



Technology for life.

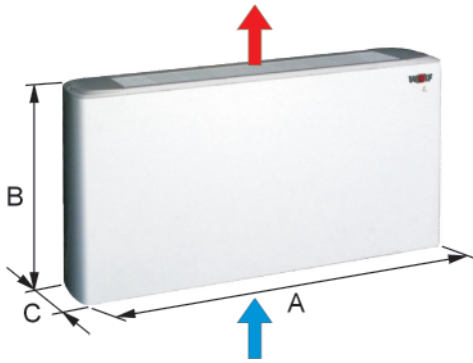
Fan coil unit KL

Wall unit
Ceiling unit

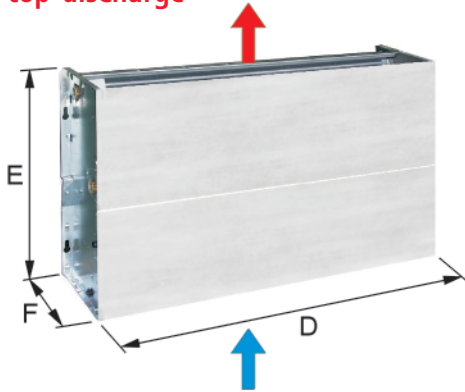


Description

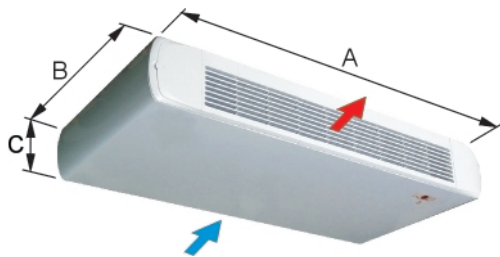
Wall unit with casing,
top discharge



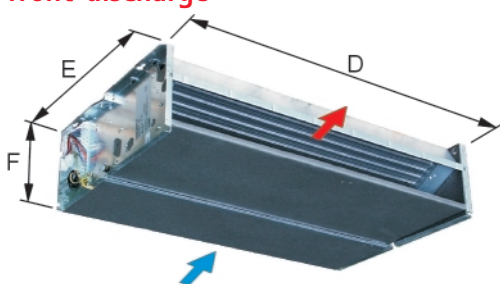
Wall unit without casing,
top discharge



Ceiling unit with casing,
front discharge



Ceiling unit without casing,
front discharge



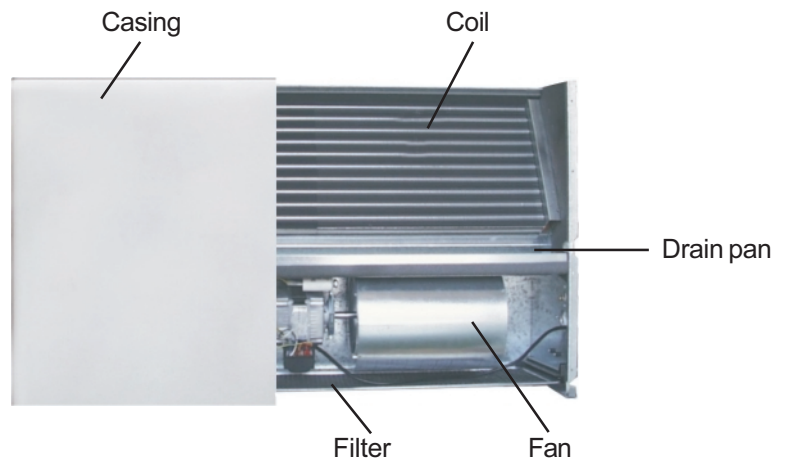
- 7 unit sizes at an air volume of 150-1077 m³/h, heating outputs up to 13,4 kW, cooling outputs up to 6 kW
Heating/cooling outputs for 2/4-pipe system with:
LPHW 70/60 °C; t_{on} = 20 °C
ChW 7/12 °C; t_{on} = 27 °C 50 % r.h.
- Optional coil design (ChW / LPHW)
2-pipe system for heating or cooling
4-pipe system for heating and cooling
- Applicable for fresh air, mixed air and return air operation,
suitable for ventilation, heating, cooling and filtering of room air.
Wolf fan coil units may be installed instead of ordinary radiators, offering considerably increased heating output, rapid warm up, ventilation, cooling and filtering of room air.
- Space saving, easy installation.
 - Top discharge for wall unit
 - Front discharge for ceiling unit (bottom discharge via accessory 90°-bend)
 Coil connections on lhs
Electrical connections on rhs
- Due to a compact construction and an appropriate relation between unit size and performance, fan coil units may be easily installed in a space saving way.
- Universally applicable
For new and old buildings, office and administration buildings, schools, restaurants, hotels, surgeries etc.
- Up to 4 different fan coil units may be operated in parallel via one control unit (interface required, accessory).

