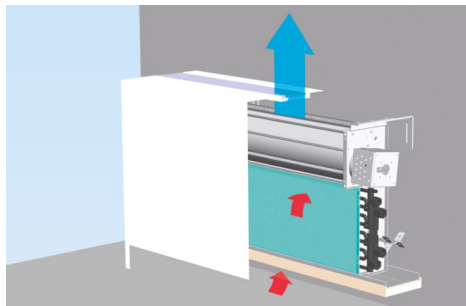


Technical Brochure

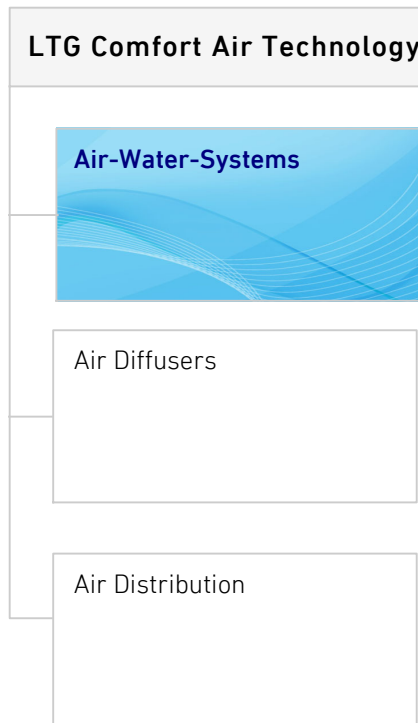
LTG Air-Water Systems

LTG FanPower

Fan Coil Units VFC



Installation in sills



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Notes

Dimensions stated in this brochure are in inches.

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 aluminum 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.

The actual tender documentations are available in word format at your local dealership or at www.LTG-INC.net.


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

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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 which cools or heats the room

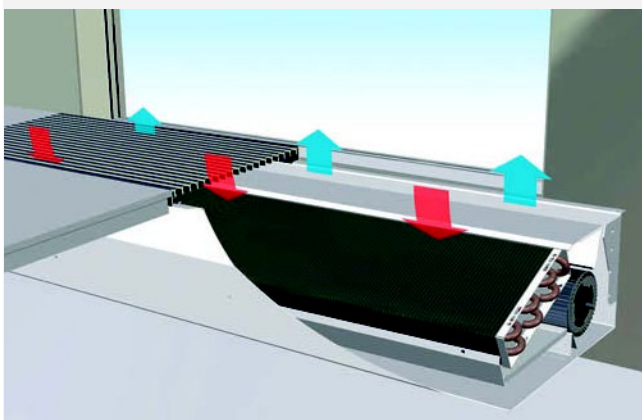
LTG fan coil units use both radial and tangential fans to implement the best flow and acoustics for different installation situations. Flexible and high-performance.

LTG fan coil units with tangential technology are characterized 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.

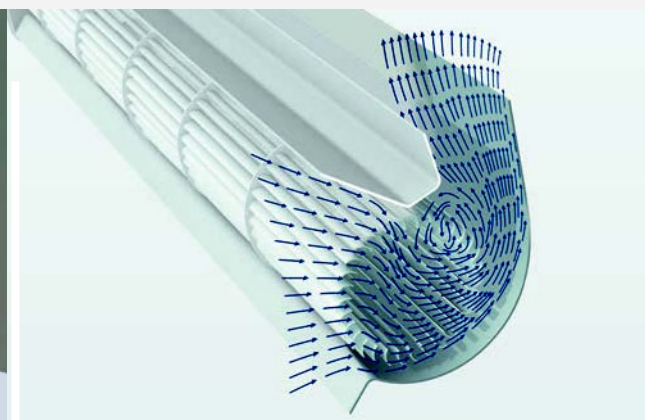
The latest drive technology generation (EC-technology) also permits capacity modulation at the lowest electrical energy consumption.

Benefits

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



Fan coil chart



Air flow in the fan coil unit with tangential fan

Product Overview

Type	Features	Functions	Sizes
VFC-0/2/T	Standard unit	2-pipe-unit Water-side control by valves Cooling only or heating only	500 (type VFC-N only) 630 800 1000 1250
VFC-0/2/.../E	For extremely low inlet temperatures		
VFC-0/2/.../FL	With primary air supply by LTG linear air diffuser LDB		
VFC-0/2/.../FS	With primary air supply by primary air box		
VFC-./2/.../EC/...	With energy-saving EC motor		
VFC-N/2/.../T	Particularly small built-in depth and height For high demands on acoustics		
VFC-0/4/.../T	Standard unit	4-pipe unit Water-side control by valves Cooling and heating	500 (type VFC-N only) 630 800 1000 1250
VFC-0/4/.../E	For extra low inlet temperatures		
VFC-0/4/.../FL	With primary air supply by LTG linear air diffuser LDB		
VFC-0/4/.../FS	With primary air supply by primary air box		
VFC-./4/.../EC/...	With energy-saving EC motor		
VFC-N/4/.../T	Particularly small built-in depth and height For high demands on acoustics		

Technical brochure • Fan coil units VFC, sill installation Type VFC-0

Unit view



Fan coil unit for perimeter installation VFC

Application

The fan coil unit VFC has been specifically designed for hotels and office buildings with strict acoustic requirements. It offers versatile possibilities for design of air distribution systems. Installation in sills.

Advantages

- Low-noise operation.
- Insulation of the unit suitable for operation with 42.8°F cooling water.
- Energy-saving fan operation
- Maintenance-friendly design.
Motor, impeller and heat exchanger are accessible from below.
- Low installation depth of only 6.5 in
- Highly efficient EC and AC motors with low energy consumption (SFP 200 W/(m³/s))
- Excellent aerodynamic integration of fan and large-area heat exchanger for high caloric output 30 - 75 W_{th}/W_{el} with low sound level
- Very smooth running and low sound level thanks to vibration isolated tangential fan and low-noise slide bearing
- Heat exchanger for efficient room heating via natural convection
- Fan with maintenance-free, low-noise slide bearings for long service life
- Air guiding elements for patented, optimized LTG mixed displacement air ventilation, adjustable to a variety of room geometries (optional)

Design

- 2-pipe system for cooling only or heating only (VFC-./2)
- 4-pipe system for cooling and heating (VFC-./4)

Operation principle

The tangential fan of the VFC draws in ambient air. This air passes through a heat exchanger (cooling or heating) and is then returned into the room.

Output control is water-side using valves.



Example of room air flow:
VFC with special fan insert for mixed air/displacement air

Technical brochure • Fan coil units VFC, sill installation Type VFC-0/4/..../T, 4-pipe system

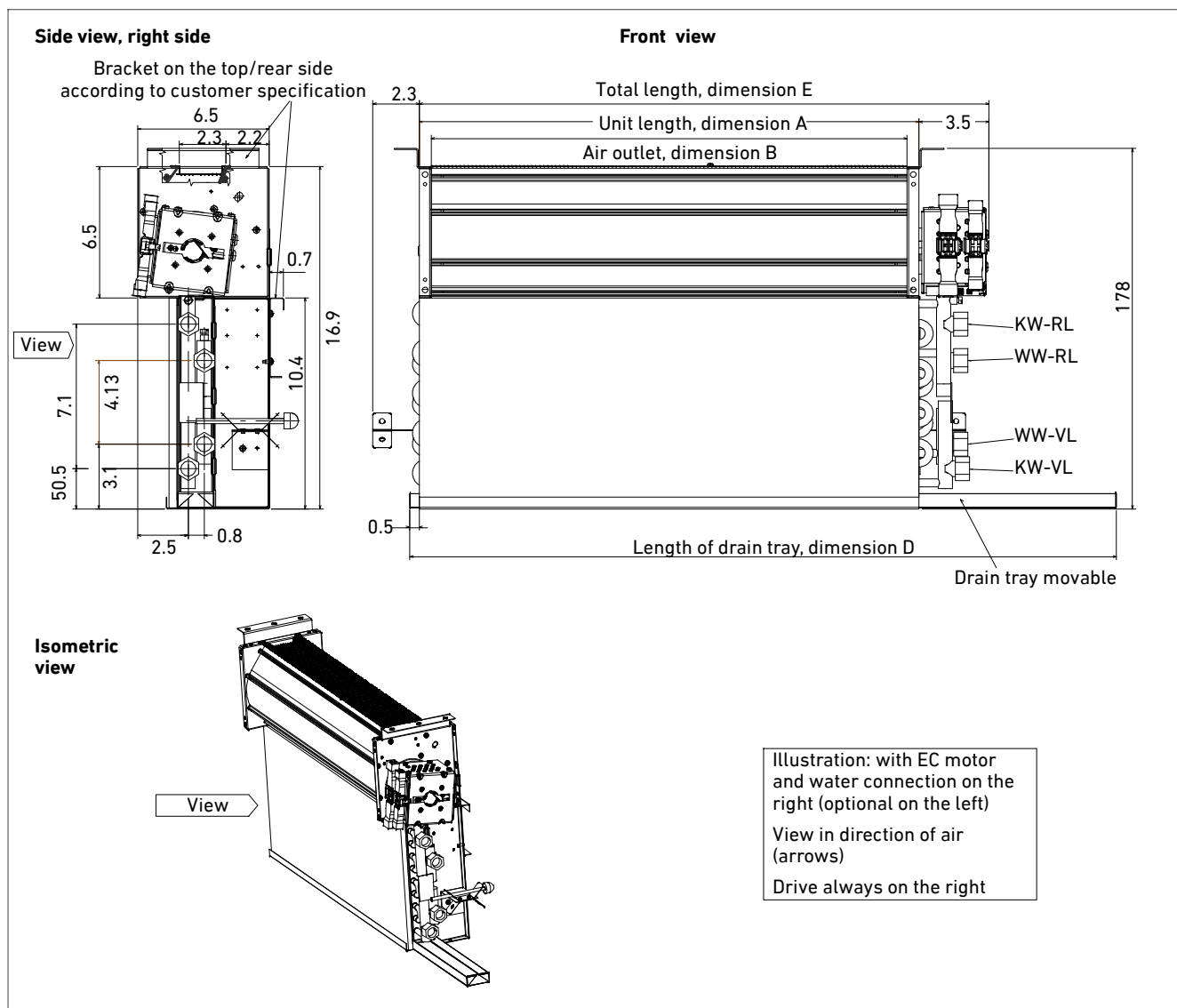
Specification

Fan coil unit with one heat exchanger and two separate water cycles for heating and cooling the ambient air.
Water-side control by valves.
Particularly small built-in depth and height, therefore especially appropriate for a room-saving installation in sills.
For extremely low inlet temperatures an insulated drain tray is available for insertion on site.
Vertical installation.
Water connection on the right or left.

Dimensions, weights

Size	A	B	[inch]			Weight * [lb]
			C	D	E	
500	20.7	19.5	22.1	28.7	27.3	28.6
630	24.7	23.5	26.1	34.8	31.3	33
800	33.7	32.5	35.1	42.7	40.3	42
1000	41.6	40.4	43.0	52.6	48.2	51
1250	49.5	48.3	50.9	61.1	58.1	62

* approx. values, depending on execution



- KW-VL = cold water inlet
- KW-RL = cold water return
- WW-VL = warm water inlet
- WW-RL = warm water return

Mounting options (please state with your order):
- suspension from above (attachment to the sill)
- wall mounting - rear suspension
(see brochure Accessories for LTG Air-Water Systems)

Technical brochure • Fan coil units VFC, sill installation
Type VFC-0/4/..../T, 4-pipe system



Technical data

Size	n [-]	U (EC) [V]	V [cfm]	L _{A18} [dB(A)]	L _{WA} [dB(A)]	Q _{c oF} /Δt ¹⁾ [BTU/h*Δt]	Q _{c mF} /Δt ¹⁾ [BTU/h*Δt]	Q _{c mF} ²⁾ [BTU/h]	Q _{c sens} ²⁾ mF [BTU/h]	Q _{h oF} /Δt [BTU/h*Δt]	Q _{h mF} /Δt [BTU/h*Δt]	w _{oc} /Δp _w [gpm]/[Ft H ₂ O]	w _{oh} /Δp [gpm]/[Ft H ₂ O]	P _{el} [W]	P _{el} (EC) [W]
500	I	2.3	94	26	32	64.4	53.1	2,293	1,911	39.8	36.0	0.88 / 4.3	0.44 / 0.83	16	5
	II	3.0	141	30	36	87.2	85.3	3,685	3,071	53.1	53.1			20	6
	III	3.7	171	36	42	102.4	102.4	4,162	3,685	60.7	60.7			23	9
	IV	4.3	200	40	46	113.7	113.7	4,504	4,049	66.3	66.3			25	11
	V	5.3	253	46	52	128.9	128.9	5,009	4,640	75.8	75.8			31	17
630	I	2.3	100	25	31	77.7	68.2	2,948	2,456	49.3	43.6	0.88 / 4.7	0.44 / 0.9	16	5
	II	3.0	153	29	35	98.6	96.7	4,176	3,480	60.7	58.8			20	6
	III	3.7	182	35	41	113.7	113.7	4,626	4,094	66.3	66.3			23	9
	IV	4.3	218	39	45	127.0	127.0	5,029	4,572	73.9	73.9			25	11
	V	5.3	282	46	52	144.1	144.1	5,599	5,186	81.5	81.5			31	17
800	I	2.3	129	25	31	89.1	79.6	3,439	2,866	55.0	49.3	0.88 / 5.3	0.44 / 1.0	16	5
	II	3.0	188	28	34	121.3	113.7	4,913	4,094	72.0	68.2			20	6
	III	3.7	224	34	40	140.3	134.6	5,473	4,845	79.6	77.7			23	9
	IV	4.3	271	38	44	155.4	153.5	6,080	5,527	89.1	89.1			25	11
	V	5.3	341	45	51	174.4	172.5	6,704	6,209	96.7	96.7			31	17
1000	I	2.3	176	27	33	109.9	100.5	4,340	3,617	68.2	62.5	0.88 / 6.0	0.44 / 1.1	25	6
	II	3.0	247	30	36	144.1	134.6	5,814	4,845	89.1	83.4			29	8
	III	3.7	276	34	40	161.1	155.4	6,322	5,595	102.4	96.7			33	11
	IV	4.3	335	38	44	180.1	174.4	6,905	6,278	111.8	108.0			36	16
	V	5.3	424	46	52	202.8	199.0	7,738	7,165	123.2	123.2			42	26
1250	I	2.3	212	27	33	140.3	128.9	5,568	4,640	87.2	81.5	0.88 / 6.7	0.44 / 1.2	25	6
	II	3.0	276	30	36	170.6	161.1	6,960	5,800	102.4	96.7			29	8
	III	3.7	335	35	41	185.8	182.0	7,492	6,551	115.6	109.9			33	11
	IV	4.3	406	38	44	200.9	197.1	7,806	7,097	119.4	115.6			36	16
	V	5.3	488	46	52	223.7	219.9	8,547	7,915	130.8	127.0			42	26

1) Specific cooling capacity (non condensing operation)

2) Cooling capacity with the following parameters: water inlet = 43 °F, air inlet = 79 °F, rel. humidity = 50 % rel.

