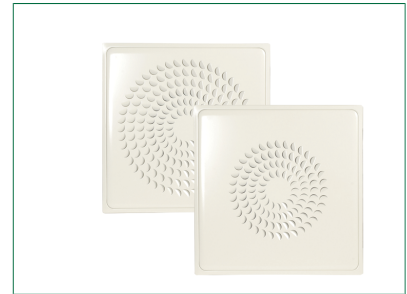
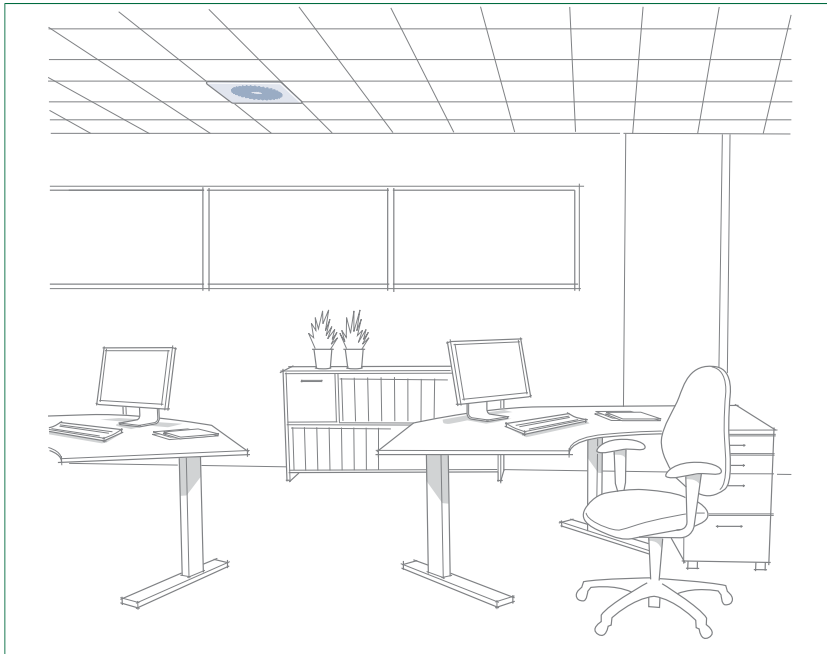


# Nozzle diffuser DYBH / Supply air unit DYBA (=DYBH+ATTD)



The DYBA is a quiet, ceiling-mounted supply air unit that consists of a nozzle diffuser, DYBH, and a plenum box, ATTD. The nozzles of the diffuser produce a swirl pattern that provides a highly effective mixing of the supply air with the air in the premises (high induction rate). This keeps the indoor climate pleasant even with supply air temperatures considerably below the room air temperature. The nozzle diffuser DYBH has fixed nozzles, made out of the front plate by bending. The number of nozzles depends on the connection size of the diffuser. The slot height of the diffuser can be set at 0 or 12 mm. Fixed to the diffuser body with magnets, the diffuser plate is easy to open. The DYBH nozzle diffuser is also available without the plenum box.

## Quick Selection

DYBA with 0 mm slot, 1:3 plenum box ATTD (50 Pa)

Supply air unit DYBA-	Diffuser DYBH-	Connection ATTD		Air flow l/s at sound level		
		inlet mm	outlet mm	25 dB(A)	30 dB(A)	35 dB(A)
100-3	160	100	160	27	39	-
125-3	200	125	200	38	56	-
160-3	250	160	250	53	82	-
200-3	315	200	315	78	105	126
250-3	400	250	400	103	124	144

DYBA with 0 mm slot, 1:2 plenum box ATTD (50 Pa)

Supply air unit DYBA-	Diffuser DYBH-	Connection ATTD		Air flow l/s at sound level		
		inlet mm	outlet mm	25 dB(A)	30 dB(A)	35 dB(A)
100-2	125	100	125	24	31	-
125-2	160	125	160	33	41	51
160-2	200	160	200	52	66	78
200-2	250	200	250	72	87	102
250-2	315	250	315	93	109	128
315-2	400	315	400	104	124	149

- = outside working area

## Specifications

- Easy to install and adjust
- Low sound level
- Adjustable air slot 0 or 12 mm
- Fixed nozzles
- 6 connection sizes
- All connection sizes are suitable for suspended ceiling systems (595x595)
- Available with CleanVent coating
- Silent plenum box ATTD with air flow control
- Also available with the extremely compact plenum box ATTS

