



▲ INDULVENT – Lighthouse Hotel & Spa, Büsum. Photo © Rainer Taepper

FAN COIL SYSTEM INDULVENTconnect



Decentralised fan coil system which sets new benchmarks in terms of dimensions, cooling capacity, acoustics and comfort. INDULVENT connect was developed as a clear alternative to current ceiling fan coil systems and the associated disadvantages. INDULVENT connect offers 3D ambient air conditioning: maximum cooling capacity + good acoustics + highly comfortable inflow behaviour = above average user satisfaction.



INDULVENT – Mercedes-Benz-Museum, Stuttgart. Photo © Kiefer GmbH

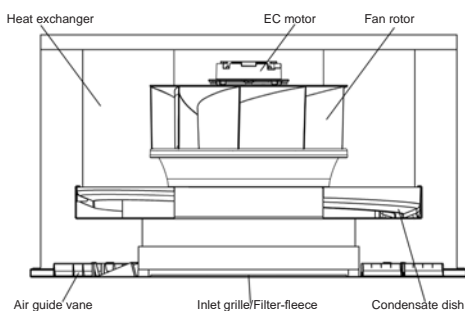
FAN COIL SYSTEM INDULVENT connect

High cooling capacity and comfortable ambient air flow

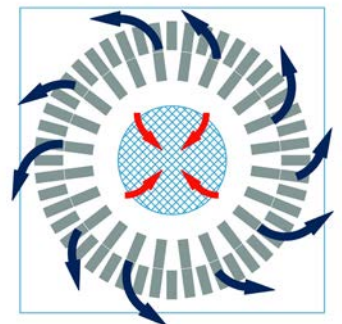
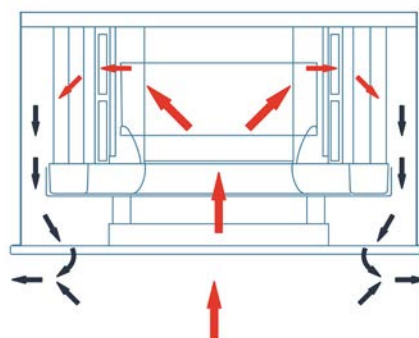
A decentralised fan coil system offers high flexibility, as the room where it is installed can be used for different purposes. INDULVENT connect combines the high cooling capacity of a fan coil system with the comfortable ambient air flow of a highly inductive ceiling air diffuser. INDULVENT connect is suitable for almost all applications where high cooling loads need to be transferred

and a comfortable indoor environment is a priority. The reference projects shown range from typical offices and conference rooms, to halls, hospitals, workshops and laboratories, and on to control centres and control rooms. INDULVENT connect is equally suitable for both new and renovated buildings.

Construction



Air flow path



FUNCTION

The energy-saving, acoustically optimised EC fan draws the ambient air into the interior of the housing and cools it by means of the integrated ring cooler. The cooled ambient air is then fed back into the room via the front plate with highly inductive air guide vanes. The major advantage which results from combining a fan coil system with inductive introduction of air is reflected in the significantly greater comfort. In contrast to current systems, which blow the supply air into the room without extensive mixing with ambient air, here Kiefer's own comfortable, draught-free ambient air flow is formed. As an option, the INDULVENT connect can be supplied with a four-pipe heat exchanger to achieve combined cooling/heating.

The optional, preprogrammed controller continually adjusts the recirculation air flow rate and the water mass flow rate for optimum transfer of the cooling and heating loads (only with four-pipe design) at all times and thus meets user requirements. INDULVENT connect units always have a condensate pan and a condensate pump with float switch to ensure operational reliability. This means any condensate can be easily discharged.

The optional controller enables the units to be controlled individually or to be grouped into a control zone comprising multiple master/slave units without further outlay on control technology.



ENERGY

Decentralised fan coil system which reacts only to the actual cooling requirement within the room, thus avoiding energy losses.

EC technology that saves energy each time it is used and variable volume flow rates matched to the cooling load ensure high energy efficiency with low operating costs.



DESIGN

Dimensions no larger than those of standard air diffusers allow the INDULVENT connect to be integrated into all commonly used ceiling systems.

Various different designs and numerous special solutions give architects much greater creative freedom than is usually the case with fan coil systems.



