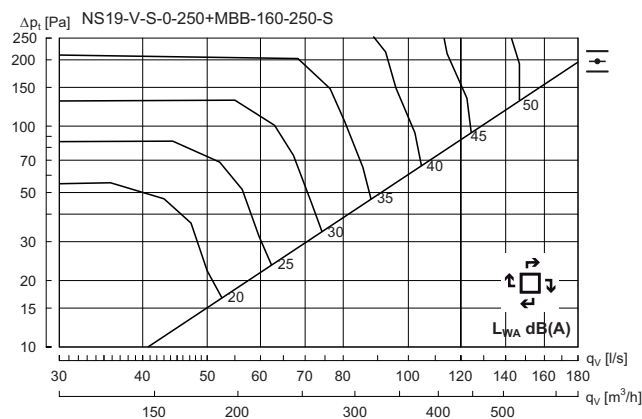
### NS19-V 250 + MBB - Supply air



Hz	63	125	250	500	1K	2K	4K	8K
$K_{ok}$	8	4	-4	0	-5	-16	-24	-37

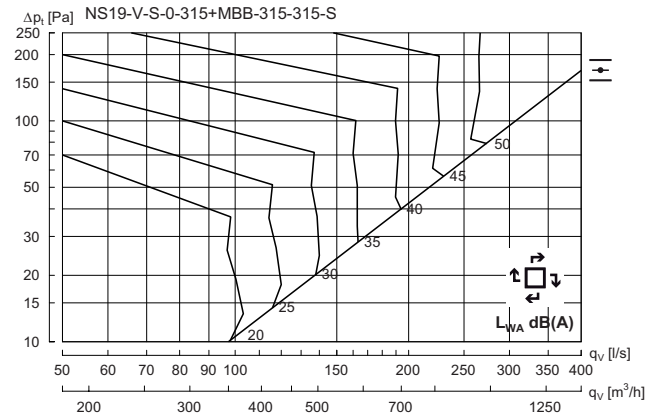


Hz	63	125	250	500	1K	2K	4K	8K
$K_{ok}$	9	6	-2	0	-5	-15	-22	-33

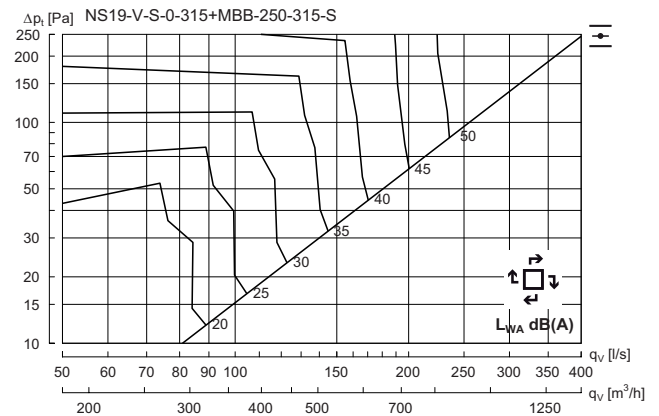


Hz	63	125	250	500	1K	2K	4K	8K
$K_{ok}$	13	6	0	-1	-5	-12	-18	-26

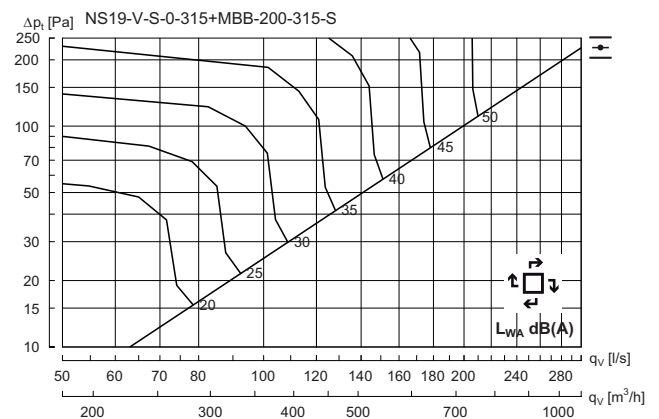
### NS19-V 315 + MBB - Supply air



Hz	63	125	250	500	1K	2K	4K	8K
$K_{ok}$	10	1	-2	0	-5	-16	-23	-34



Hz	63	125	250	500	1K	2K	4K	8K
$K_{ok}$	10	3	-2	0	-5	-15	-21	-28



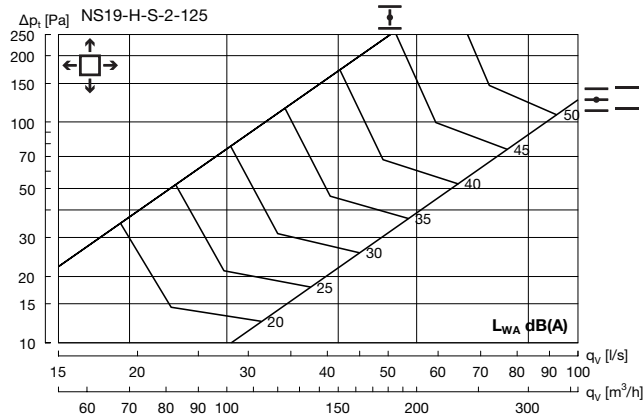
Hz	63	125	250	500	1K	2K	4K	8K
$K_{ok}$	9	6	-1	-1	-5	-13	-20	-28

