AIR TECH SYSTEMS

Technical Brochure

LTG Air-Water Systems

LTG FanPower

VKL Combination of fan coil unit and linear air diffuser

system indivent

Ceiling installation

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Technical brochure • VKL Combination of fan coil unit and linear diffuser

LTG Comfort Air Technology

Air-Water Systems

Air Diffusers

Air Distribution

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Notes

Dimensions stated in this brochure are in mm.

Dimensions stated in this brochure are subject to General Tolerances according to DIN ISO 2768-vL.

For the outlet grille special tolerances stated in the drawing apply.

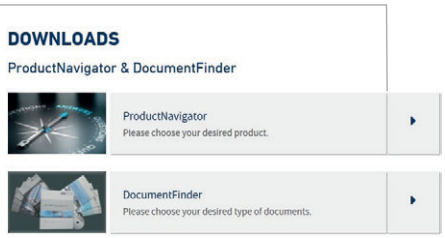
Straightness and twist tolerances for extruded aluminium profiles according to DIN EN 12020-2.

The surface finish is designed to meet the requirements for applications in buildings - room climate according to DIN 1946 part 2. Other requirements on request.

LTG planning tools – we support you!

Visit the download area on our website www.LTG.net with helpful tools, such as dimensioning programs, streaming videos and product information!

Also available: Our product overviews about air diffusers, air-water systems and air distribution products.



LTG FanPower

Fan Coil Units

The air conditioning classic – energy efficient and low noise

The principle: A fan conveys room air through a heat exchanger and cools or heats the room.

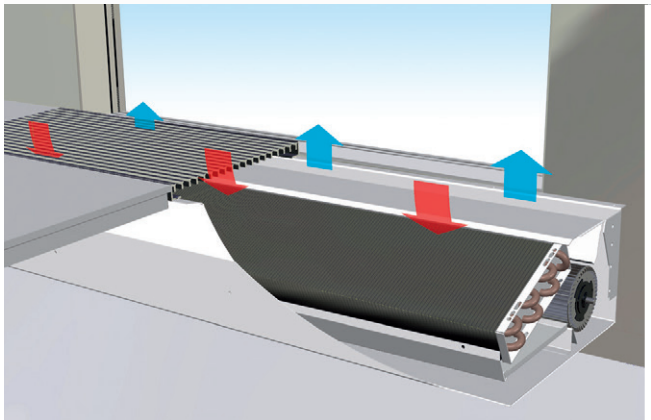
LTG fan coil units use both radial and tangential fans to implement the best flow and acoustics for different installation situations. Flexible and high-performance.

LTG fan coil units with tangential technology are characterised by a particularly even and large-area flow through the heat exchanger. Low pressure loss and low noise level with high cooling or heating output.

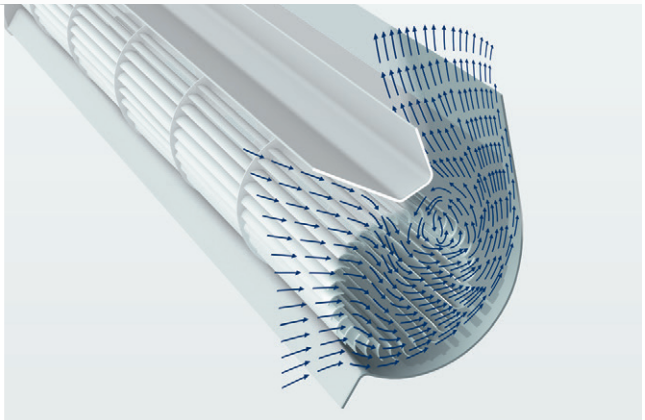
The latest drive technology generation (EC-technology) also permits capacity modulation at the lowest electrical energy consumption.

Benefits

- Best flow form, e.g. with mixed/displacement ventilation
- Demand-controlled air conditioning
- Low power consumption of the fan by smart EC-technology
- Rapid response for cooling and heating output
- Primary air supply possible



Fan coil unit chart



Air flow in the fan coil unit with tangential fan

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LTG Connected Intelligence

Decentralised control intelligence

Intelligent bus-capable control.
Solution of automation and control tasks directly on the unit.

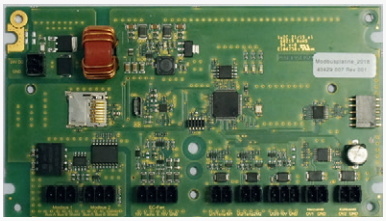
Demand-controlled ventilation even without building management systems.
Efficient, scalable, bus-compatible.

Advantages

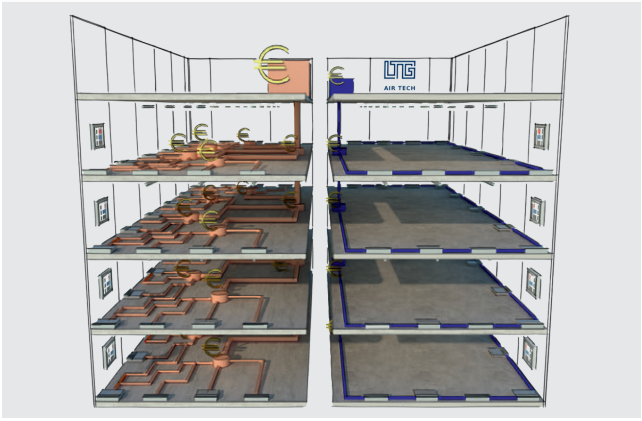
- Cost-effective, simple, and flexible solution for your room automation tasks with LTG systems
- Innovative automation solution for at least 50% savings for investment/installation costs for the ICE
- Cost-effective or reduced installation/operating costs
- Open bus system, manufacturer-independent
- Flexible for retrofits, extensions, stand-alone solutions

Specifications

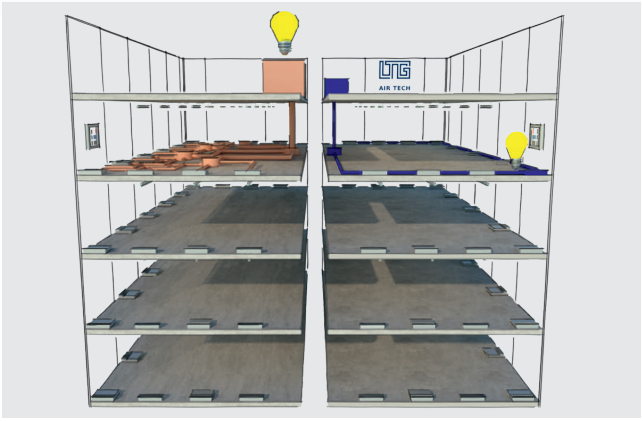
- Unit plug-on board
- Modbus RTU interface
- 24 V DC supply



- Direct connection of thermal valves
- Connection of up to three sensors (room temperature, outdoor temperature, CO_2-concentration, condensate, window contact, presence, ...)
- Quick parametrization via SD card



Cost reduction



Decentralised control intelligence

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Technical brochure • VKL Combination of fan coil unit and linear diffuser LTG System Indivent

Application

Modern air conditioning concepts must evacuate heat loads and airborne substances from the frequented area reliably and without draughts. LTG's Indivent air conditioning system makes it possible to extend the displacement air ventilation – the introduction and distribution of cooled fresh air at floor level – to ceiling level if required for the application.

The system provides a high level of thermal comfort by combining the advantages of mixed and displacement air ventilation.

Installation, placement

Units are installed over the ‚core' wall, in a ceiling bulkhead or in a suspended ceiling.

The **best installation position** for the linear diffusers depends on:

- use of the room
- type of room
- ceiling design
- return air path inside the false ceiling

Flexibility of diffuser design and adjustment ensures a perfect solution from both flow technology and aesthetic aspects.

Ideal location for the induction unit/ fan coil unit with return air is within an open grid ceiling.

Equally successful are closed false ceilings or ceiling bulkheads that are separated through walls extending to the room soffit. Shadow joints in the ceiling boxes or in the marginal gap serve as return air openings. The average speed in these openings should not exceed 0.6 to 0.9 m/s (jet contraction not considered).

For installation of LTG linear diffusers in the area close to the corridor, the following is recommended:

- If there are no ceiling bulkheads separating the supply air from the return air, a distance of about 1 m must be kept between the return air opening and the air diffuser.
- Install the linear diffuser in parallel to the corridor wall. Optimum distance: 0.6 to 1 m.
- When using full height cupboards , a minimum distance of 0.2 m between the air diffuser and the cupboard front must be provided.
- Cabinets directly underneath air diffusers will have no impact on the indoor air flow if a clearance of about 0.4 m to the ceiling is allowed.

