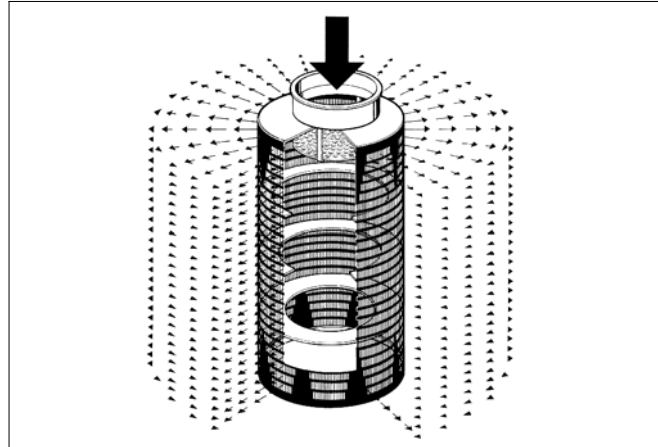


Displacement Diffuser Type DLQ



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 E-mail: Schenfeld@LTG-AG.de

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 Herr Heller
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The Program for Room Air Technology

Components

Air diffusers for walls, floors and ceilings · LTG System clean[®] · linear diffusers Coandatrol[®] · ceiling air diffusers Coadavent[®] · displacement diffusers · LTG chilling fans cool wave[®] · induction units Klimavent[®] · fan coil units Raumluft · ceiling fan coil units Ventotel[®] · facade fan coil units · airflow control units · labair[®] system

Engineering services

Technical services for investors, architects, engineers and plant builders during design, construction and operation of buildings. Reliable and precise data relating to the ventilation of air conditioning system are given already before realization of the project, determined by measurements, calculations, building simulations and experiments.

Components for Process Air Technology

Japan

Toho Engineering Co. Ltd.

14-11, Shimizu 3-Chome, Kita Ku
 Japan 462 Nagoya
 ☎ (052) 9 91-10 40, Fax (052) 9 14-98 22
 E-Mail: main@tohoeng.com

The Program for Process Air Technology

Components

Axial-flow, centrifugal and tangential fans · Collector system for: coarse and fine particle filtration, separating and compacting, compressing and humidifying.

Engineering services

Technical services for construction engineers and plant designers during development and operation of assembly groups, machines and plants.

Diffusers are most important for the performance of A/C and ventilation systems in the room

Application

The Displacement Diffuser DLQ was specially designed for:

- Foyers and entrance areas
- Sports arenas and crowded areas
- Work areas where ventilation from above is not possible
- Areas where inductive ventilation is not wanted
- Work areas with extreme heat loads and elevated levels of contaminants

The LTG Displacement Diffuser type DLQ can be installed at a height of up to 3-4 m, or on the floor. The airflow connection can be from below or from above.

With the Displacement Diffuser type DLQ, LTG has expanded its diffuser series of the cylindrical perforated sheet metal housing Type DL. LTG now offers a complete scope of supply for comfort and industrial applications with a suspension height of up to 12 m.