Dimensions

KL	15	22	28	33	40	48	60
A mm	800	1000	1000	1200	1200	1500	1500
B mm	571	571	571	571	571	571	571
C mm	220	220	220	220	220	220	220
D mm	550	750	750	950	950	1250	1250
E mm	545	545	545	545	545	545	545
F mm	212	212	212	212	212	212	212
Weight without casing kg	30,5	37,2	37,2	41,5	42	51	53
Weight of casing kg	3,3	3,7	3,7	4,1	4,1	4,7	4,7

Description

Return air unit with casing Wall installation



Casing

Consisting of zinc plated sheet steel, colour white RAL 9010, with sound and heat absorbing insulation.

Coil

LPHW, ChW PN 6,5, Co/Al

2-pipe-system for heating or cooling, connections on lhs, $\frac{3}{4}$ " internal thread with integrated vent valve in the flow connection, drain valve in the return connection.

4-pipe-system for heating and cooling, connections on lhs, $\frac{1}{2}$ " internal thread for heating, $\frac{3}{4}$ " internal thread for cooling with integrated vent valve in the flow connection, drain valve in the return connection.

Fan

Double inlet radial fan for low noise operation, with direct drive via 3-speed single phase AC-motor 230 V/ 50 Hz with integrated thermal cutout for overall motor protection, protection class IP 21, insulation class B.

Drain pan

Suitable for vertical/horizontal unit arrangement, with drain plug.

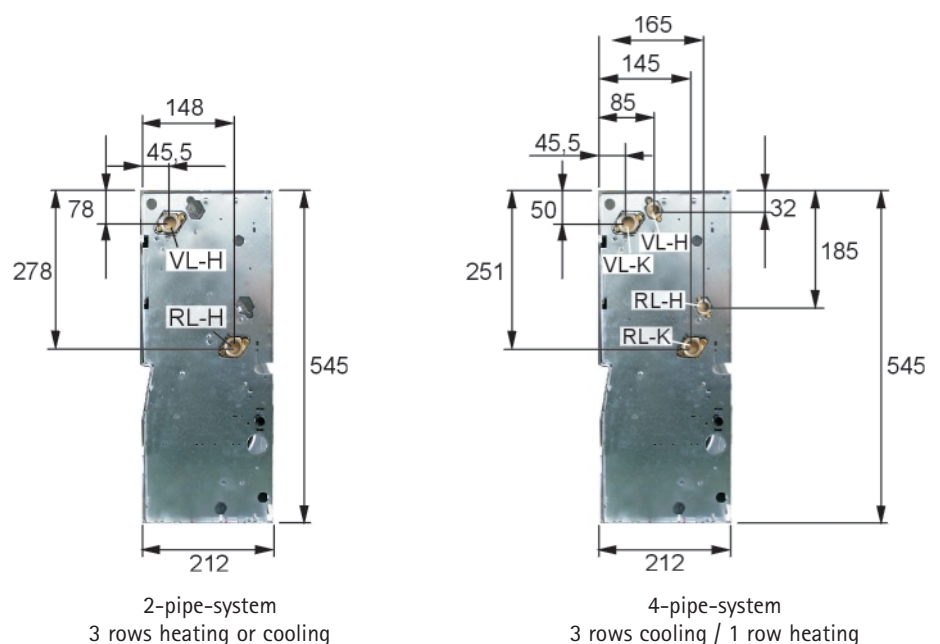
Filter

Removable frame with regenerable filter mat, easy to maintain.

Electrical wiring

In accordance with the corresponding VDE-regulations.

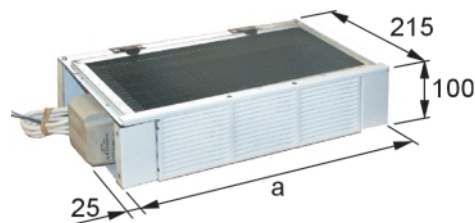
Connecting dimensions (mm):



Accessories



Feet set = 2 pieces
(for units with casing only)



Mixing box

Return air intake from the front, fresh air intake from the bottom or rear. Fresh air volume 25%, 50%, 75%, 100% manually adjustable. Mixing damper drive via actuator.

KL	15	22	28	33	40	48	60
a	550	750	750	950	950	1250	1250

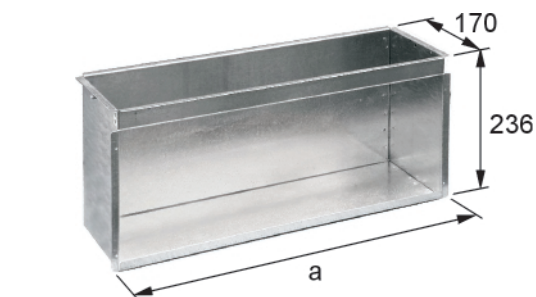


Casing panel for wall/ceiling unit without casing

Consisting of sheet steel painted white RAL 9010, intake and discharge grille of white plastic, with integrated filters.

