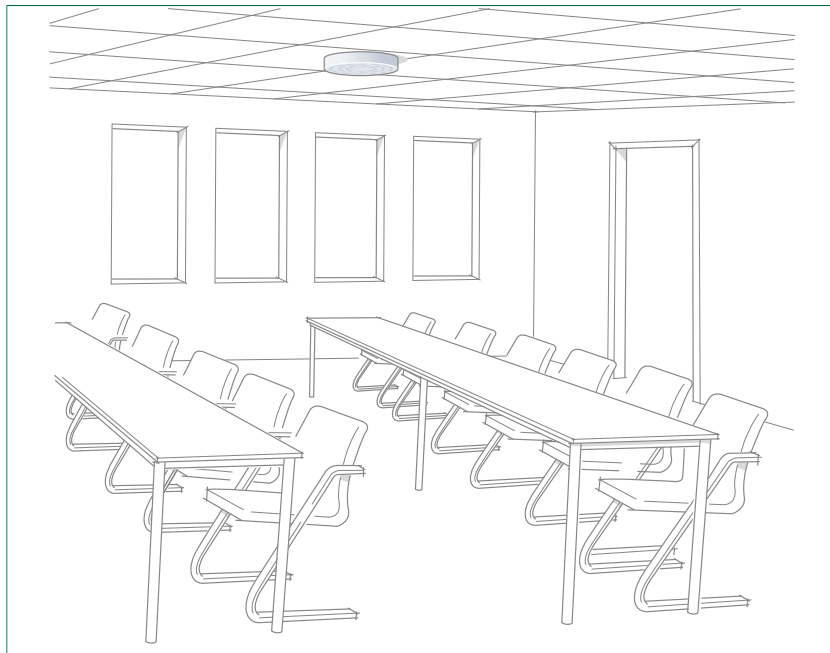


# Nozzle diffuser DYSH / Supply air unit DYSC (=DYSH+ATTD)



The DYSC is a quiet, ceiling-mounted supply air unit that consists of a nozzle diffuser, DYSH, and a plenum box, ATTD. The diffuser has adjustable nozzles for the setting of an optional diffusion pattern. The slot height of the diffuser can be set at 0 or 12 mm. The DYSH nozzle diffuser is also available without the plenum box.

## Quick Selection

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

Supply air unit DYSC-	Diffuser DYSH-	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	25	40	-
125-3	200	125	200	32	57	-
160-3	250	160	250	58	89	108
200-3	315	200	315	85	140	170
250-3	400	250	400	85	140	190

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

Supply air unit DYSC-	Diffuser DYSH-	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	26	38	-
125-2	160	125	160	29	44	56
160-2	200	160	200	52	78	95
200-2	250	200	250	78	98	120
250-2	315	250	315	130	160	185
315-2	400	315	400	135	160	230

-- = outside working area

## Specifications

- Low sound level
- Adjustable air slot 0 or 12 mm
- Easily adjustable diffusion pattern
- 6 connection sizes
- 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 DYSC-200-3

### Ordering codes:

Nozzle diffuser DYSH-315

Plenum box ATTD-200-315-1

AIRTREND Ltd.  
 Predstavništvo u Beogradu  
 Kumanovska 14  
 11000 Beograd  
 Tel: 011 3836886, 3085740  
 Faks: 011 3444113  
 e-mail: gobrid@eunet.rs  
 web: www.airtrend.rs

