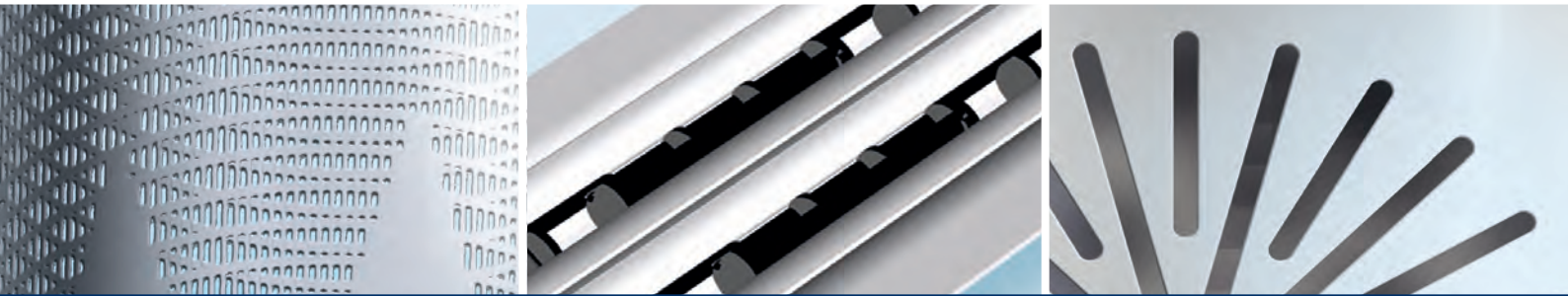


Product Overview

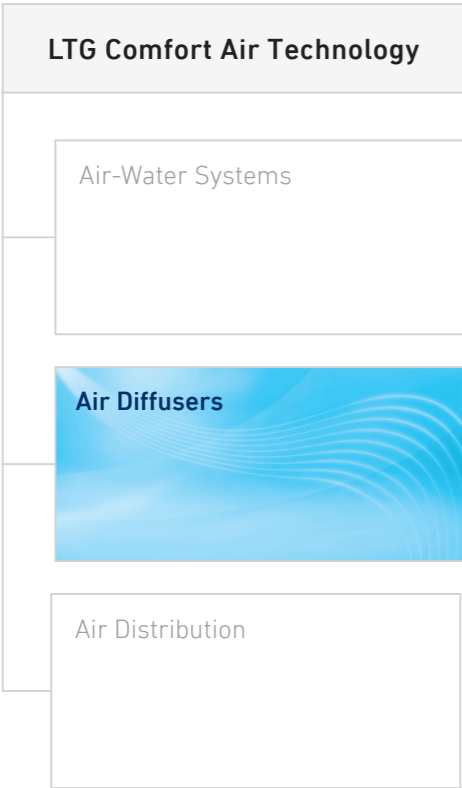
LTG Air Diffusers



Outstanding performance under demanding conditions.
Unsurpassed in comfort, acoustics and design.

LTG Aktiengesellschaft

Air technology solutions for people and products.



LTG air diffusers meet the highest standards for quality and efficiency

For almost 90 years, LTG has pioneered in air and climate technology, always a step ahead with trailblazing innovations. When it is crucial to achieve ideal environmental conditions for people and products, LTG creates inspiring, tailor-made comfort air technology solutions: These include air diffusers, air-water systems (such as induction units and fan coil units) and products for air distribution (flow rate controllers and shut-off valves).









Air diffusers are crucial to the operation and efficiency of air conditioning and ventilation systems. They allow ideal distribution of purified air within a room, as well as effective removal of thermal loads – important criteria for health and well-being. Even under the most demanding conditions, LTG air diffusers meet all important requirements and set the benchmark for their class.

LTG Air Diffusers

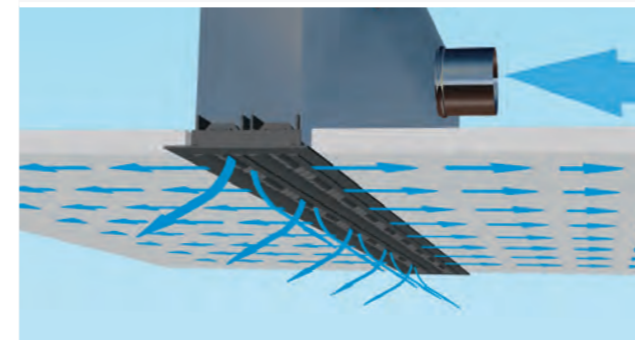
LTG air diffusers can be installed in ceilings, walls and floors. Custom diffusers are available for special applications. Ideal choice of air diffuser is dependent on building type, building use and interior design specification.

LTG is your most reliable partner in comfort air technology. With innovative products that are unique on the market, such as the patented LTG System clean®, we lay the foundation for an ideal indoor climate. From first inquiry to detailed design, LTG supports you with technical expertise.

Product overview and applications

Applications			
	Ceiling	Wall	Floor
Linear diffuser	 LDB page 7	 LDK-B page 13	 LDU page 19
	 LDB LTG System clean® page 7	 LDK-B LTG System clean® page 13	 LDU-W page 19
Swirl diffuser	 DLA page 10	_____	_____
Transfer air device	_____	 LDO-T page 16	_____

LTG System clean® – brilliant and unique!



Containments within the room air like dust, tobacco smoke, carpet abrasions, dust or oil vapour deposit around the ceiling and diffuser as a result of entrainment. The LTG System clean® prevents surface staining almost completely by providing a screen of clean supply air across the ceiling. Benefits: The costs of renovation and maintenance are considerably reduced.

The LTG System clean® is available for the products **LDB, LDK-B and LDR** (see pages 7, 13 and 23).





LTG planning tools – we support you!



We are happy to assist you not only with choosing a product, but also with technical design. In the extranet area of our website (**www.LTG-AG.com**), you will find valuable design tools that make your work simpler and more efficient.

And, naturally, your dedicated contact person is available at all times. Ask for your own CD with helpful tools, such as dimensioning programs, streaming videos and product information!