For connection to a fan coil unit both intake plenum 90° and discharge plenum 90° are required.

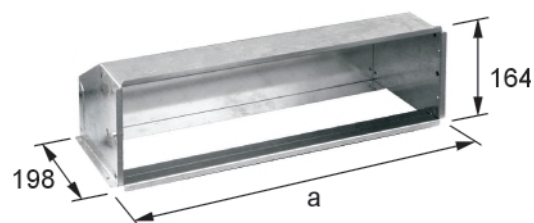
KL	15	22	28	33	40	48	60
a	774,5	974,5	974,5	1174,5	1174,5	1474,5	1474,5



Intake plenum 90°

Of zinc plated sheet steel

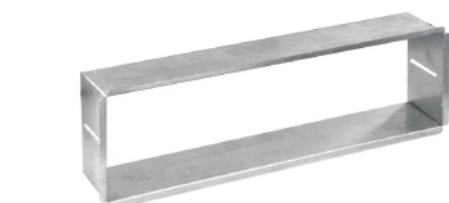
KL	15	22	28	33	40	48	60
a	532	732	732	932	932	1232	1232



Discharge plenum 90°

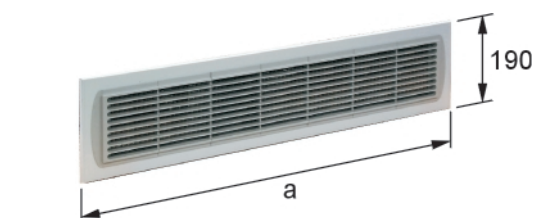
Of zinc plated sheet steel

KL	15	22	28	33	40	48	60
a	532	732	732	932	932	1232	1232



Telescopic frame (Sliding frame)

Of zinc plated sheet steel, for individual extension of an intake/discharge plenum with connection possibility of an intake/discharge grille. Adjustment range up to 60 mm.



Intake/Discharge grille

Frame of sheet steel painted white RAL 9010

Grille of white plastic with filter, suitable for telescopic frame; as well applicable for casing provided on site.

KL	15	22	28	33	40	48	60
a	566	766	766	966	966	1266	1266

Control units

Return air operation, heating



Return air operation, heating or cooling



Return air operation, heating with thermostatic valve / cooling with thermostatic valve



3-way-valves

Control unit SV

Manual adjustment possibility of the three fan speeds as well as of the operation modes on/off

Control unit SVC

Manual adjustment possibility of the three fan speeds as well as of the operation modes summer/off/winter. In switch position heating (heating media LPHW) the fan starts up when the water temperature exceeds +32°C and shuts down when the water temperature falls below +24°C.

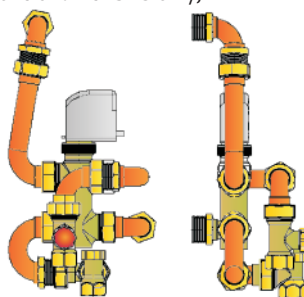
In switch position cooling (cooling media ChW) the fan works continuously on the selected speed.

Control unit TSVC

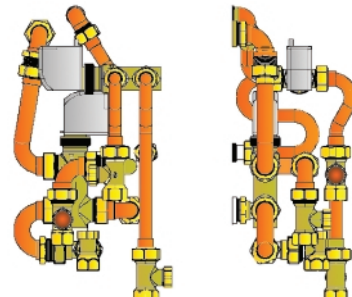
The integrated thermostat controls one of the three selected fan speeds and one or two valves depending on the coil system (2- or 4-pipe).

The first switch allows the selection of the ventilation mode (permanent or thermostatic) and to shut down the fan coil unit. The second switch allows the selection of the operation mode (summer/winter) and the third the selection of the fan speed. When the first switch is in „0" position, the valve is closed and the fan is turned off. When the second switch is in „0" position, the ventilation mode can be activated by setting the first switch to symbol . Depending on the coil system (2- or 4-pipe), the control unit TSVC requires one or two electric valves.

Depending on the order 3-way-valves are completely assembled with the corresponding pipework 1/2" k_{VS} 1,7 or 3/4" k_{VS} 2,5, fitted to the fan coil unit and electrically wired (with control unit TSVC only).



Example: 3-way-valve on/off
2-pipe system heating or cooling with shut-off valves



Example: 3-way-valve on/off
4-pipe system heating and cooling with shut-off valves

Mixed air operation, heating

(Fresh air volume 25%, 50%, 75%, 100% manually adjustable)



Parallel operation

Control unit SVC with mixing box

Manual adjustment possibility of the three fan speeds.

The actuator opens the mixing damper up to the manually adjusted percentage of the fresh air. The coil sensor turns off the fan if the temperature falls below 10°C, the mixing damper closes the fresh air inlet.