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

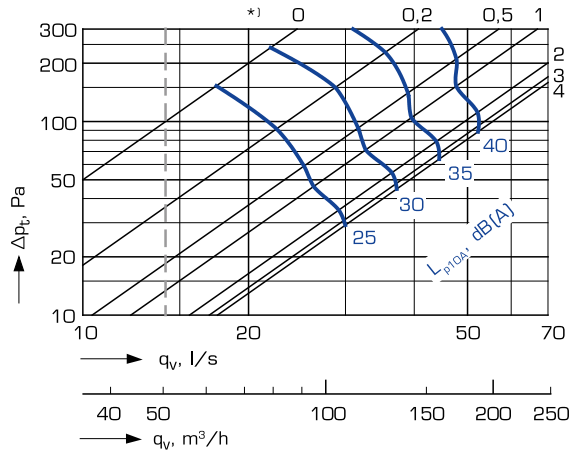
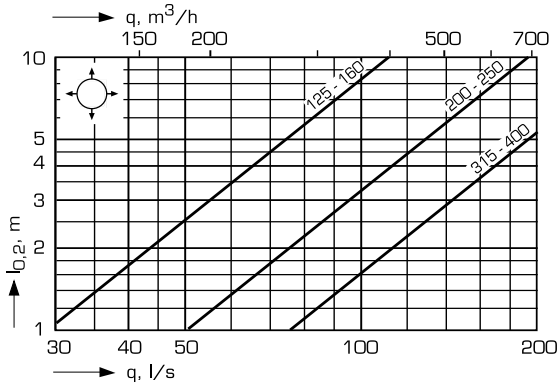
Supply air unit DYSC with 0 mm slot, 4-way diffusion