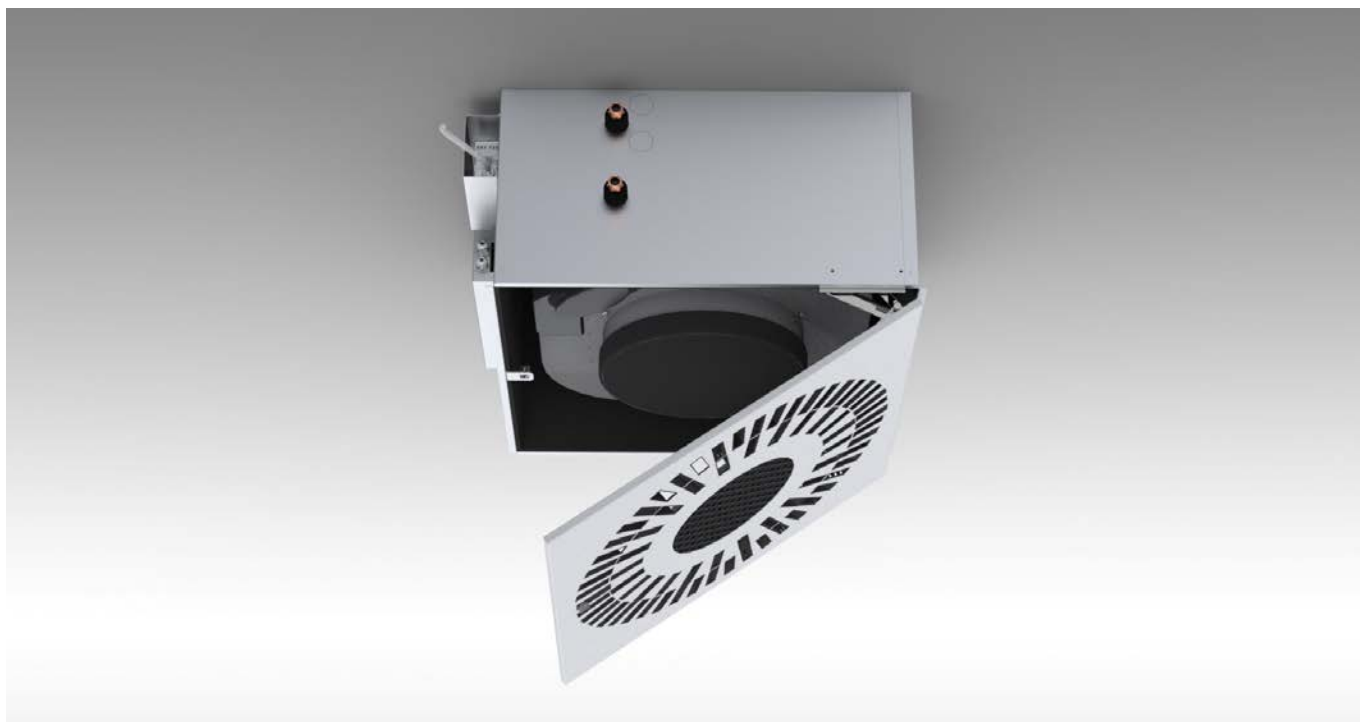
TECHNOLOGY

Decentralised fan coil system developed for the highest demands on comfort, with a cooling capacity of up to 2550 W. The hinged front plate allows maintenance and cleaning tasks to be carried out quickly and easily from within the room. The optional bus-compatible controller enables independent operation as well as integration in a BMS.

TECHNICAL DATA

Cooling capacity	up to 2.550 W
Size	600 x 600 mm / 625 x 625 mm
Installation length	335 mm
Cold water temperatures	6–14 °C
Accessories	Straight-through valve with ½" thermal actuator for cold water shut-off during downtimes; remote switch

Further information can be found on www.kieferklima.de/en/indulvent



INSTALLATION SITUATION INDULVENT connect

The INDULVENT connect housing is no larger than that of a standard air diffuser and can be easily integrated into all common ceiling systems. Various different designs and numerous special solutions give

architects much greater creative freedom than is usually the case with fan coil systems. With the RQF version, suspended installations without false ceilings are possible, without any impairment to comfort levels.