The control unit SVC with mixing box cannot be combined with control units SV, SVC, TSVC.

The control units may either be integrated into the casing or fitted to the wall separately, if fan coil units are without casing or provided for ceiling installation.

Up to 4 fan coil units may be controlled electrically in parallel with one control unit via an interface-board (accessory) suitable for wall installation.

Technical data

Model		KL	15	22	28	33	40	48	60
Heating output ⁽¹⁾	max.	W	3498	5314	6180	7386	8423	10438	13398
	med.	W	2692	4590	5036	6195	6635	7980	11254
	min.	W	2351	3623	3840	4854	5705	6759	10129
Water flow rate for heating	max.	l/h	300	455	530	633	722	895	1148
	med.	l/h	231	393	432	531	569	684	965
	min.	l/h	202	311	329	416	489	579	868
Total cooling output ⁽²⁾	max.	W	1517	2205	2762	3324	3992	4797	6038
	med.	W	1166	1985	2418	2793	3294	3843	5206
	min.	W	1110	1581	1744	2029	2749	3290	4373
Sensible cooling output	max.	W	1214	1896	2264	2659	3274	3982	4890
	med.	W	886	1707	1838	2179	2602	3036	4061
	min.	W	843	1297	1325	1542	2227	2533	3411
Water flow rate for cooling	max.	l/h	261	379	475	572	687	825	1038
	med.	l/h	200	341	416	480	567	661	895
	min.	l/h	191	272	300	349	473	566	752
Water pressure drop cooling mode	max.	kPa	8,7	14,1	9,0	18,3	20,2	16,4	11,0
	med.	kPa	5,5	11,2	7,0	13,7	15,6	11,1	8,5
	min.	kPa	5,2	6,9	4,3	8,1	10,2	8,5	6,2
Water pressure drop heating mode	max.	kPa	8,1	13,0	8,4	16,9	18,7	15,2	10,2
	med.	kPa	5,1	10,3	6,4	12,7	14,5	10,3	7,9
	min.	kPa	4,8	6,4	3,9	7,5	9,5	7,9	5,8
Water connections (internal thread)	Ø		¾"	¾"	¾"	¾"	¾"	¾"	¾"
Water content	l		0,92	0,89	1,33	1,16	1,74	1,57	2,35
Air volume	max.	m³/h	231	393	469	570	609	894	1077
	med.	m³/h	172	329	372	458	460	643	856
	min.	m³/h	150	245	273	354	381	521	735
Fan	n		1	2	2	2	2	2	2
Electrical connection	V/ph/Hz		230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
Power consumption of motor	W		27	39	49	61	66	97	126
Current consumption of motor	A		0,125	0,174	0,218	0,268	0,295	0,424	0,582
Heat. output supplement. coil ⁽¹⁾ (= 4-pipe coil)	max.	W	1962	2750	2730	3789	3671	5344	5750
	med.	W	1586	2487	2330	3342	3101	4410	5500
	min.	W	1434	2044	1910	2805	2800	3915	5400
Water flow rate suppl. coil	max.	l/h	168,7	232	244,7	381	309,14	455,4	494,5
	med.	l/h	136,4	216,5	209,5	283,5	262,8	368,2	473
	min.	l/h	123,3	178	174	273,8	236,3	329	464,4
Water pressure drop suppl. coil	max.	kPa	5,95	10,67	11,72	3,94	3,74	11,25	13,03
	med.	kPa	4,08	9,44	8,91	3,19	2,77	7,69	12,04
	min.	kPa	3,42	6,68	6,45	2,32	2,28	6,29	11,65
Water conns. suppl. coil	int. thread Ø		½"	½"	½"	½"	½"	½"	½"
Water content suppl. coil	l		0,24	0,35	0,35	0,46	0,46	0,63	0,63
Drain connection	Ø		16	16	16	16	16	16	16
Sound power	max.	dB(A)	40	42	46	48	50	56	60
	med.	dB(A)	32	37	40	43	43	47	54
	min.	dB(A)	28	29	32	35	38	41	50
Sound pressure ⁽³⁾	max.	dB(A)	31	33	37	39	41	47	51
	med.	dB(A)	23	28	31	34	34	38	45
	min.	dB(A)	19	20	23	26	29	32	41

Technical data are based on the following conditions:

⁽¹⁾ Heating

- Water-on temperature: 70°C
- Δt: 10°C water
- Air-on temperature: 20°C

⁽²⁾ Cooling

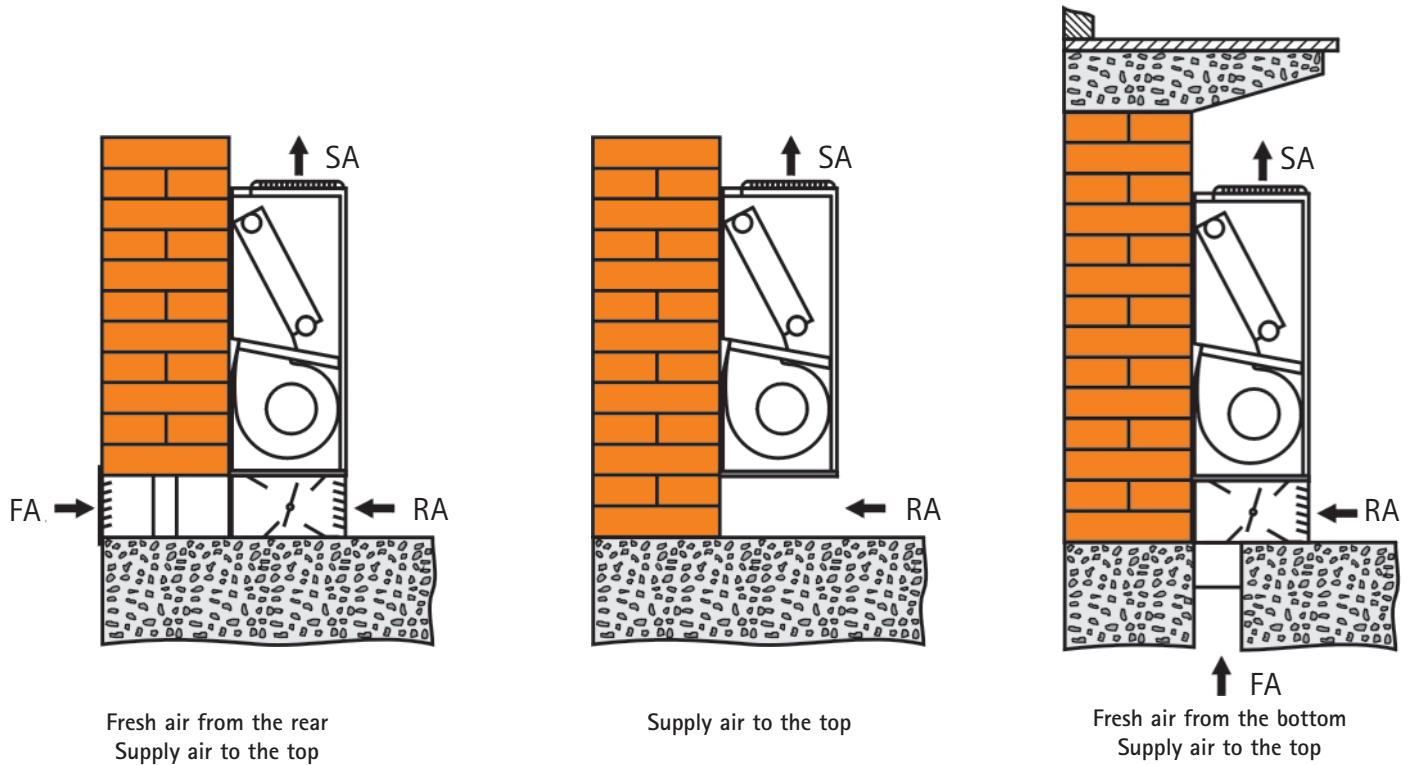
- Water-on temperature: 7°C
- Δt: 5°C water
- Room temperature: 27°C 50% r.h.