## Product code example

### Bundle code:

Supply air unit DYBA-200-3

### Ordering codes:

Nozzle diffuser DYBH-315

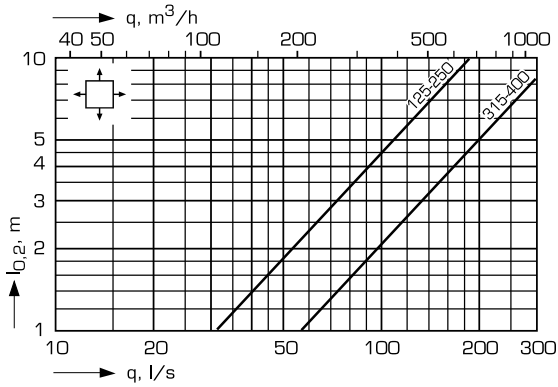
Plenum box ATTD-200-315-1

## Air flow, throw, pressure drop, sound level

Supply air unit DYBA with 0 mm slot, 4-way diffusion

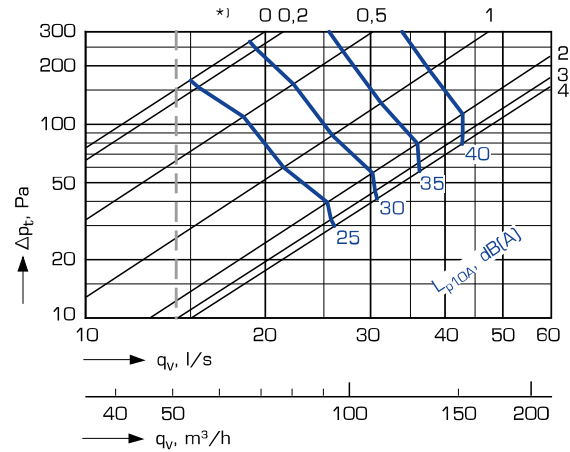
### Throw (isothermal)

Sizes in the diagram below refer to air diffuser connection in mm.



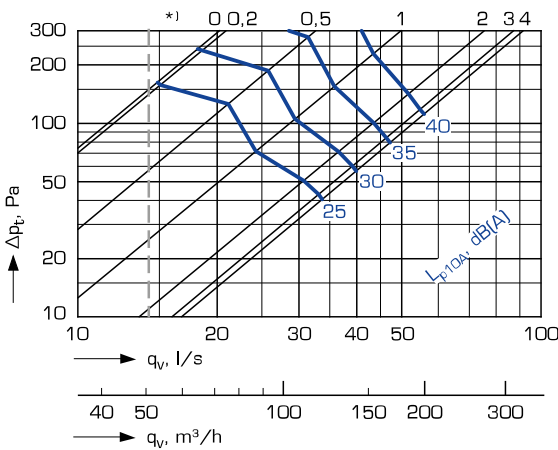
### DYBA-100-2 - with 0 mm slot

[DYBH-125 + ATTD-100-125-1]



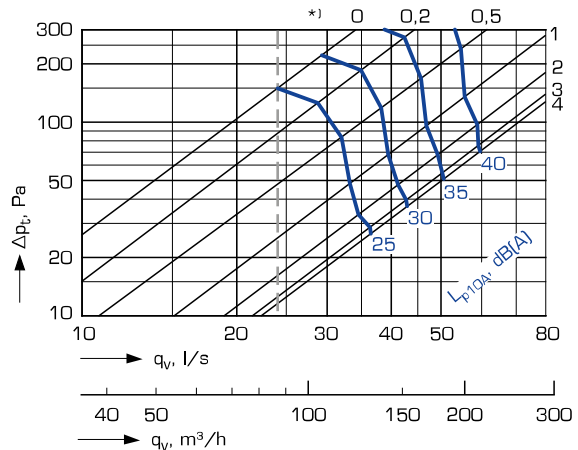
### DYBA-100-3 - with 0 mm slot

[DYBH-160 + ATTD-100-160-1]