**Throw (isothermal)**

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

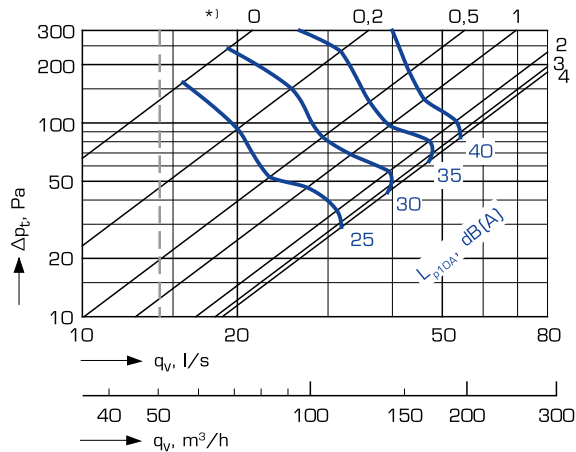
**DYSC-100-2 - with 0 mm slot**

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



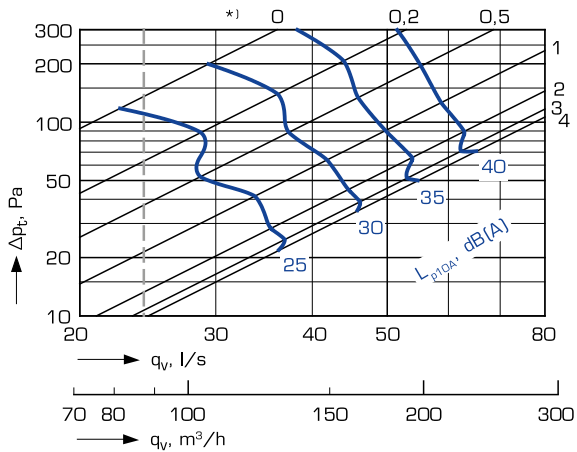
**DYSC-100-3 - with 0 mm slot**

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



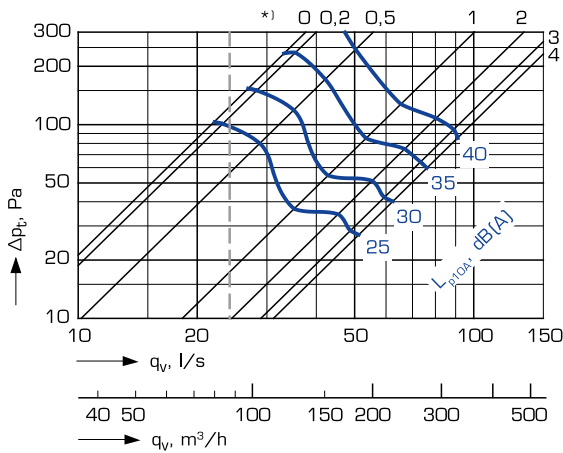
**DYSC-125-2 - with 0 mm slot**

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



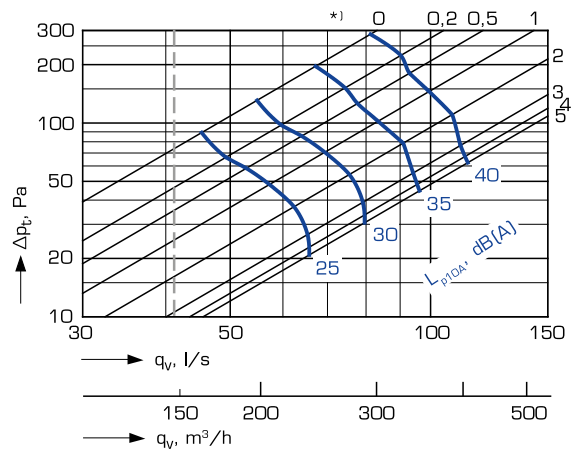
**DYSC-125-3 - with 0 mm slot**

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



**DYSC-160-2 - with 0 mm slot**

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



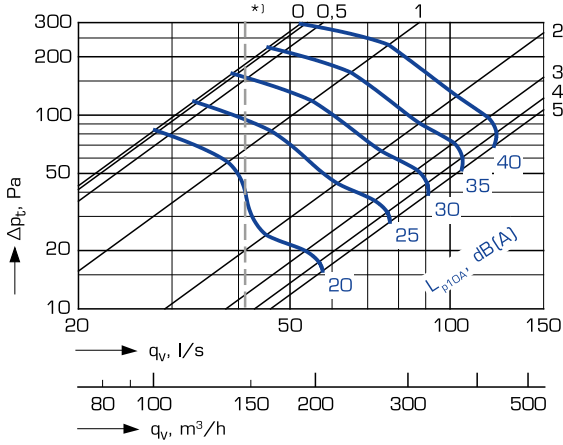
\*) adjustment position

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

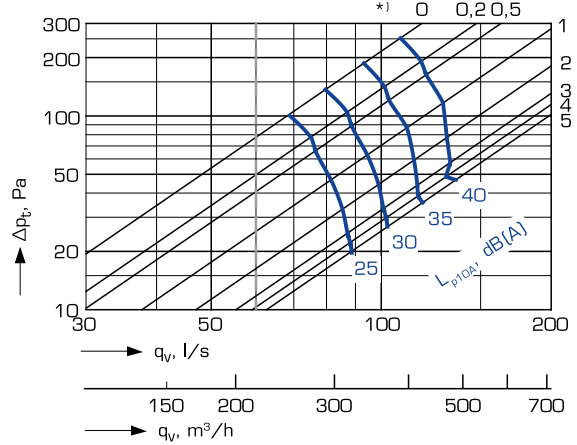
### Air flow, pressure drop, sound level

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

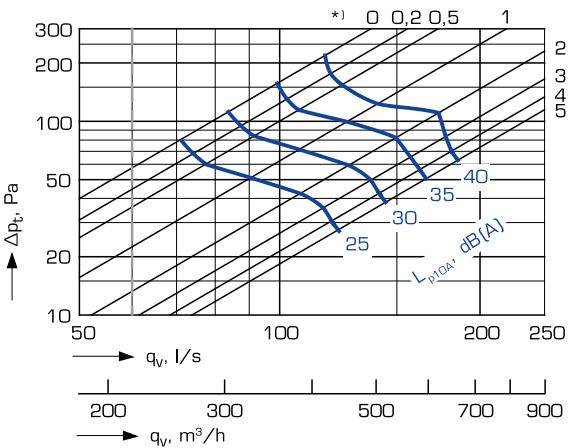
**DYSC-160-3 - with 0 mm slot**  
[DYSH-250 + ATTD-160-250-1]



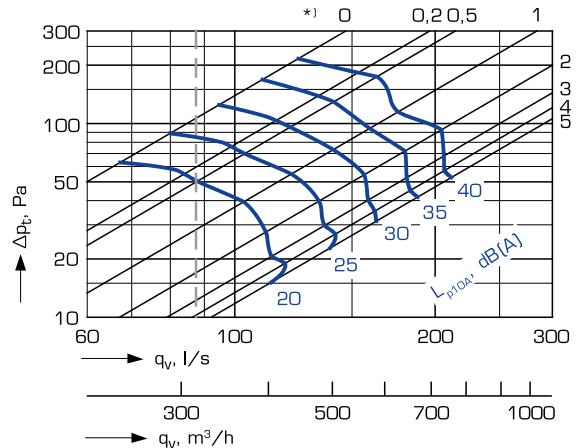
**DYSC-200-2 - with 0 mm slot**  
[DYSH-250 + ATTD-200-250-1]