Installation example LTG System Indivent

Characteristics

- Comfort
  - High cooling capacities and uniform temperatures across the entire frequented area.
  - Outstanding thermal comfort thanks to low air velocity and low turbulence of the air flow.
  - The thermal dynamic carries heat and airborne substances upwards, considerably improving the room air quality.
- Cost-effectiveness
  - All that is required is a single compact and space-saving air duct system, since the heat loads are efficiently evacuated via a cold water system.
- Flexibility
  - Interior designers are free to design the ceiling, lighting and window elements as they wish.
  - Workplaces can be arranged in the room in any desired configuration.

Delivery range

Products with System Indivent:

- Fan coil unit VKL, installation in ceilings, 2- or 4-pipe unit with one heat exchanger for cooling or/and heating, separate fresh air connection on demand, with 3-row linear diffuser LDB 12*style*, 3 sizes.
- Fan coil unit VKE, installation in ceilings, valve-controlled 2- or 4-pipe unit with one heat exchanger for cooling or/and heating. 1 size.

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Technical brochure • VKL Combination of fan coil unit and linear diffuser LTG System Indivent

Mode of operation

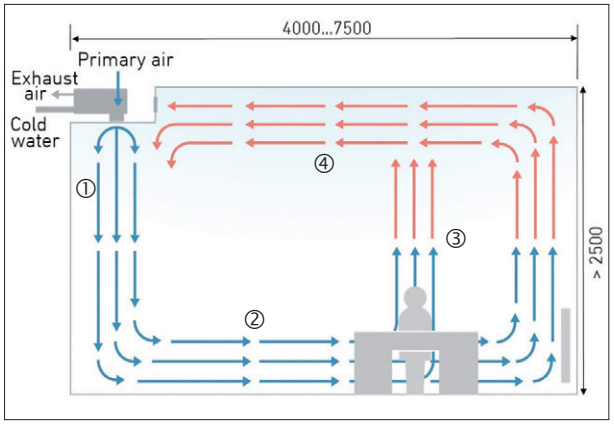
An LTG highly inductive linear air diffuser LDB with integrated recirculated air cooling is installed at ceiling level at the core wall. Heaters on the window side of the room provide the heating. This arrangement ensures that the flow pattern remains the same in summer and in winter.

Recirculated air is drawn in from the room and conveyed through a heat exchanger. This conditioned air is then reintroduced into the room via a linear diffuser. In the locally limited mixed air zone ①, the temperature difference between room air and supply air is reduced. At the same time, the air velocities decrease depending on the cooling load.

The resultant cooled airstream ② is redirected at floor level and moves at low speed and with little turbulence across the frequented area towards the window. The air velocity is virtually independent of the cooling capacity. The temperature difference between head and foot level is no more than 1 Kelvin.

Any air heated by individuals or equipment in the room moves upwards ③.

A cushion of warm room air with increased pollutant concentration forms above the frequented area. The airborne substances and heat loads are then discharged from the room along with the return air ④. In this way, the temperature layers generated by the System Indivent ensure economical operation



System illustration

① **Mixed air flow**
Reduction of temperature due to high induction mixing with ambient air

② **Displacement air flow**
Supply air mixed with ambient air moves from the corridor towards the façade

③ Thermal effect and displaced room air transport air borne pollution and thermal loads to high level.

④ Return flow path to the exhaust location and for mixing with supply air

Room air flow

Local mixed air zone

Deflection of the air flow near the floor

Air heated by occupants or equipment rises to high level

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Technical brochure • VKL Combination of fan coil unit and linear diffuser

Unit view

Application

The fan coil unit VKL is a combination of fan coil unit and linear diffuser; for heating, cooling and dehumidification.

It was specifically designed for hotels and office buildings with high demands placed on appearance, comfort and ease of maintenance.

Installation, placement

Installation is inside ceiling panelling or a suspended ceiling, and is also feasible in cramped conditions. In the room, only the LDB 12*style* is visible.

Mode of operation

In the local mixed air zone the temperature differences between the ambient air and the supply air are reduced. That enables a high degree of comfort to be achieved even in condensing operation.

Design

Linear diffuser type LDB 12*style*

Rails:	aluminium natural anodised, or painted (similar to RAL)
Supply air plenum:	galvanised steel

Unit

Housing:	galvanised metal sheet
Condensate tray:	stainless steel
Heat exchanger:	copper pipe with pressed-on aluminium fins
Filter:	class EU2

Accessories

For water-side unit connection

- Transition ½“ resp. vent ½“
- Flexible connection hoses
- With and without venting, with and without insulation

Accessories for control

- Valves optionally with continuous, thermal or 3-point actuators
- Connected Intelligence for decentralised control with or without superordinate BMS

Maintenance

Complete maintenance - filter change (< 1 minute), cleaning and removal of condensate tray, cleaning of heat exchanger - is performed via the air diffuser, without additional service openings.

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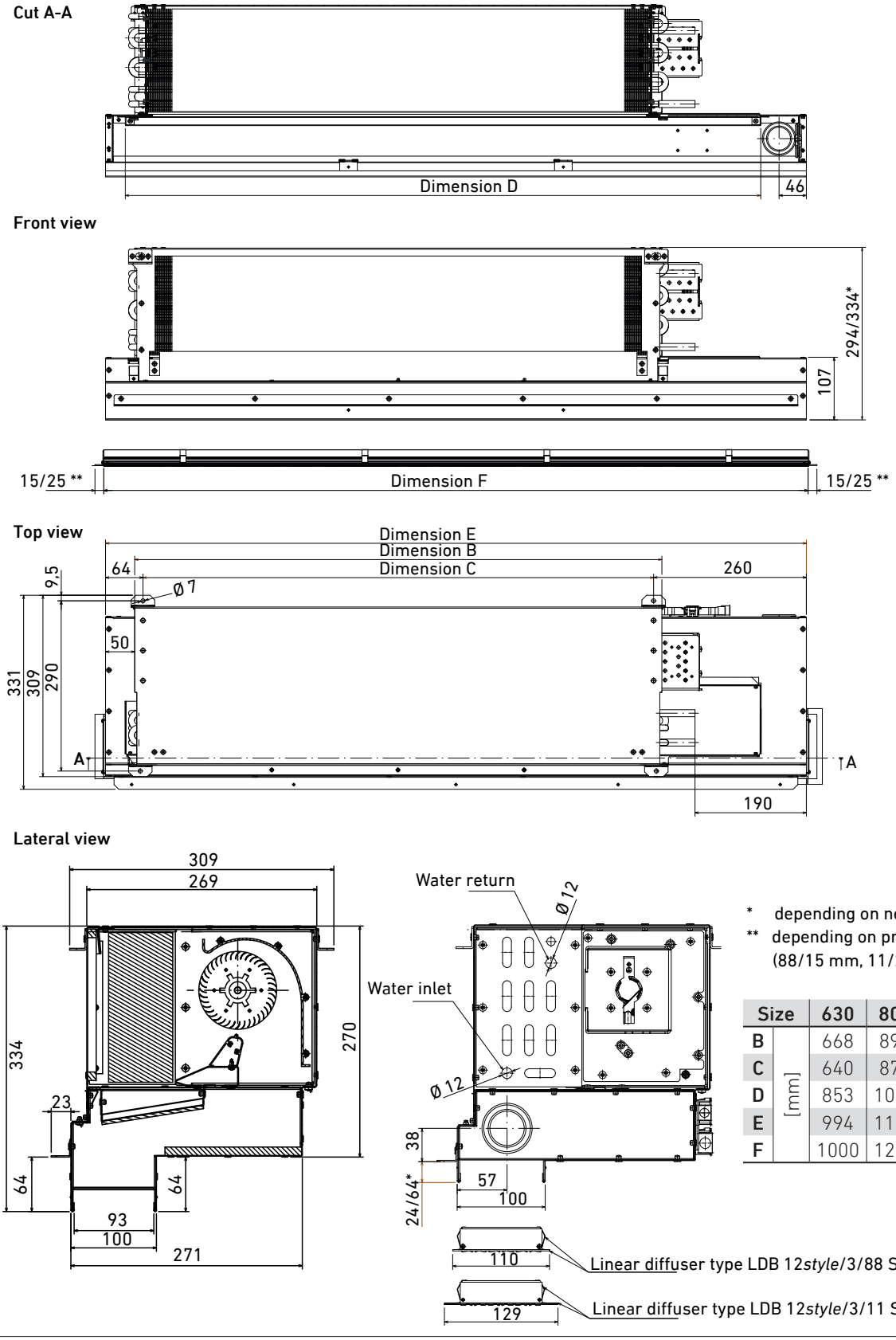
Dimensions, 2-pipe system, with linear diffuser LDB 12*style*



* depending on neck height
** depending on profile (88/15 mm, 11/25 mm)

Size		630	800	1000
B	[mm]	668	898	1098
C		640	870	1070
D		853	1083	1283
E		994	1194	1394
F		1000	1200	1400