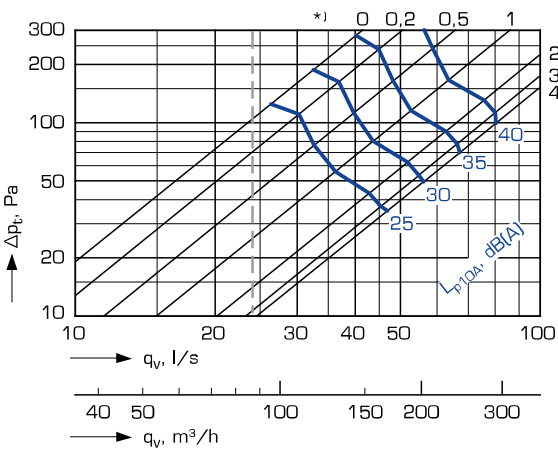
### DYBA-125-2 - with 0 mm slot

[DYBH-160 + ATTD-125-160-1]



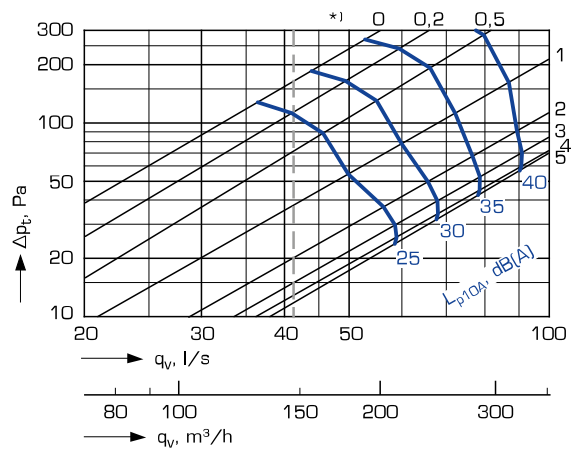
### DYBA-125-3 - with 0 mm slot

[DYBH-200 + ATTD-125-200-1]



### DYBA-160-2 - with 0 mm slot

[DYBH-200 + ATTD-160-200-1]



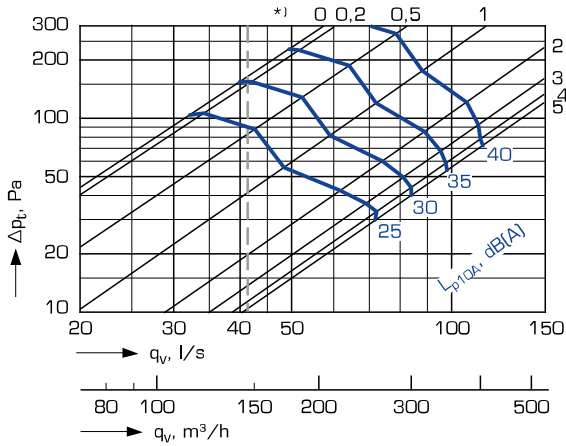
\*) adjustment position

---- Min. airflow required to obtain sufficient measuring pressure.

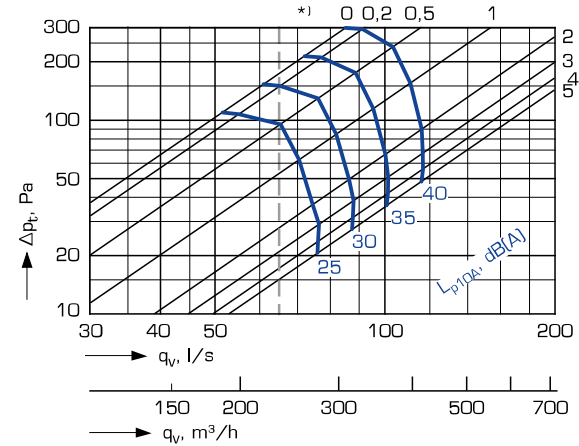
## Air flow, pressure drop, sound level

Supply air unit DYBA with 0 mm slot, 4-way diffusion

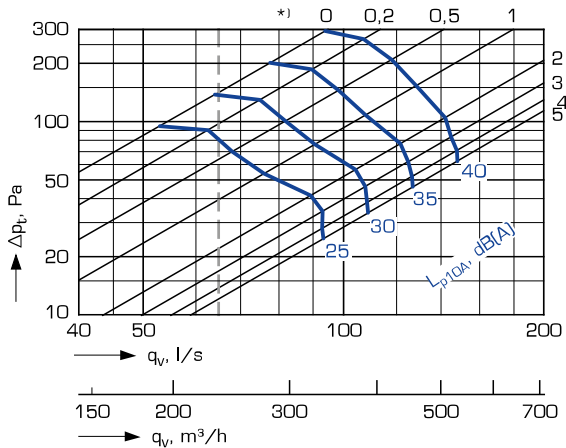
**DYBA-160-3 - with 0 mm slot**  
[DYBH-250 + ATTD-160-250-1]



