JET DIFFUSERS
JD

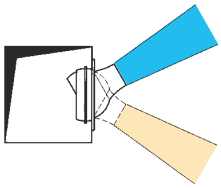
Application

The jet diffusers, type JD, are especially developed for large and high areas such as concert halls, theaters, galleries, airports, shopping centres, industrial plants etc.
Through their aerodynamic design they ensure a reduced noise level and even a long throw at high outlet velocities. In all versions, the jet is adjustable over 360°.
As these jet diffusers handle different supply air temperatures, the jet can be oriented upwards or downwards (heating or cooling mode).
Orientation manually or with servo-motor.

Technical information

Characteristics

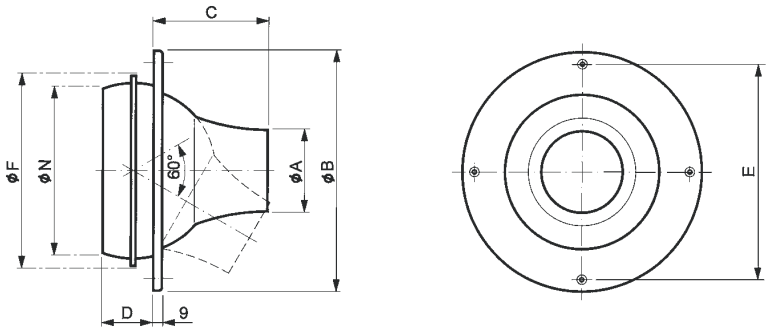
- adjustable over 60° (cooling - heating)



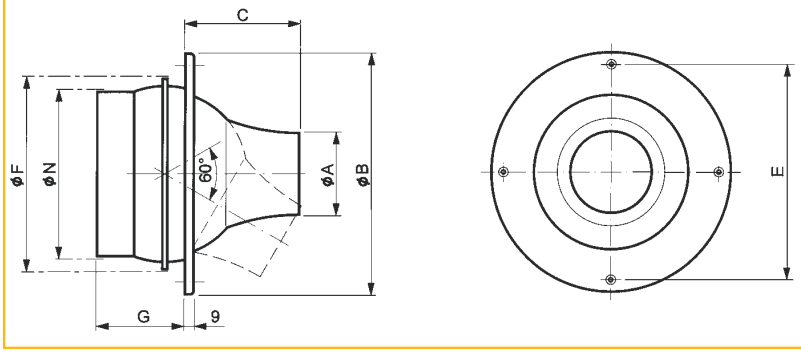
- oscillant over 360°
- high induction level
- low noise level
- available with 2 or 3 jet diffusers integrated into one panel (JD210 & JD310)
- panel includes type JD110 jet diffusers
- motorised construction available

Installation dimensions

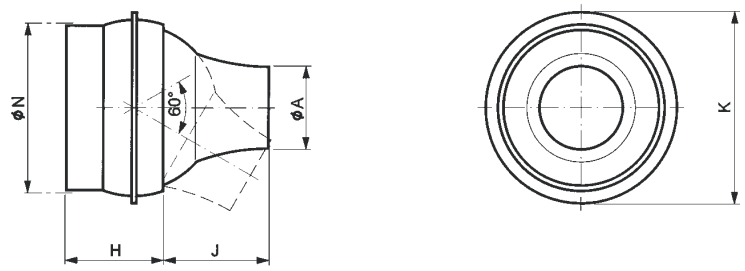
JD110



JD120



JD130



Ø N	Ø A	Ø B	C	D	E	Ø F	G	H	J	K
160	85	250	120	51	225	200	101	110	110	196
200	110	295	150	66	270	245	116	125	140	238
250	140	345	190	81	320	295	131	140	180	288
315	175	415	255	90	390	360	155	165	245	355
400	220	500	290	120	475	450	190	200	280	440

All dimensions in mm.

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Construction

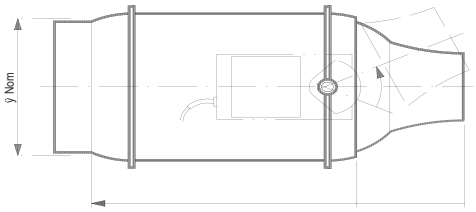
- jet diffuser manufactured in aluminium
- panel made out of galvanised sheet steel (JD210 & JD310)
- painted white (RAL 9010)

Specifications description

Example :

Aluminium jet diffuser for mounting on wall or duct with flat mounting flange and fully adjustable jet.
Special packing between sphere and box. Aerodynamic design for a reduced noise level.
The diffuser is painted in white (RAL9010).