- n - speed
- U - control voltage EC motor
- V - flow rate (approx. values, tolerance ± 10 %)
- L_{A18} - sound pressure level, 18 m² Sabine
- L_{WA} - sound power level ± 3 dB(A) (without casing)
- Q_{c oF} - cooling capacity (without filter)
- Q_{c mF} - cooling capacity (with filter)
- Q_{h oF} - heating capacity (without filter)
- Q_{h mF} - heating capacity (with filter)
- Q_{c sens mF} - sensible cooling capacity (with filter)

- Δt - temperature difference between suction air temp. before entering heat exchanger and water supply
- w_{oc} - standard water flow rate at cooling capacity *
- w_{oh} - standard water flow rate at heating capacity *
- Δp_w - water-side pressure loss
- P_{el} - electric power consumption AC motor (± 20 %)
- P_{el} (EC) - electric power consumption EC motor (± 20 %)

* Correction for other flow rates see from page 15

Speed control wiring diagram see page 26.

Technical brochure • Fan coil units VFC, sill installation

Type VFC-0/2/.../T, 2-pipe system

Specification

Fan coil unit with one heat exchanger for heating or cooling the ambient air.

Water-side control by valves.

Particularly small built-in depth and height, therefore especially appropriate for a room-saving installation in sills.

For extremely low inlet temperatures an insulated drain pan is available (see page 11).

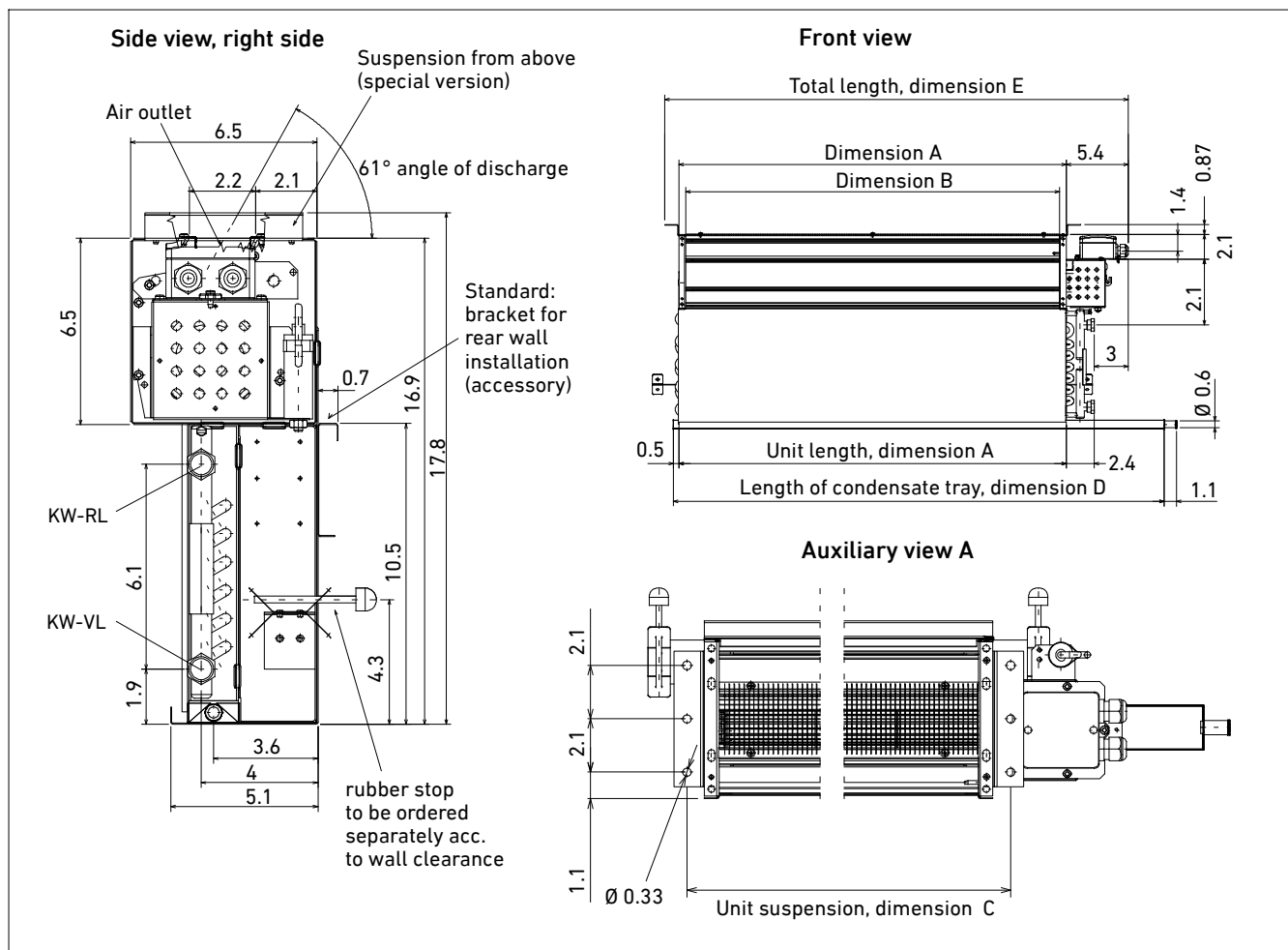
Vertical installation.

Water connection on the right or left.

Dimensions, weights

Size	A	B	C	D	E	Weight*
500	20.7	19.5	22.1	28.7	27.3	28.6
630	24.7	23.5	26.1	34.8	31.3	33
800	33.7	32.5	35.1	42.7	40.3	42
1000	41.6	40.4	43	52.6	48.2	51
1250	49.5	48.3	50.9	60.4	56.1	62

* approx. values, depending on the exact model



Mounting options (please state with your order):

- suspension from above (attachment to the sill) or
- wall mounting - rear suspension

(see brochure Accessories for LTG Air-Water Systems)

KW-VL = cold water inlet

KW-RL = cold water return

Technical brochure • Fan coil units VFC, sill installation
 Type VFC-0/2/..../T, 2-pipe system



Technical data

Size	n [-]	U (EC) [V]	V [cfm]	L _{A18} (AC) [dB(A)]	L _{wA} (AC) [dB(A)]	Q _{oF} /Δt ¹⁾ [BTU/h*Δt]	Q _{mF} /Δt ¹⁾ [BTU/h*Δt]	Q _{mF} ²⁾ [BTU/h]	Q _{sens mF} ²⁾ [BTU/h]	w _o /Δp _w [gpm]/[Ft H ₂ O]	P _{el} (AC) [W]	P _{el} (EC) [W]
500	I	2.3	94	26	32	70.1	68.2	2,948	2,456	0.88 / 6.0	16	5
	II	3.0	141	30	36	92.9	91.0	3,930	3,275		20	6
	III	3.7	171	36	42	108.0	106.1	4,316	3,821		23	9
	IV	4.3	200	40	46	121.3	121.3	4,804	4,367		25	11
	V	5.3	253	46	52	138.4	138.4	5,377	4,981		31	17
630	I	2.3	100	25	31	91.0	81.5	3,521	2,934	0.88 / 6.7	16	5
	II	3.0	153	29	35	111.8	111.8	4,831	4,026		20	6
	III	3.7	182	35	41	128.9	128.9	5,241	4,640		23	9
	IV	4.3	218	39	45	144.1	144.1	5,705	5,186		25	11
	V	5.3	282	46	52	164.9	164.9	6,411	5,937		31	17
800	I	2.3	129	25	31	98.6	91.0	3,930	3,275	0.88 / 7.3	16	5
	II	3.0	188	28	34	136.5	121.3	5,241	4,367		20	6
	III	3.7	224	34	40	157.3	147.8	6,012	5,322		23	9
	IV	4.3	271	38	44	180.1	174.4	6,905	6,278		25	11
	V	5.3	341	45	51	199.0	199.0	7,738	7,165		31	17
1000	I	2.3	176	27	33	117.5	111.8	5,077	4,026	0.88 / 7.6	25	6
	II	3.0	247	30	36	155.4	144.1	6,714	5,186		29	8
	III	3.7	276	34	40	174.4	168.7	7,093	6,073		33	11
	IV	4.3	335	38	44	197.1	193.3	7,806	6,960		36	16
	V	5.3	424	46	52	216.1	216.1	8,400	7,779		42	26
1250	I	2.3	212	27	33	151.6	138.4	5,977	4,981	0.88 / 8.3	25	6
	II	3.0	276	30	36	185.8	174.4	7,533	6,278		29	8
	III	3.7	335	35	41	202.8	197.1	8,018	7,097		33	11
	IV	4.3	406	38	44	219.9	214.2	8,482	7,711		36	16
	V	5.3		46	52	242.6	235.0	9,137	8,461		42	26

1) Specific cooling capacity (non condensing operation)

2) Cooling capacity with the following parameters: water inlet 43 °F, air inlet: 79 °F, 50 % rel. humidity

- n - speed
- U - control voltage EC motor
- V - flow rate (approx. values, tolerance ± 10 %)
- L_{A18} - sound pressure level
- L_{wA} - sound power level ± 3 dB(A) (without casing)
- Q_{oF} - capacity (without filter)
- Q_{mF} - capacity (with filter)
- Q_{sens mF} - sensible cooling capacity (with filter)
- Δt - temp. difference between suction air temp. before entering the heat exchanger and water supply
- w_o - standard water flow rate*
- Δp_w - water-side pressure loss
- P_{el} - electric power consumption AC motor (± 20 %)
- P_{el} (EC) - electric power consumption AC motor (± 20 %)

* Correction for other flow rates see page 17 et seq.

Speed control wiring diagram see page 26.

Technical brochure • Fan coil units VFC, sill installation Type VFC-0/4/.../E, 4-pipe system, for extra low inlet temp.

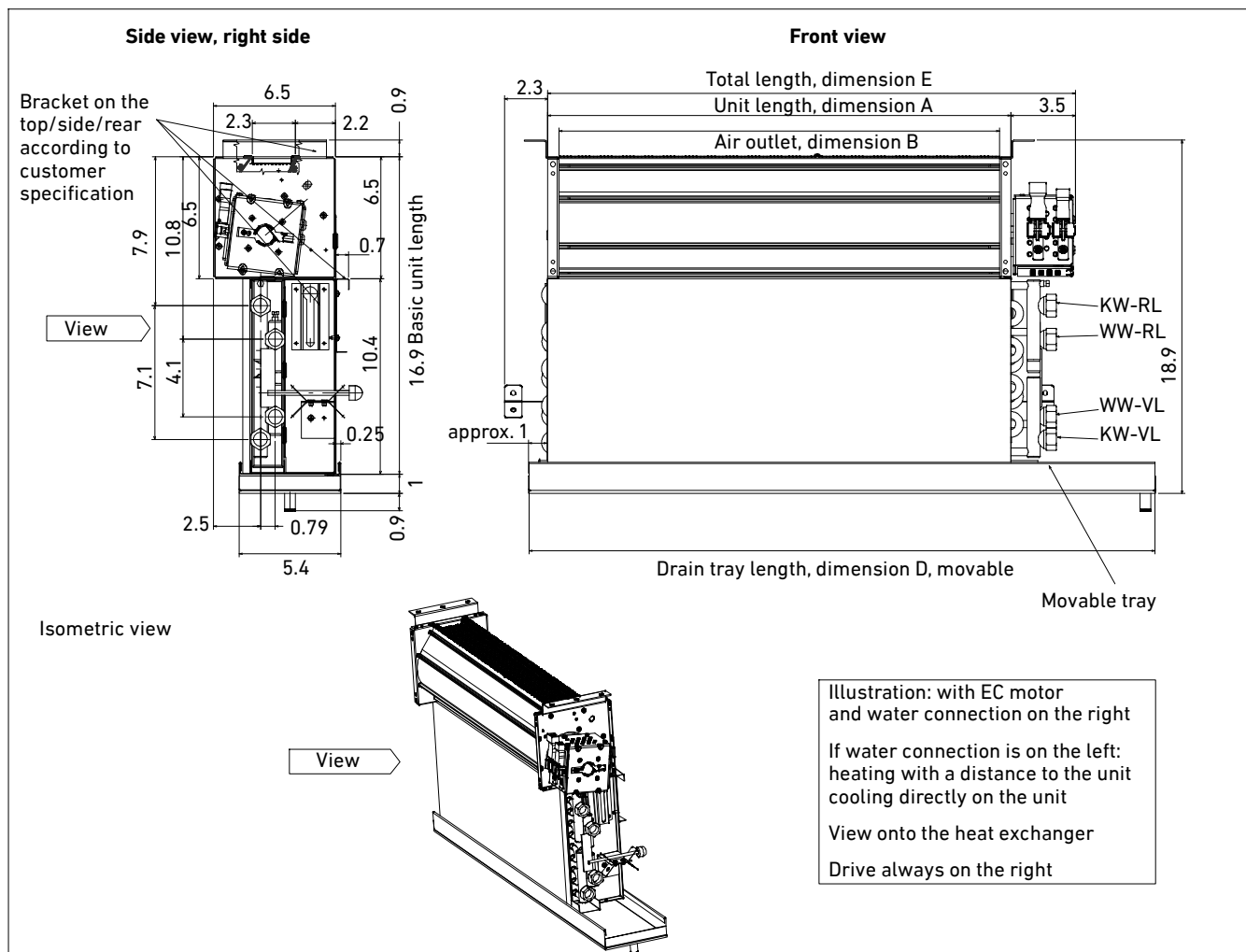
Specification

Fan coil unit with one heat exchanger and two separate cycles for heating or cooling the ambient air.
Water-side control by valves.
Particularly small built-in depth and height, therefore especially appropriate for a room-saving installation in sills.
For extremely low inlet temperatures an insulated drain tray is available for insertion on site.
Vertical installation.
Water connection on the right or left.

Dimensions, weights

Size	A	B	C	D	E	Weight*
500	20.7	19.5	22.1	29.8	27.3	35
630	24.7	23.5	26.1	33.7	31.3	42
800	33.7	32.6	35.1	42.8	40.3	53
1000	41.6	40.4	43	50.7	48.2	64
1250	49.5	48.3	51	58.5	56.1	75

* approx. values, depending on exact model



Mounting options: (please state with your order):
- suspension from above (attachment to the sill) or
- wall mounting - rear suspension
(see brochure Accessories for LTG Air-Water Systems)

KW-VL = cold water inlet
KW-RL = cold water return
WW-VL = warm water inlet
WW-RL = warm water return

Technical data

See standard unit VFC-0/4/.../T (page 6).

Technical brochure • Fan coil units VFC, sill installation

Type VFC-0/2/..../E, 2-pipe system, for extra low inlet temp.

Specification

Fan coil unit with one heat exchanger for heating or cooling the ambient air.

Water-side control by valves.

Particularly small built-in depth and height, therefore especially appropriate for a room-saving installation in sills.- For extremely low inlet temperatures an insulated drain tray is available for insertion on site.