⁽³⁾ Sound pressure, distance 1 metre from the unit

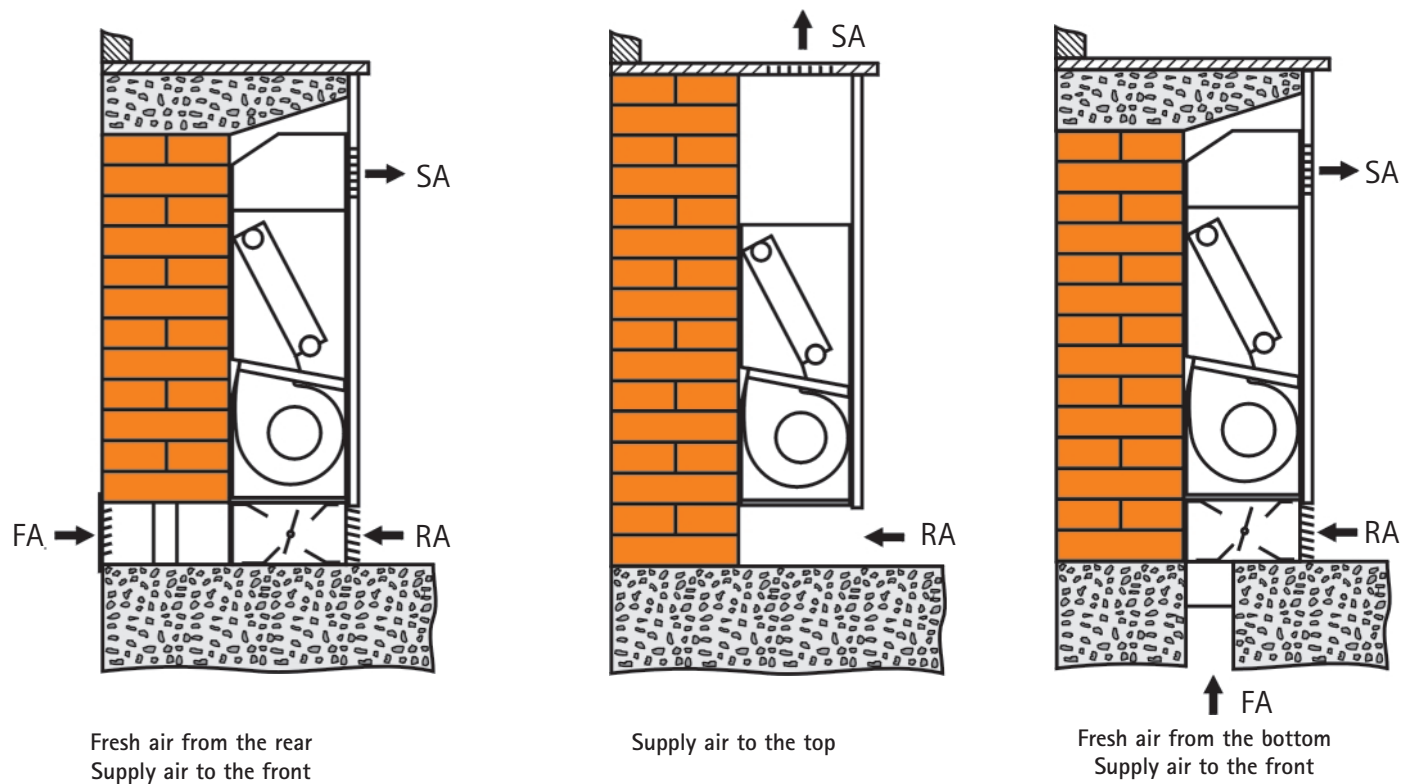
Our scope of supply provides boilers for LPHW and refrigeration units for ChW suitable for the operation of fan coil units.