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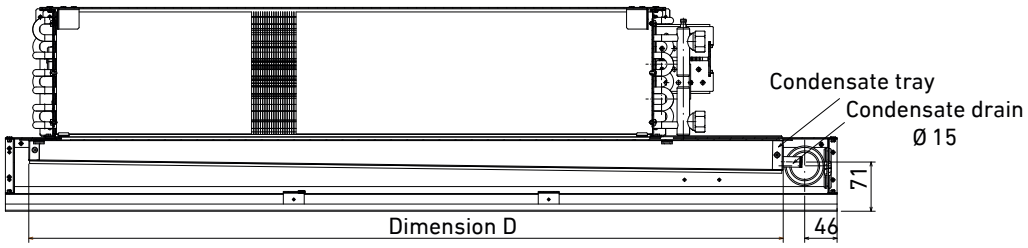
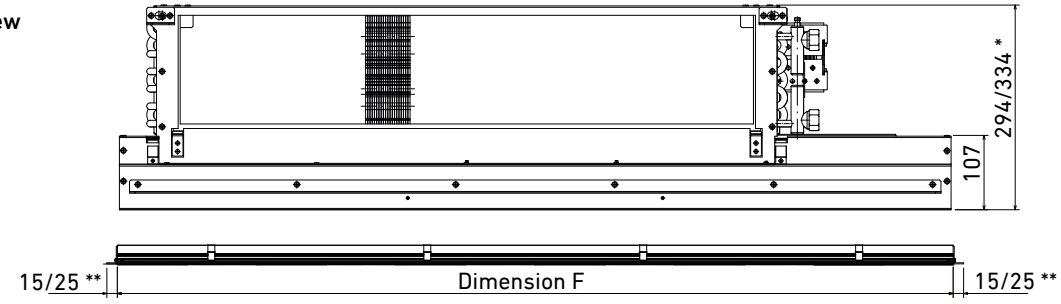
Dimensions, 4-pipe system, with linear diffuser type LDB 12*style*

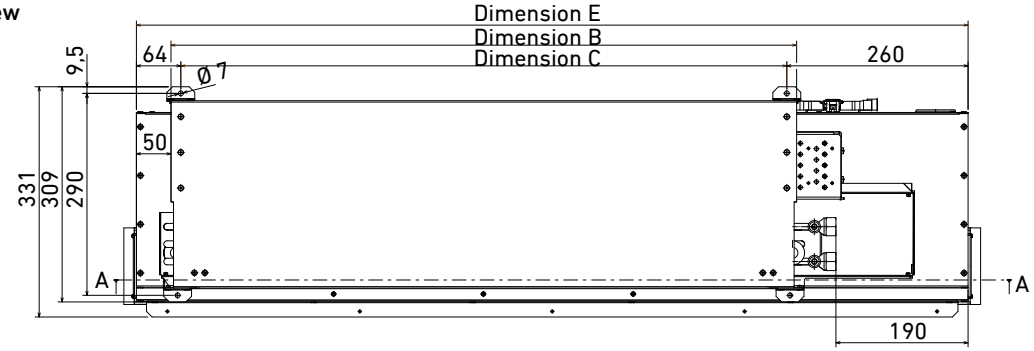
Cut A-A



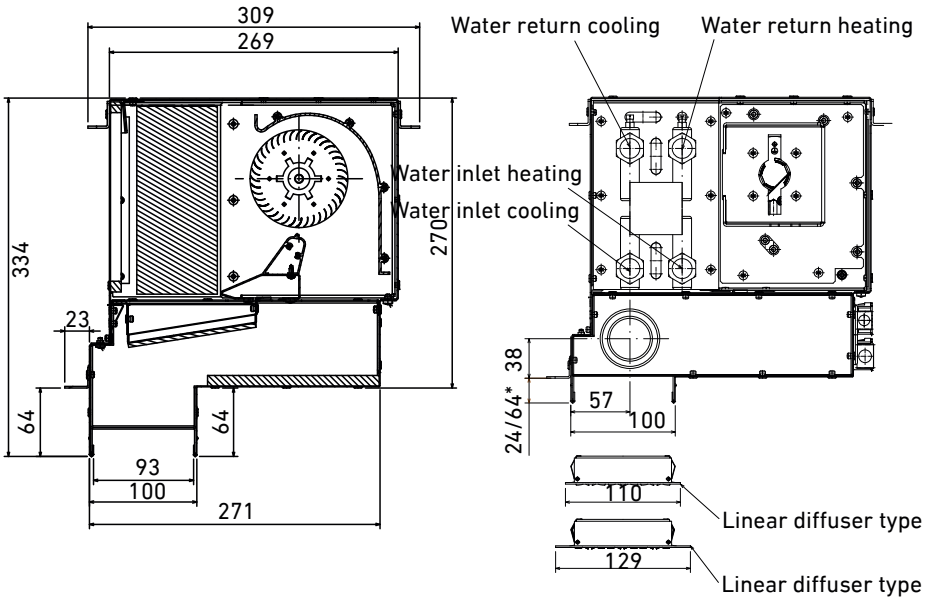
Front view



Top view



Lateral views



Linear diffuser type LDB 12*style*/3/88 Second Fix

Linear diffuser type LDB 12*style*/3/11 Second Fix

* depending on neck height
** depending on profile (88/15 mm, 11/25 mm)

Size		630	800	1000
B	[mm]	668	898	1098
C		640	870	1070
D		853	1083	1283
E		994	1194	1394
F		1000	1200	1400

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Technical data, with linear diffuser type LDB 12*style*

Size 630, 2-pipe system, non condensing operation

	System temperature							
Cooling	Water inlet temperature	[°C]	15	15	15	16	16	16
	Water return temperature	[°C]	17	18	19	18	19	20
	Room temperature	[°C]	26	26	26	26	26	26
	Cooling capacity	[W]	-659	-630	-548	-597	-560	-465
	Water flow rate	[kg/h]	281	179	117	256	160	100
	Pressure loss	[kPa]	52	23	11	44	19	8
	L_p (at 6 dB room dampening)	[dB(A)]	40	40	40	40	40	40

	System temperature							
Cooling	Water inlet temperature	[°C]	15	15	15	16	16	16
	Water return temperature	[°C]	17	18	19	18	19	20
	Room temperature	[°C]	26	26	26	26	26	26
	Cooling capacity	[W]	-513	-510	-397	-468	-418	-337
	Water flow rate	[kg/h]	220	201	85	200	119	72
	Pressure loss	[kPa]	33	13	6	33	11	5
	L_p (at 6 dB room dampening)	[dB(A)]	35	35	35	35	35	35

	System temperature							
Heating	Water inlet temperature	[°C]	38	38	38	35	35	35
	Water return temperature	[°C]	35	33	31	32	30	28
	Room temperature	[°C]	20	20	20	20	20	20
	Cooling capacity	[W]	994	918	711	815	691	446
	Water flow rate	[kg/h]	284	157	87	233	118	55
	Pressure loss	[kPa]	44	15	5	31	9	2
	L_p (at 6 dB room dampening)	[dB(A)]	40	40	40	40	40	40

	System temperature							
Heating	Water inlet temperature	[°C]	38	38	38	35	35	35
	Water return temperature	[°C]	35	33	31	32	30	28
	Room temperature	[°C]	20	20	20	20	20	20
	Cooling capacity	[W]	722	677	505	633	492	341
	Water flow rate	[kg/h]	221	116	62	181	84	42
	Pressure loss	[kPa]	28	9	3	20	5	1
	L_p (at 6 dB room dampening)	[dB(A)]	35	35	35	35	35	35

Our dimensioning tools help with the individual design:

For 2-pipe systems

For 4-pipe systems

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Technical data, with linear diffuser type LDB 12*style*

Size 800, 2-pipe system, non condensing operation

	System temperature							
Cooling	Water inlet temperature	[°C]	15	15	15	16	16	16
	Water return temperature	[°C]	17	18	19	18	19	20
	Room temperature	[°C]	26	26	26	26	26	26
	Cooling capacity	[W]	-942	-851	-828	-863	-777	-739
	Water flow rate	[kg/h]	359	243	177	359	222	158
	Pressure loss	[kPa]	102	51	29	102	43	23
	L_p (at 6 dB room dampening)	[dB(A)]	40	40	40	40	40	40

	System temperature							
Cooling	Water inlet temperature	[°C]	15	15	15	16	16	16
	Water return temperature	[°C]	17	18	19	18	19	20
	Room temperature	[°C]	26	26	26	26	26	26
	Cooling capacity	[W]	-676	-663	-619	-615	-600	-545
	Water flow rate	[kg/h]	288	189	133	263	172	117
	Pressure loss	[kPa]	69	32	17	58	27	14
	L_p (at 6 dB room dampening)	[dB(A)]	35	35	35	35	35	35