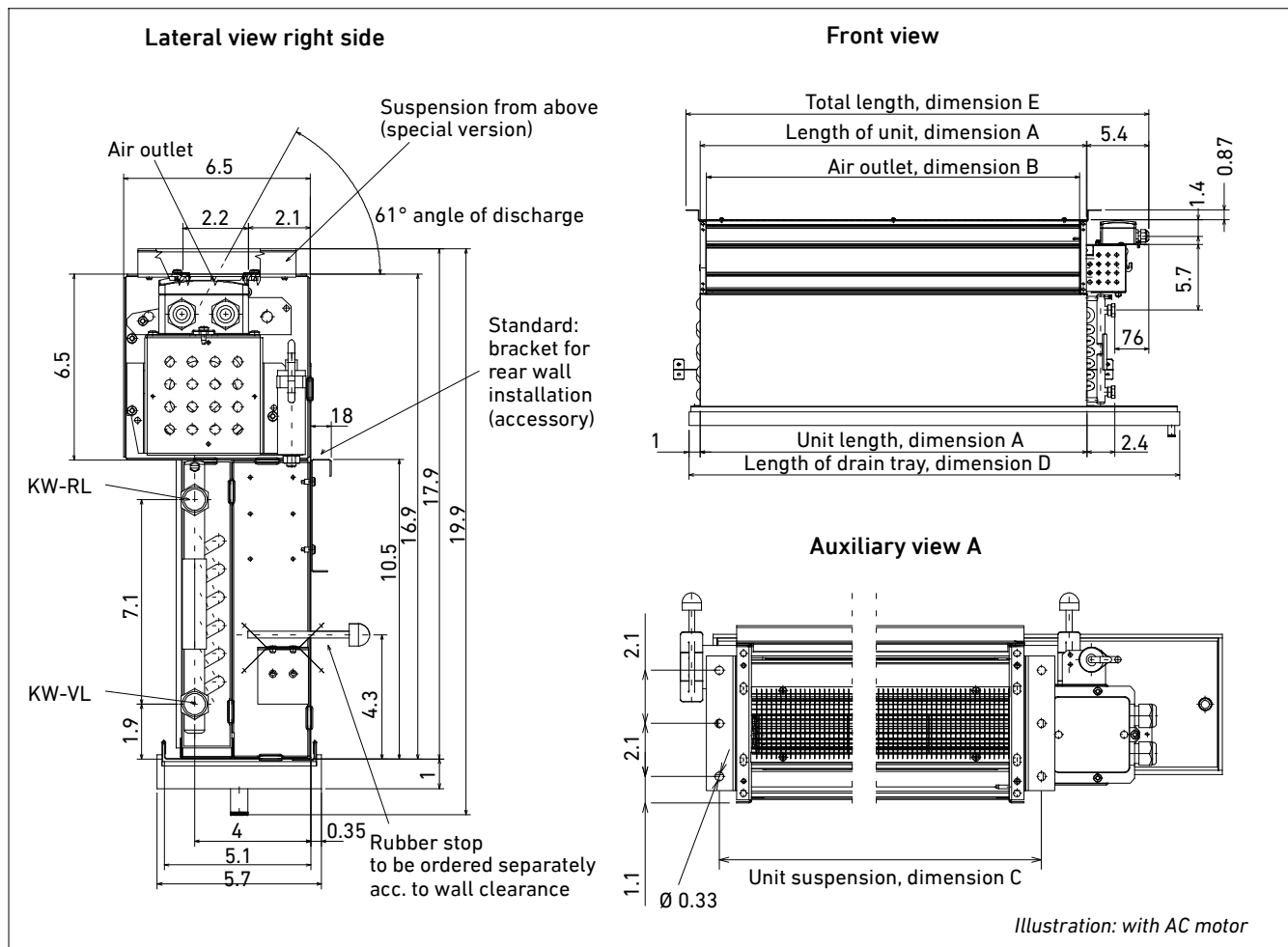
Vertical installation.

Water connection on the right or left.

Dimensions, weights

Size	A	B	C	D	E	Weight* [lb]
	[inch]					
500	20.7	19.5	22.1	28.7	27.3	28.6
630	24.7	23.5	26.1	34.8	31.3	33
800	33.7	32.5	35.1	42.7	40.3	42
1000	41.6	40.4	43	52.6	48.2	51
1250	49.5	48.3	50.9	61.1	56.1	62

* approx. values, depending on the exact model



KW-VL = cold water inlet
KW-RL = cold water return

Mounting options (please state with your order):
- suspension from above (attachment to the sill casing) or
- wall mounting - rear suspension
(see brochure Accessories for LTG Air-Water Systems)

Technical data

See standard unit VFC-0/2/..../T (page 8).

Technical brochure • Fan coil units VFC, sill installation

Type VFC-0/4/..../.../..../FL, with primary air supply by linear diffuser LDB

Specification

Fan coil unit special version with primary air supply.
Via an adjustable LTG diffuser LDB, the air is blown out in parallel to the tangential fan outlet. Optimum primary air supply is ensured even with the fan at standstill.

Fan coil unit with one heat exchanger for heating and/or cooling the ambient air.

Water-side control by valves.

Particularly small built-in depth and height, therefore especially appropriate for a room-saving installation in sills.

Vertical installation. Water connection on the right or left. Primary air socket front right or front left, always opposite the water connection.

Dimensions, weights

Size	A	B	C	D	E	F	Weight* [lb]
	[inch]						
500	20.7	19.5	22.1	28.7	33.8	28.3	35
630	24.7	23.5	26.1	34.8	37.8	32.3	42
800	33.7	32.5	35.1	42.7	46.9	41.3	53
1000	41.6	40.4	43	52.5	54.7	49.2	64
1250	49.5	48.3	51	60.4	62.6	57.0	77

* approx. values, depending on exact model

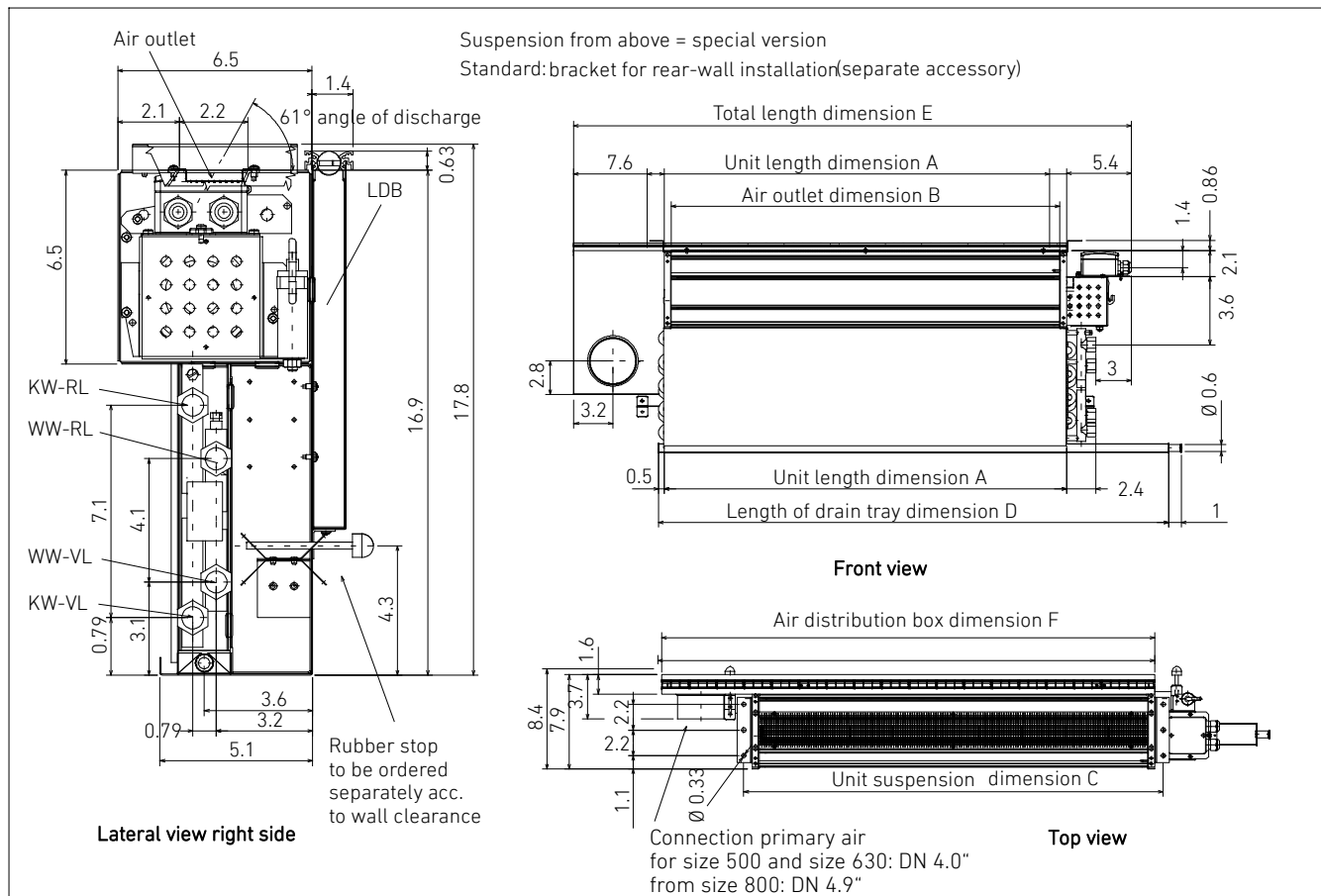


Illustration: 4-pipe system

Technical data

See standard unit VFC-0/4/..../T (page 6) und VFC-0/2/..../T (page 8). Acoustic data may vary according to primary air rate.

The overall sound power level may be calculated as follows:
 $L_{WA} = 10 * \log (10^{0,1 * L_{WA P}} + 10^{0,1 * L_{WA VFC}})$

Sound power level L_{WA} [dB(A)] for separate socket for primary air supply must be added to the unit's sound power level:

Sound power level L_{WA} [dB(A)]

Size	V [cfm]					
	23.5	35.3	47	59	70.6	82.3
500	15	26	34	40	46	>45
630	15	23	31	37	42	>45
800	<15	28	25	32	37	41
1000	<15	<15	19	26	31	35
1250	<15	<15	<15	22	26	31

Technical brochure • Fan coil units VFC, sill installation Type VFC-0/./.../..././FS, with standard primary air supply

Specification

Fan coil unit special version with primary air supply, with lateral (left, opposite to motor) primary air box in extension to the recirculating air outlet. Optimum fresh air supply is ensured even with the fan at standstill.

Connection is realized using a dia: 4.0 socket, with integrated damper (option).

Fan coil unit with one heat exchanger for heating and/or cooling the ambient air.

Water-side control by valves.

Particularly small built-in depth and height, therefore esp. appropriate for a room-saving installation in sills.

Vertical installation. Water connection on the right or left.

Primary air socket laterally left or bottom left (the latter only with water connection on the right).

Dimensions, weights

Size	A	B	E	Weight * [lb]
	[inch]			
500	20.7	19.5	36.5	31
630	24.7	23.5	40.4	35
800	33.7	32.5	49.5	44
1000	41.6	40.4	57.4	53
1250	49.5	48.7	65.3	64

* approx. values, depending on exact model

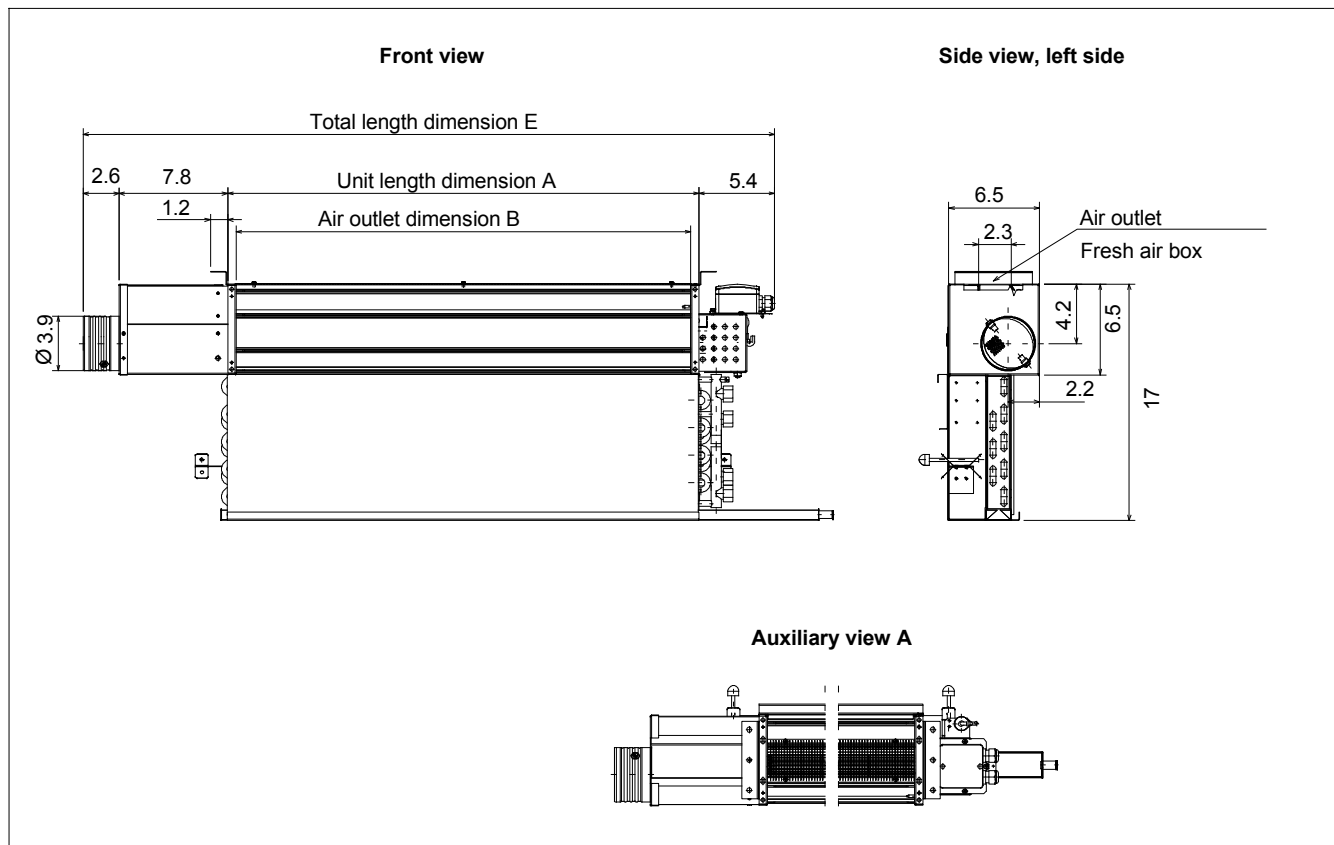


Illustration: size 800, 4-pipe system

Technical data

See standard unit VFC-0/4/.../T (page 6) and VFC-0/2/.../T (page 8).

Acoustic data may increase according to primary air rate.