Unit arrangements

Wall unit with casing

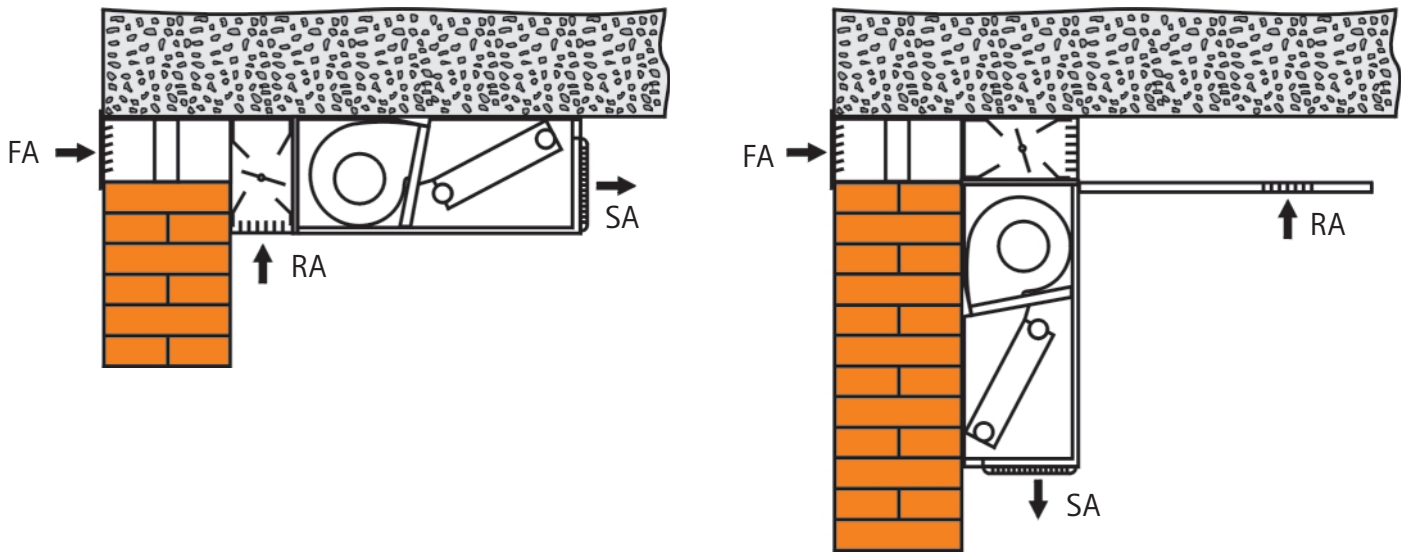


Wall unit - Casing on site

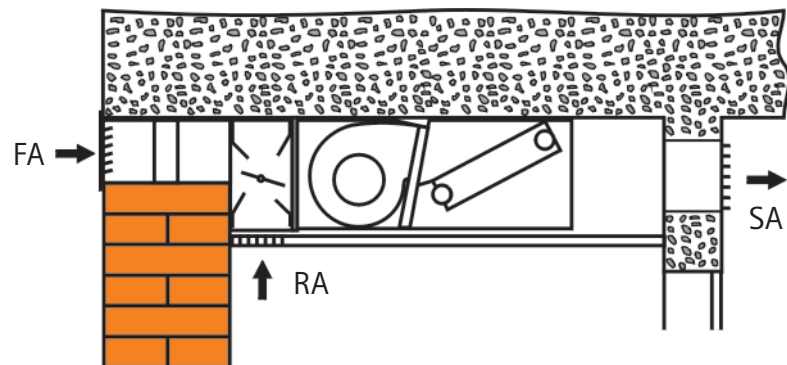


Unit arrangements

Ceiling unit with casing



Ceiling unit - Casing on site



FA = Fresh air
SA = Supply air
RA = Return air

Installation examples

Wall installation with casing

The wall installation is the classic version of the different possibilities for fan coil units with casing.



Ceiling installation with casing

The ceiling installation of fan coil units with casing provides the ideal solution, if there is a lack of space in the room. An unfavourable geometry of a room or any other reason may as well require the installation on the ceiling.



Installation examples

Wall installation without casing

The wall installation of fan coil units without casing offers the possibility of sheeting the units in accordance with the architectural styling of the room, or of completion via the air intake/discharge accessories.



Example:

Fan coil unit without casing with intake plenum 90°, discharge plenum 90° and casing panel (accessories)



Ceiling installation without casing

Ceiling unit without casing with jacket provided on site. For an easier execution it is recommended to use the intake and discharge accessories.



Example:

Fan coil unit without casing, with air intake accessories: Intake plenum 90°, telescopic frame and intake/discharge grille and discharge accessories: discharge plenum 90°, telescopic frame and intake/discharge grille



Specification

Item	Pcs.		Single price	Total price
		<p>Fan coil unit Manufactured of zinc plated sheet steel, suitable for wall and ceiling installation, with sound and heat absorbing insulation. Coil connections on lhs, electrical connections on rhs. Casing consisting of zinc plated sheet steel, colour white RAL 9010. Optional: Units without casing are provided with a cover of zinc plated sheet steel. Wall unit with top discharge as standard, front discharge for ceiling unit via discharge grille with manually adjustable fins. Wall unit with standard air intake from the bottom and ceiling unit with air intake from the rear.</p> <p>Coil CO/AL (LPHW / ChW) 2-pipe system for heating or cooling, 4-pipe system for heating and cooling, with vent and drain valve, test pressure 30 bar, operating pressure 6,5 bar. Coated drain pan sloping to the drain plug as standard. Supplementary drain pan provided for 4-pipe systems and units with valves.</p> <p>Fan/Motor assembly Double inlet radial fan for low noise operation, with direct drive via 3-speed single phase AC-motor 230V, 50Hz.</p> <p>Filter complete with frame, regenerable, easy to maintain</p> <p>Accessories Feet set = 2 pieces (for units with casing only) Mixing box (from January 2004 on) Casing panel for wall/ceiling unit without casing, white RAL 9010 Intake plenum 90°, zinc plated sheet steel Discharge plenum 90°, zinc plated sheet steel Telescopic frame (sliding frame), zinc plated sheet steel, adjustment range up to 60mm Intake/Discharge grille</p> <p>Control units SV Return air operation, 3 speeds, on/off SVC Return air operation, heating or cooling, 3 speeds, summer/off/winter TSVC Return air operation, heating with thermostatic valve, cooling with thermostatic valve, 3 speeds, summer/off/winter SVC with mixing box Mixed air operation, heating, 3 speeds, on/off (from January 2004 on) with 3-way-valve on/off, 2-pipe system heating or cooling with shut-off valves with 3-way-valve on/off, 4-pipe system heating and cooling with shut-off valves Interface board up to 4 fan coil units may be controlled electrically in parallel with one control unit</p> <p>Technical data Air volume m³/h Voltage/Current V/A / Sound pressure level dB(A)</p> <p>Heating from °C to °C Cooling from °C to °C / %r.h. Heating output W Cooling output W Heating media / °C Cooling media / °C Water pressure drop kPa Water pressure drop kPa</p> <p>Dimensions L x W x H mm Weight kg Make: Wolf GmbH Unit type: KL</p>		

The extensive scope of supply of Wolf, being a professional system provider, comprises overall solutions for new works, refurbishment or modernization. The range of Wolf control systems fulfills every need of heating comfort. The products are easy to handle and they work reliably and energy saving. Photo-voltaic and solar systems may be integrated as well in existing installations within a short period. Any Wolf product may be installed and serviced quickly and without problems.