	System temperature							
Heating	Water inlet temperature	[°C]	38	38	38	35	35	35
	Water return temperature	[°C]	35	33	31	32	30	28
	Room temperature	[°C]	20	20	20	20	20	20
	Cooling capacity	[W]	1411	1270	1179	1098	1032	881
	Water flow rate	[kg/h]	359	218	144	314	177	108
	Pressure loss	[kPa]	84	34	16	66	23	10
	L_p (at 6 dB room dampening)	[dB(A)]	40	40	40	40	40	40

	System temperature							
Heating	Water inlet temperature	[°C]	38	38	38	35	35	35
	Water return temperature	[°C]	35	33	31	32	30	28
	Room temperature	[°C]	20	20	20	20	20	20
	Cooling capacity	[W]	1011	979	859	837	773	627
	Water flow rate	[kg/h]	289	168	105	239	133	77
	Pressure loss	[kPa]	57	21	9	40	10	5
	L_p (at 6 dB room dampening)	[dB(A)]	35	35	35	35	35	35

Our dimensioning tools help with the individual design:

For 2-pipe systems

For 4-pipe systems

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Technical data, with linear diffuser type LDB 12*style*

Size 1000, 2-pipe system, non condensing operation

	System temperature							
Cooling	Water inlet temperature	[°C]	15	15	15	16	16	16
	Water return temperature	[°C]	17	18	19	18	19	20
	Room temperature	[°C]	26	26	26	26	26	26
	Cooling capacity	[W]	-1105	-1020	-1003	-1012	-927	-911
	Water flow rate	[kg/h]	359	291	214	359	265	195
	Pressure loss	[kPa]	118	81	347	118	69	40
	L_p (at 6 dB room dampening)	[dB(A)]	40	40	40	40	40	40

	System temperature							
Cooling	Water inlet temperature	[°C]	15	15	15	16	16	16
	Water return temperature	[°C]	17	18	19	18	19	20
	Room temperature	[°C]	26	26	26	26	26	26
	Cooling capacity	[W]	-848	-793	-774	-742	-725	-695
	Water flow rate	[kg/h]	349	226	166	318	207	149
	Pressure loss	[kPa]	113	45	30	95	38	24
	L_p (at 6 dB room dampening)	[dB(A)]	35	35	35	35	35	35

	System temperature							
Heating	Water inlet temperature	[°C]	38	38	38	35	35	35
	Water return temperature	[°C]	34	33	31	32	30	28
	Room temperature	[°C]	20	20	20	20	20	20
	Cooling capacity	[W]	1654	1508	1465	1379	1245	1157
	Water flow rate	[kg/h]	359	258	179	359	213	142
	Pressure loss	[kPa]	98	54	28	98	38	18
	L_p (at 6 dB room dampening)	[dB(A)]	40	40	40	40	40	40)

	System temperature							
Heating	Water inlet temperature	[°C]	38	38	38	35	35	35
	Water return temperature	[°C]	35	33	31	32	30	28
	Room temperature	[°C]	20	20	20	20	20	20
	Cooling capacity	[W]	1322	1173	1099	958	955	842
	Water flow rate	[kg/h]	378	201	135	281	164	103
	Pressure loss	[kPa]	107	34	17	63	24	10
	L_p (at 6 dB room dampening)	[dB(A)]	35	35	35	35	35	35

Our dimensioning tools help with the individual design:

For 2-pipe systems

For 4-pipe systems

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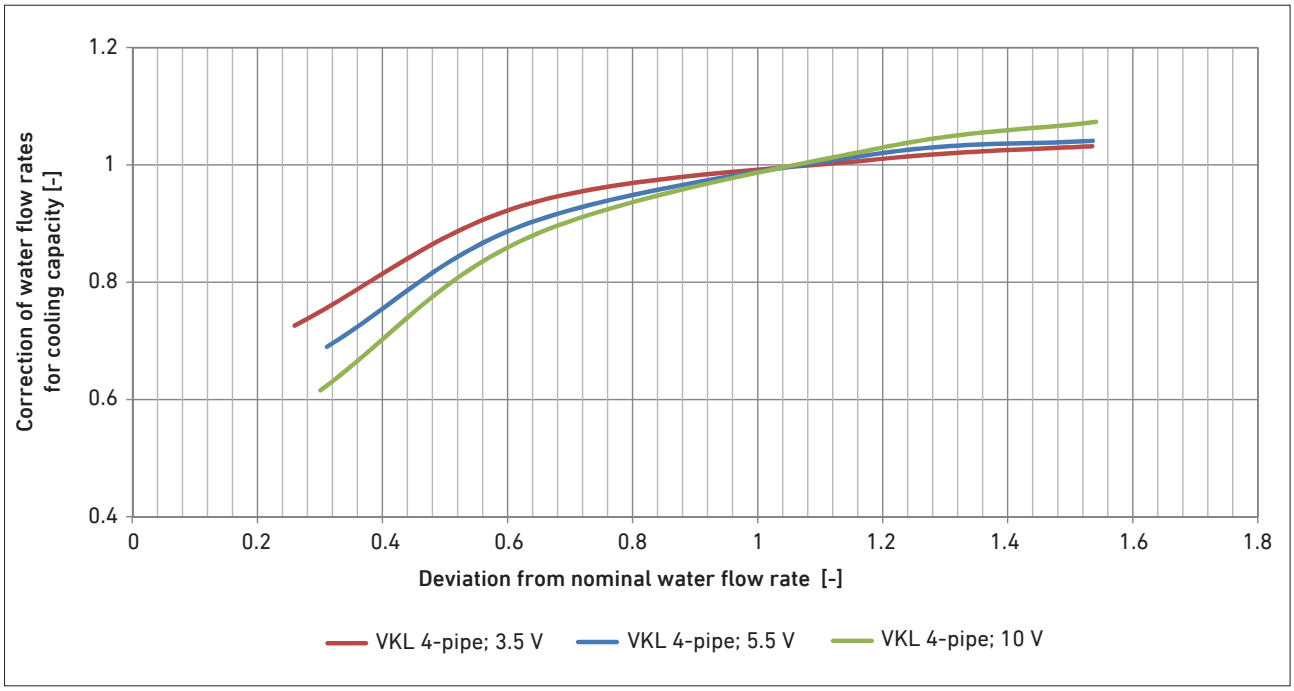
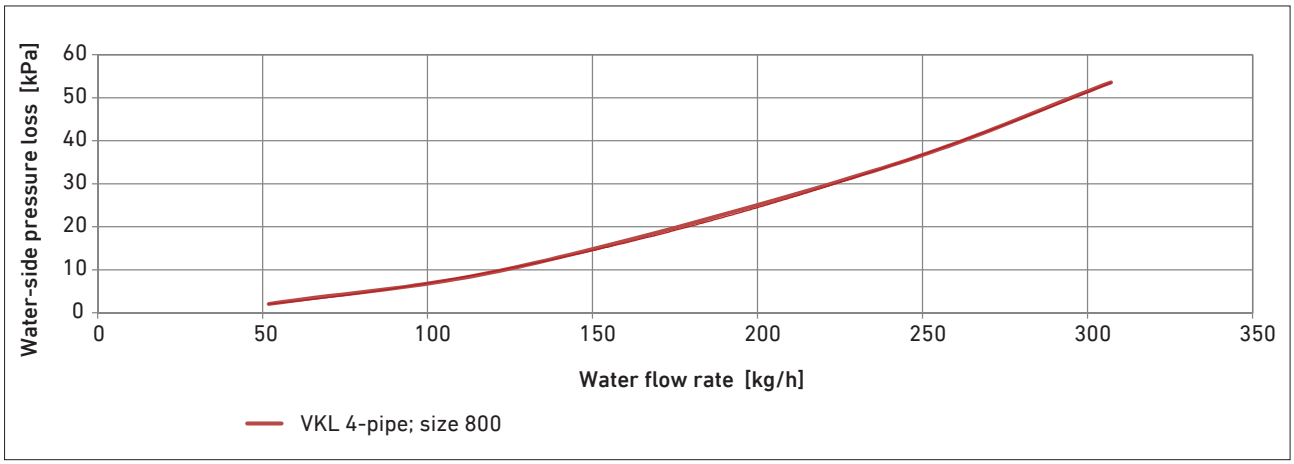
Water flow rates



Water-side pressure loss with different water flow rates, cooling mode



Wiring

The installation of electrical equipment must be performed in accordance with the specifications of VDE0100-100:2009-06.

Electrical installations must be installed professionally by suitable qualified personnel and using suitable materials in accordance with the current state of the art.

The specifications of the respective manufacturer must be observed and implemented for accessory components (e.g. room control units, valve actuators, etc.) that are connected and operated with LTG units.

Speed control wiring diagram for EC motor

Two connections are necessary for electrically connecting the fan coil unit. These are provided by plug connections, protection IP 21. The plugs are pre-assembled on the motor side at the factory. Only the supplied mating plugs have to be assembled by others accordingly.