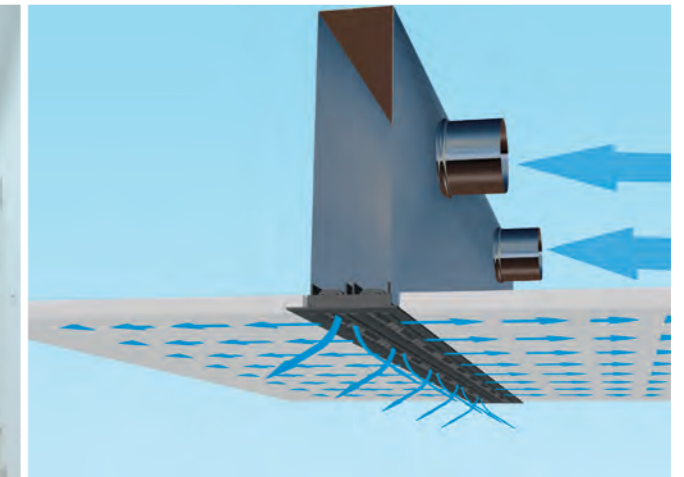


Custom diffusers	
	Circular air diffuser LDR LTG System clean® page 23
	Step diffuser BLQ page 24
	Displacement air diffuser DLD page 25
	Displacement air diffuser DLQ page 25



Air diffusers for ceiling installation

LDB



LDB linear air diffusers with variable settings ensure effective ventilation and optimized air conditions.

Advantages

Comfortable:

- High induction air diffusers ensure rapid mixing of supply and room air to create comfortable thermal environments
- Uniform, optimal purging of the room with fresh air
- A pleasant indoor climate thanks to uniform temperature distribution

Quiet: Low-noise air distribution, aerodynamically optimized inner cylinder contours

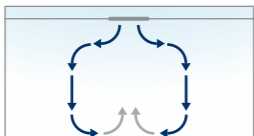
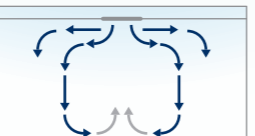
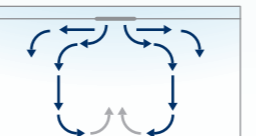
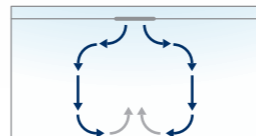
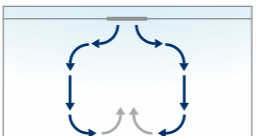
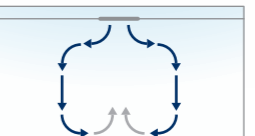
Variable: Limitless options for design, colour and surface appearance, can be perfectly integrated in all ceilings, thanks to a wide choice of border profiles

Flexible: Can be adjusted to individual spatial conditions without impeding operation

Profiles and cylinders are available in all colour systems (RAL, Pantone, etc.) and can be combined individually.



Product data

	LDB 12	LDB 12/8 LTG System clean®	LDB 15 LTG System clean®	LDB 20/8	LDB 50	LDB 16/M/1 LDB 32/M/1	
Features / Application	Inconspicuous installation in shaded joints and suspended ceilings	For high comfort, additional slot in the diffuser border profile to reduce contamination around the diffuser	Plug in elements, additional slot in the diffuser border profile to reduce contamination around the diffuser	For high comfort	For high ceilings and large volume flow rates	Optimized air outlet geometry, entirely made of metal, thus non-flammable	Features / Application
Numer of slot rows	1	1 2 3 4	1	1 2 3 4	1 2 3	1	Number of slot rows
Recommended volume flow rate per meter [m³/h]	65 with L _{wa} = 35 dB(A)	1 slot row: 70 2 slot rows: 130 3 slot rows: 190 4 slot rows: 250 with L _{wa} = 30 dB(A)	60 with L _{wa} = 25 dB(A)	1 slot row: 110 2 slot rows: 190 3 slot rows: 250 4 slot rows: 300 with L _{wa} = 35 dB(A)	1 slot row: 310 2 slot rows: 430 3 slot rows: 510 with L _{wa} = 38 dB(A)	75 (16/M/1) 90 (32/M/1) with L _{wa} = 35 dB(A)	Recommended volume flow rate per meter [m³/h]
Integrated sound absorber to increase cross-talk sound attenuation	■	■	■	■	■	—	Integrated sound absorber to increase cross-talk sound attenuation
Profile width [mm]	15 resp. 28	31 to 240	15 resp. 25	31 to 240	100 resp. 200 resp. 300	16 resp. 32	Profile width [mm]
Length [mm]	up to 1500	up to 2000	up to 2000	up to 2000	up to 2100	up to 1500	Length [mm]
Diffuser elements adjustable even after installation	■	■	■	■	■	—	Diffuser elements adjustable even after installation
Connection box with integrated air regulator	—	■	—	■	—	—	Connection box with integrated air regulator
Air diffusion							Air diffusion

Choice of border profiles
(can be combined with LDB 12/8 and LDB 20/8)



Type 5



Type 0



Type 8



Type 1



Type 4



Type 2

Swirl diffusers for ceiling installation

DLA



As highly inductive spot diffusers, LTG swirl diffusers provide a targeted supply of fresh air not only to comfort areas like offices, shopping centres and restaurants, but also to highly sensitive work areas, such as laboratories.