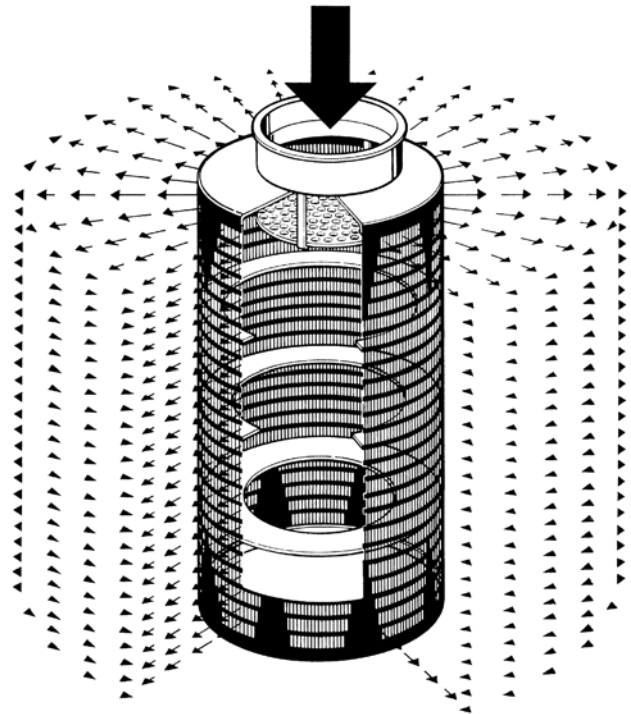
Advantages

- low pulsating flow of supply air
- high capacity
- low noise level
- radial air distribution
- low air velocities in the room
- flexibility in connection and installation

Function

The supply air flows through a perforated sheet metal plate into the housing and is diverted by internally mounted deflectors. The specially designed perforation of the cylindrical housing decreases the supply air velocity quickly and reduces the noise level.

After a short horizontal movement, the supply air quickly falls to low level at low velocity and disperses. In areas with machinery and work stations, the hot air rises and people get to enjoy cooled supply air.



Dimensions

Height without connecting piece:	860 mm / 33.9"
Total height:	920 mm / 36.2"
Connecting piece diameter:	315 mm / 12.4"
Nominal diameter:	500 mm / 19.7"

Design

The Displacement Diffuser Type DLQ is available in model size 500. The perforated sheet metal housing is made of galvanized sheet steel and can be powder coated in colors similar to RAL to match the architectural features requested by the owner.