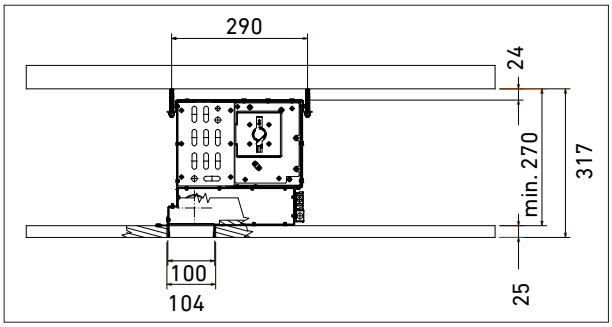
Note: As a rule, we are not familiar with the full scope of the ventilation, air-conditioning and control engineering systems. For this reason, the designs, drawings and circuit diagrams only show the systems that are relevant to the basic functions. Other units or components, such as those required for overall control engineering and/or design in compliance with VDE regulations, are not shown and are not explicitly mentioned.

Please also note the assembly and installation instructions in the original documentation.

The controllers for this application are parametrised by others.

Installation

For installation on site the units are provided with 9 mm Ø through holes (fixing material by customer).
To avoid structure-borne sound transmission use vibration dampers when installing the unit and avoid any direct contact with ceiling elements.
Service openings for scheduled maintenance such as filter change, extraction from heat exchanger, checking of drives and water connections, or cleaning of condensate tray are not needed, as this work is done via the linear diffuser.
Removal of the motor and heat exchanger is not possible via the linear diffuser.



Installation in line with primary air plenum boxes

For installation in line, the following sequence must be observed:

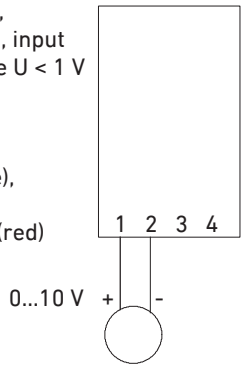
1) Suspend VKL as described in the previous section
2) Suspend primary air plenum box
3) Mount the linear diffusers of the primary air plenum boxes
4) Mount the linear diffuser of the VKL

Pay attention to the following:

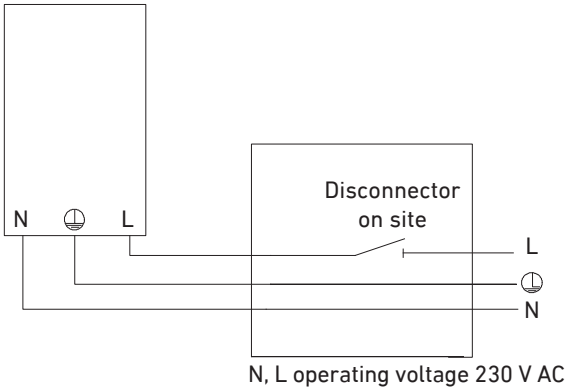
- Mounting of the primary air plenum box is possible on the left or right side
- Note the end angle side
- The primary air plenum box must always be 100 mm shorter than the corresponding linear diffuser (50 mm left + 50 mm right).

Speed control 0...10 V DC, 4-pin plug

1 = 0...10 V DC (yellow), speed specification, input with control voltage U < 1 V is speed n = 0
2 = GND, 0 V DC (blue), input
3 = Tacho signal (white), output (optional)
4 = 10 V steady signal (red) output (optional)



230 V AC mains voltage supply, 3-pin plug



N, L operating voltage 230 V AC

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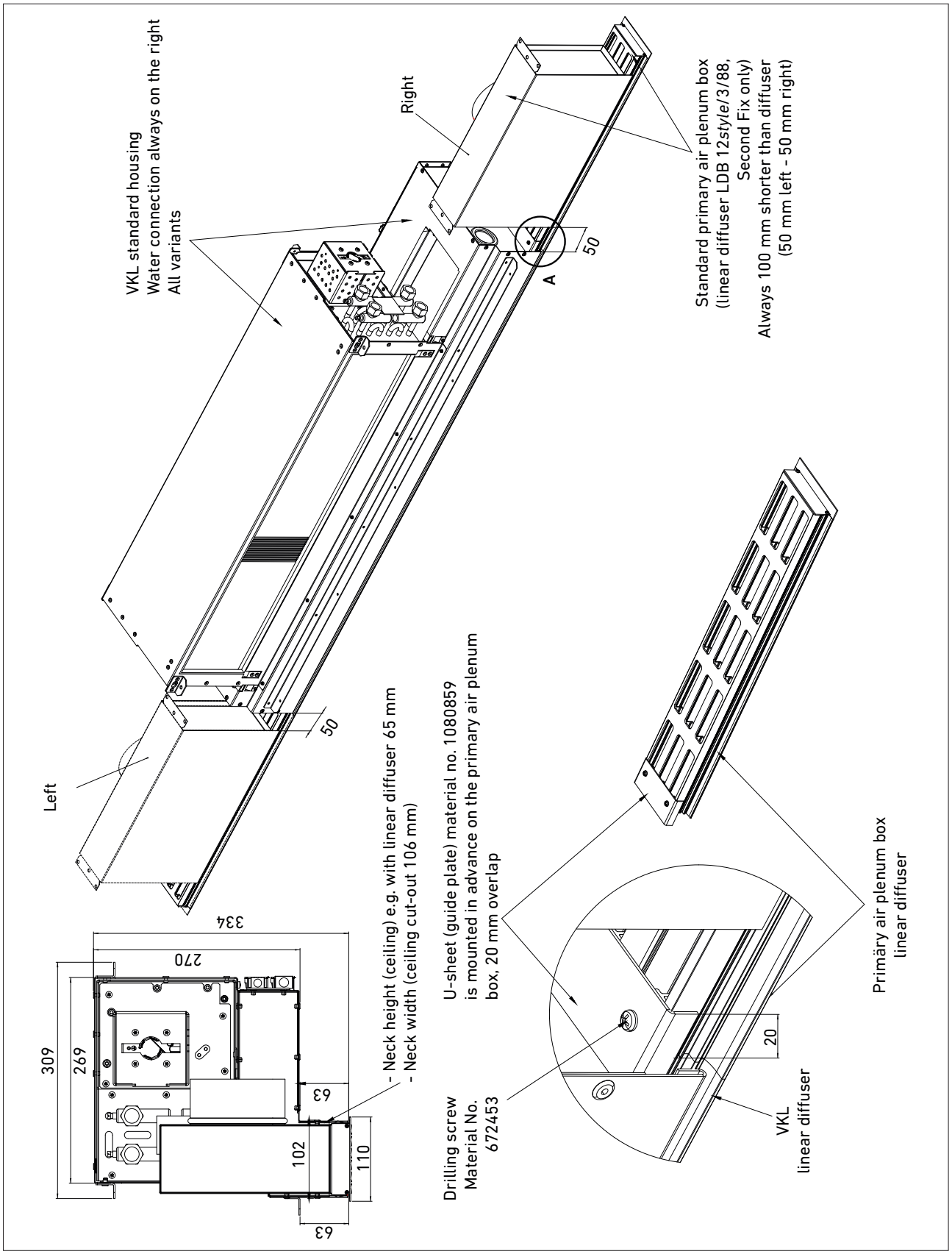
Technical brochure • VKL Combination of fan coil unit and linear diffuser

Installation in line with primary air plenum boxes



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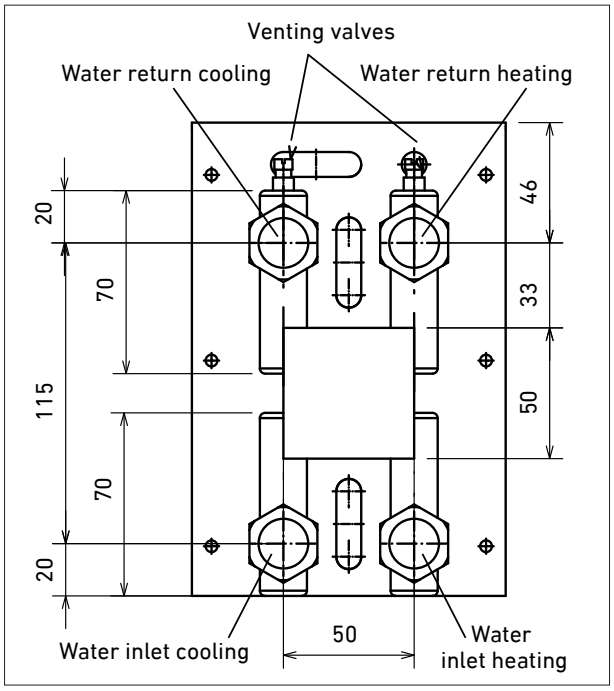
Water connections