The sound power level L_{WA} [dB(A)] for separate primary air box must be added to the unit's sound power level:

1 socket (dia: 4.0"), with aluminum linear grille					
V_P	[cfm/ft]	10.7	14.3	17.9	21.4
$L_{WA P}$	[dB(A)]	29	31	32	37
Pressure loss	[in(wg)]	0.014	0.024	0.04	0.056

The overall sound power level is calculated as follows:

$$L_{WA} = 10 * \log (10^{0.1 * L_{WA P}} + 10^{0.1 * L_{WA, VFC}})$$

Technical brochure • Fan coil units VFC, sill installation Type VFC-0/./..././.../EC

Specification

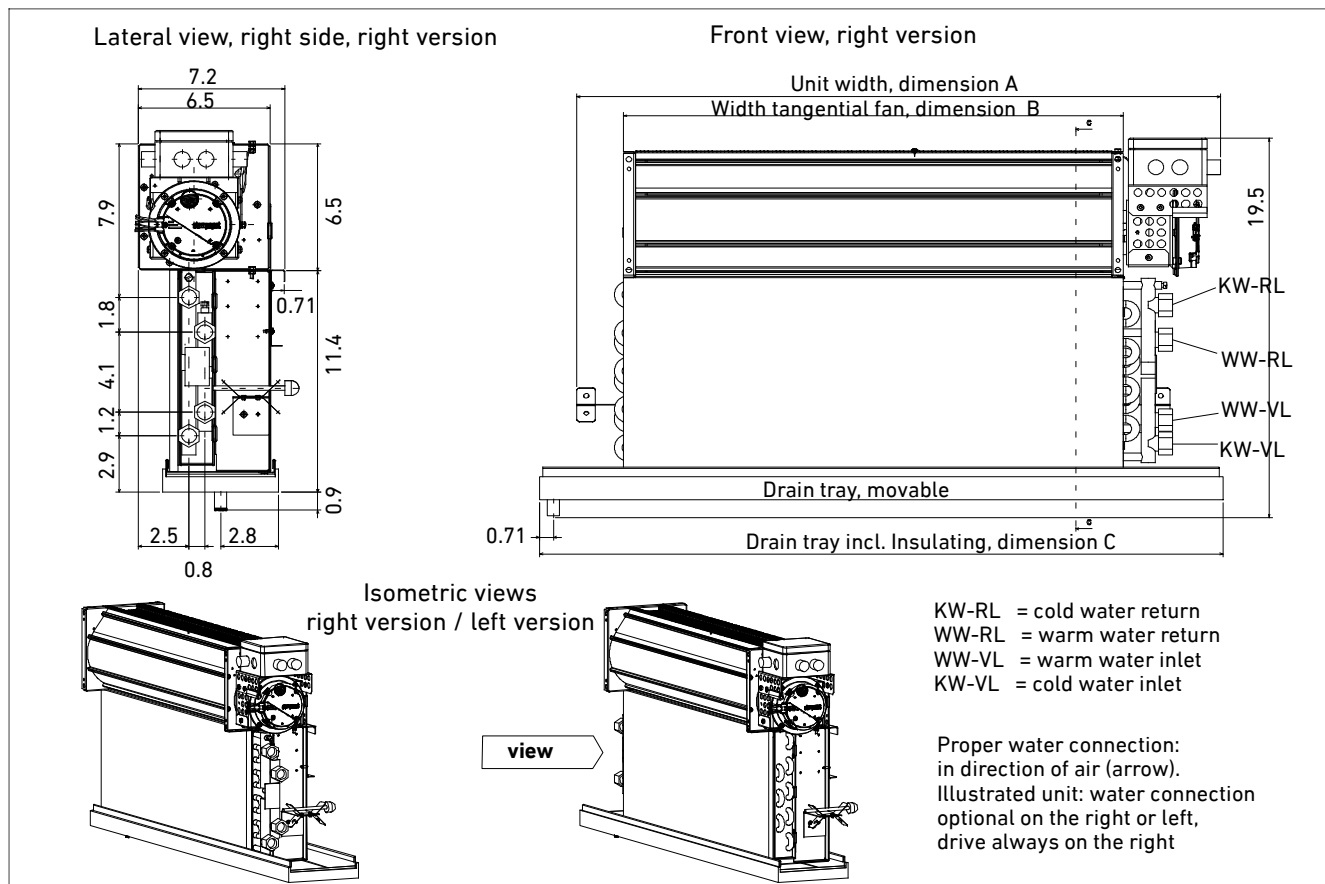
Fan coil unit with one heat exchanger with two separate water circuits for cooling and heating.
Water-side control by valves. With EC motor for all variants.
Extra small built-in depth and height, therefore especially appropriate for a room-saving installation in sills.

For extremely low inlet temperatures an insulated drain tray is available (see page 10).
Vertical installation, water connection on the right or left.
Mounting options (please state with your order):
- Suspension from above (to hook in the sill)
- Wall installation, mounting on rear side (see brochure Accessories for LTG Air-Water Systems)

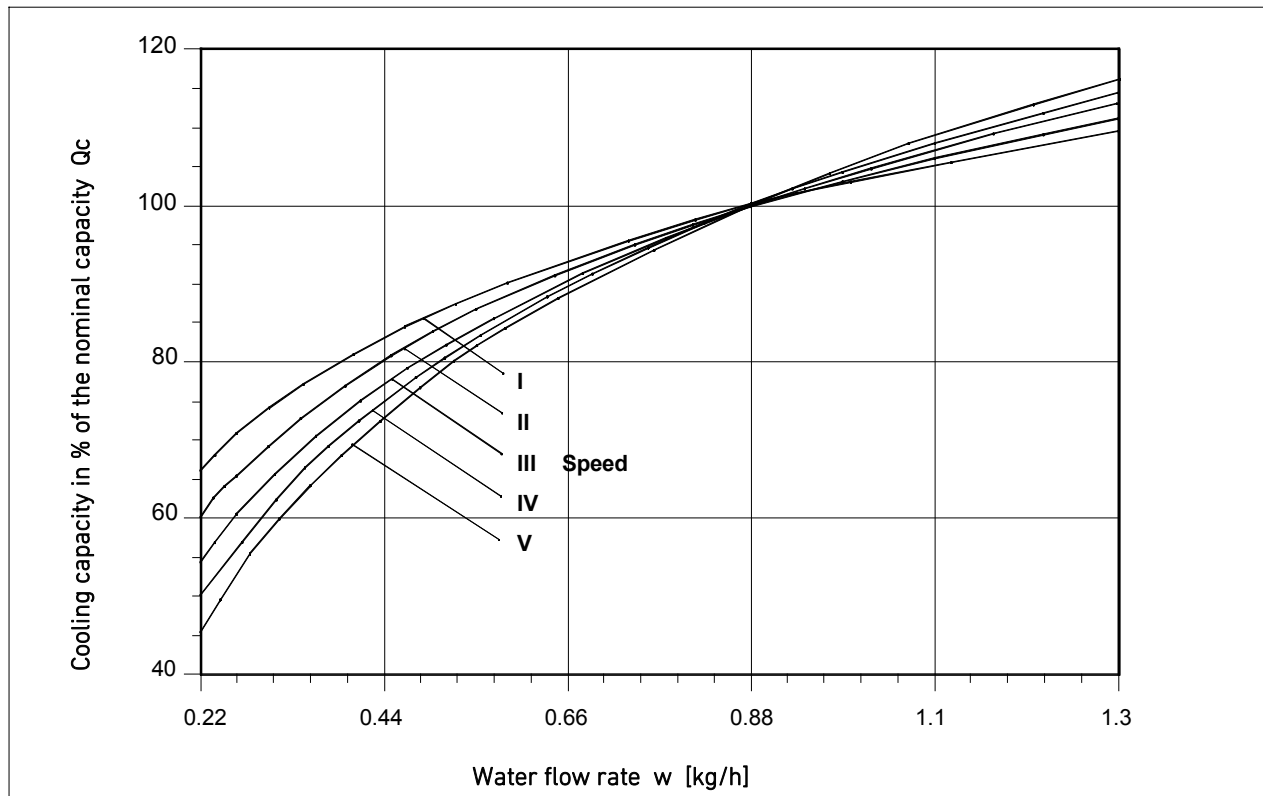
Dimensions, weights, caloric data

Size	A [inch]	B [inch]	C [inch]	Weight* [lb]	Voltage	L _{A18} [dB(A)]	L _{WA} [dB(A)]	P _{el} [W]
500	26.6	19.5	29.8	33	2.3	23	29	5
					3.0	29	35	6
					3.7	35	41	9
					4.3	41	46	11
					5.5	45	51	17
630	31.8	24.7	33.7	39	as size 500			
800	38.4	31.4	42.8	51	as size 500			
1000	46.3	39	50.6	62	2.3	24	30	6
					3.0	29	35	8
					3.7	35	41	11
					4.3	41	47	16
					5.5	47	53	26
1250	56.2	49.1	58.5	73	as size 1000			

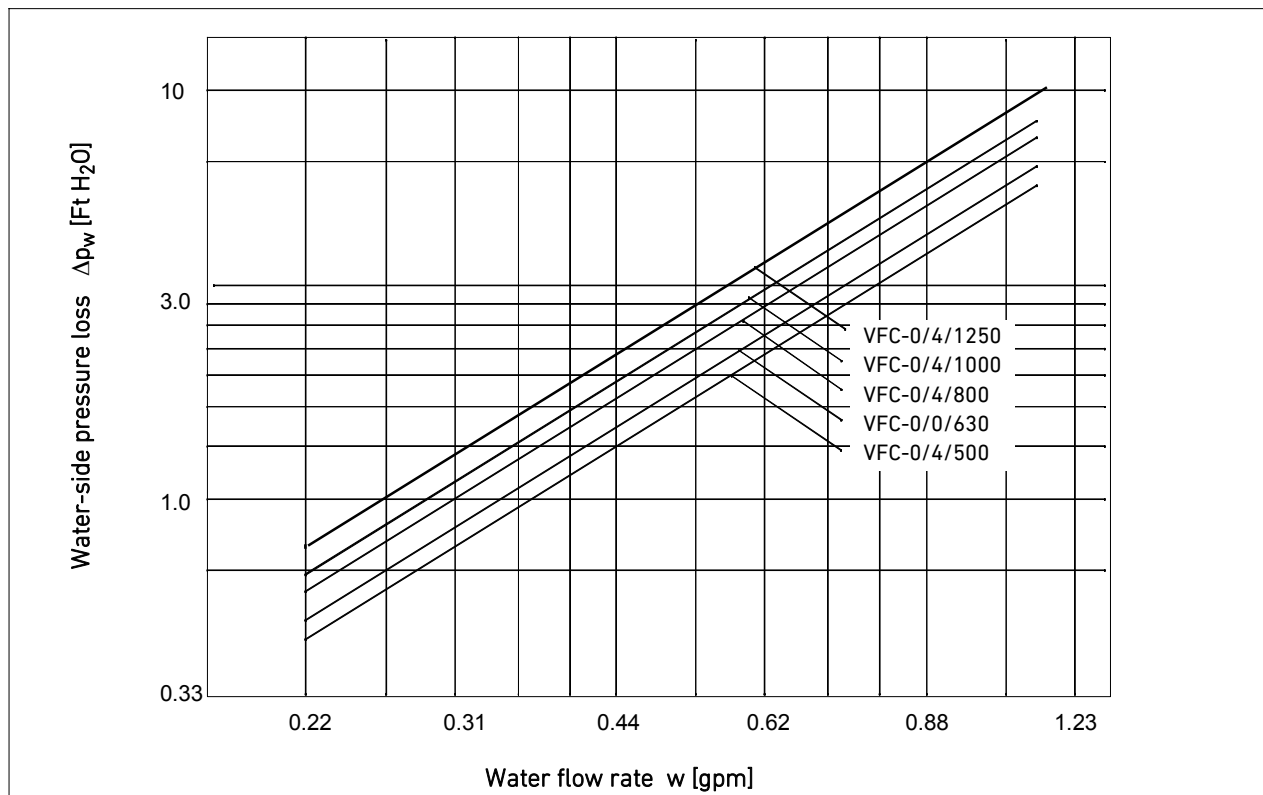
* approx. values, depending on exact model



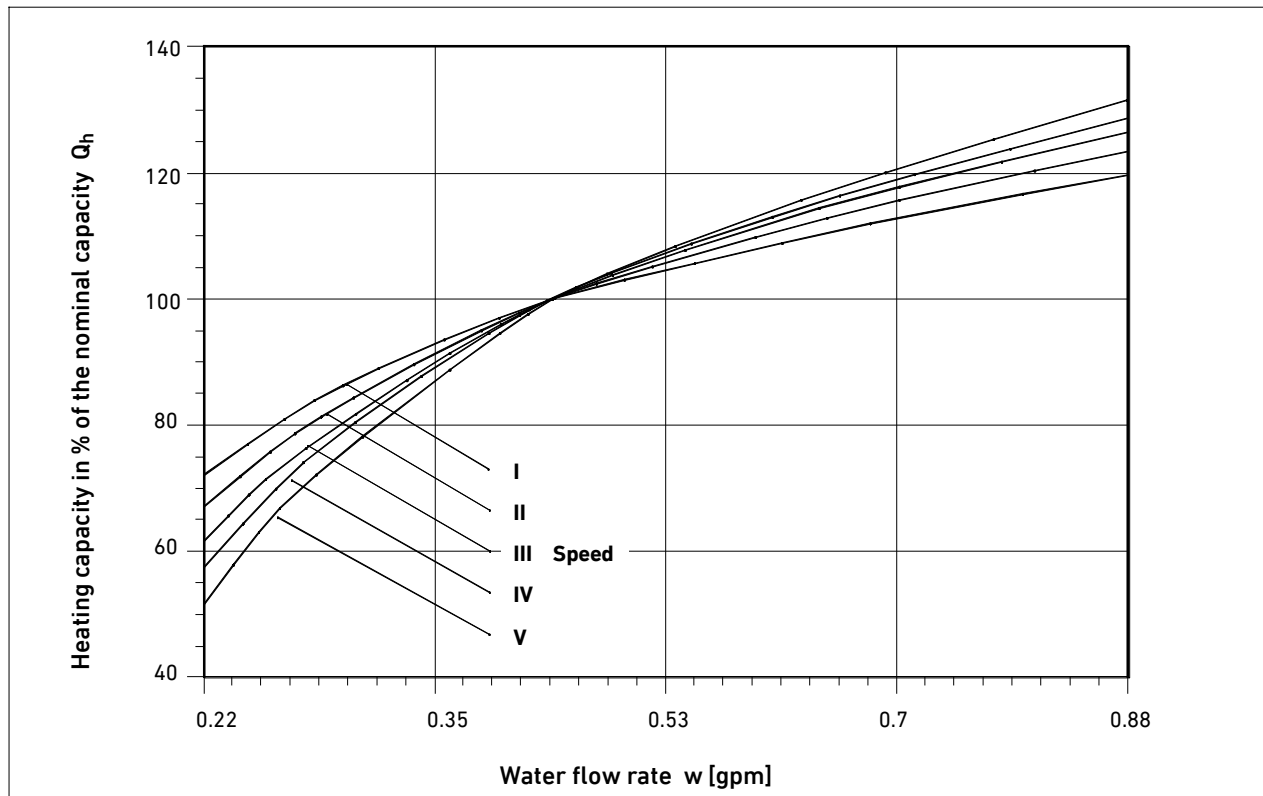
Cooling capacity for different water flow rates