Advantages

Fresh air everywhere: Optimal, efficient 360-degree ventilation

Easy to operate: Easy flow rate control

Inexpensive to install: With central fastener up to an installation size of 625

Flexible: Factory preset swirl disc, fast and easy to adjust to changed room conditions

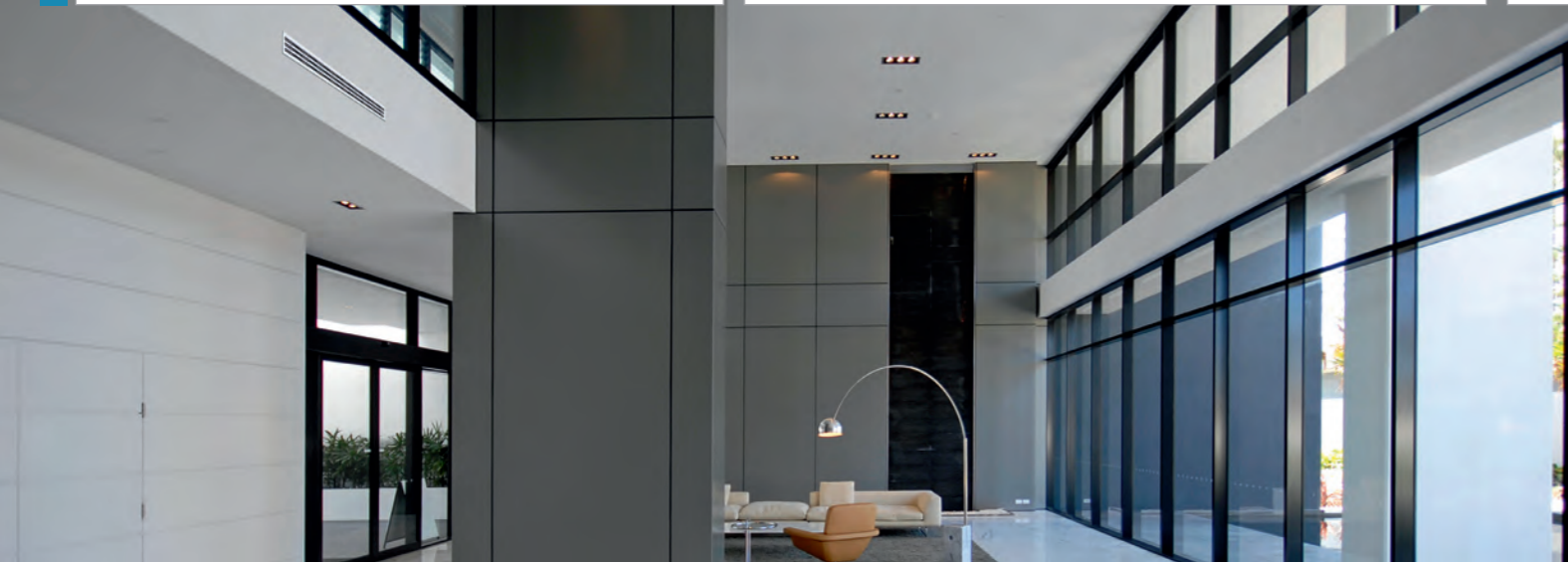
Low maintenance: Minimal cleaning necessary, depending on design

Choice of housings: Rectangular, pyramid (except for DLA 9) or cylindrical boxes. Pyramid boxes are stackable for low transport cost



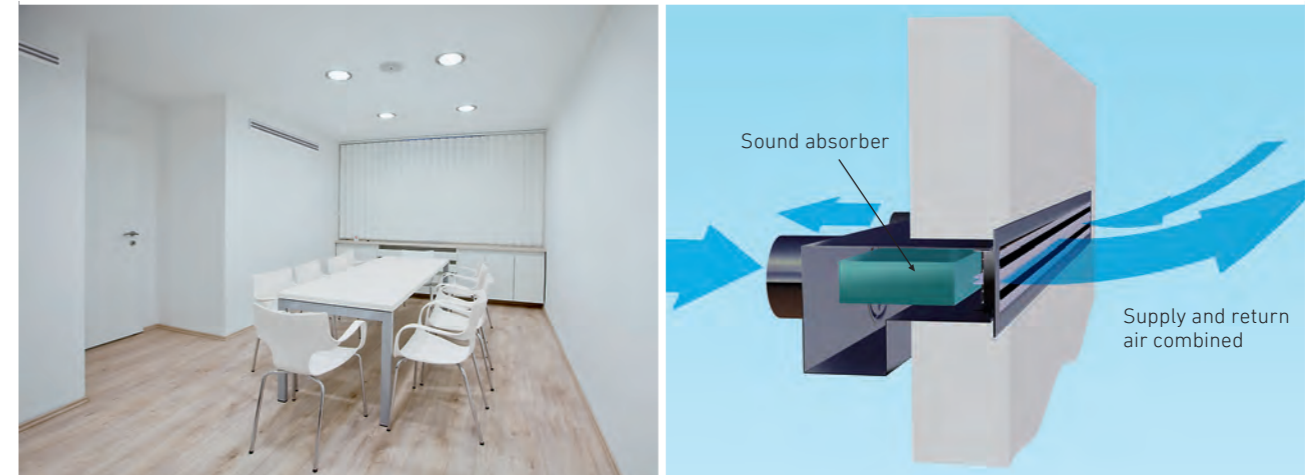
Product data

	DLA 7	DLA 8	DLA 9
Application	In comfort areas (e.g. offices, meeting rooms)	In comfort areas with large volume rates (e.g. conference rooms, halls)	In areas with high thermal load and high air exchange rates (e.g. shopping centres, restaurants, laboratories)
Air flow with $L_{WA} = 35 \text{ dB(A)}$ [m ³ /h]	Size 400: 200 Size 500: 300 Size 600/625: 460 Size 800: 630	Size 600/625: 700	Size 400: 270 Size 500: 420 Size 600/625: 600
Volume flow rate with $L_{WA} = 45 \text{ dB(A)}$ [m ³ /h]	Size 400: 280 Size 500: 430 Size 600/625: 690 Size 800: 900	Size 600/625: 950	Size 400: 400 Size 500: 600 Size 600/625: 900
Diffuser plate			
Diffuser plate adjustable even after installation (cooling/heating)			
Design diffuser plate	Basic version: visible side powder similar to RAL 9010 Special version (e.g. coated in all colour systems, anodized, chrome-plated, stainless steel) possible		
Design swirl disc	Basic version: coated black or white Special version (e.g. coated in all colour systems, anodized, chrome-plated, stainless steel) possible		
Design air connection box	Rectangular box, pyramid box (not for DLA 9), cylindrical box		
Air diffusion			
	Cooling		Heating



Air diffuser combination for wall installation

LDK-B



LTG's LDK-B air diffuser combination provides both supply and return air diffusion in a single device. It is not only attractive in appearance, but also for outstanding efficiency.