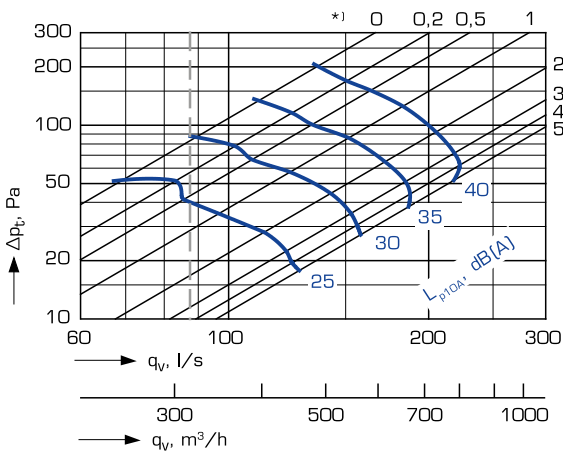
**DYSC-200-3 - with 0 mm slot**  
[DYSH-315 + ATTD-200-315-1]



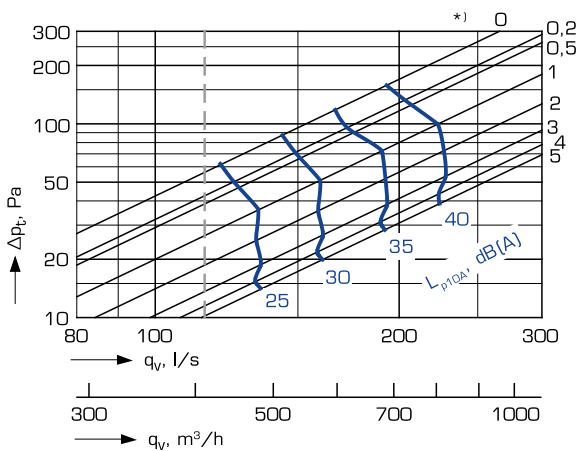
**DYSC-250-2 - with 0 mm slot**  
[DYSH-315 + ATTD-250-315-1]



**DYSC-250-3 - with 0 mm slot**  
[DYSH-400 + ATTD-250-400-1]



**DYSC-315-2 - with 0 mm slot**  
[DYSH-400 + ATTD-315-400-1]



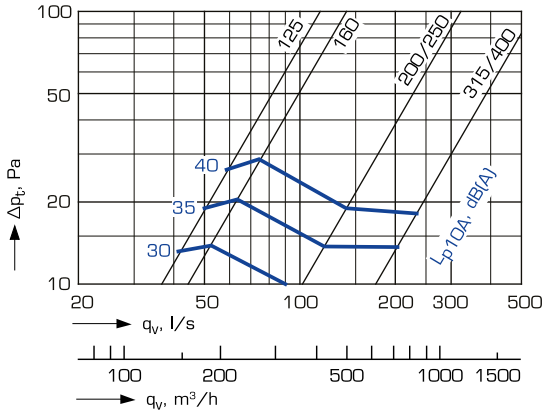
\*) adjustment position

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

### Air flow, pressure drop, sound level

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

Nozzle diffuser DYSH with 0 mm slot  
4-way diffusion



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

<b>Size (duct connection)</b>	<b>Sound pressure level</b>
	<b>L<sub>p10A</sub></b>
100-315	+5 db(A)

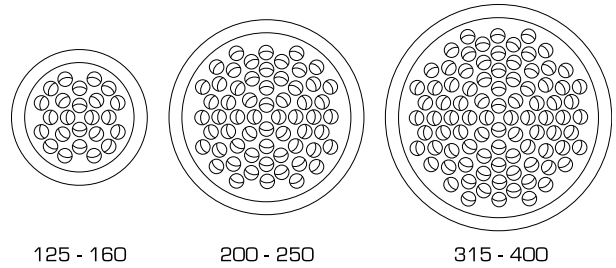
### Conversion factors and nozzle pattern

#### Conversion factors

Throw  $l_{0,2}$  and zone length  $L$  are indicated for normal 4-way diffusion in a previous graph. When setting other diffusion patterns, throw and zone length are changed on the basis of conversion with the following factors to be multiplied with the values in the graph.