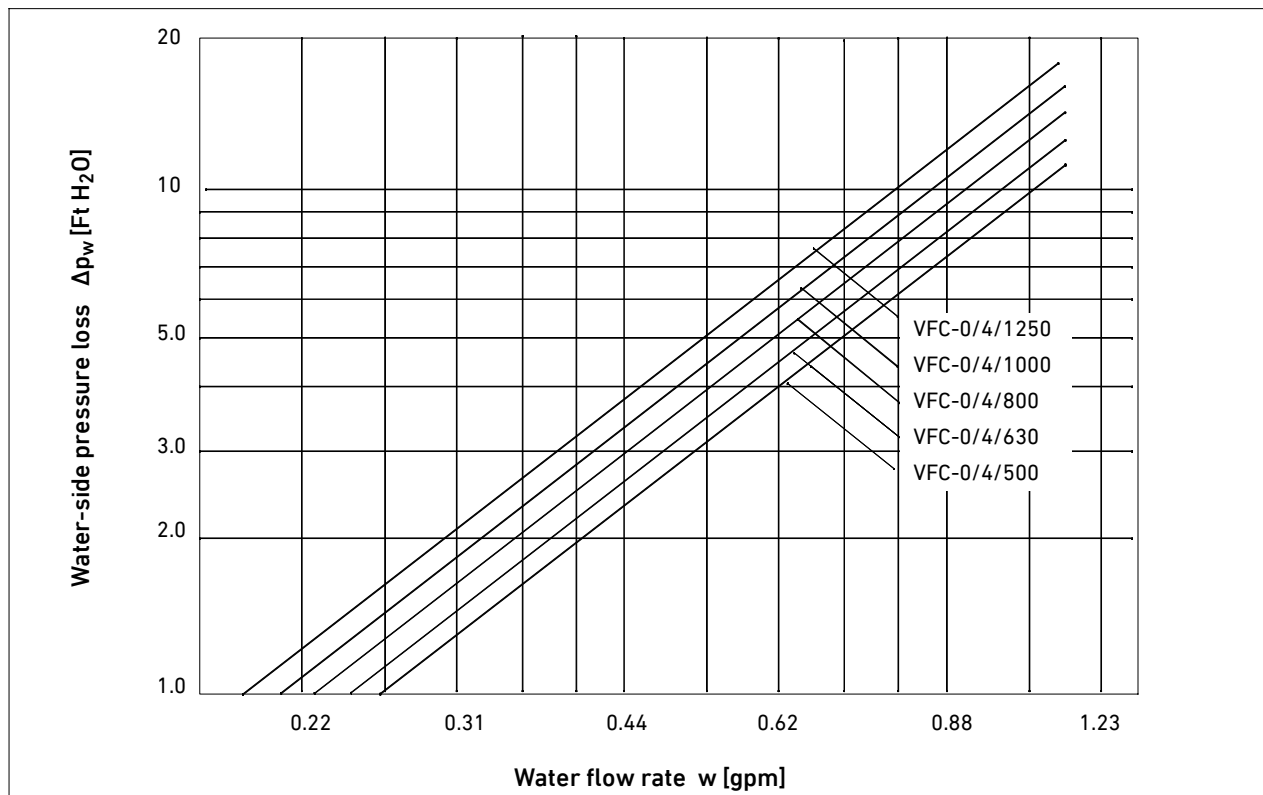
Water-side pressure loss of the cooler for different water flow rates



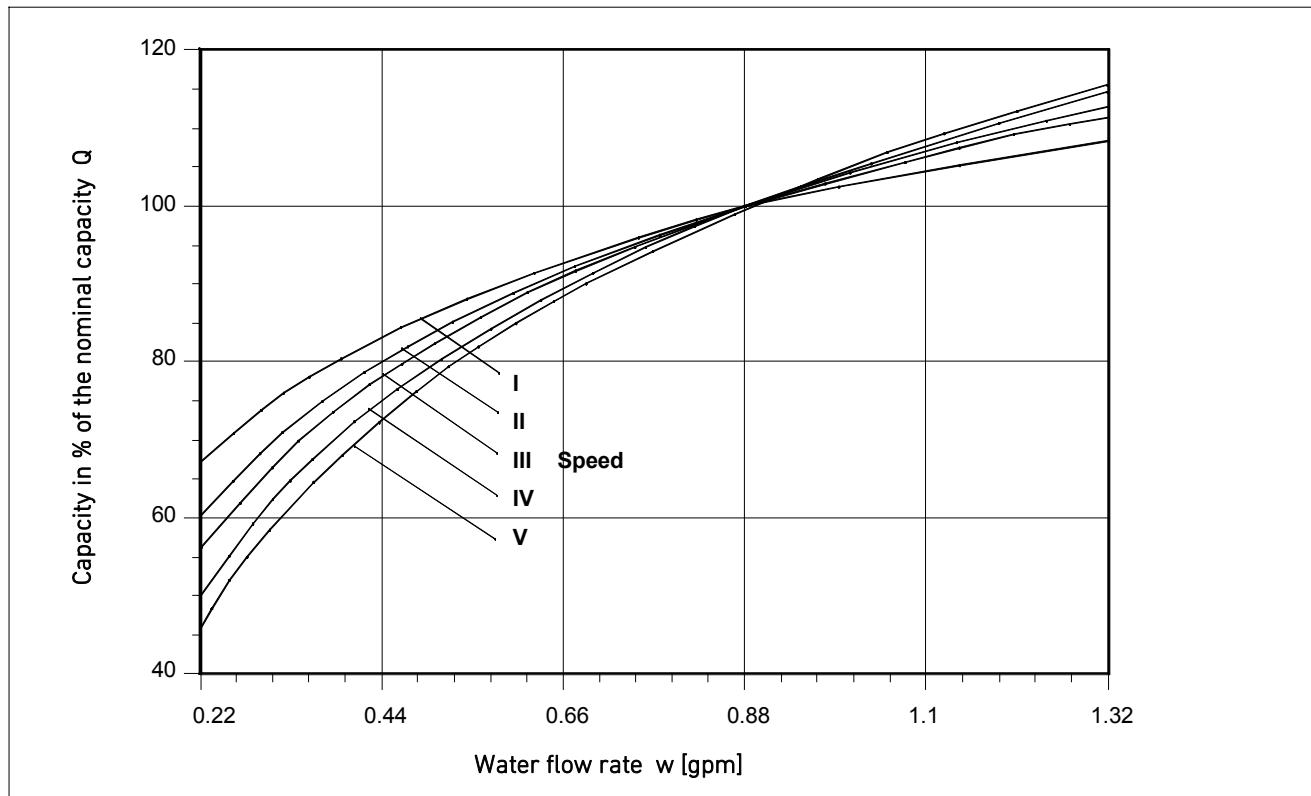
Heating capacity for different water flow rates



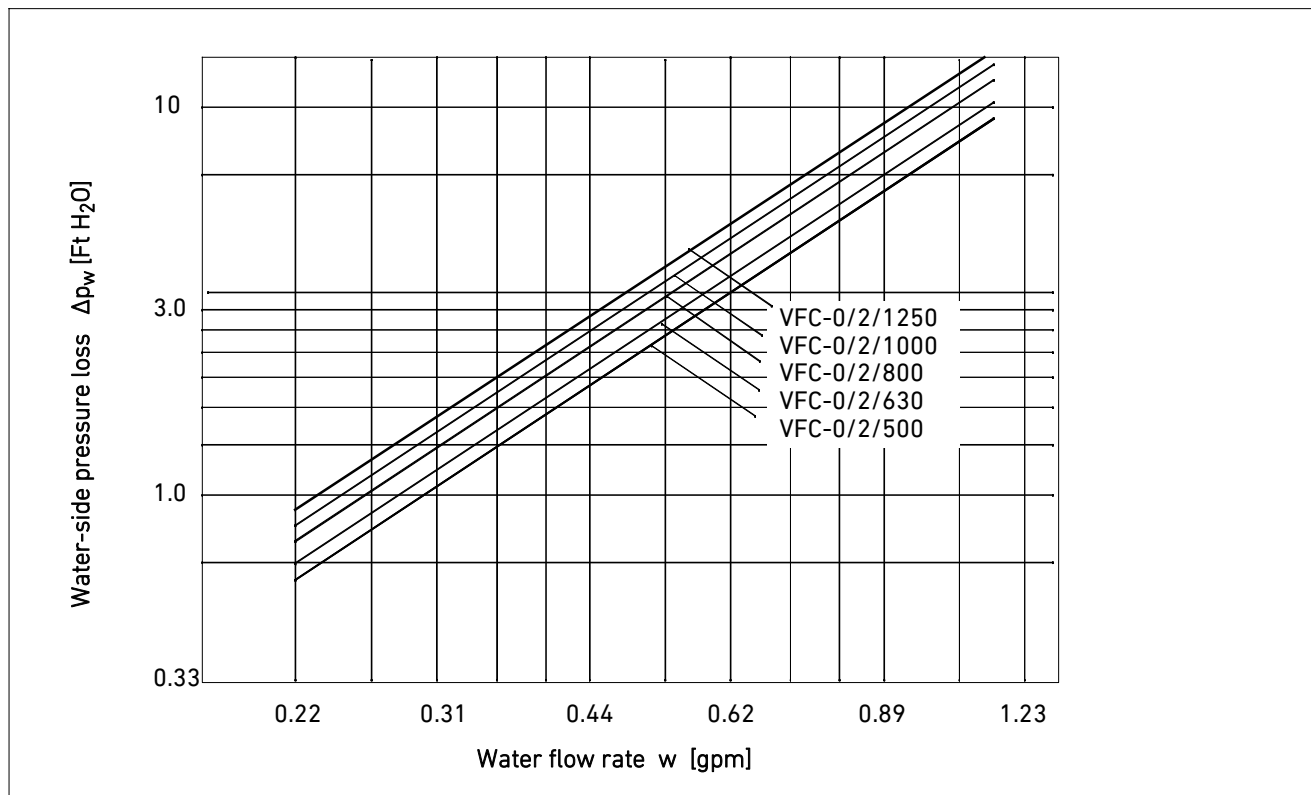
Water-side pressure loss of the heater for different water flow rates



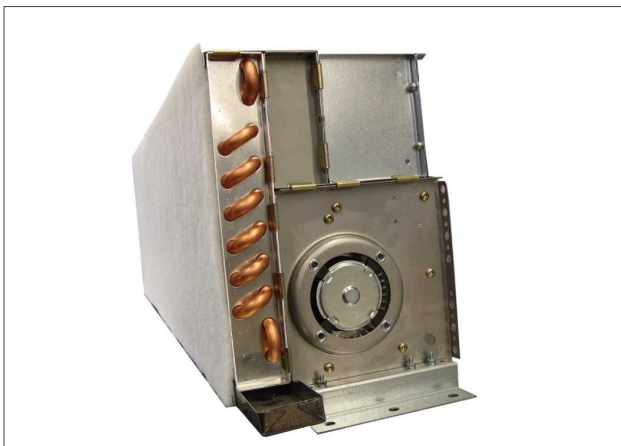
Capacity for different water flow rates



Water-side pressure loss for different water flow rates



Unit views



Application

The fan coil unit type VFC-N has been specifically designed for hotels and office buildings with strict acoustic requirements. It offers versatile possibilities for design of air distribution systems.

Advantages

- Low installation depth of only 11 in
- Highly efficient EC and AC motors with low energy consumption (SFP 200 W/(m³/s))
- Excellent aerodynamic integration of fan and large-area heat exchanger for high caloric output 30...75 W_{th}/W_{el} with low sound level
- Very smooth running and low sound level thanks to vibration isolated tangential fan and low-noise slide bearing
- Heat exchanger for efficient room heating via natural convection
- Fan with maintenance-free, low-noise slide bearings for long service life
- Air guiding elements for patented, optimized LTG mixed displacement air ventilation, adjustable to a variety of room geometries (optional)

Operation principle

The tangential fan of the VFC-N draws in room air at the unit's bottom side. This air passes through a heat exchanger (cooling or heating) and is then returned into the room.

Output control is water-side using valves.



*Example of room air flow:
VFC-N with special fan insert for mixed air/displacement air*

Design

- 2-pipe system for cooling only or heating only (VFC-N/2)
- 4-pipe system for cooling and heating (VFC-N/4)

Technical brochure • Fan coil units VFC, sill installation

Type VFC-N/./.../T/./EC

Specification

Fan coil unit with one heat exchanger for cooling or heating the room air (type VFC-N/2/...) resp.

with one heat exchanger and two separate circuits for cooling and heating the ambient air (type VFC-N/4/...).

Water-side control by valves.

Particularly small built-in depth and height, therefore especially appropriate for a room-saving installation in sills.

Non-condensing operation.

Vertical installation.

Water connection on the right.

Dimensions, weights

Size	A (EC)	B	C	D	E	Weight *
500	25.5	19.6	23.1	21.0	22.0	33
630	30.6	24.7	28.8	26.1	27.2	40
800	37.3	31.4	34.9	32.8	33.9	51
1000	45.2	39.3	42.8	40.7	41.7	62
1250	55.0	49.1	52.6	50.5	51.6	73

* approx. values, depending on execution

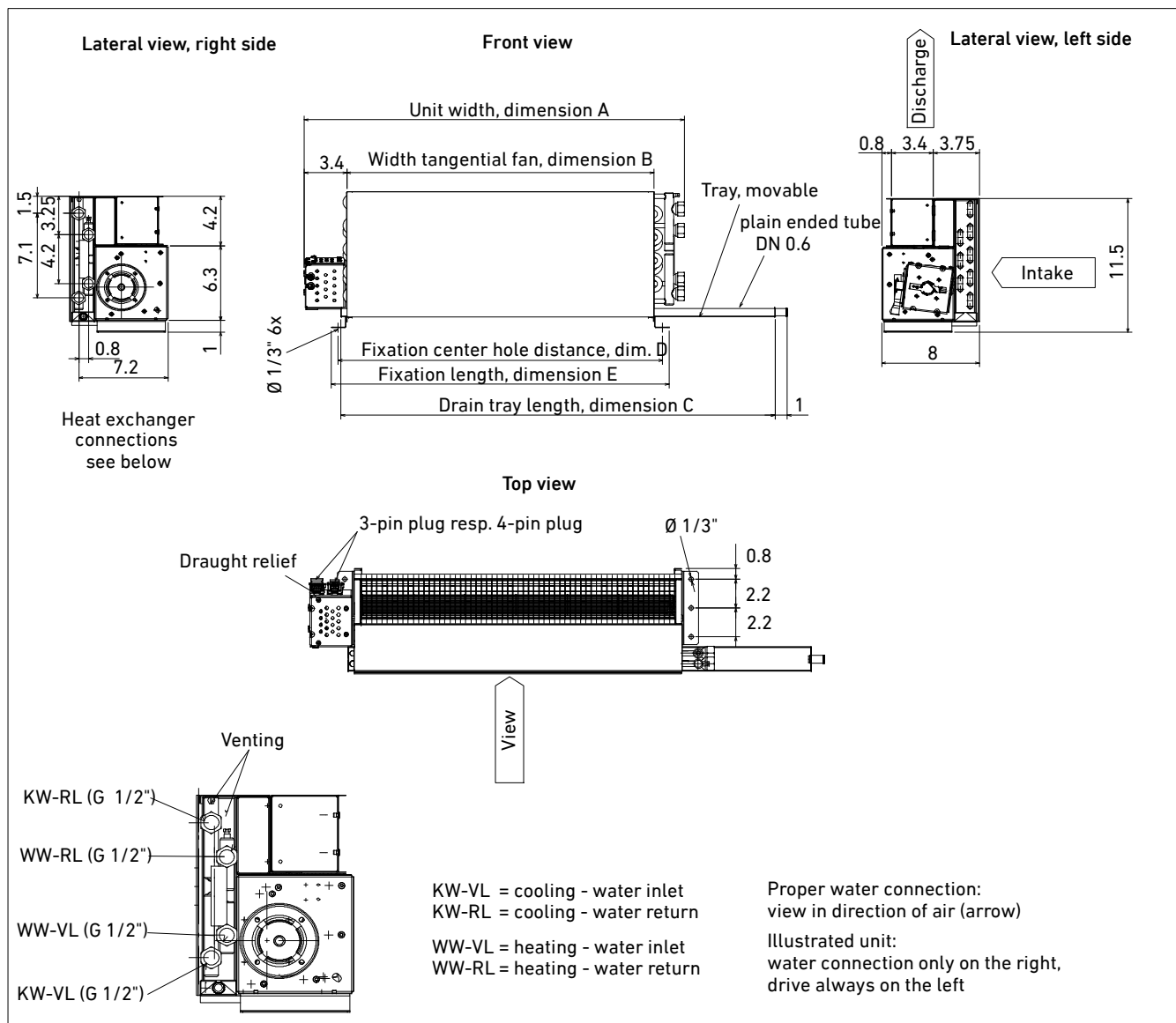


Illustration: type VFC-N/4/.../T/./EC, 4-pipe system, with EC motor

Technical brochure • Fan coil units VFC, sill installation Type VFC-N/./..../T/./AC5