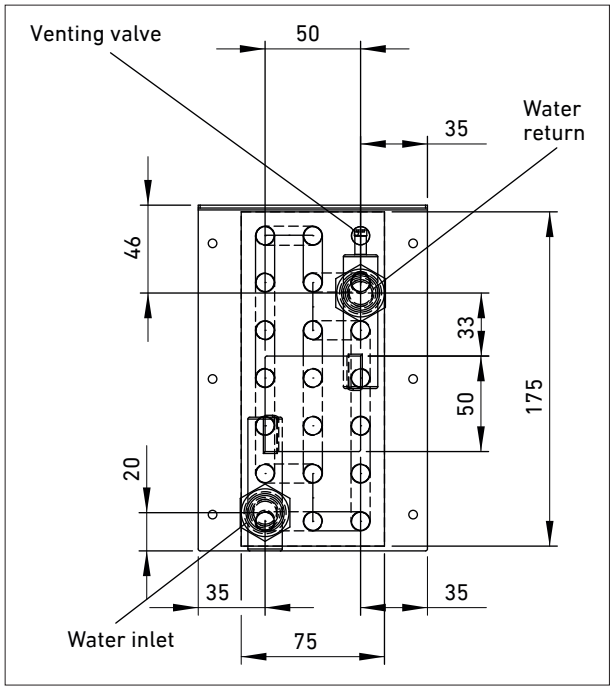
4-pipe system, acc. to ISO 228 G ½ " internal thread



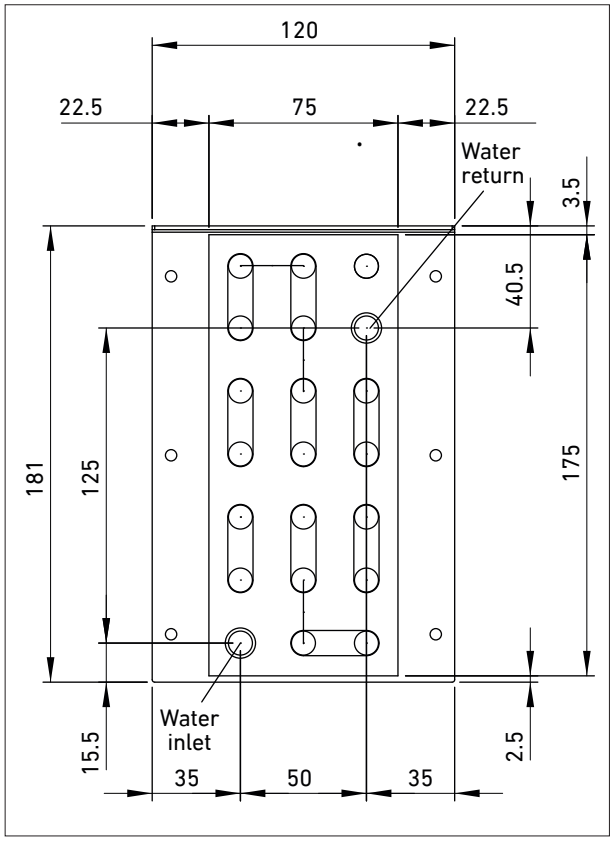
The water connections are always on the right-hand side of the unit (facing the heat exchanger).

For flexible hoses, connection variants, transition fittings, valves, etc., see the technical brochure „Accessories for LTG air-water systems".

2-pipe system, acc. to ISO 228 G ½ " internal thread



2-pipe system, plain tube



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Operation with Connected Intelligence (CI)

Function

The CI board, which is optionally installed in each fan coil unit or decentralised ventilation unit FVP*pulse*, takes care of room temperature and air quality control. It only requires information about the desired operating mode (see "Ventilation concepts") and the setpoint and actual values in the control zone as an input variable. The CI board independently controls the fan, cycle time, heating and cooling valves at the decentralised unit level.

It communicates via Modbus RTU with other bus nodes or superordinate instances, depending on the concept implemented for the building management system (BMS).

The unit, CI board, and valves form a single unit and are completely wired together at the factory.

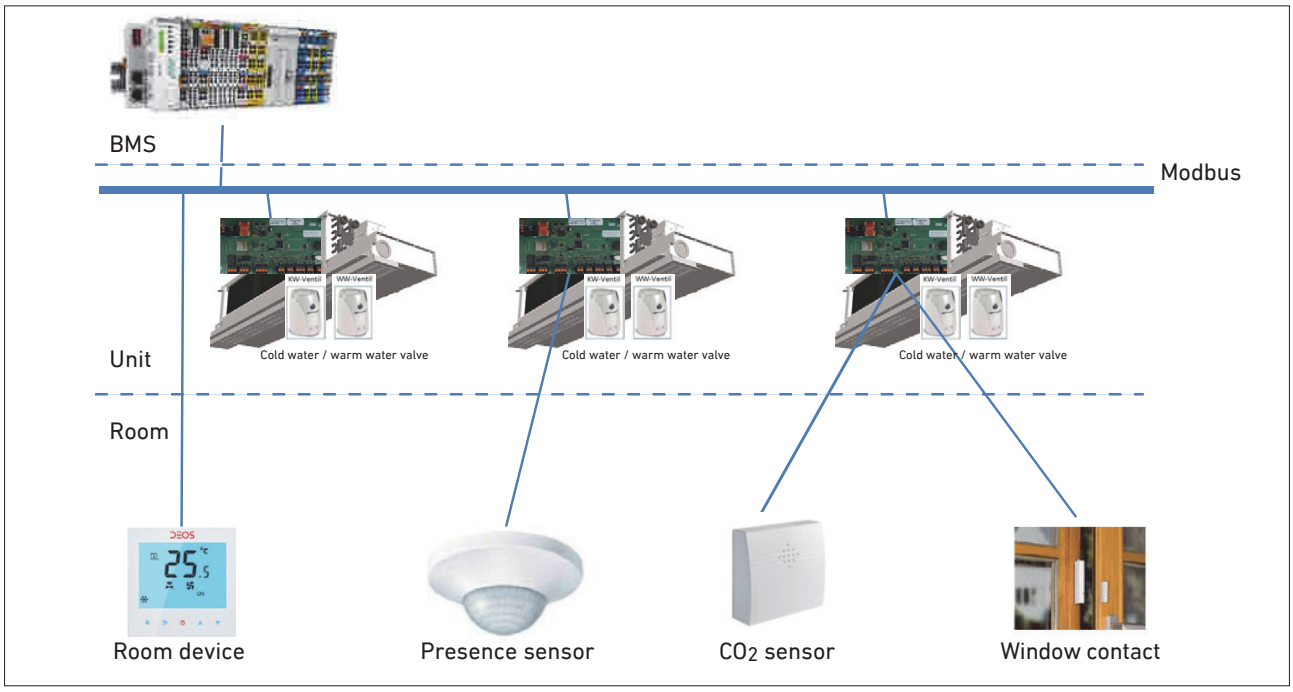
The following shows the different options for integration into a BMS concept for CI.
See the Connected Intelligence technical leaflet for more detailed information

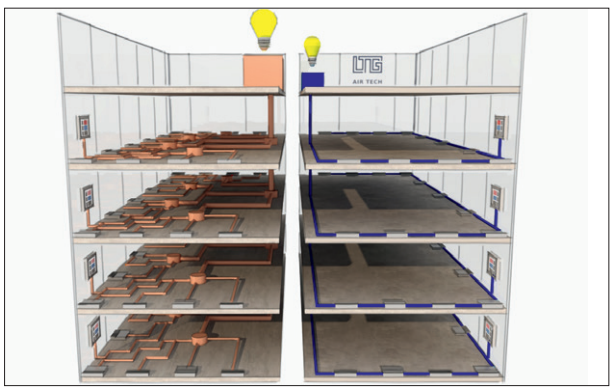
With superordinate BMS, with Modbus RTU

The VKL units generally communicate with a superordinate BMS. This assigns zones to units, reads room control units, and distributes the information to the slaves. They automatically regulate room temperature and, if necessary, air quality. Up to 120 LTG units (FVP*pulse* decentralised ventilation units, fan coil units, or induction units) can be networked in a Modbus network.