Wolf GmbH, Postfach 1380, 84048 Mainburg, Tel.: +498751 / 74-0, Fax: +498751 / 74-1600, Internet: www.wolf-heiztechnik.de

System configuration Shopping-Center

System component air handling

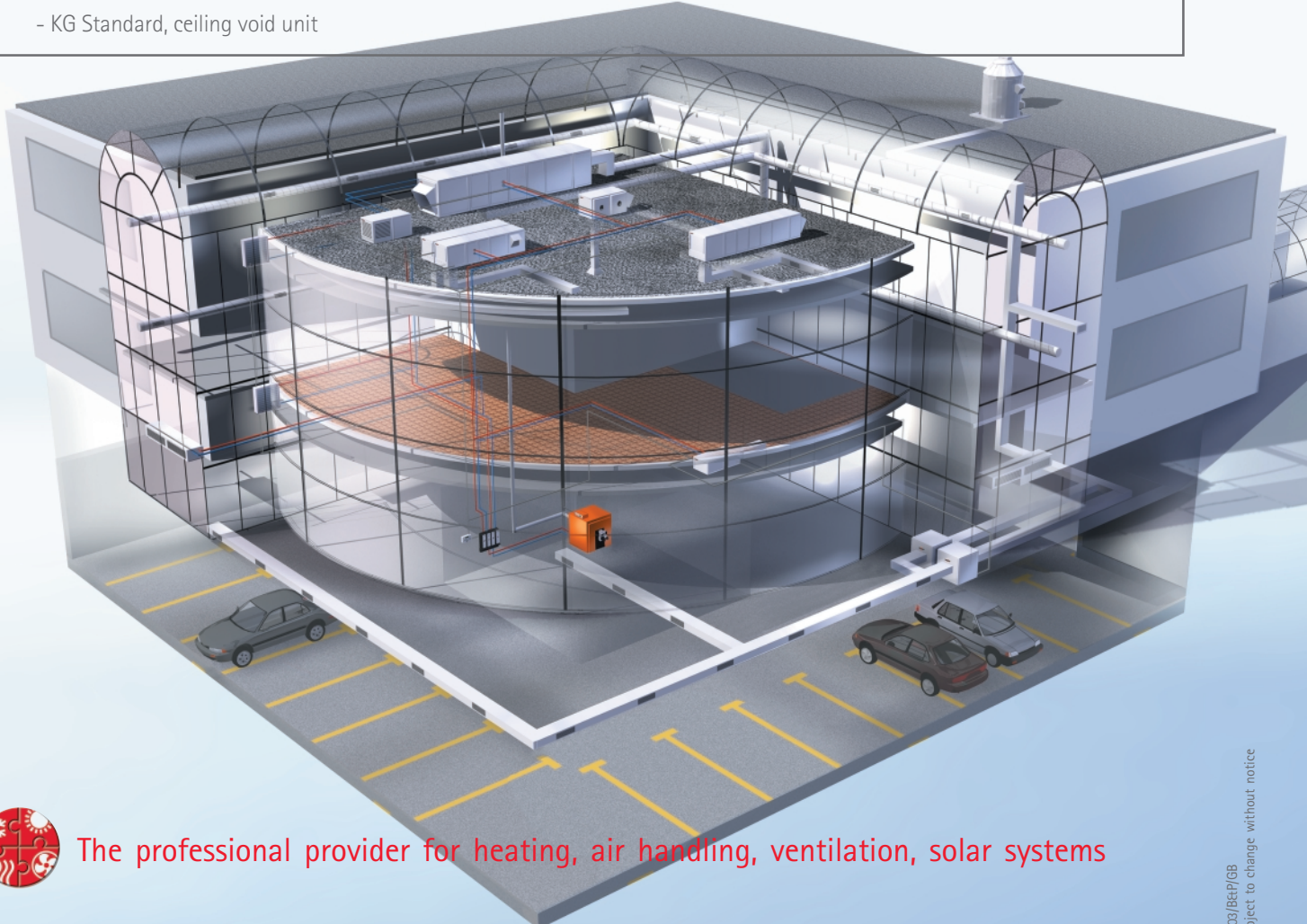
- KGW Gigant RAL unit
- KGW Gigant with integrated refrigeration unit
- KGG Car park exhaust unit
- KGW Gigant kitchen extract unit
- KGW Standard
- KG Standard, ceiling void unit

System component ventilation

- Smoke extract fan ER
- Warm air curtain TL white, with bracket
- Fan coil unit
- Unit heater LH
- Control system DigiPro

System component heating

- Cast iron boiler MK 2



The professional provider for heating, air handling, ventilation, solar systems