Advantages

Effective: Optimal ventilation always provides clean, fresh air

Quiet operation: Integrated sound absorber for high cross-talk sound attenuation

Flexible: Variable box shapes for different wall installation conditions – each easy to mount and easy to maintain

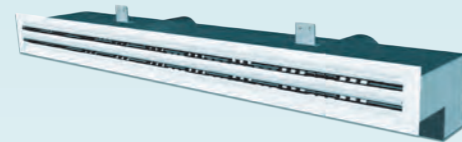
Individual: Tangential, mixed or displacement ventilation – completely based on individual needs and preferences



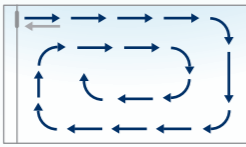
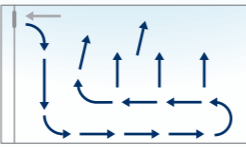
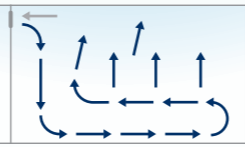
Low maintenance: Minimal staining of the adjacent surfaces, thanks to patented LTG System clean®

Also available in a custom design for supply or exhaust air only. Standard lengths of 1,000 mm and 1,200 mm; all other lengths and widths available upon request.

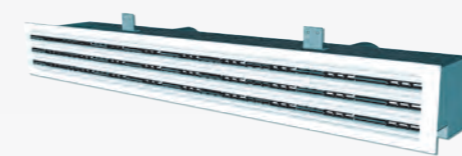
Product data



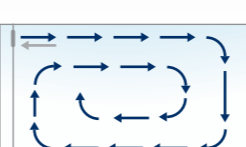
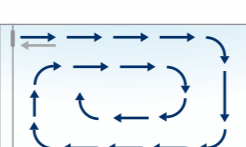
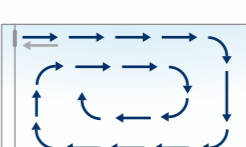
LDK-B 12/8 LTG System clean® 2 to 4 slot rows



	12/8/2	12/8/3	12/8/4
LTG System clean®	■	■	■
Volume flow rate supply and return air with $L_{WA} = 35 \text{ dB(A)}$ [m³/h with L = 1000 mm]	75	85	105
Integrated sound absorber to increase cross-talk sound attenuation	■	■	■
Standard length	All available in 1000 and 1200 mm. Other dimensions on request.		
Standard height with border profile 1 [mm]	98	129	160
			
Standard height with border profile 8 [mm]	79	110	141
			
Air diffusion			
	Tangential air flow	Mixed/displacement air flow	Mixed/displacement air flow

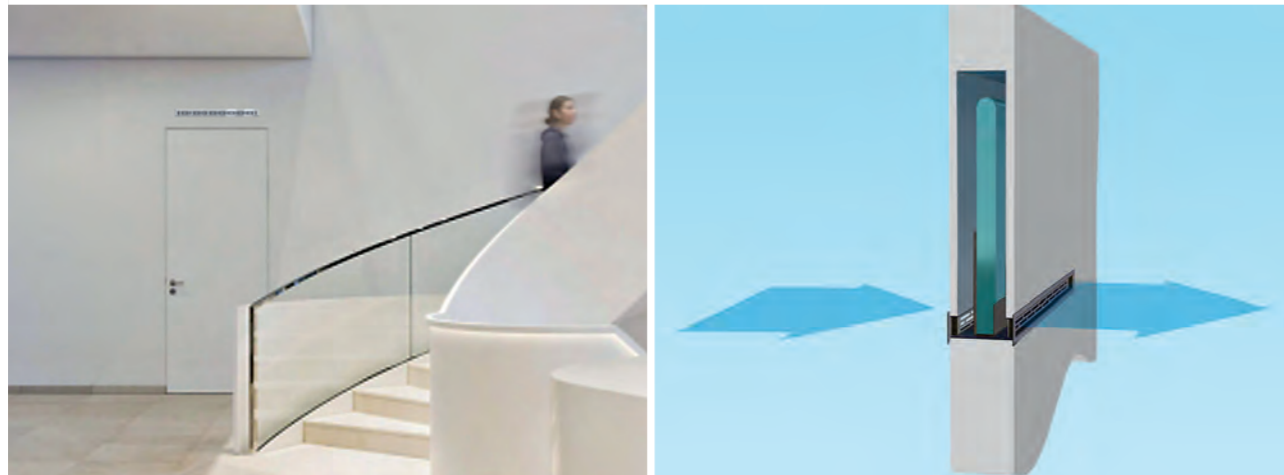
LDK-B 20/8 2 to 4 slot rows



	20/8/2	20/8/3	20/8/4	
	—	—	—	LTG System clean®
Volume flow rate supply and return air with $L_{WA} = 35 \text{ dB(A)}$ [m³/h with L = 1000 mm]	90	105	120	Volume flow rate supply and return air with $L_{WA} = 35 \text{ dB(A)}$ [m³/h with L = 1000 mm]
Integrated sound absorber to increase cross-talk sound attenuation	■	■	■	Integrated sound absorber to increase cross-talk sound attenuation
Standard length	All available in 1000 and 1200 mm. Other dimensions on request.			Standard length
Standard height with border profile 1 [mm]	98	129	160	Standard height with border profile 1 [mm]
				
Standard height with border profile 8 [mm]	79	110	141	Standard height with border profile 8 [mm]
				
Air diffusion				Air diffusion
	Tangential air flow	Tangential air flow	Tangential air flow	