Beyond this, a wide variety of sensors can be connected to the inputs of each CI board and made available for the control zone:

- Temperature sensor (Ni1000) for recording room, outdoor, changeover, or supply air temperature,
- Normally closed or normally open contact for changeover, presence, condensate, window
- CO_2 or VOC sensor (0...10 V DC signal; 24 V DC sensor supply available on board; 230/24 V transformer optionally available for a surcharge)





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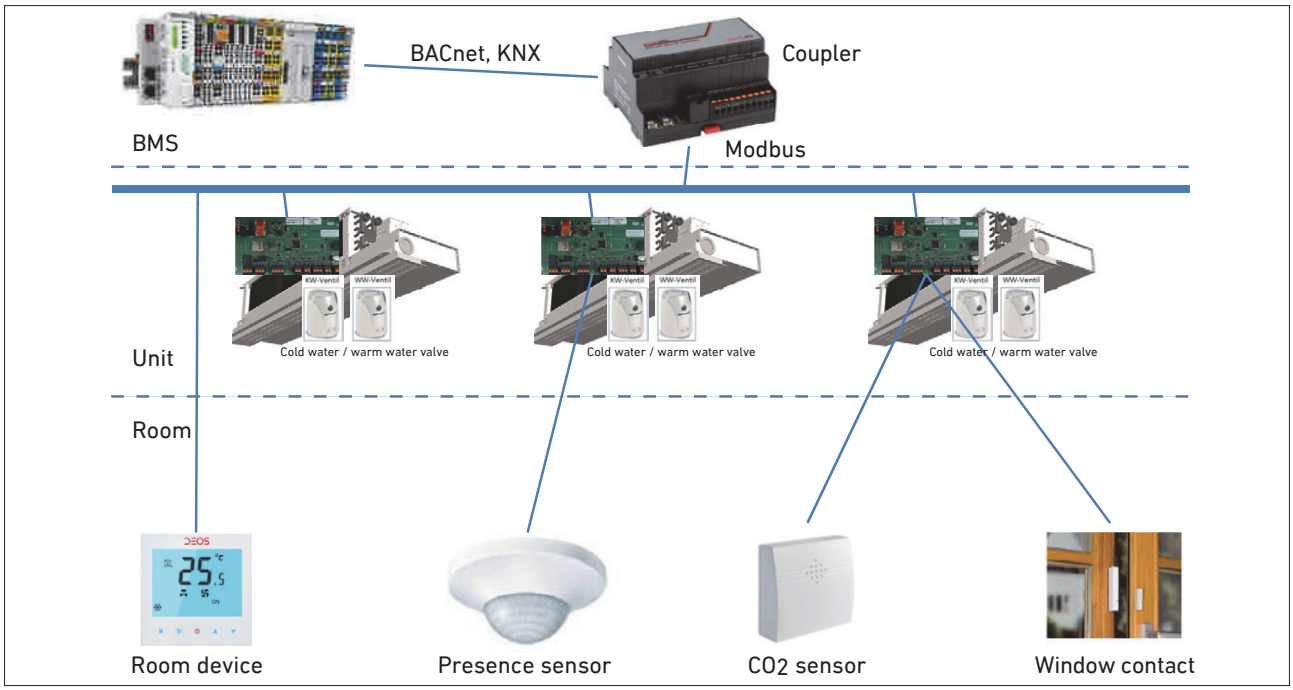
Operation with Connected Intelligence - With superordinate BMS, with other bus system

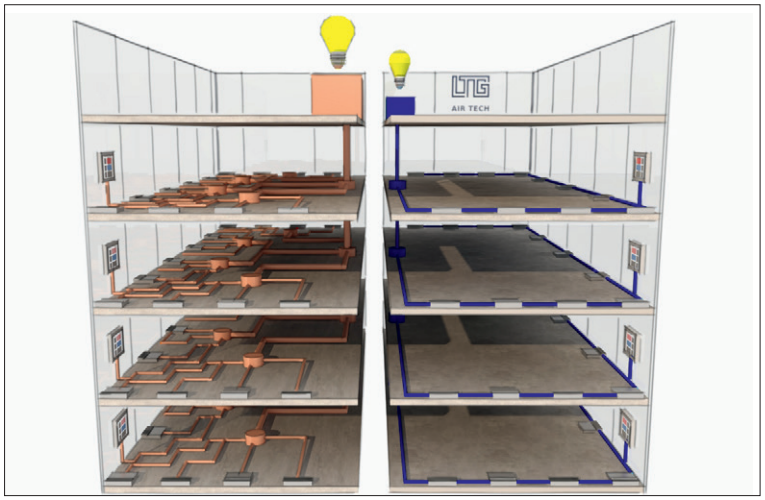
In the case of a superordinate BMS that does not communicate on a Modbus basis, a coupler/gateway is used, which is optionally available from LTG. This converts the information from Bacnet or KNX into Modbus RTU. We recommend the use of one coupler per floor, whereby the maximum number of 120 bus nodes (CI boards, room operating panels and possibly others) per coupler must not be exceeded.

The superordinate BMS again takes care of the zone assignment of the units, the readout of the room operating devices and the distribution of the information to the slaves. The room temperature and, if necessary, the air quality are controlled automatically by the CI board in the respective VKL unit.

Beyond this, a wide variety of sensors can be connected to the inputs of each CI board and made available for the control zone:

- Temperature sensor (Ni1000) for recording room, outdoor, changeover, or supply air temperature,
- Normally closed or normally open contact for changeover, presence, condensate, window
- CO_2 or VOC sensor (0...10 V DC signal; 24 V DC sensor supply available on board; 230/24 V transformer optionally available for a surcharge)





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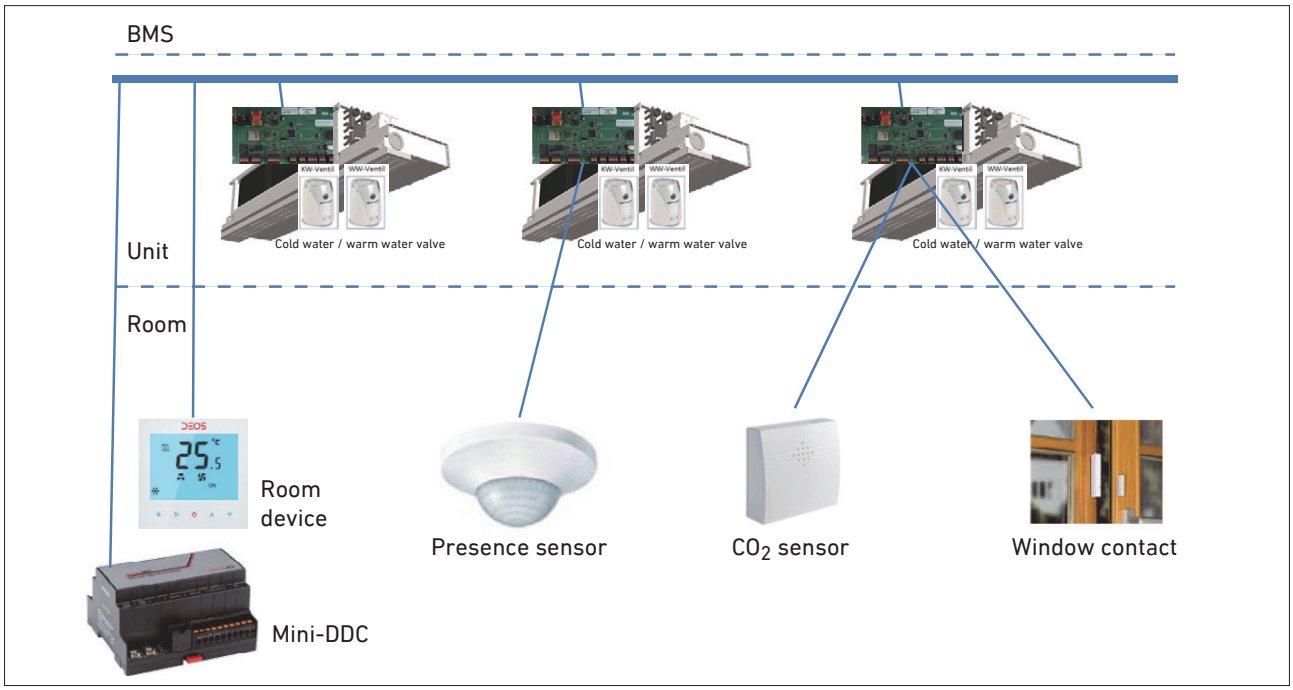
Operation with Connected Intelligence – Without superordinate BMS, as stand-alone solution with several rooms/control zones

If no superordinate BMS is available, but multiple control zones are desired, a mini DDC is used, which is optionally available from LTG. It performs zone assignment of the units and distribution of the information to the slaves, whereby the maximum number of 120 bus nodes (CI boards, room operating devices and possibly others) per coupler must not be exceeded.

The room temperature and, if necessary, the air quality are controlled automatically by the CI board in the respective VKL unit.

Beyond this, a wide variety of sensors can be connected to the inputs of each CI board and made available for the control zone:

- Temperature sensor (Ni1000) for recording room, outdoor, changeover, or supply air temperature,
- Normally closed or normally open contact for changeover, presence, condensate, window,
- CO_2 or VOC sensor (0...10 V DC signal; 24 V DC sensor supply available on board; 230/24 V transformer optionally available for a surcharge).