Dimensions, weights

Size	A (AC)	B	[inch]			Weight * [lb]
			C	D	E	
500	28.0	19.6	23.1	21.0	22.0	33
630	33.1	24.7	28.8	26.1	27.2	40
800	39.8	31.4	34.9	32.8	33.9	51
1000	47.7	39.3	42.8	40.7	41.7	62
1250	57.5	49.1	52.6	50.5	51.6	73

* approx. values, depending on execution

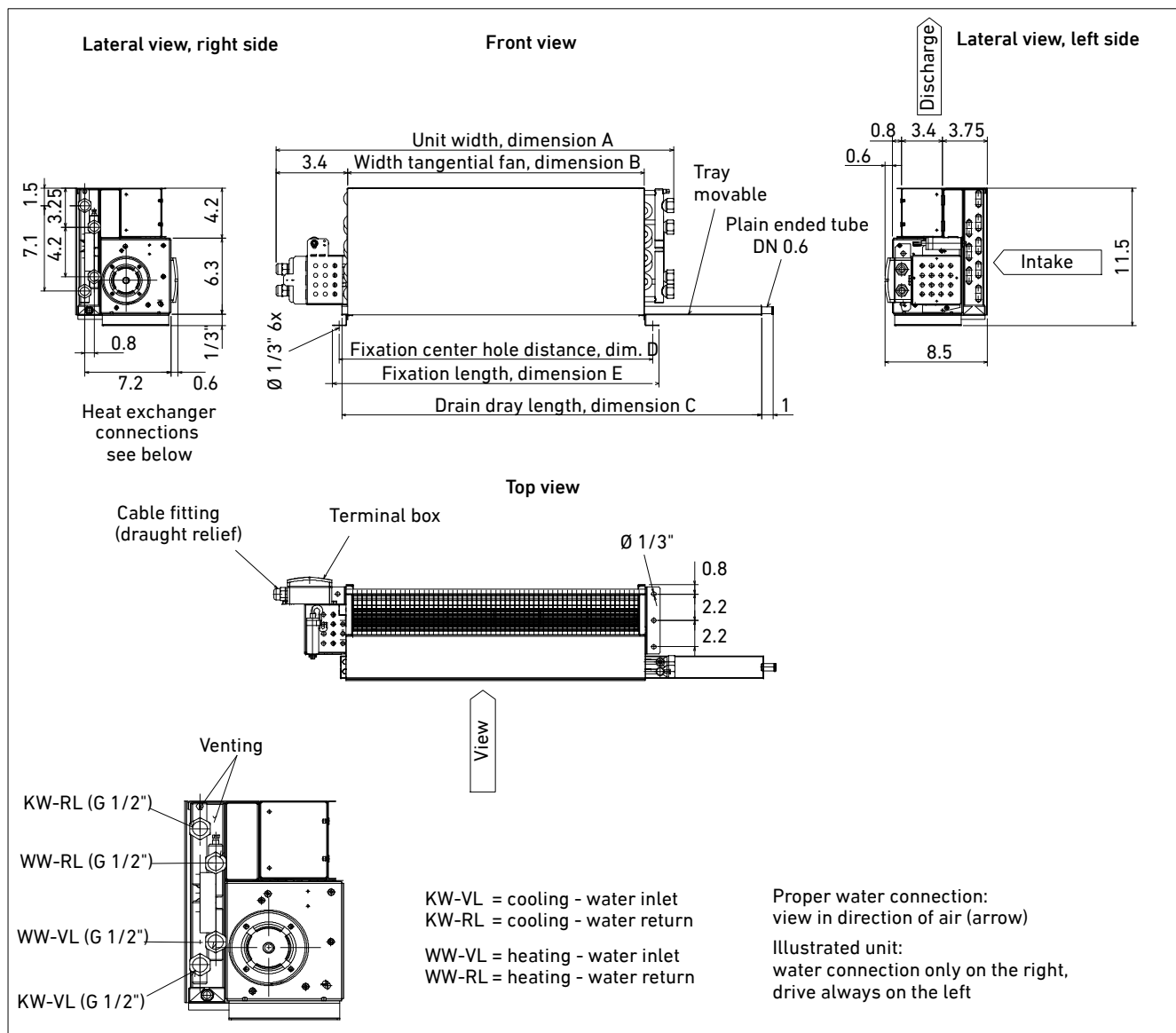


Illustration: type VFC-N/4/./..../T/./AC5, 4-pipe system, with AC motor

Technical brochure • Fan coil units VFC, sill installation

Type VFC-N/4/..., 4-pipe system



Technical data type VFC-N/4/800, 4-pipe-system, size 800

Speed n [-]	V [cfm]	$L_{wA mF}^{2)}$ [dB(A)]	$Q_{c oF}/\Delta t^{1)}$ [BTU/h*Δt]	$Q_{c mF}/\Delta t^{2)}$ [BTU/h*Δt]	$Q_{h oF}/\Delta t^{1)}$ [BTU/h*Δt]	$Q_{h mF}/\Delta t^{2)}$ [BTU/h*Δt]	$w_{oc}/\Delta p_w$ [gpm]/[Ft H ₂ O]	$w_{oh}/\Delta p_w$ [gpm]/[Ft H ₂ O]	P_{el} (AC) [W]	P_{el} (EC) [W]
I	129	30	92.9	81.5	68.2	62.5	0.88 / 5.3	0.44 / 0.9	16	5
II	153	32	104.2	94.8	75.8	70.1			20	6
III	171	34	117,5	108.0	81.5	77.7			23	9
IV	200	38	127.0	121.3	87.2	83.4			25	11
V	224	43	140.3	132.7	94.8	89.1			31	17

1) Values apply to the unit with air outlet grille, without filter

2) Values apply to the unit with air outlet grille, with filter

Values may vary when units are installed.

n - speed

V - flow rate (± 10 %)

$L_{wA mF}$ - sound power level ± 3 dB(A) (without casing, with filter)

$Q_{c oF}$ - cooling capacity (without filter)

$Q_{c mF}$ - cooling capacity (with filter)

$Q_{h oF}$ - heating capacity (without filter)

$Q_{h mF}$ - heating capacity (with filter)

Δt - temperature difference between suction temp. before heat exchanger and water inlet

w_{oc} - standard water flow rate at cooling capacity (correction for other water flow rates see from page 25)

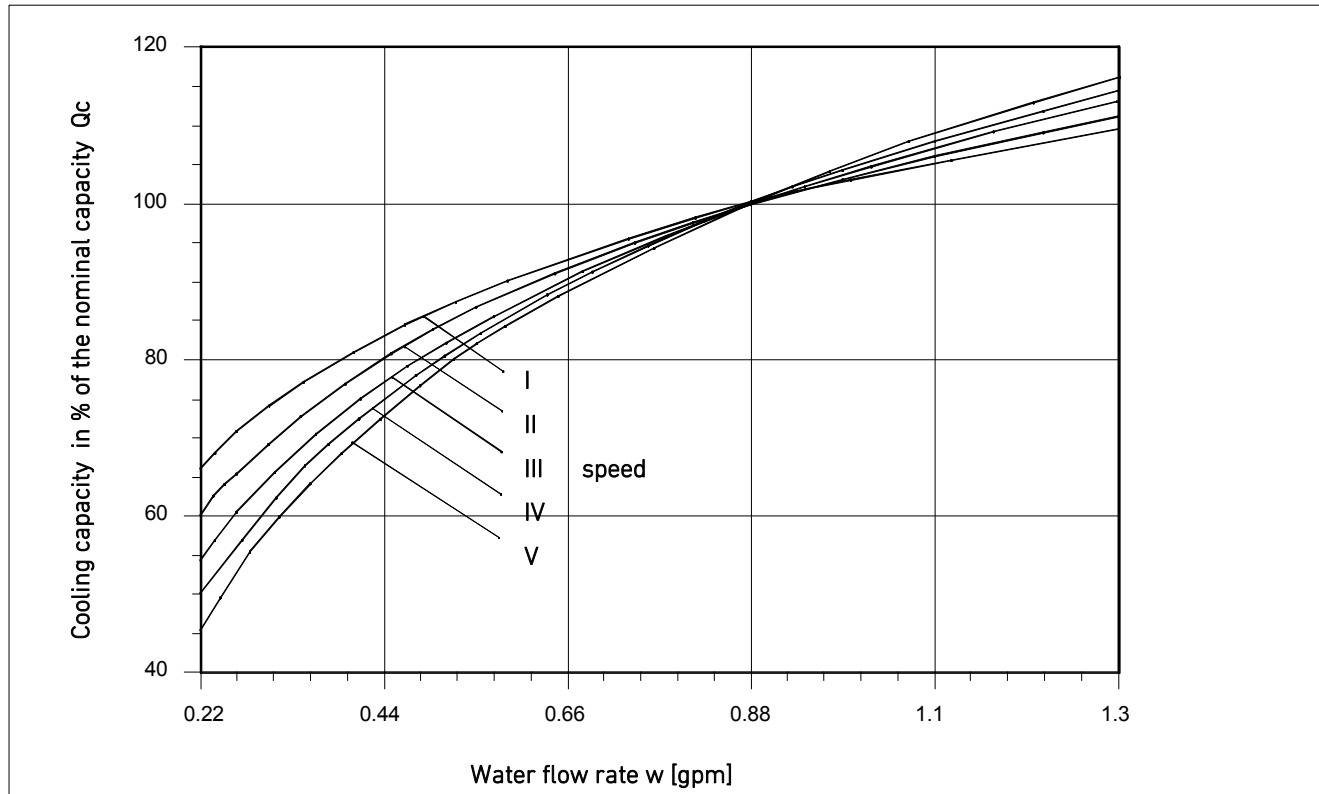
w_{oh} - standard water flow rate at heating capacity (correction for other water flow rates see from page 25)

P_{el} - electric power consumption (± 20 %)

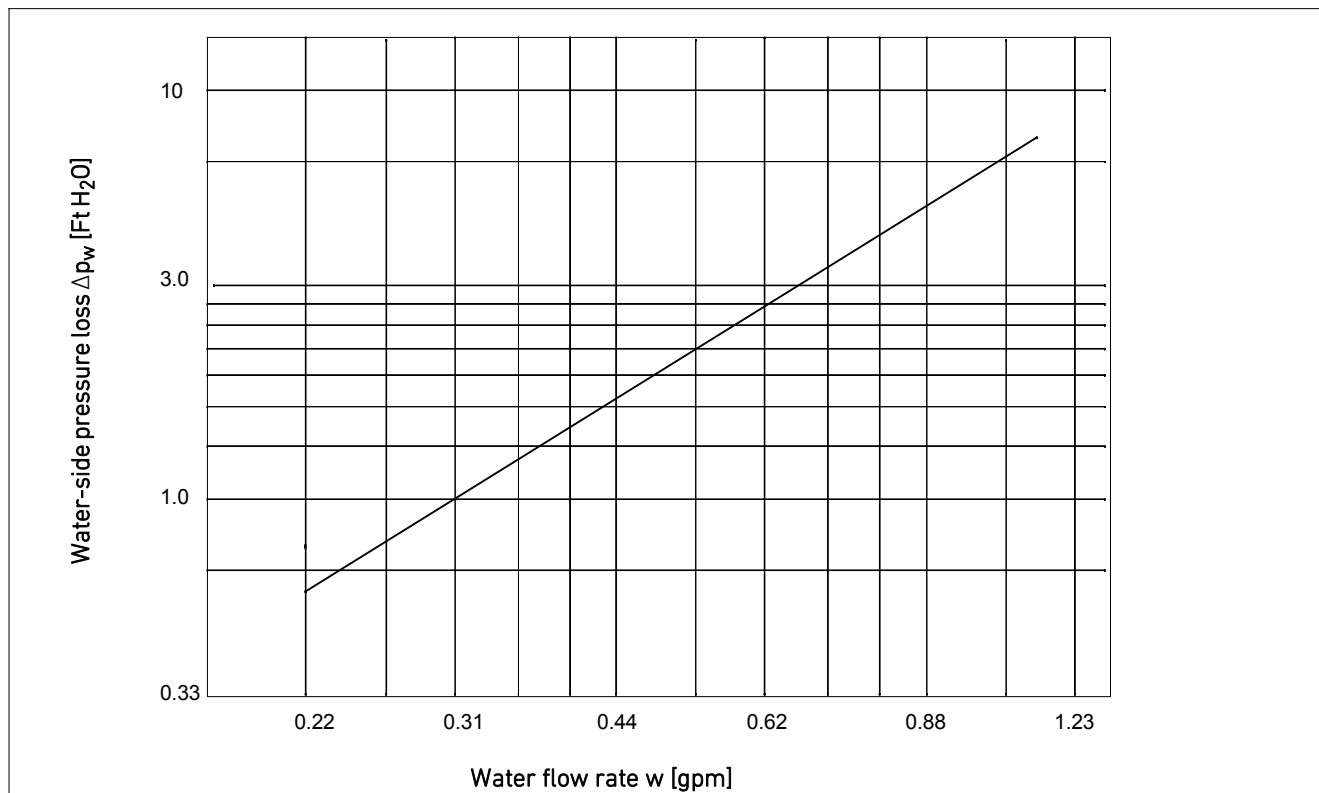
Speed control wiring diagram

See page 26.