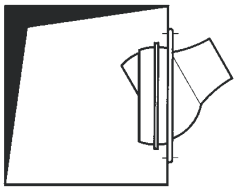
Type : JD110
Size ... mm



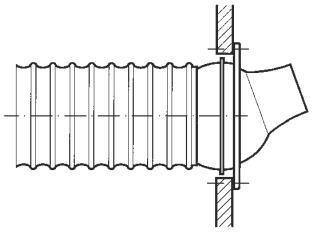
`Fixing

- jet diffuser : the choice among 3 different constructions

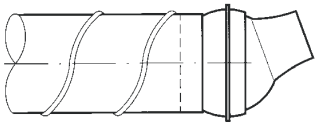
  - **JD110** : wall fixing with screws directly on duct



  - **JD120** : wall fixing with screws, connection with flex ducts



  - **JD130** : direct mounting on fixed circular ducts



- panel : to ease the simultaneous mounting of different jet diffusers side by side on a wall or a duct possibility is given to get 2 or 3 jet diffusers pre-mounted on one panel. The panel is fixed by screws onto the wall or the panel.

How to order

JD110, size 250 mm

J	D	1	1	0	-	-	0	2	5	0	-	-	-	-

size

- : without motor
B3: Belimo motor LM24SR

1 : wall fixing directly on duct
2 : wall fixing, connection with flex ducts
3 : direct mounting on circular ducts
4 : motorised construction (without motor)

1 : jet diffuser only
2 : panel with 2 diffusers
3 : panel with 3 diffuserss

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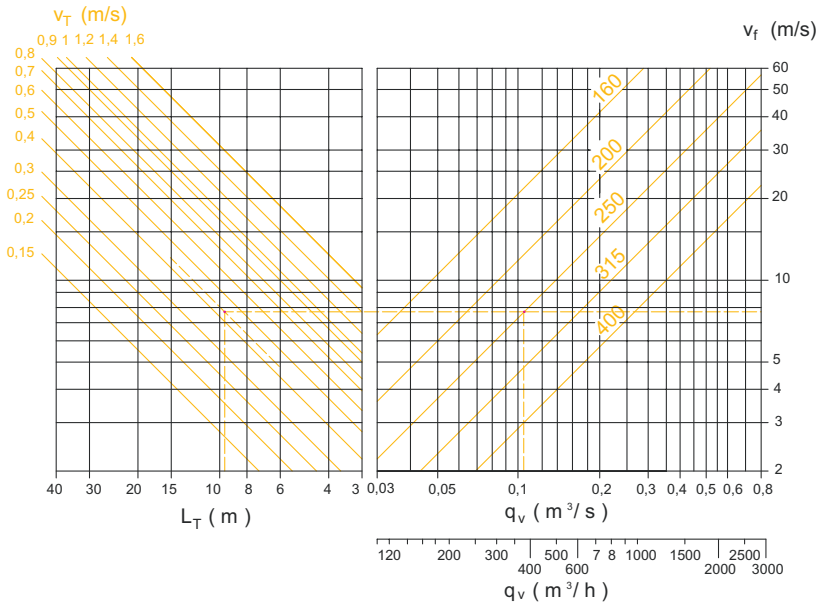
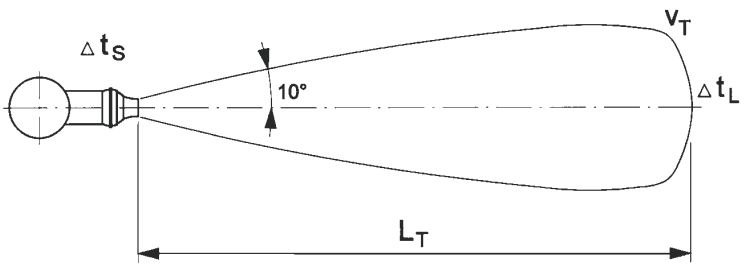
Diagram n° 1 - horizontal throw



Example - horizontal throw - isothermal



- q_V = 0,1 m³/s; size 250 mm
- Out of diagram nr. 1: v_f = 7,8 m/s; L_T = 10 m at a v_T = 0,42 m/s
- Out of diagram nr. 4 : ΔP_t = 33 Pa NR 17

A_f- values (m²)					
Size	**160**	**200**	**250**	**315**	**400**
A_f	0,0048	0,0083	0,0139	0,018	0,038

Correction factors noise level	
Angle α	Correction NR
α between 0° and 25°	NR + 0
α between 25° and 30°	NR + 2