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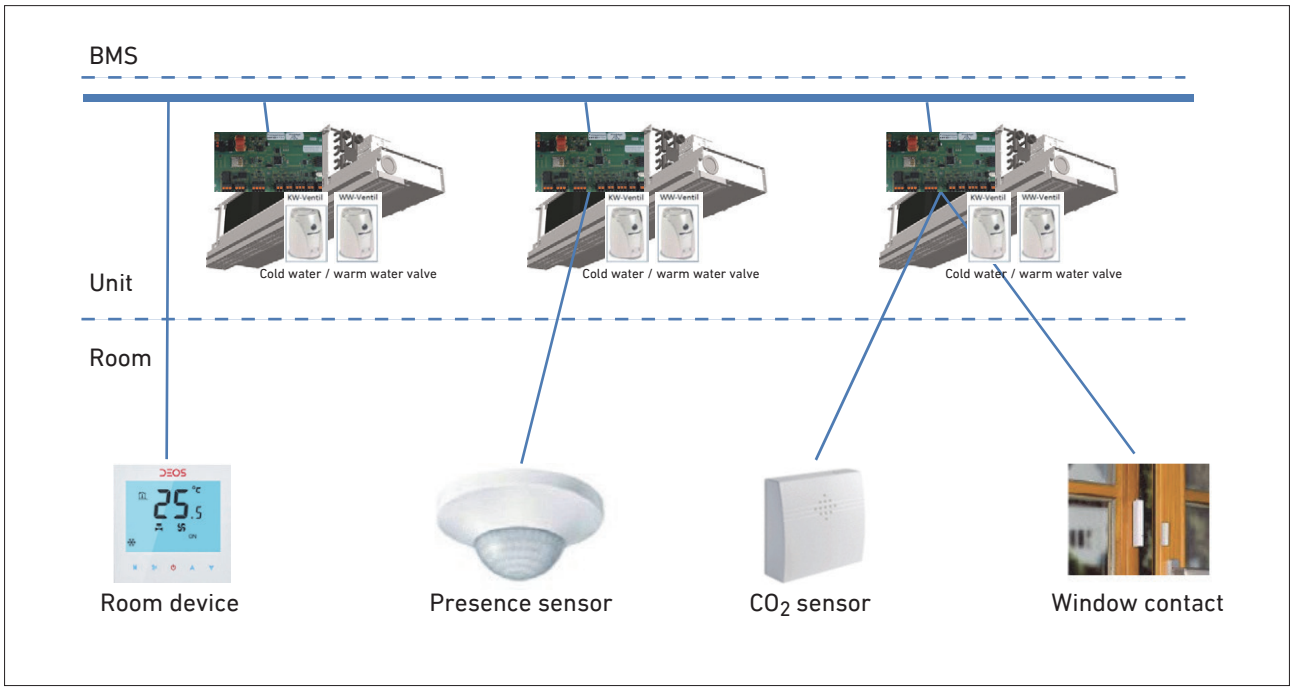
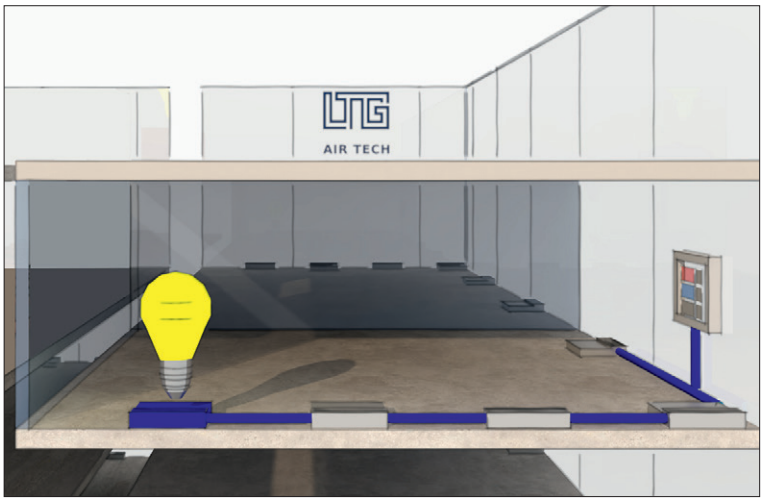
Operation with Connected Intelligence – Without superordinate BMS, as stand-alone solution with one room/one control zone

If there is no higher-level BMS and only one control zone (e.g. large meeting room with several VKL units), additional superordinate components can be omitted. In this case, the parameters of a CI board can be set from the Modbus network to assume the master function for the other CI boards in addition to the control functions for the unit in which it is installed. It then reads out the room operating devices and distributes the information to the slaves, whereby the maximum number of 6 bus nodes (CI boards, room operating devices and possibly others) per network must not be exceeded.

The room temperature and, if necessary, the air quality are controlled automatically by the CI board in the respective VKL unit.
Beyond this, a wide variety of sensors can be connected to the inputs of each CI board and made available for the control zone:

- Temperature sensor (Ni1000) for recording room, outdoor, changeover, or supply air temperature,
- Normally closed or normally open contact for changeover, presence, condensate, window
- CO_2 or VOC sensor (0...10 V DC signal; 24 V DC sensor supply available on board; 230/24 V transformer optionally available for a surcharge).





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Nomenclature, ordering code

VKL-D / 2 / 1000,1400 / E / EC / WR / MF / 25 / LDB 12*style*/3/11 / E6 / EV1 / O / E

(1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13) (14)

(1)	**Series**	**VKL**	= VKL Combination of fan coil unit and linear air diffuser
(2)	**Type**	**D**	= Ceiling
		W	= Wall (on request)
(3)	**Heat exchanger**	**2**	= 2-pipe
		4	= 4-pipe
(4)	**Size, length of linear diffuser**	**630, 1000**	= 630, 1000
		800, 1200	= 800, 1200
		1000, 1400	= 1000, 1400
(5)	**Condensate tray**	**T**	= Without condensate tray
		E	= With condensate tray (drain on the right, viewing direction to heat exchanger)
(6)	**Fan motor**	**EC**	= EC motor, 0...10 V activation, on the right only (viewing direction to heat exchanger)
(7)	**Water connection**	**WR**	= on the right only (viewing direction to heat exchanger) Version T (non condensing): plain tube Version E (condensing): internal thread ½“
(8)	**Filter**	**MF**	= With filter
(9)	**Neck height of linear diffuser plenum box**	**25**	= 25 mm
		65	= 65 mm (standard)
		X	= Special height
(10)	**Design linear diffuser**	**LDB 12*style*/3/11**	= LDB 12*style*, 3 rows, border profile type 11
		LDB 12*style*/3/88	= LDB 12*style*, 3 rows, border profile type 88
(11)	**Surface linear diffuser**	**LM**	= Painted, mat
		LG	= Painted, glossy
		E6	= Anodised, unbrushed
(12)	**Colour linear diffuser**	**...**	= RAL colour = painted / EV1 = natural anodised
		SX	= Special colour / Special anodised shade
(13)	**3-D flow**	**O**	= Without 3-D flow (standard)
		3D	= With 3-D flow (for type VKL-D only)
(14)	**Installation**	**E**	= Single unit (linear diffuser with end caps on both sides)
		B	= Installation in line (linear diffuser without end caps on both sides)

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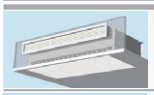
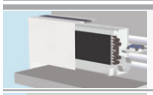
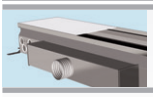
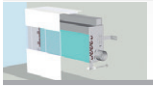
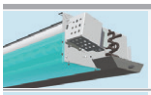
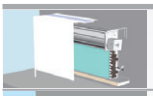
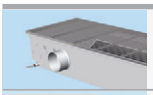
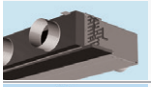
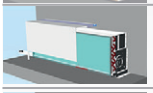
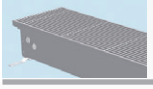
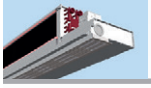
Product overview • **LTG Air-Water Systems**

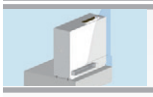
LTG Decentral – Induction Units

Ceiling Installation	Sill Installation	Floor Installation
 HFF*suite* SilentSuite	 HFV / HFV*sf* System SmartFlow	 HFB / HFB*sf* System SmartFlow
HFG-0/D	 HFG	

LTG FanPower – Fan Coil Units

Ceiling Installation	Sill Installation	Floor Installation
 VKH	 VFC	 VKB
 VKE	 VFC-N	 SKB
 VKL	QVC	
	VKL-W	

LTG Induction – Decentralised Ventilation Units

Ceiling/Wall Installation	Sill Installation	Floor Installation
FVS*Eco$_2$School*	 FVP*pulse*-V System PulseVentilation	FVP*pulse*-B System PulseVentilation
FVP*pulse*-D System PulseVentilation		

Engineering Services

LTG Engineering Services Comfort Air Technology

AIR TECH SYSTEMS

Comfort Air Technology

Air-Water Systems
Air Diffusers
Air Distribution

Process Air Technology

Fans
Filtration Technology
Humidification Technology

Engineering Services

Laboratory Test & Experiment
Field Measurement & Optimisation
Simulation & Expertise
R&D & Start-up

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