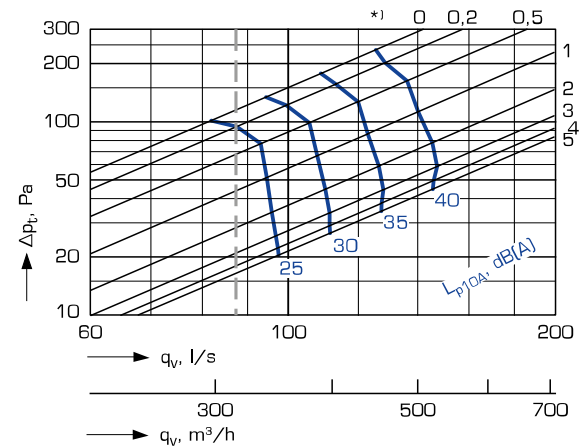
**DYBA-200-2 - with 0 mm slot**  
[DYBH-250 + ATTD-200-250-1]



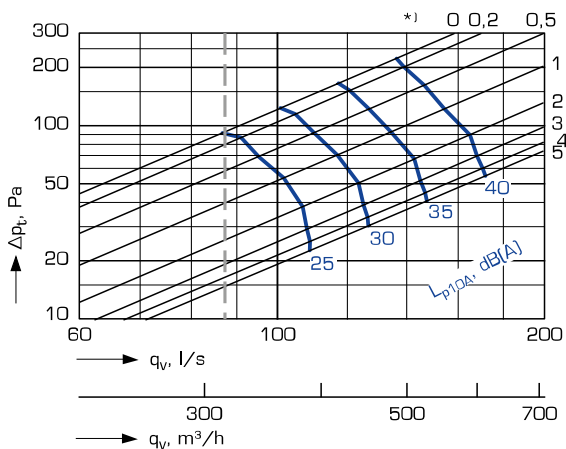
**DYBA-200-3 - with 0 mm slot**  
[DYBH-315 + ATTD-200-315-1]



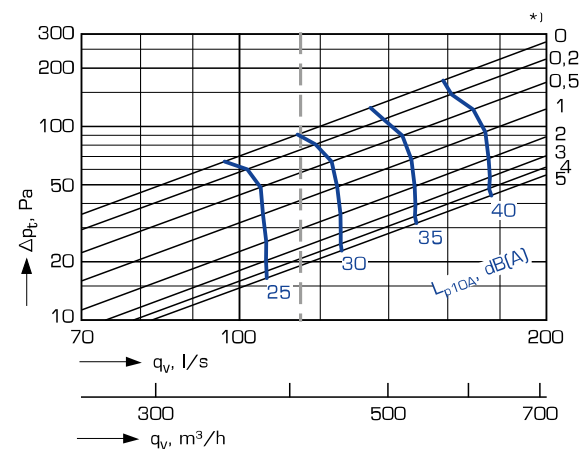
**DYBA-250-2 - with 0 mm slot**  
[DYBH-315 + ATTD-250-315-1]



**DYBA-250-3 - with 0 mm slot**  
[DYBH-400 + ATTD-250-400-1]



**DYBA-315-2 - with 0 mm slot**  
[DYBH-400 + ATTD-315-400-1]



\*) adjustment position

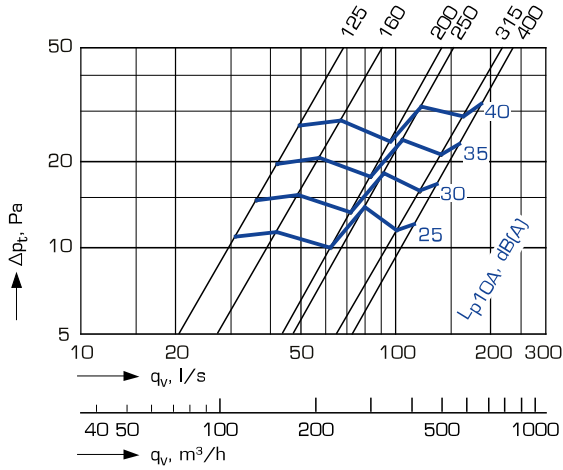
---- Min. airflow required to obtain sufficient measuring pressure.