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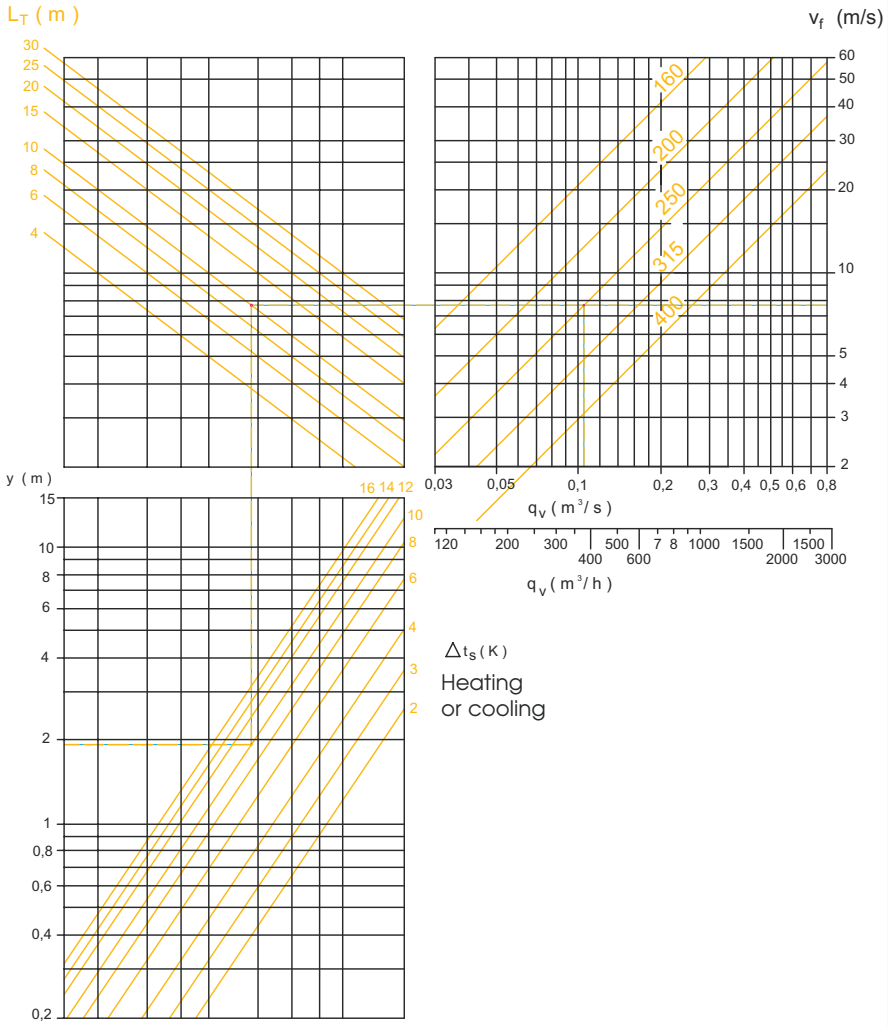
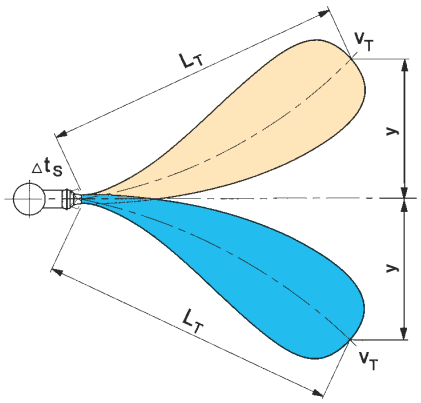
Diagram n° 2 - throw correction by heating or cooling



Example throw correction



Example by heating:
- q_V = 0,1 m^3/s; size 250; Δt_s by heating of 10K.
- Out of diagram nr. 1: v_f = 7,8 m/s; L_T = 10 m at a v_T = 0,42 m/s
- Out of diagram nr. 2: Δt_s = 10°; y = 2 which means that the air stream will raise at that point of the throw with 2 m.

Example by cooling:
- q_V = 0,1 m^3/s; size 250; Δt_s by cooling of 10K.
- Out of diagram nr. 1: v_f = 7,8 m/s; L_T = 10 m at a v_T = 0,42 m/s
- Out of diagram nr. 2: Δt_s = 10°; y = 2 which means that the air stream will drop at that point of the throw with 2 m.

The drop or the raise of the air stream can be corrected by modifying the outlet angle of the nozzle.