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# NS19

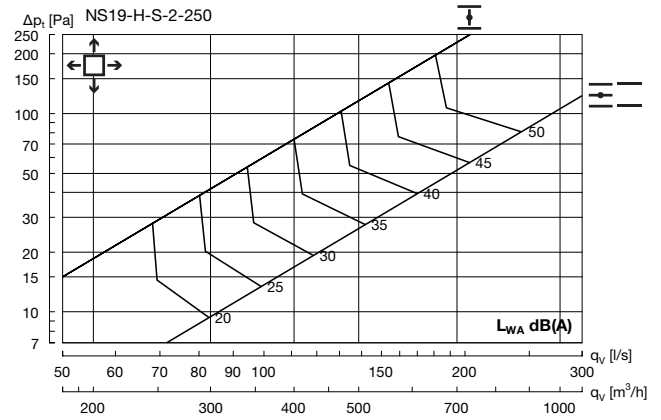
## Technical data

### NS19 + H - Supply air

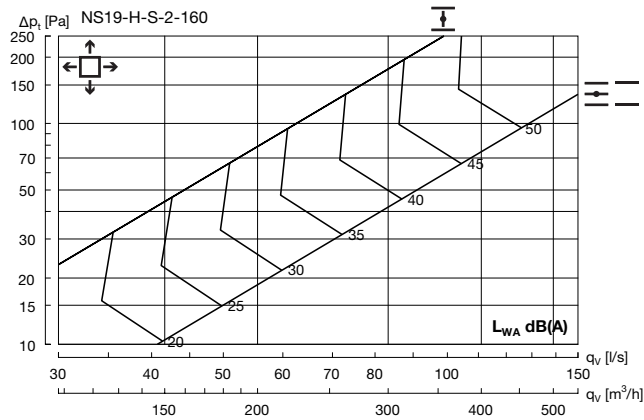


Hz	63	125	250	500	1K	2K	4K	8K
$K_{ok}$	9	7	6	-4	-9	-15	-21	-28

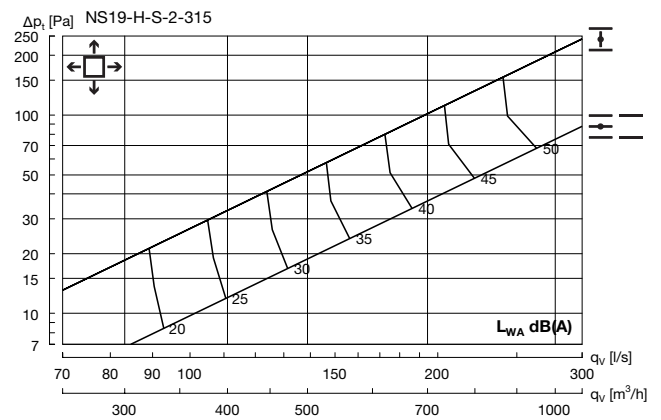
### NS19 + H - Supply air



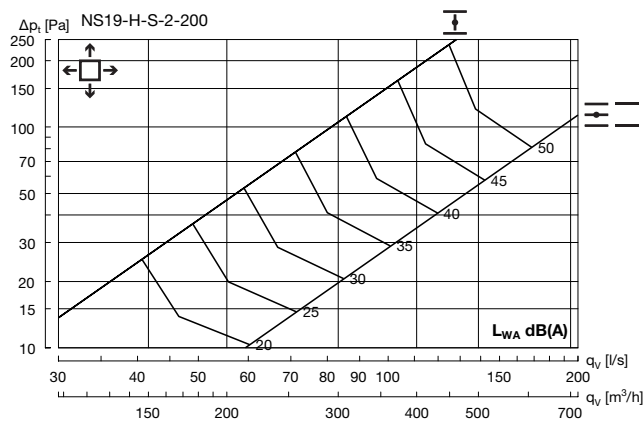
Hz	63	125	250	500	1K	2K	4K	8K
$K_{ok}$	6	7	3	-1	-7	-16	-22	-31



Hz	63	125	250	500	1K	2K	4K	8K
$K_{ok}$	7	6	5	-4	-8	-15	-20	-28



Hz	63	125	250	500	1K	2K	4K	8K
$K_{ok}$	6	7	3	-1	-8	-17	-25	-36



Hz	63	125	250	500	1K	2K	4K	8K
$K_{ok}$	11	6	3	-1	-7	-16	-22	-30