LTG Transfer air device

LDO-T

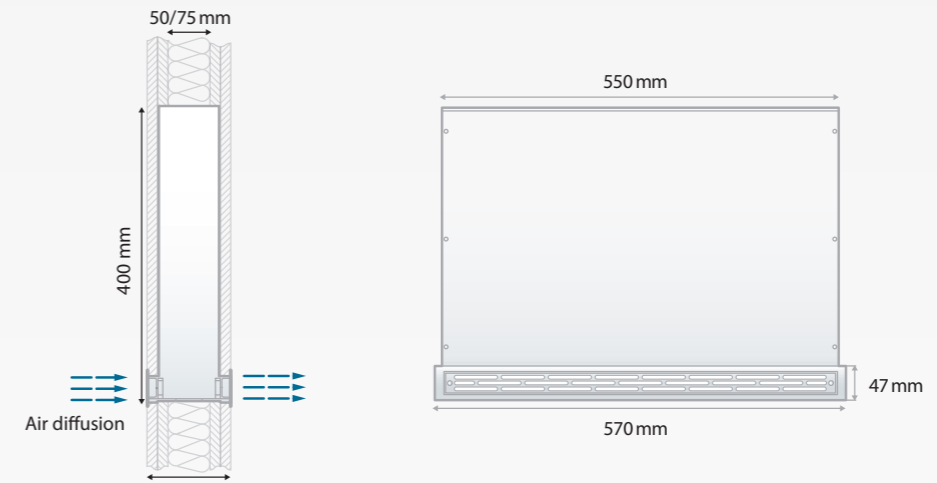


LDO-T transfer air devices provide significant cross-talk attenuation between adjacent rooms, whilst ensuring safe air transfer and limiting pressure differentials between rooms.

Advantages

- Acoustics:** Significant cross-talk protection with low pressure loss
- Aesthetics:** Discrete and pleasing appearance in a range of anodized colours
- Easily removable** fascias for cleaning
- Safely:** Non-flammable materials

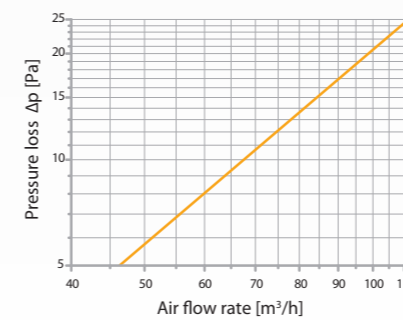
Installation



For wall thicknesses of 100 -150 mm available by default; other dimensions on request

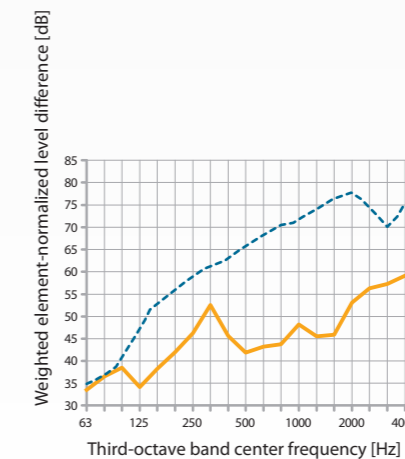
Dimensioning diagrams

Pressure loss



— LDO-T 550

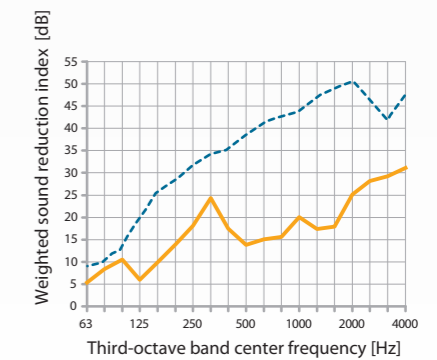
Weighted element-normalized sound level difference $D_{n,e}$



— LDO-T 550
 --- Wall boundary insulation with laboratory measurement

Weighted element-normalized sound level $D_{n,e,w} = 47$ dB (Measurements according to DIN EN 20140/10)

Weighted sound reduction index R



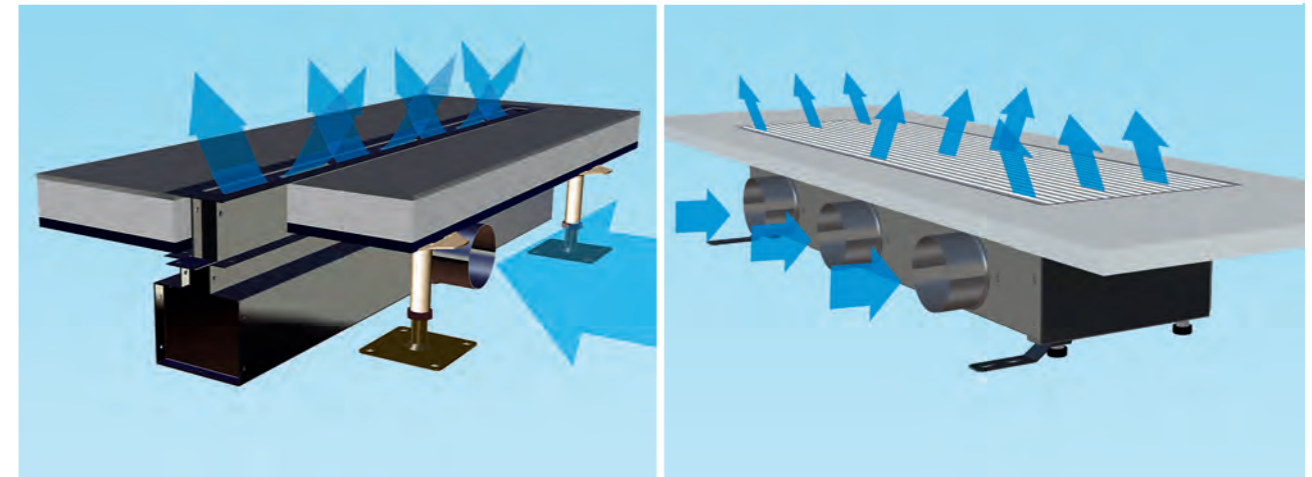
— LDO-T 550
 --- Wall boundary insulation with laboratory measurement

Weighted sound reduction index R $R_w = 19$ dB (Measurements according to DIN EN 20140/10)



Floor-mounted linear air diffusers

LDU and LDU-W



From the office to the living room: Highly inductive LDU and LDU-W floor-mounted linear diffusers heat and cool rooms comfortably and draught-free.