### Air flow, pressure drop, sound level

Nozzle diffuser DYBH with 0 mm slot, 4-way diffusion

Nozzle diffuser DYBH with 0 mm slot

4-way diffusion



Effect of the plenum box's lower profile on sound level (ATTD-aaa-bbb-3)

Size (duct connection)	Sound pressure level $L_{p10A}$
100-315	+5 dB(A)

### Sound power level $L_w$

Supply air unit DYBA with 0 mm slot, 1:3 plenum box

DYBA-	Correction of sound level K (dB)							
	63	125	250	500	1000	2000	4000	8000
100-3	13	8	6	1	-4	-8	-11	-13
125-3	12	7	7	1	-4	-8	-11	-13
160-3	15	9	4	2	-3	-8	-11	-13
200-3	14	9	2	2	-2	-9	-12	-13
250-3	6	4	2	2	-1	-9	-12	-14
Tolerance ±	6	3	2	2	2	2	2	3

### Sound attenuation $\Delta L$

Supply air unit DYBA with 0 mm slot, 1:3 plenum box

DYBA-	Sound attenuation (dB)							
	63	125	250	500	1000	2000	4000	8000
100-3	22	15	9	19	20	15	13	16
125-3	23	11	5	17	10	11	12	13
160-3	19	9	8	15	12	9	11	12
200-3	15	6	8	13	10	9	10	13
250-3	14	6	5	11	9	9	9	10
Tolerance ±	6	3	2	2	2	2	2	3

Supply air unit DYBA with 0 mm slot, 1:2 plenum box

DYBA-	Correction of sound level K (dB)							
	63	125	250	500	1000	2000	4000	8000
100-2	14	7	5	2	-4	-9	-12	-12
125-2	14	9	5	3	-4	-10	-13	-13
160-2	16	8	3	2	-2	-8	-12	-13
200-2	14	8	1	2	-2	-9	-12	-13
250-2	7	3	1	4	-2	-10	-13	-14
315-2	13	8	0	3	0	-10	-15	-15
Tolerance ±	6	3	2	2	2	2	2	3

Supply air unit DYBA with 0 mm slot, 1:2 plenum box

DYBA-	Sound attenuation (dB)							
	63	125	250	500	1000	2000	4000	8000
100-2	23	12	10	20	20	16	15	17
125-2	23	10	8	19	14	14	16	16
160-2	19	10	9	17	13	10	13	15
200-2	16	6	8	14	12	10	12	14
250-2	14	7	6	13	10	10	10	12
315-2	12	4	5	9	9	8	9	10
Tolerance ±	6	3	2	2	2	2	2	3

Nozzle diffuser DYBH with 0 mm slot

DYBH-	Correction of sound level K (dB)							
	63	125	250	500	1000	2000	4000	8000
125	8	1	4	6	-6	-16	-17	-15
160	17	9	3	5	-5	-16	-17	-15
200	15	7	-1	5	-2	-14	-17	-15
250	8	6	-1	5	-2	-15	-17	-15
315	12	4	0	4	-1	-13	-17	-15
400	12	5	-2	3	1	-11	-17	-15
Tolerance ±	6	3	2	2	2	2	2	3

Nozzle diffuser DYBH with 0 mm slot

DYBH-	Sound attenuation (dB)							
	63	125	250	500	1000	2000	4000	8000
125	21	14	4	4	1	2	4	5
160	18	12	3	3	1	2	3	5
200	16	10	3	5	1	1	2	4
250	14	9	2	4	0	1	2	3
315	12	6	1	3	1	0	1	3
400	10	5	1	0	1	1	2	4
Tolerance ±	6	3	2	2	2	2	2	3

Sound power levels by octave bands are obtained by adding to total sound pressure level  $L_{p10A}$ , dB(A), the correction  $K_{oct}$  presented in the table according to the following formula:

$$L_w = L_{p10A} + K_{oct}$$

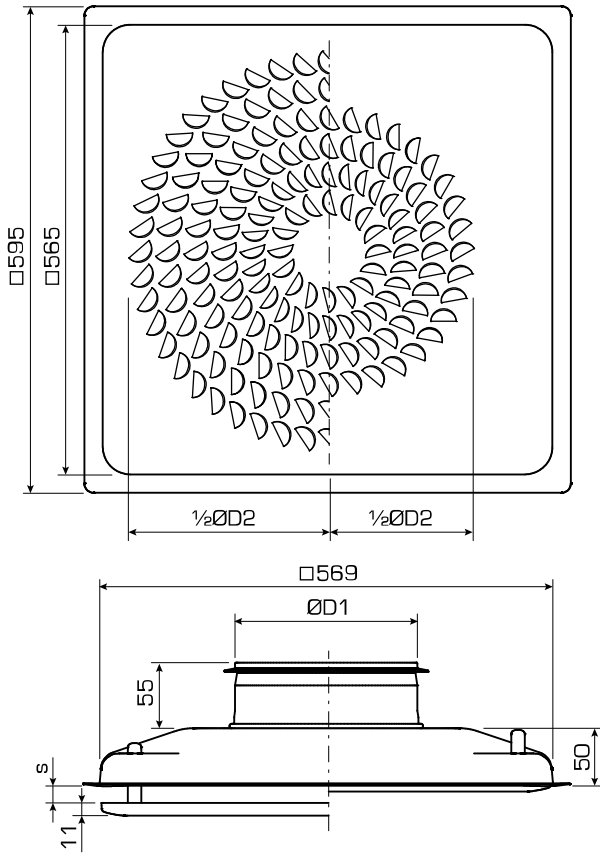
Correction  $K_{oct}$  is average value in range of use of the device.

The average sound attenuation  $\Delta L$  from duct to room including the orifice attenuation of the connecting duct in ceiling installation, is obtained in the table above.

More technical data can be found in our selection tool. Contact our nearest sales office for further information.

## Dimensions and weights

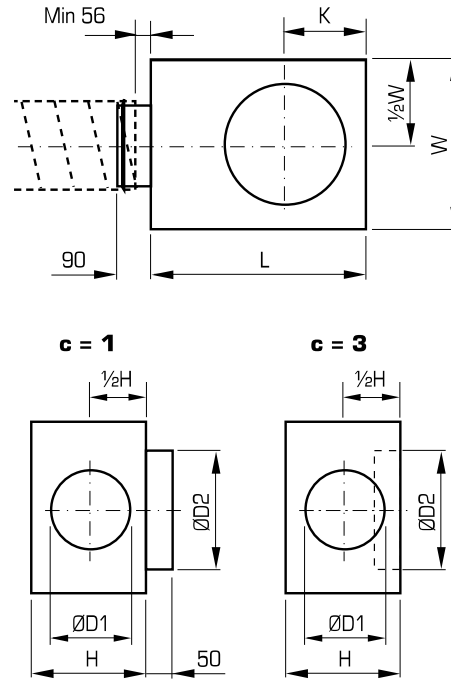
### Nozzle diffuser DYBH



s = 0 or 12 mm

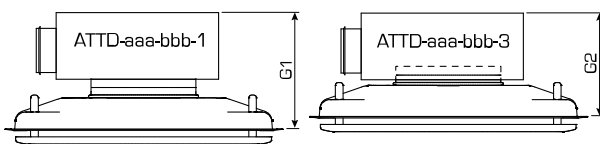
Size	ØD1 [mm]	ØD2 [mm]	Opening [mm]	Weight [kg]
125	124.3	355	580	4.5
160	159.3	355	580	4.5
200	199.3	490	580	4.5
250	249.3	490	580	4.4
315	314.3	490	580	4.3
400	393.3	490	580	4.3

### Plenum box ATTD



Size	ØD1 [mm]	ØD2 [mm]	H [mm]	L [mm]	W [mm]	K [mm]	Weight [kg]
100-125	99.3	125	170	350	320	132	2.5
100-160	99.3	160	170	350	320	132	2.3
125-160	124.3	160	170	450	320	152	3.0
125-200	124.3	200	170	450	320	152	2.9
160-200	159.3	200	205	480	440	177	4.0
160-250	159.3	250	205	480	440	177	4.0
200-250	199.3	250	245	630	480	210	5.5
200-315	199.3	315	245	630	480	210	5.4
250-315	249.3	315	295	680	570	252	6.9
250-400	249.3	400	295	680	570	252	6.9
315-400	314.3	400	360	680	570	252	8.0

### Supply air unit DYBA



DYBA	G1min [mm]	G1max [mm]	G2min [mm]	G2max [mm]
100	270	300	220	250
125	270	300	220	250
160	305	335	255	285
200	345	375	295	325
250	395	425	345	375
315	460	490	410	440