COMBINATION INDULVENT connect/INDULCLIP Z/A

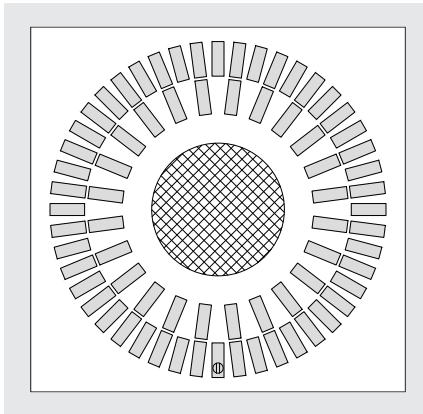
The INDULVENT connect has been designed as a stand-alone system. The optional control unit makes it possible to realise individual solutions or control groups by way of master/slave solutions. This keeps the cooling capacity adjusted to current requirements at all times. It enables straightforward installation of INDULVENT units in the case of retrofits and renovations in particular, without the need for complex building management services (BMS). In larger construction projects which usually have a BMS installed anyway, the INDULVENT controllers can simply be integrated via the KNX bus. Alternatively, the controllers can be dispensed with in such cases and the INDULVENT connect controlled via an analogue 0-10 V signal from the BMS.

In rooms where the cooling load is transferred wholly or partially via the preconditioned supply air, the use of INDULCLIP Z/A is ideal. The air diffuser is visually almost identical with the INDULVENT connect front plate. The components can be combined in a project as follows:

- ▶ INDULVENT connect for rooms without supply air provision.
- ▶ INDULVENT connect and INDULCLIP Z/A for rooms with average and high cooling loads, which also have supply air provision for hygiene reasons.
- ▶ INDULCLIP Z/A for rooms with a high supply air demand, where the cooling loads can only be transferred via the supply air.

EASY TO CLEAN (VDI 6022)

The INDULVENT connect has a special feature in the form of a folding hinge, which comes as standard. The front plate can be opened without the need for tools, and pivoted downwards. This makes the housing, filter, fan, heat exchanger, condensate dish, etc. easily accessible for cleaning.

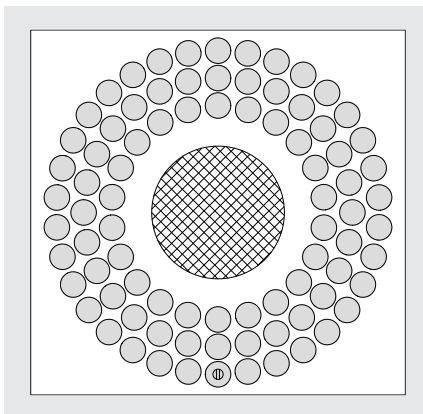


View of front plate of INDULVENT connect RQD

Suitable for ceiling installation

Square front plate 600 x 600 mm or 625 x 625 mm with INDULCLIP air flow path elements

Matt black or light grey (similar to RAL 7035)



View of front plate of INDULVENT connect RQF

Suitable for ceiling installation and mounting without a suspended ceiling

Square front plate 625 x 625 mm with INDUDRALL air flow path elements

Matt black or light grey (similar RAL 7035)

Cooling capacity [2-pipe]¹

Control voltage [V(DC)]	Sound power level [dB(A)]	Total cooling capacity [W]					Electrical power [W]
		Cold water supply temperature					
		6 °C	8 °C	10 °C	12 °C	14 °C	
2	< 25	1220	1080	930	775	605	9
3	27	1580	1395	1200	990	770	10
4	33	1830	1610	1380	1135	880	11
5	37	2010	1760	1505	1240	960	13
6	40	2145	1880	1605	1315	1015	15
7	43	2260	1980	1685	1380	1060	18
8	46	2365	2060	1755	1435	1105	21
9	49	2455	2145	1820	1485	1140	25
10	52	2550	2220	1880	1535	1175	30

¹ Ambient air conditions: 26 °C / 60 % rel. humidity, dew point: 17,6 °C, $\dot{m} = 250 \text{ kg/h}$



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MARKENRAUM MERCEDES-BENZ MUSEUM, STUTTGART

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