Advantages LDU and LDU-W

- Quiet and draught-free** with highly efficient ventilation
- Energy efficient:** Thermal shielding of glass facades
- A unified look** meets exacting demands for attractive design
- Ideal for raised access floors**, easy to mount

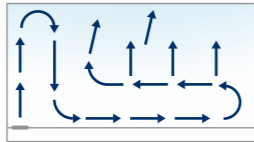
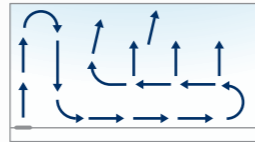
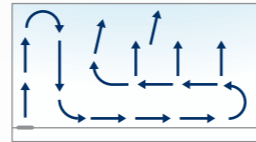
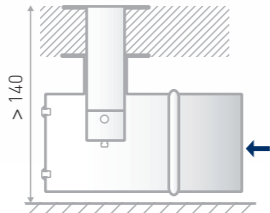
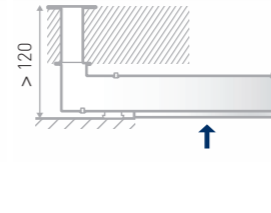
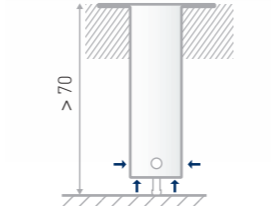
Advantages LDU

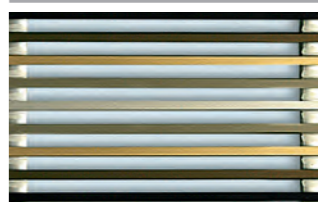

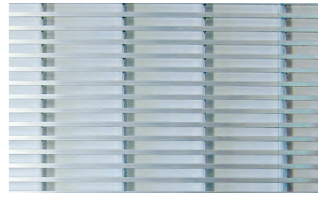
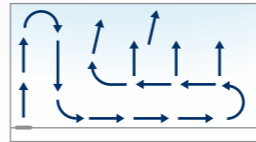
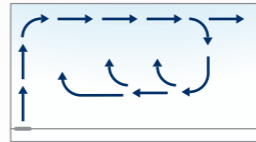

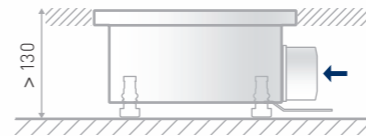
Easy to clean and maintain thanks to flexible exhaust grille design, removable dirt trap and air distribution plates

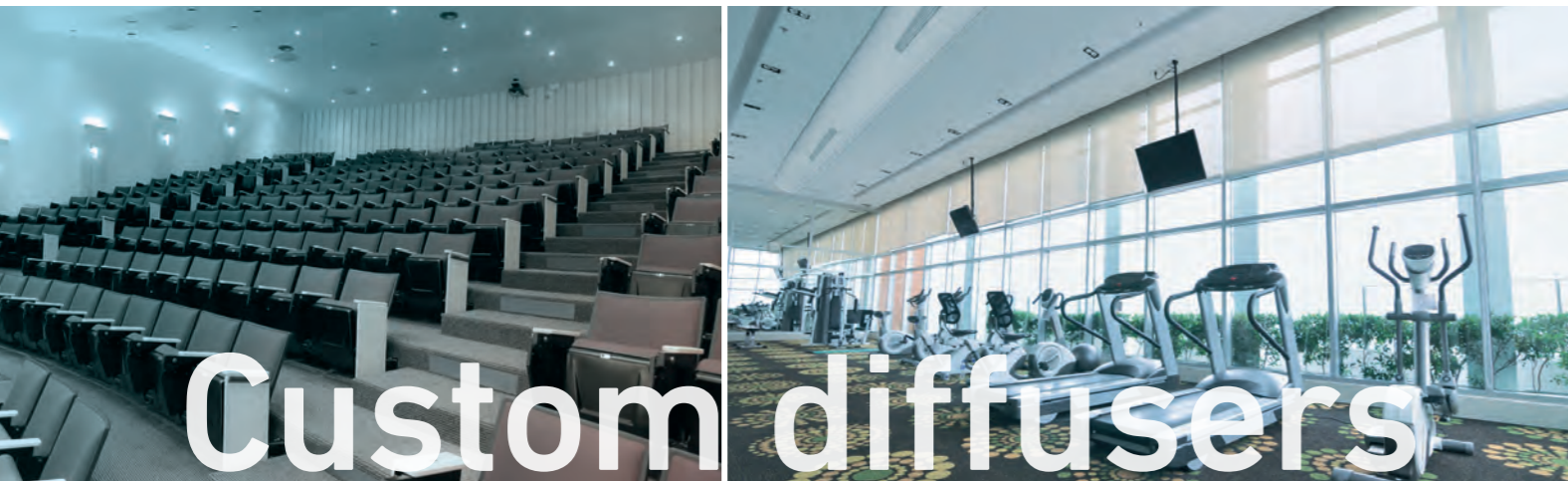
Advantages LDU-W

- Flexible design** of exhaust grid
- Height-adjustable feet**, easy to align
- Visual continuity** with other LTG floor devices