## Execution and function

The DYBA is a ceiling-mounted supply air unit that consists of a nozzle diffuser, DYBH, and a plenum box, ATTD. The swirl pattern produced by the nozzle diffuser provides a highly effective mixing of the supply air with the air in the premises (high induction rate). This keeps the indoor climate pleasant even with supply air temperatures considerably below the room air temperature. The nozzle diffuser DYBH has fixed nozzles, made out of the front plate by bending. The number of nozzles depends on the connection size of the diffuser. The slot height of the diffuser can be set at 0 or 12 mm. Fixed to the diffuser body with magnets, the diffuser plate is easy to open. The DYBH nozzle diffuser is also available without the plenum box. This supply air unit is suitable for both suspended ceiling systems and false ceilings built on site. With the nozzles not protruding from the front plate, the diffuser can be mounted flush with the ceiling when using the 0 mm slot.

The ATTD plenum box features an extremely quiet patented measurement and adjustment damper for multipoint measuring with balanced and accurate values. The adjustment handle of the measurement and adjustment damper has a position indicator and a locking device. The measurement and adjustment damper can be easily removed for inspection and cleaning without changing the setting or removing the sound attenuation elements. The sound attenuation elements (made of polyester fibre) are designed to direct the air flow in order to provide an air distribution that is as uniform as possible. The diffuser connection collar is either outwards or inwards in the plenum box – in the latter case, the plenum box needs less space. The ATTD plenum box is applicable for supply and exhaust air alike. In exhaust air use, the position of the measuring hose is changed to the measuring connector inside the box. The unit is also available with the extremely compact plenum box ATTS – please see the plenum box technical catalogues for more details.

## General

### Material and surface finish

Both the diffuser and the plenum box are made from steel sheet.

The diffuser is powder-coated for a high surface finish.

The standard colour is RAL 9010. Other diffuser colours and CleanVent coating are available on special order.

### Installation, adjustment and maintenance

The instructions for installation, adjustment and maintenance are available at [www.flaktgroup.com](http://www.flaktgroup.com). The k-factors for supply air are also provided on the plenum box.

### Technical data and design

For complete design details, please see the FläktGroup product selection program. The program can be found on the Internet at [www.flaktgroup.com](http://www.flaktgroup.com).

### Product description

The DYBA supply air unit by Fläkt Group consists of a square nozzle diffuser, DYBH, and a plenum box, ATTD. The DYBH diffuser has fixed nozzles and can be set to provide an air slot of 0 or 12 mm. The diffuser plate, fixed to the diffuser body with magnets, is easy to open. The ATTD plenum box includes a quiet, easily removable measurement and adjustment damper (ZAEF). The effective sound attenuation elements of the ATTD box direct the air flow in order to provide an air distribution that is as uniform as possible.

## Product code and accessories

### Product code

Nozzle diffuser	DYBH-aaa
Nozzle diffuser, CleanVent	DYBH-aaa-C
Nozzle diffuser, special colour	DYBH-aaa-E

### Size (aaa)

125, 160, 200, 250, 315, 400 (diffuser connection)

### CleanVent coated (C)

### Special colour (E)

Plenum box	ATTD-aaa-bbb-c
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### Duct connection in mm (aaa)

### Diffuser connection in mm (bbb)

### Type (c)

1 = collar outwards

3 = low, collar inwards (only 1:2 model)

### Bundle codes for example for design:

Supply air unit	DYBA-aaa-b
Supply air unit, CleanVent	DYBA-aaa-b-C

(includes diffuser and plenum box)

### Size (aaa)

100, 125, 160, 200, 250, 315 (duct connection)

### Plenum box model (b)

2 = 1:2 collar outwards

3 = 1:3 collar outwards

4 = 1:2 low, collar inwards

### CleanVent coated diffuser (C)

## Accessories

Diffuser plate (from 9/2017)	DYBZ-6-a-B
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### Size of nozzle pattern (a)

4 = small (for diffuser connections Ø125, 160)

6 = big (for diffuser connections Ø200, 250, 315, 400)

## Order example

Bundle code is **DYBA-200-3**.

Size indication in the code refers to the size of the supply air duct.

Diffuser and plenum box are ordered separately:

Nozzle diffuser	DYBH-315
Plenum box	ATTD-200-315-1

duct connection (200)

diffuser connection (315)

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