Diffusion pattern	Throw $l_{0,2}$ , m	Zone length $L$ , m
Rotation	0,8	0,8
3-way	1,3	1,3
2-way	1,8	1,8
1-way	2,2	2,2

#### Nozzle pattern for each size



### Sound power level $L_w$

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

DYSC-	Correction of sound level K (dB)							
	63	125	250	500	1000	2000	4000	8000
100-3-1	9	9	7	-1	-7	-10	-12	-7
125-3-1	8	5	8	-1	-5	-8	-9	-6
160-3-1	8	8	5	0	-6	-8	-9	-7
200-3-1	4	9	5	1	-5	-8	-11	-8
250-3-1	9	11	5	0	-5	-7	-9	-7
Tolerance ±	6	3	2	2	2	2	2	3

### Sound attenuation $\Delta L$

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

DYSC-	Sound attenuation (dB)							
	63	125	250	500	1000	2000	4000	8000
100-3-1	20	14	8	19	20	14	14	15
125-3-1	17	9	4	18	11	14	12	14
200-3-1	19	10	6	16	13	12	12	15
160-3-1	16	7	6	13	11	10	10	13
250-3-1	15	8	7	22	17	13	14	18
Tolerance ±	6	3	2	2	2	2	2	3

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

DYSC-	Correction of sound level K (dB)							
	63	125	250	500	1000	2000	4000	8000
100-2-1	14	9	8	0	-7	-10	-11	-7
125-2-1	14	10	8	1	-8	-12	-12	-7
160-2-1	14	11	7	1	-7	-10	-11	-6
200-2-1	4	8	5	3	-6	-11	-12	-8
250-2-1	6	9	3	0	-5	-8	-10	-7
315-2-1	13	11	3	3	-6	-9	-11	-7
Tolerance ±	6	3	2	2	2	2	2	3

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

DYSC-	Sound attenuation (dB)							
	63	125	250	500	1000	2000	4000	8000
100-2-1	21	15	10	22	20	17	17	18
125-2-1	20	10	7	18	15	16	15	16
160-2-1	12	5	4	17	14	9	12	10
200-2-1	13	6	7	14	13	12	13	15
250-2-1	10	5	5	12	10	10	11	13
315-2-1	10	5	6	17	10	12	12	14
Tolerance ±	6	3	2	2	2	2	2	3

Nozzle diffuser DYSH with 0 mm slot

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

Nozzle diffuser DYSH with 0 mm slot

DYSH-	Sound attenuation (dB)							
	63	125	250	500	1000	2000	4000	8000
125	19	13	2	15	3	3	4	3
160	17	12	2	14	3	3	4	4
200	11	3	-4	2	0	-2	-4	-6
250	14	7	0	4	1	3	3	4
315	8	4	-2	0	-3	1	1	1
400	10	5	-1	7	0	2	3	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:

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

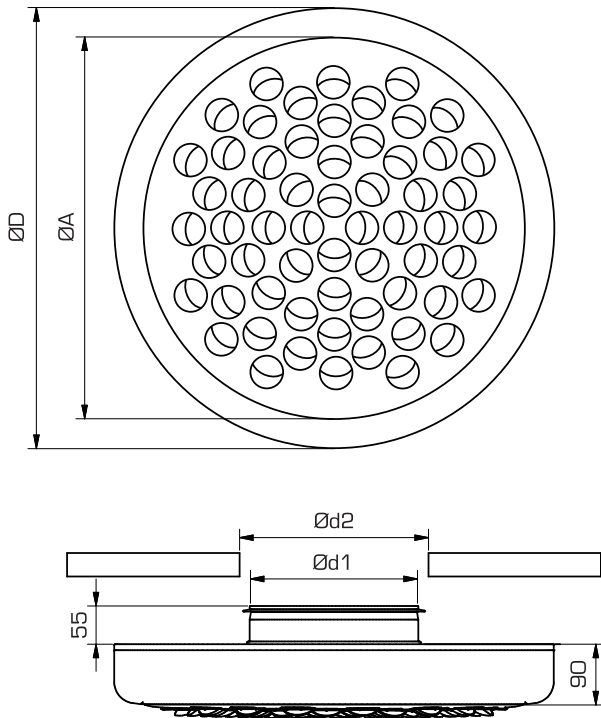
Correction  $K_{oct}$  is average value in range of use of the device.

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

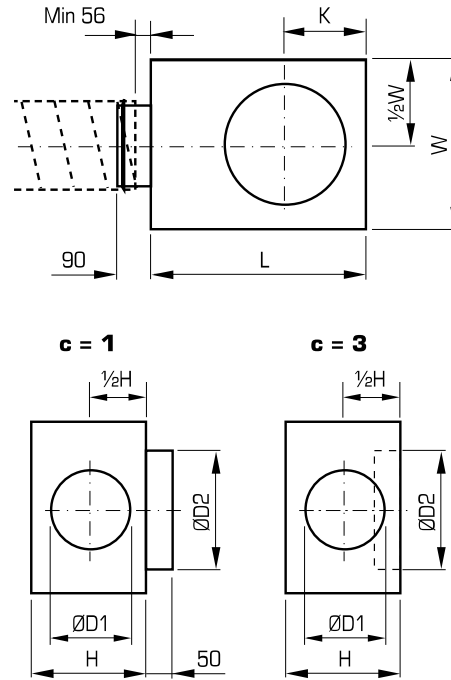
### Nozzle diffuser DYSH



s = 0 or 12 mm

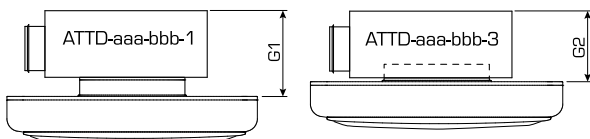
Size	ØA [mm]	ØD [mm]	Ød1 [mm]	Ød2 [mm]	Weight [kg]
125	363	450	124.3	135	3.0
160	363	450	159.3	170	2.9
200	563	650	199.3	210	5.3
250	563	650	249.3	260	5.3
315	663	750	314.3	325	6.5
400	663	750	393.3	410	6.4

### 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 DYSC



DYSC	G1min [mm]	G1max [mm]	G2min [mm]	G2max [mm]	
100-2	100-3	220	250	170	200
125-2	125-3	220	250	170	200
160-2	160-3	255	285	205	235
200-2	200-3	295	325	245	275
250-2	250-3	345	375	295	325
315-2	-	410	440	360	390

## Execution and function

The DYSC is a ceiling-mounted supply air unit that consists of a nozzle diffuser, DYRH, and a plenum box, ATTD. The design of the nozzles provides a highly effective mixing of the supply air with the air in the premises (high induction rate). The nozzles are rotatable and offer the possibility of changing the diffusion pattern and the diffusion direction for adaptation to the actual needs. Optimal air distribution is assured in this way, even in the case of cooling. The slot height of the diffuser can be set at 0 or 12 mm.

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 are available on special order.

The nozzles are made of white plastic and have antistatic treatment.

### 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 DYSC supply air unit by Fläkt Group consists of a round nozzle diffuser, DYSH, and a plenum box, ATTD. The DYSH diffuser has adjustable nozzles and can be set to provide an air slot of 0 or 12 mm. 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

Nozzle diffuser	DYSH-aaa
Nozzle diffuser, special colour	DYSH-aaa-E

### Size (aaa)

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

### 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	DYSC-aaa-b
(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

## Order example

Bundle code is **DYSC-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	DYSH-315
Plenum box	ATTD-200-315-1

duct connection (200)

diffuser connection (315)