Product data

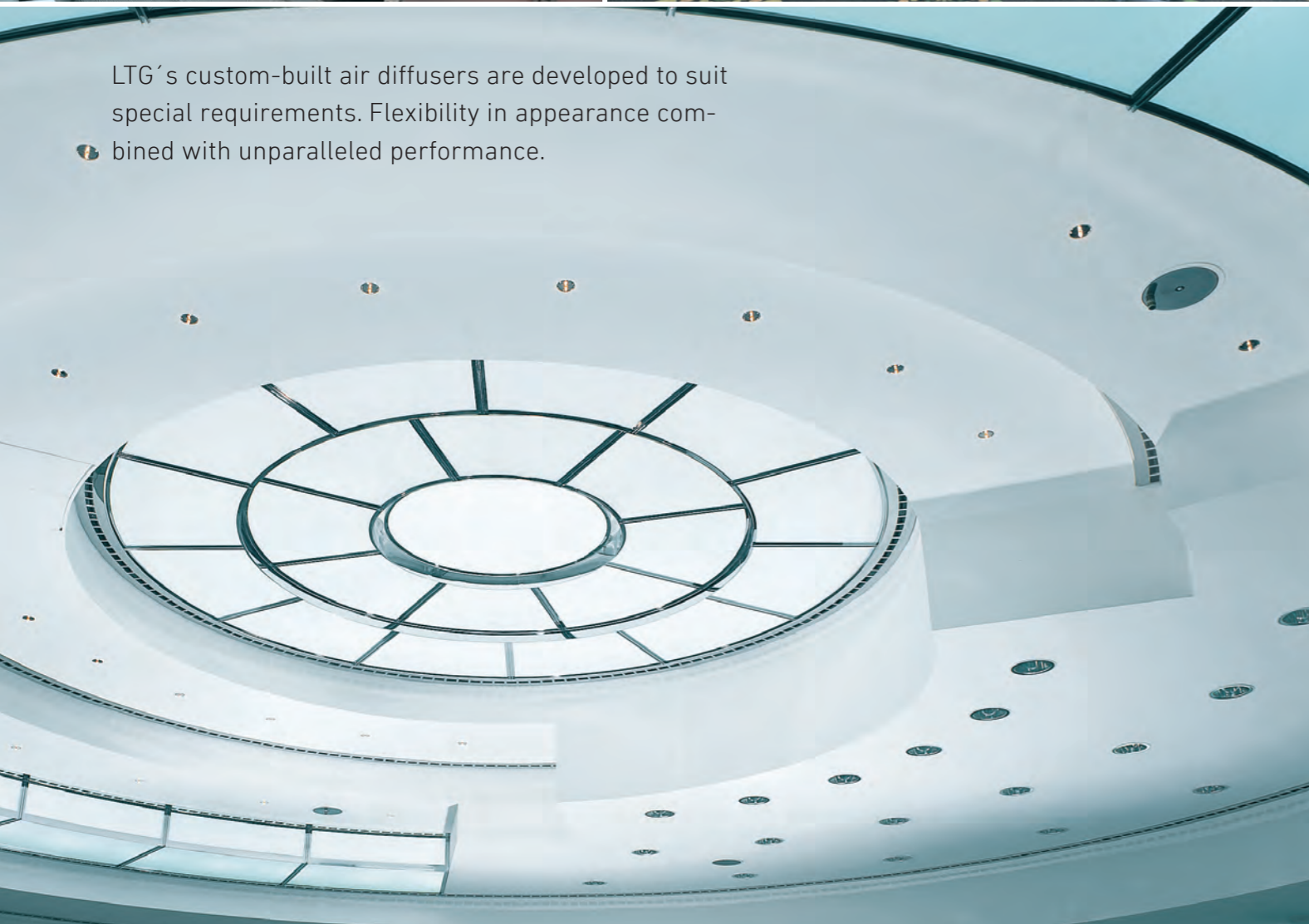
	LDU		
	LDU 30/.../S	LDU 30/.../U	LDU 30/.../-
Features	Linear air diffuser with lateral air connection socket	Linear air diffuser with air connection from below	Linear air diffuser without separate air connection for pressure floors
Volume flow rate with $L_{WA} = 35 \text{ db(A)}$ [m^3/h]			
Size 800	75	120	85
Size 1000	80	140	100
Size 1200	–	–	–
Size 1400	–	–	–
Number of slot rows	1	2	1
Integrated sound absorber to increase cross-talk sound attenuation	■	■	–
Air connection incl. throttle	■	–	–
Height-adjustable feet	–	■	–
Ventilation grille		–	
Characteristics		–	
Air diffusion			
Side views (not to scale) in mm			

	LDU-W (with tray)		
	LDU-W	LDU-W/H	
Features	Linear air diffuser with foot traffic resistant grille	Linear air diffuser with foot traffic resistant grille and integrated reheater	Choice of grates and grilles for LDU-W and LDU-W/H
Volume flow rate with $L_{WA} = 35 \text{ db(A)}$ [m^3/h]			
up to 240	200		Aluminium linear grille in all anodized and colour shades
up to 300	240		
up to 350	320		
up to 400	400		
Number of slot rows	1 to 5 slot rows	5	
Integrated sound absorber to increase cross-talk sound attenuation	–	–	Aluminium roller grille in all anodized shades and custom look
Air connection incl. throttle	■	■	
Height-adjustable feet	■	■	
Ventilation grille	Foot traffic resistant roller grille or linear grille		Stainless steel linear grille
Characteristics	Can be combined with LTG floor fan coil units or induction units within the LTG system design		
Air diffusion			
Side views (not to scale) in mm			Wooden roller grille in various wood varieties



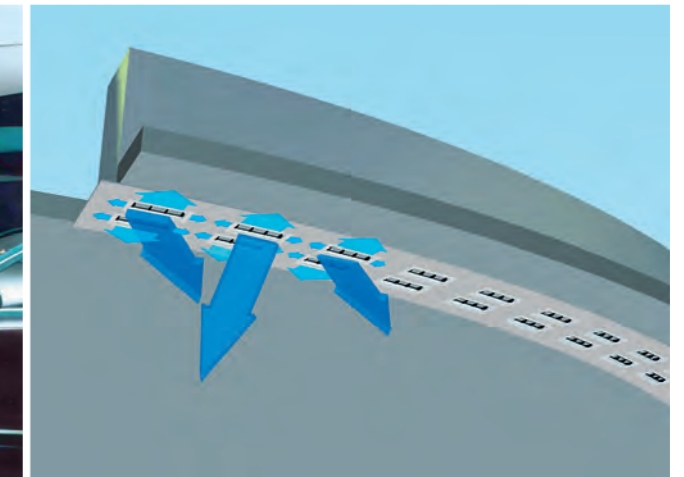
Custom diffusers

LTG's custom-built air diffusers are developed to suit special requirements. Flexibility in appearance combined with unparalleled performance.



Circular air diffuser

LDR LTG System clean®



The LTG circular air diffuser's great variety offers nearly limitless possibilities for use. From museum to showroom, from concert hall to mansion – anywhere attractive looks and high flexibility are required for air flow, the circular air diffuser is the right choice.