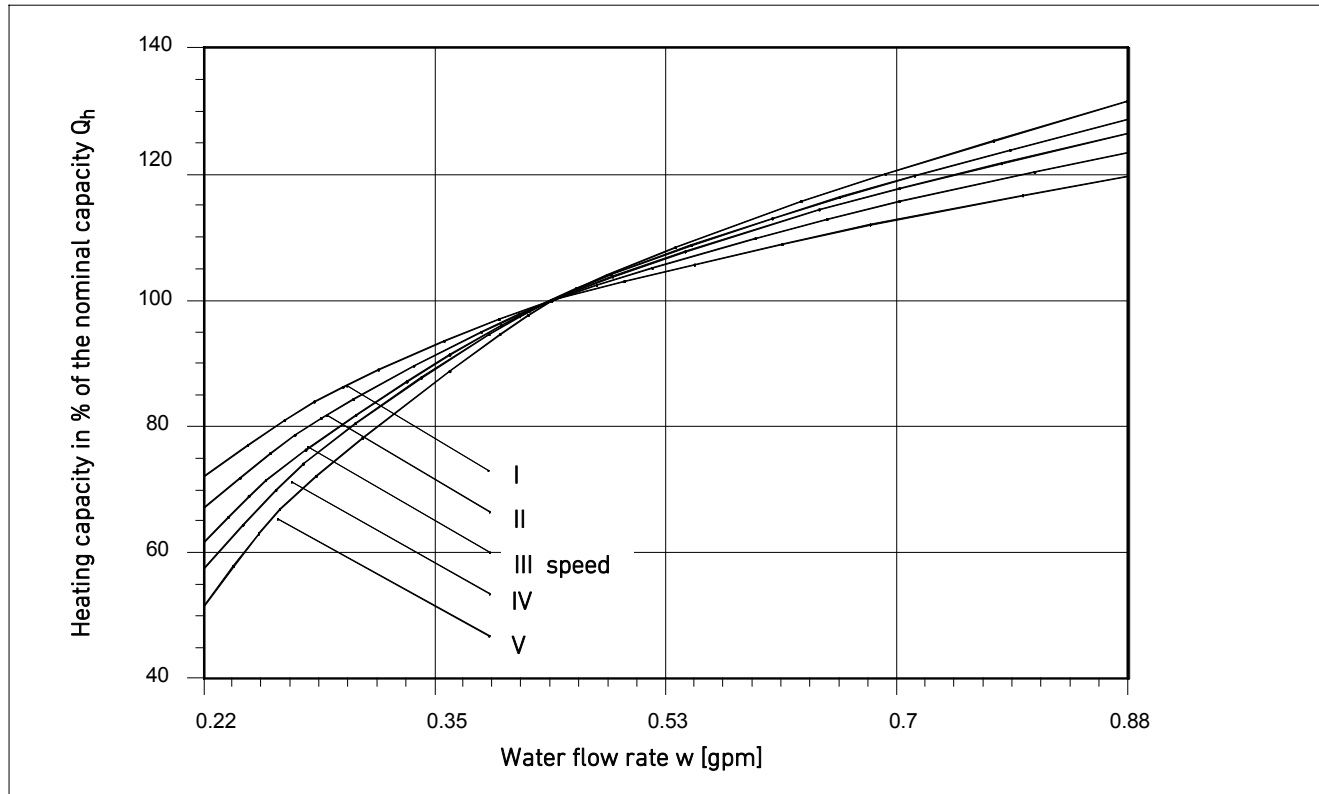
Cooling capacity for different water flow rates



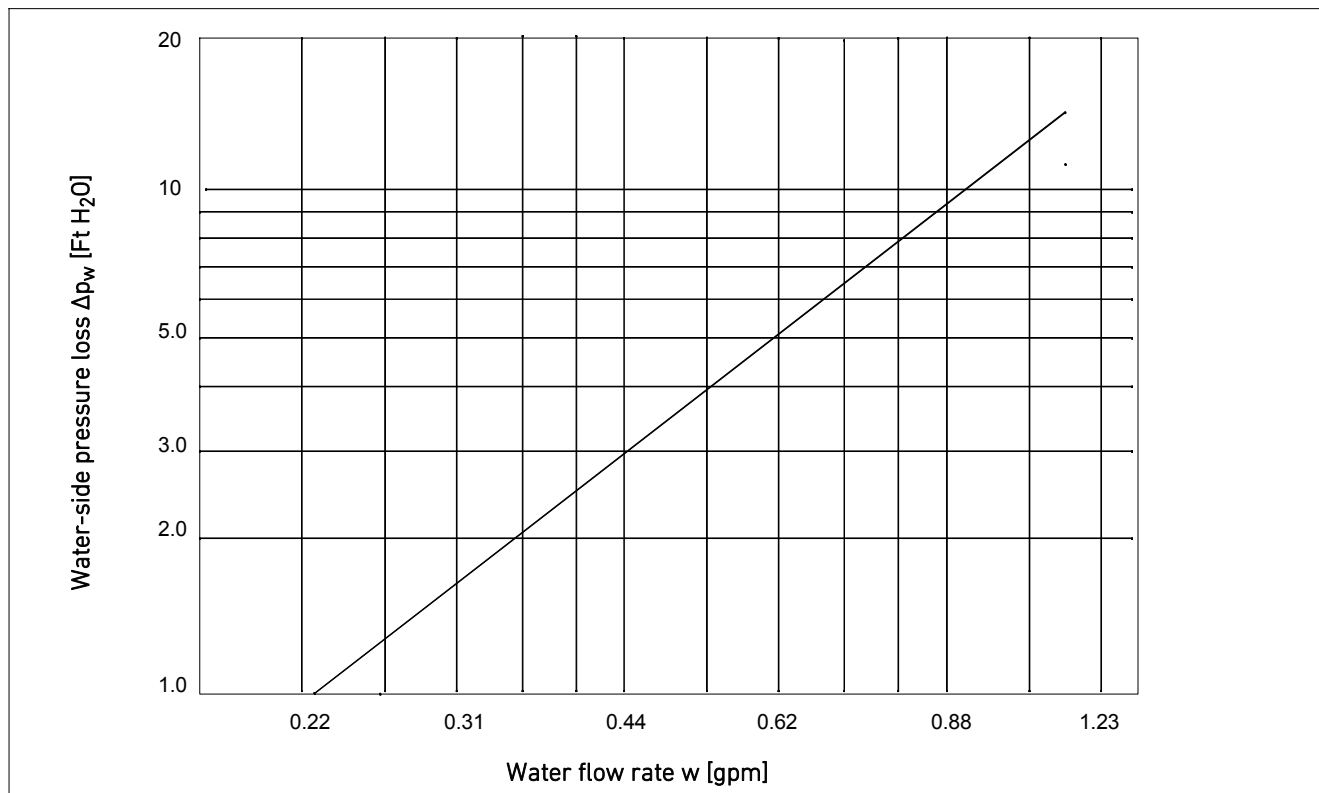
Water-side pressure loss of the cooler for different water flow rates



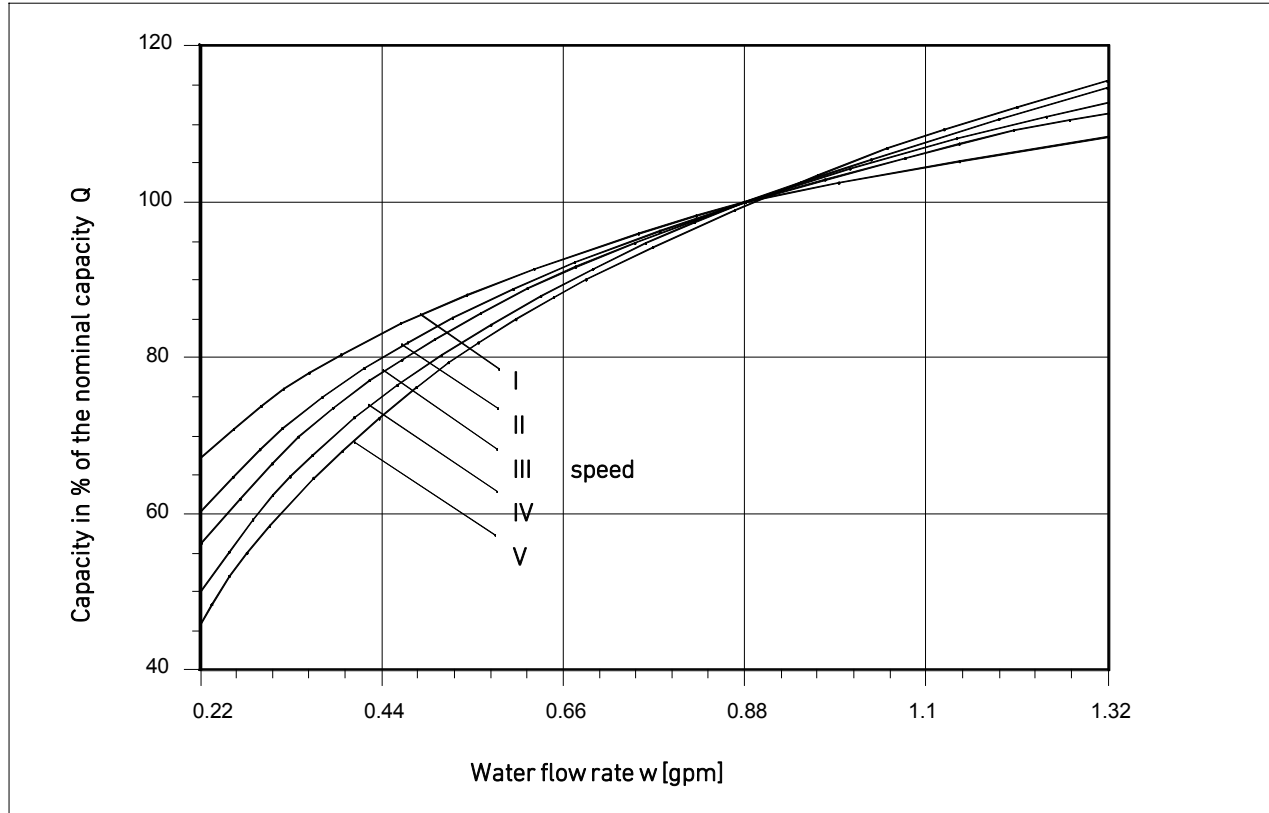
Heating capacity for different water flow rates



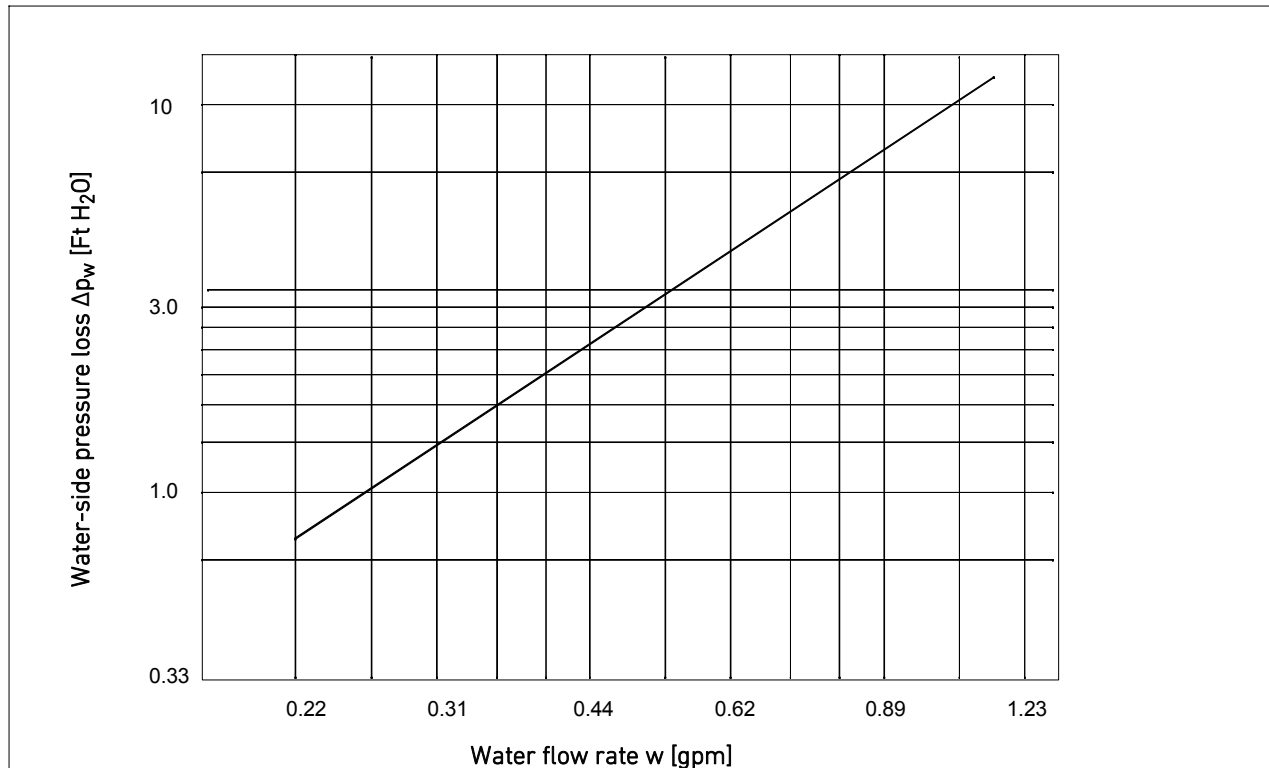
Water-side pressure loss of the heater for different water flow rates



Capacity for different water flow rates



Water-side pressure loss for different water flow rates



Nomenclature, ordering code

VFC - 0 / 2 / 800 / T / SR / EC / WR / OL / - / OA / OE / MF / HS

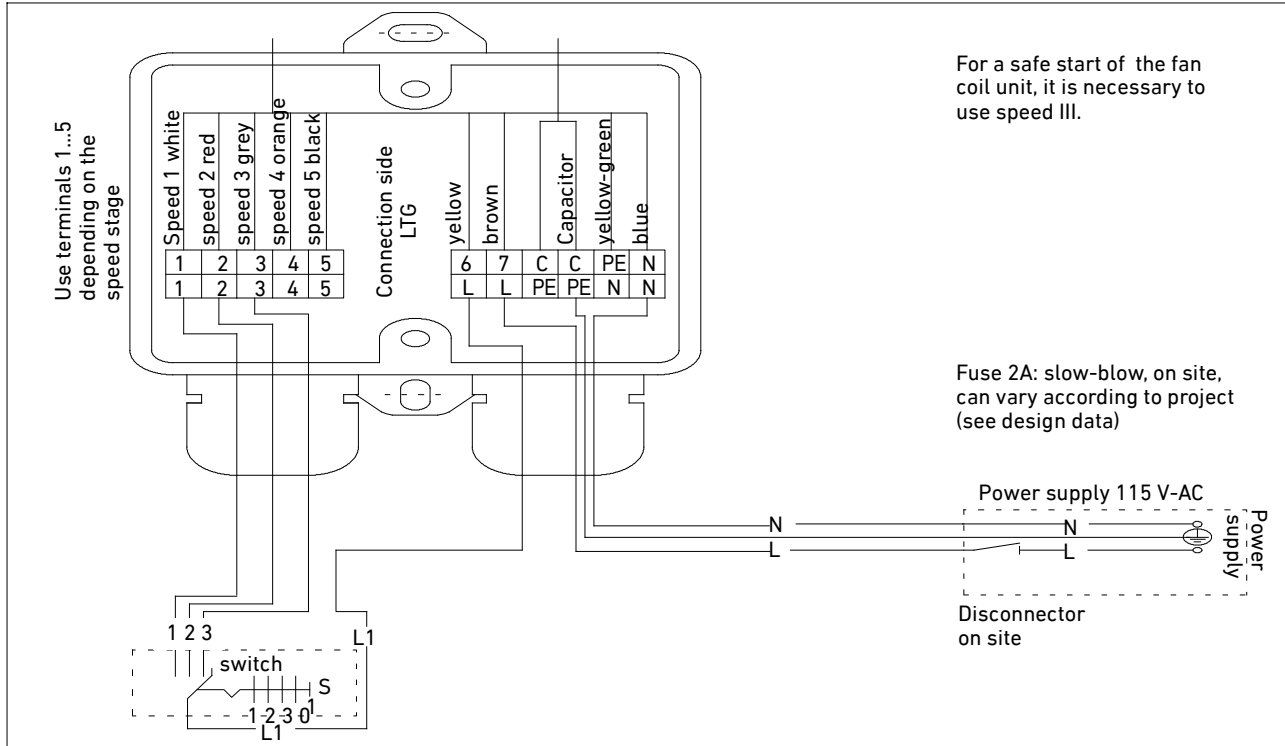
(1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13) (14)

(1) Series	VFC	= VFC
(2) Type	0	= standard (perimeter installation or floor-mounted)
	N	= low height
(3) Heat exchanger	2	= 2-pipe
	4	= 4-pipe
(4) Size	500	= 19.7 (only available for type VFC-0)
	630	= 24.8
	800	= 31.5
	1000	= 39.4
	1250	= 49.2
(5) Condensate tray	T	= without additional condensate tray, with drip gutter
	E	= with additional condensate tray (only available for type VFC-0, supplied loose)
(6) Condensate drain *	O	= without (only available for version T)
	SR	= laterally right (only available for version T)
	SL	= laterally left (only available for version T)
	UR	= down right
	UL	= down left
(7) Fan motor *	AC5	= AC motor 5 speeds (always on the right)
	EC	= EC motor 0...10 V (always on the right)
(8) Water connection *	WR	= on the right
	WL	= on the left (only available for type VFC-0)
(9) Primary air supply	OL	= without (standard)
	FS	= with primary air supply (always on the left, with throttling device KLI DN 4.0", only available for type VFC-0)
	FL	= with inductive linear diffuser type LDB 20 <i>classic</i> 1/00/E6-EV1/black cylinders, with sound absorber SDA (only available for type VFC-0)
(10) Primary air socket *	-	= without (only available for version OL)
	SL	= laterally left (only available for version FS)
	UL	= down left (only available for versions FS and WR)
	VR	= in the front right (only available for versions FL and WL)
	VL	= in the front left (only available for versions FL and WR)
(11) Discharge socket	OA	= without
	MA	= with standard discharge socket (straight, height 70 mm, only available for version OL)
	SXG-...	= with special discharge socket, acc. to drawing (supplied loose)
(12) Mixed/displacement air insert	OE	= without
	MQ	= with mixed/displacement air insert
(13) Filter	OF	= without (only available for version T)
	MF	= with filter
(14) Suspension	OH	= without bracket
	HS	= lateral wall bracket, state distance to wall dimension W (supplied loose)
	HH	= rear wall bracket, state distance to wall dimension W (supplied loose)
	HO	= upper wall bracket (mounted)
	FK	= floor stand, state height H (supplied loose)

* Definition right/left: see page 14

Speed control wiring diagram for 5-speed AC motor

- Note:**
- Capacitor motor with 5 tapplings.
 - Multiple unit triggering possible (max. 4 units).
 - The technical data contain details about the current consumption and the corresponding electrical power.