Legend

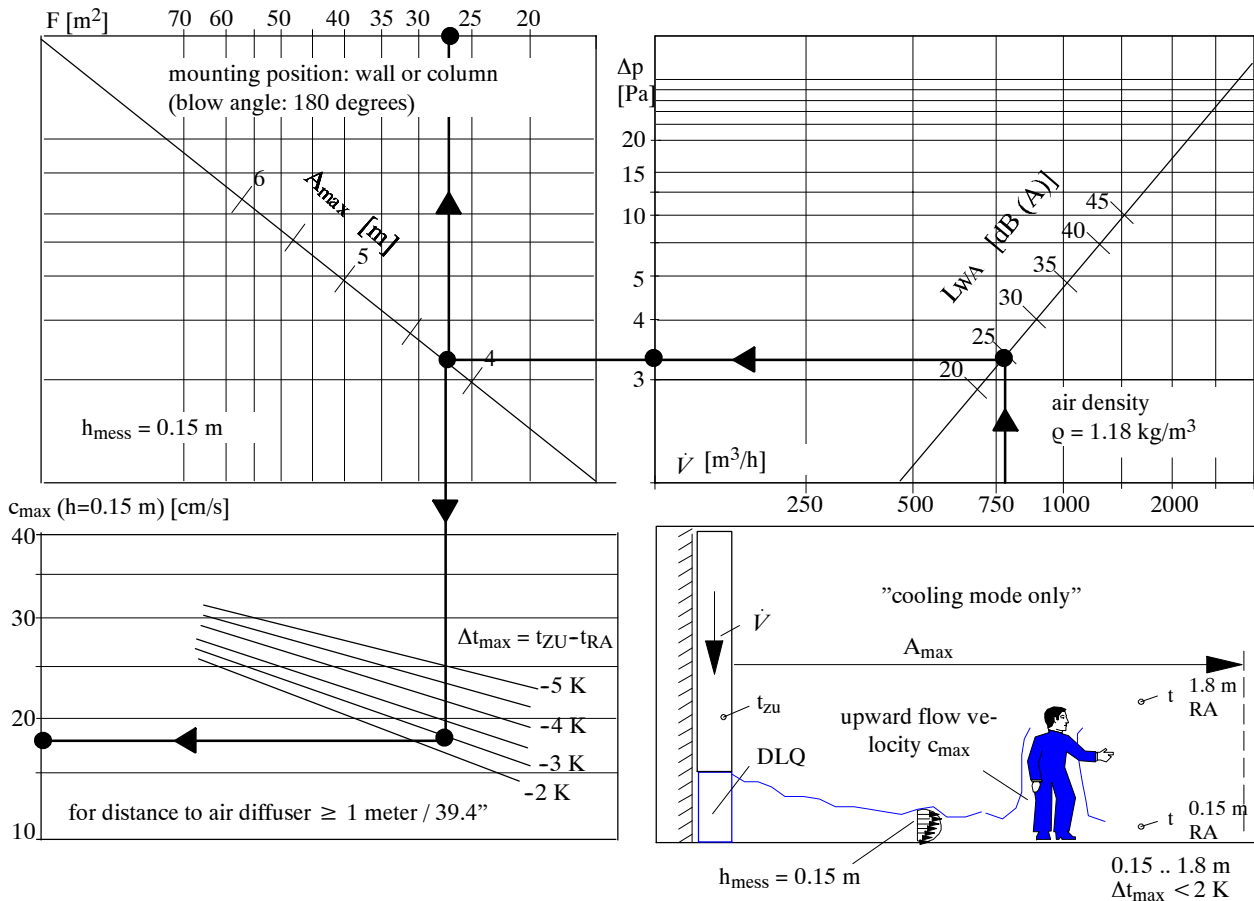
DLQ 500 / M / P 7035

Duct connection _____
 S = plug connection
 F = flange connection
 M = Metu flange connection (recommended standard)

Surface _____
 V = galvanized
 P.. = powder coated similar to RAL
 color number has to be supplied

Displacement Diffuser Type DLQ

Selection diagram of DLQ 500 (standing on the floor)



Design

When the flow volume is known, and depending on the mounting choice, the above diagrams will show the following air engineering data:

Noise level	L_{WA} [dB(A)]
Pressure drop	Δp [Pa]
Max. distance of air distribution	A_{max} [m]
Ventilated area	F [m ²]

Depending on the temperature difference Δt between supply and room air, the room air velocity can be read from the chart for a distance of 1 m from the diffuser at a height of 0.15 m off the floor.

Example 1: Comfort range with floor-level installation

Known values:

Air volume	$\dot{V} = 800$ m ³ /h
Temperature difference	$\Delta t = -3$ K

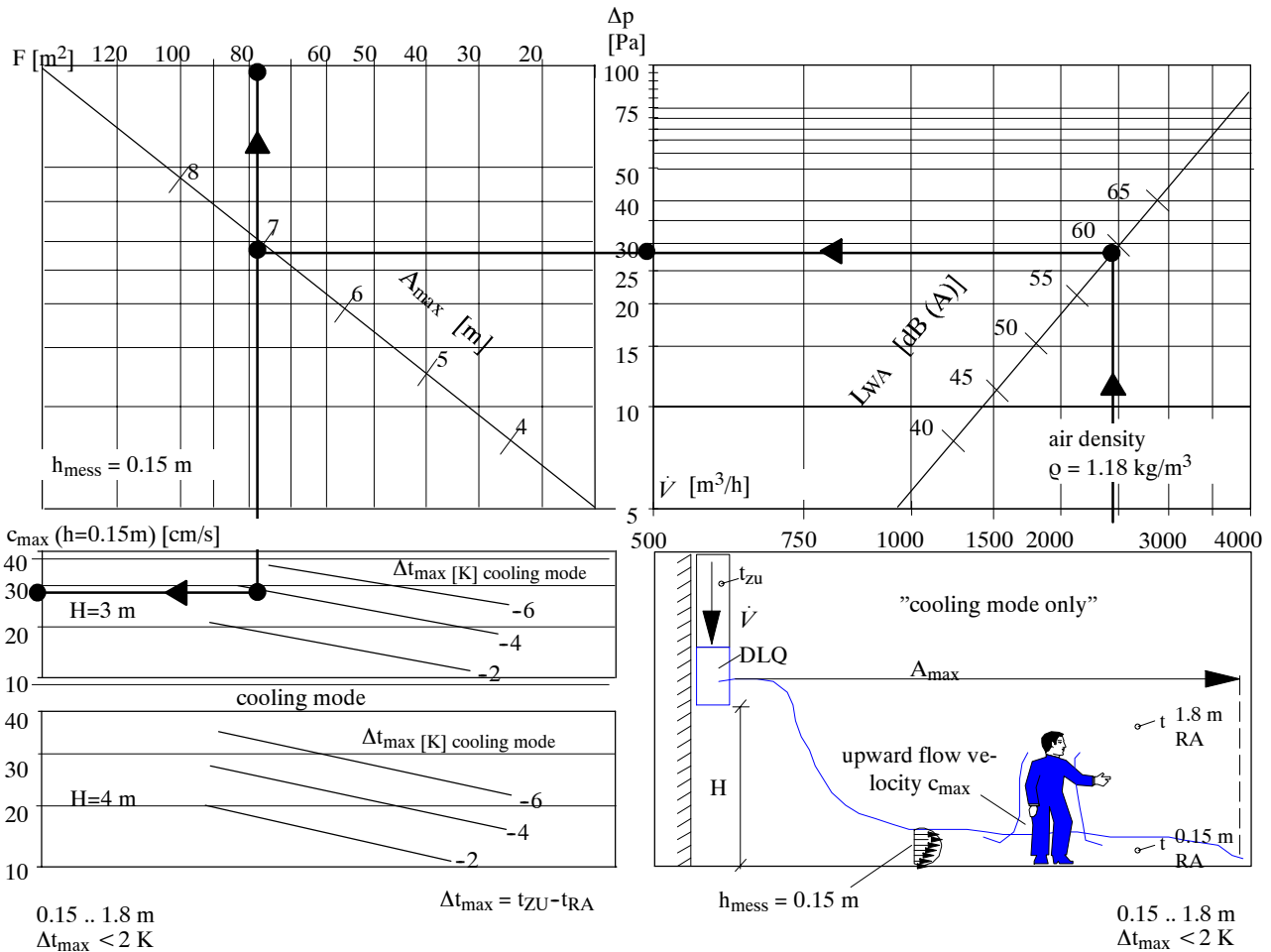
Read from chart:

Noise level	$L_{WA} = 25$ dB(A)
Pressure drop	$\Delta p = 3.5$ Pa
Max. distance of air distribution	$A_{max} = 4.3$ m
Ventilated area	$F = 28$ m ²
Supply air velocity	$c_{max} = 0.30$ m/s

Displacement Diffuser Type DLQ

Selection diagram of DLQ 500

(mounting height 3...4 m)



Example 2: Industrial application, mounted freely suspended at a height of 3 m

Known values:

Air volume $\dot{V} = 2500$ m³/h
 Temperature difference $\Delta t = -4$ K

Read from chart:

Noise level $L_{WA} = 60$ dB(A)
 Pressure drop $\Delta p = 30$ Pa
 Max. distance of air distribution $A_{max} = 7$ m
 Ventilated area $F = 78$ m²
 Supply air velocity $c_{max} = 0.30$ m/s

Specification and Schedule of Prices

Displacement Diffuser Type DLQ

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Qty.	Description	Unit price in €	Total price in €
	<p><u>Air displacement diffuser</u> for cooling, for installation heights of up to 4 m or floor level. Suitable for convenience and industrial areas. For low-impulse supply air, and both low sound power level and room air speeds, with a broad radial spreading of the air. Variable inflow possible from both above and below.</p> <p><u>Diffuser comprising of:</u></p> <p>Cylindrical perforated sheet jacket with specially designed perforation for a rapid reduction of the supply air speed and low sound power level as well as interior orifice plates for low-noise supply air guidance and integrated deflection plate for optimum supply air spreading.</p> <p>Size:</p> <ul style="list-style-type: none"> o 500 mm Ø (height without socket: 860 mm, overall height: 920 mm, socket diameter: 315 mm) <p>Manufacturer: LTG Aktiengesellschaft Series: Industrial Diffusers Type : DLQ</p> <p>Variants:</p> <p><u>Duct connection:</u></p> <ul style="list-style-type: none"> o M = Metu (recommended standard) o S = plug connector o F = flanged connection <p><u>Surface finish:</u></p> <ul style="list-style-type: none"> o V = galvanized o P = powder coated similar to RAL 		