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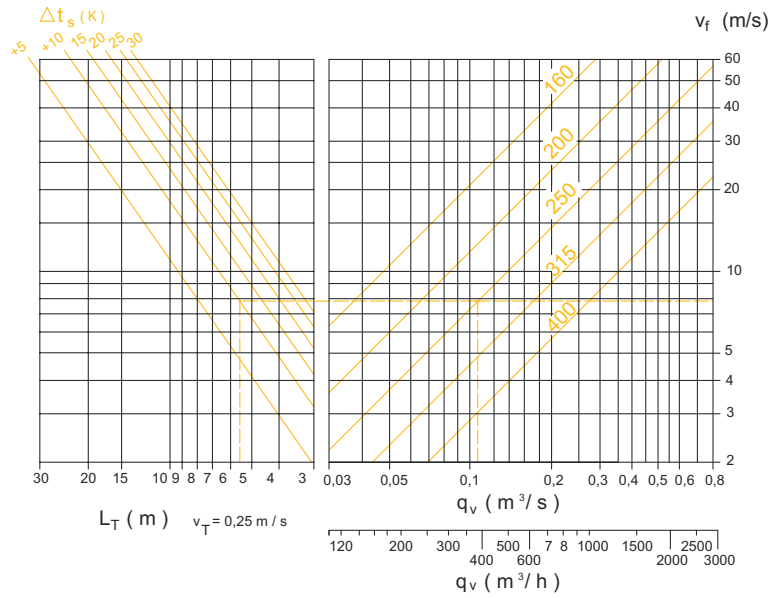
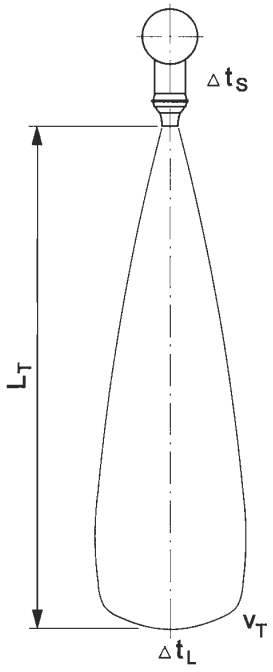
Diagram n° 3 - vertical throw



Example - vertical throw



- q_V = 0,1 m³/s; size 250 mm
- Out of diagram nr. 3: v_f = 7,8 m/s; Δt = +10°;
  L_T = 5,4 m at a v_T = 0,25 m/s
- Out of diagram nr. 4 : Δ P_t = 33 Pa
  NR 17

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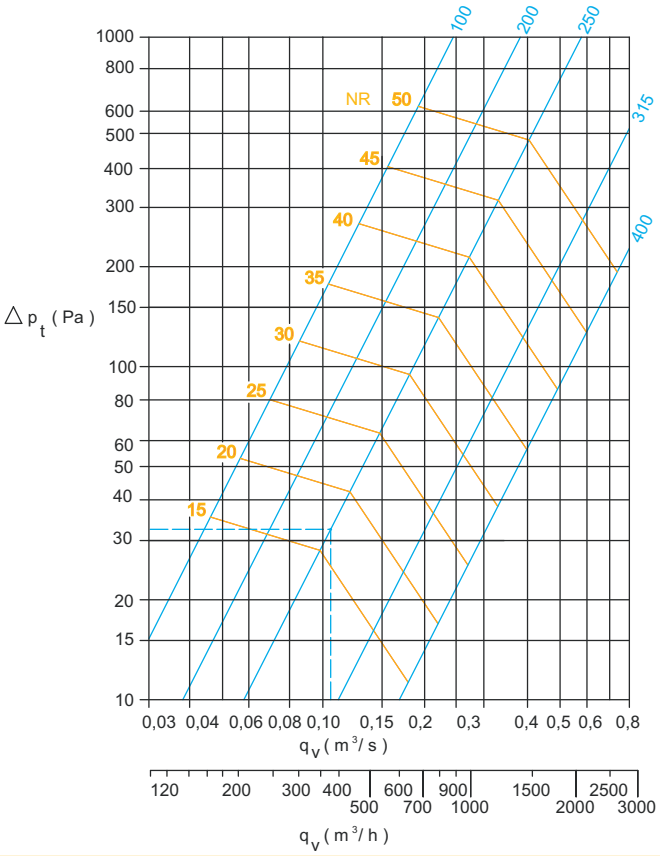
Diagram n° 4 - pressure loss and noise levels



Temperature quotient and induction