Advantages

Varied flow configurations through adjustable components

Freely selectable discharge direction

Limitless design possibilities – whether as a visible design element with straight or curved lines, or almost invisible: Variable shape and colour available

A safe investment: Easy to adjust to changed room conditions

Minimum staining on the ceiling, thanks to LTG System clean®

Draught-free fresh air supply

Any special size or specification upon request.

Step diffuser

BLQ



The BLQ step diffuser ensures effective ventilation of large rooms and is especially suitable for cinemas, theatres or concert halls.

Advantages

Uniform air distribution **even with large temperature differences**

Discrete: Installation in step risers allows the outlet to harmonize with existing architecture

Colour scheme based on customer's individual choice, and available in any colour system, such as RAL, Pantone and many more. Custom designs (such as anodized or stainless steel) upon request.

Any special size or specification upon request.

Displacement air diffusers

DLD and DLQ



Especially suited to industrial and production halls, lobbies, entrance and work areas, as well as sports facilities.

Advantages DLD

High-output: High cooling and heating performance possible (air volume flow 1,000-9,000 m³/h)

Space-saving: A single device for heating and cooling

Variable use at heights from 3 m to 12 m

User-friendly, thanks to **individually adjustable air stream**

Pleasant, uniform-temperature air distribution with no risk of draught, even when installed in an occupancy area

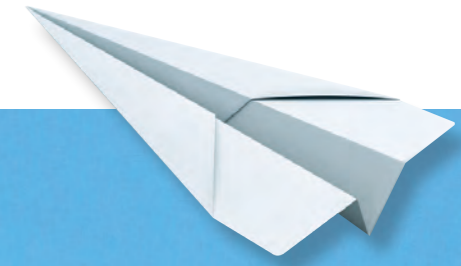
Advantages DLQ

Especially well-suited to work areas **where overhead ventilation is not possible or where inductive mixed ventilation is not desired**

Very quiet with large air volumes (L_{WA} = 35 dB(A) at 1000 m³/h)

Flexible: Can be installed up to 4 m high or on the floor

Pleasant and draught-free, but still extremely powerful (air volume up to 1,800 m³/h)



LTG Engineering Services – more security for your investments!

LTG Engineering Services offer reliable and detailed reports with recommendations to function and costs for comfort air technology installations prior to final design. As early as the design proposal for a new building or a renovation, we determine the facts and data precisely for you to secure your investment. Benefit from our decades of experience and expertise!

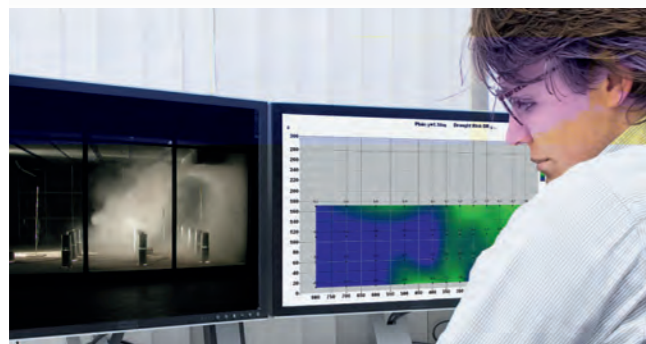
Your advantages

- **Cost optimized from the very start:** Investment costs, energy consumption and operation costs can be reliably calculated and specifically minimized at the planning stage.
- **Implementation risks** can be significantly **reduced**.
- **Comfortable and user-friendly:** The greatest possible thermal and olfactory comfort through simulation and testing
- **Security** when renovating comfort air technology systems
- No time-wasting adjustments when commissioning the devices in the room, because **presets are made at the factory**.
- **Choice of the best climate system** for each building type
- Benefit from our **modern development centre with various flow laboratories, an echo chamber, a calorimetric test stand and simulation tools** for optimizing your project.

Our services

- **Realistic room flow tests** in various scales (model tests or full scale) for simulating and optimizing ventilation and temperature systems
- **Comfort parameter measurements** per DIN EN ISO 7730, and **room climate evaluation** in the lab and on site
- **Evaluation and optimization** of existing ventilation systems and devices
- Evaluation and **visualization of air flows**, and **calculation of pressure losses, heat flows, ventilation efficiency** and much more, including Computational Fluid Dynamics (CFD) simulation
- **Dynamic building simulation** for calculating room climate and energy consumption of freely or mechanically ventilated buildings (daily temperature variation, heating and cooling loads)
- Acoustic and aerodynamic investigations – on site, if desired – **for assessing noise, sound level, attenuation characteristics, flow rate and pressure loss** of climate-control products and devices
- Implementation and validation of your design ideas through **construction, measurement and cost optimization**
- **Comparative studies of various room climate systems** as to costs of investment, operation and life cycle

LTG Engineering Services provide sound, detailed answers to your design questions. Talk to us!



Air flow visualization



Design and model room



Echo chamber



Laboratory



The Innovation Company
LTG Aktiengesellschaft

Comfort Air Technology

Air-Water Systems
Air Diffusers
Air Distribution

Process Air Technology

Fans
Filtration Technology
Humidification Technology

Engineering Services

Air Flow Tests
Simulations
Acoustic / Comfort Measurements
Customized Solutions

LTG Aktiengesellschaft

Grenzstraße 7
70435 Stuttgart
Deutschland
Tel.: +49 (711) 8201-0
Fax: +49 (711) 8201-720
E-Mail: info@LTG-AG.com
www.LTG-AG.com

LTG Incorporated

105 Corporate Drive, Suite E
Spartanburg, SC 29303
USA
Tel.: +1 (864) 599-6340
Fax: +1 (864) 599-6344
E-Mail: info@LTG-INC.net
www.LTG-INC.com

LTG S.r.l. con socio unico

Via Matilde Serao, 5
20144 Milano (Mi)
Italia
Tel.: +39 (02) 955-0535
Fax: +39 (02) 955-0828
E-Mail: info@LTG-SRL.it
www.LTG-SRL.com