Speed control wiring diagram for EC motor 0...10 V

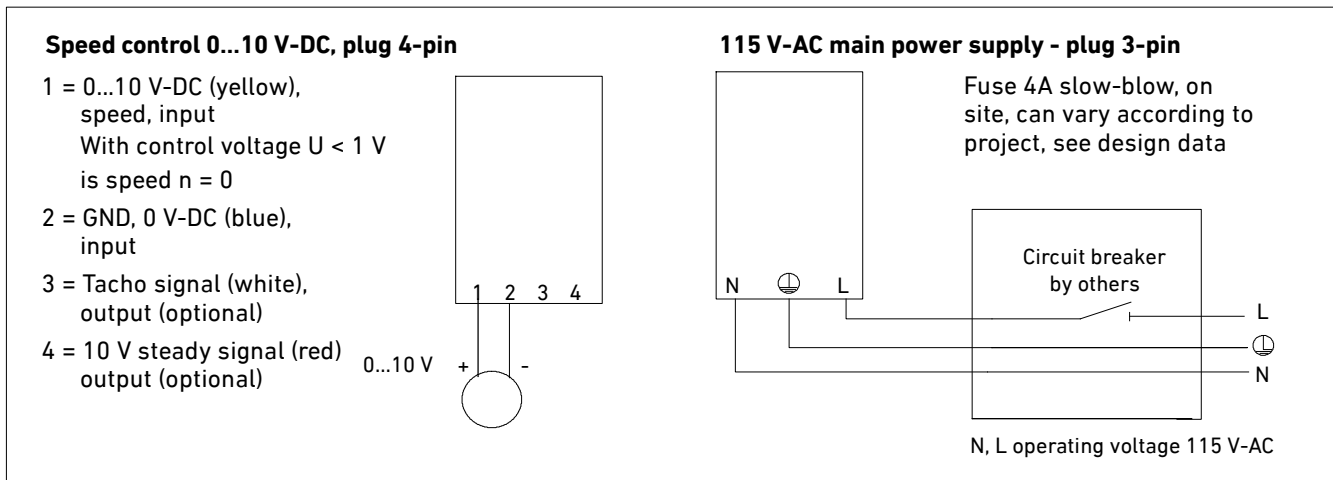
Two connections are necessary for electrically connecting the fan convector. These are provided by plug connections, protection IP 21. The plugs are preassembled on the motor side at the factory. Only the supplied mating plugs have to be assembled by others accordingly.

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

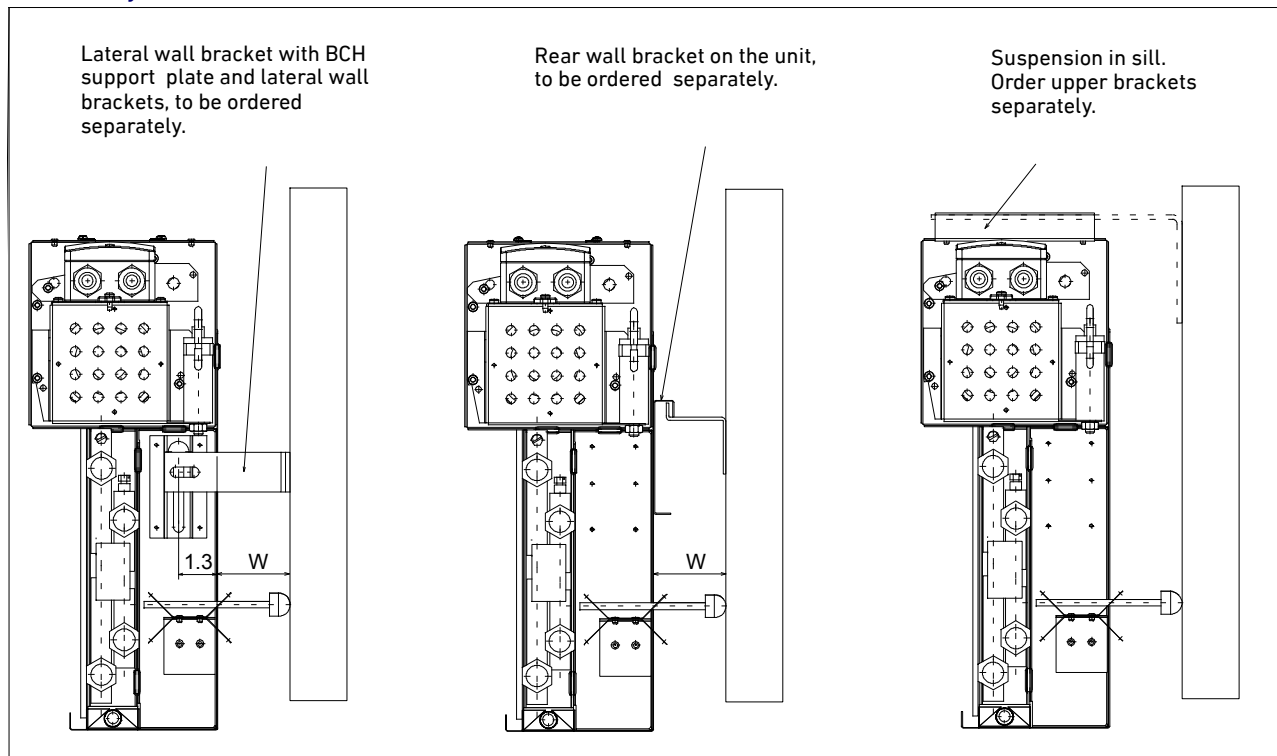
diagrams only show the systems that are relevant to the basic functions. Other units or components, such as those required for overall control engineering and/or design in compliance with VDE regulations, are not shown and are not explicitly mentioned.

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

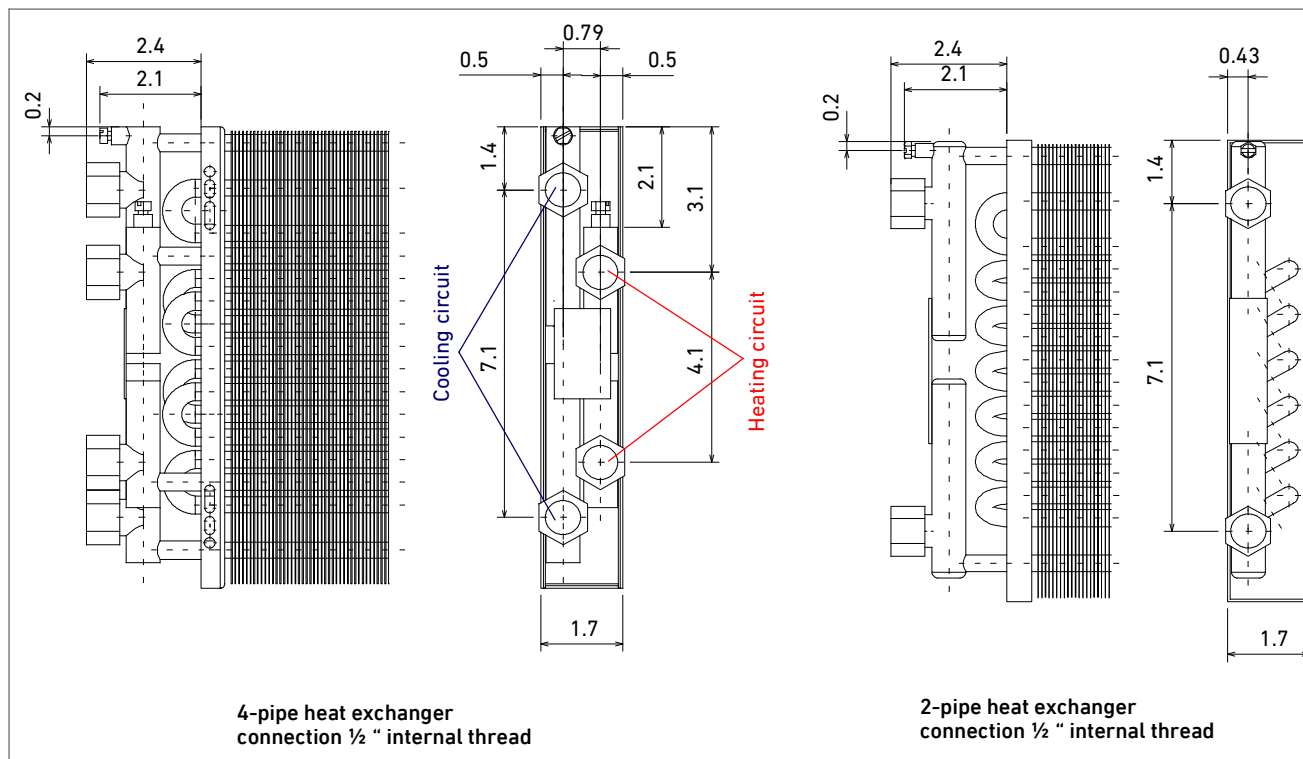
The controllers for this application are parametrized by others.



Assembly, brackets



Water connections



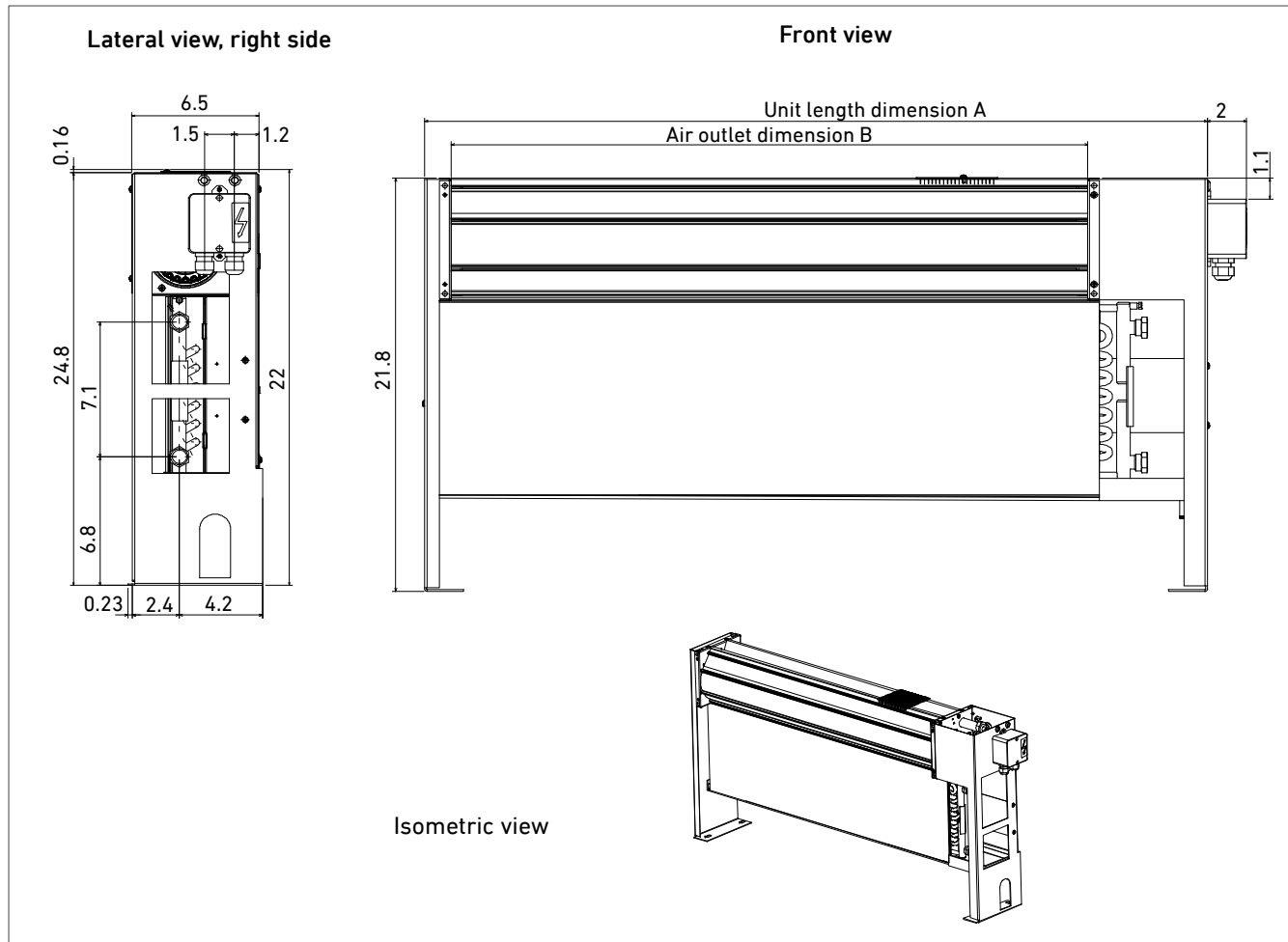
Technical brochure • Fan coil units VFC, sill installation Special version type VFC-F, upright unit with solid floor fixation

Specification

With base for attachment to the ground.

Dimensions, weights

Size	A	B	Weight [lb]
	[inch]		
630	31	23.5	42
800	40	32.5	51
1000	47.9	40.4	59
1250	55.7	48.3	70



Illustrator: Type VFC-2 630 (2-pipe system), without casing

Technical data

See standard units VFC-0/4/.../T (page 6) and VFC-0/2/.../T (page 8).

Technical brochure • Fan coil units VFC, sill installation

Casing VK for upright units

Specification

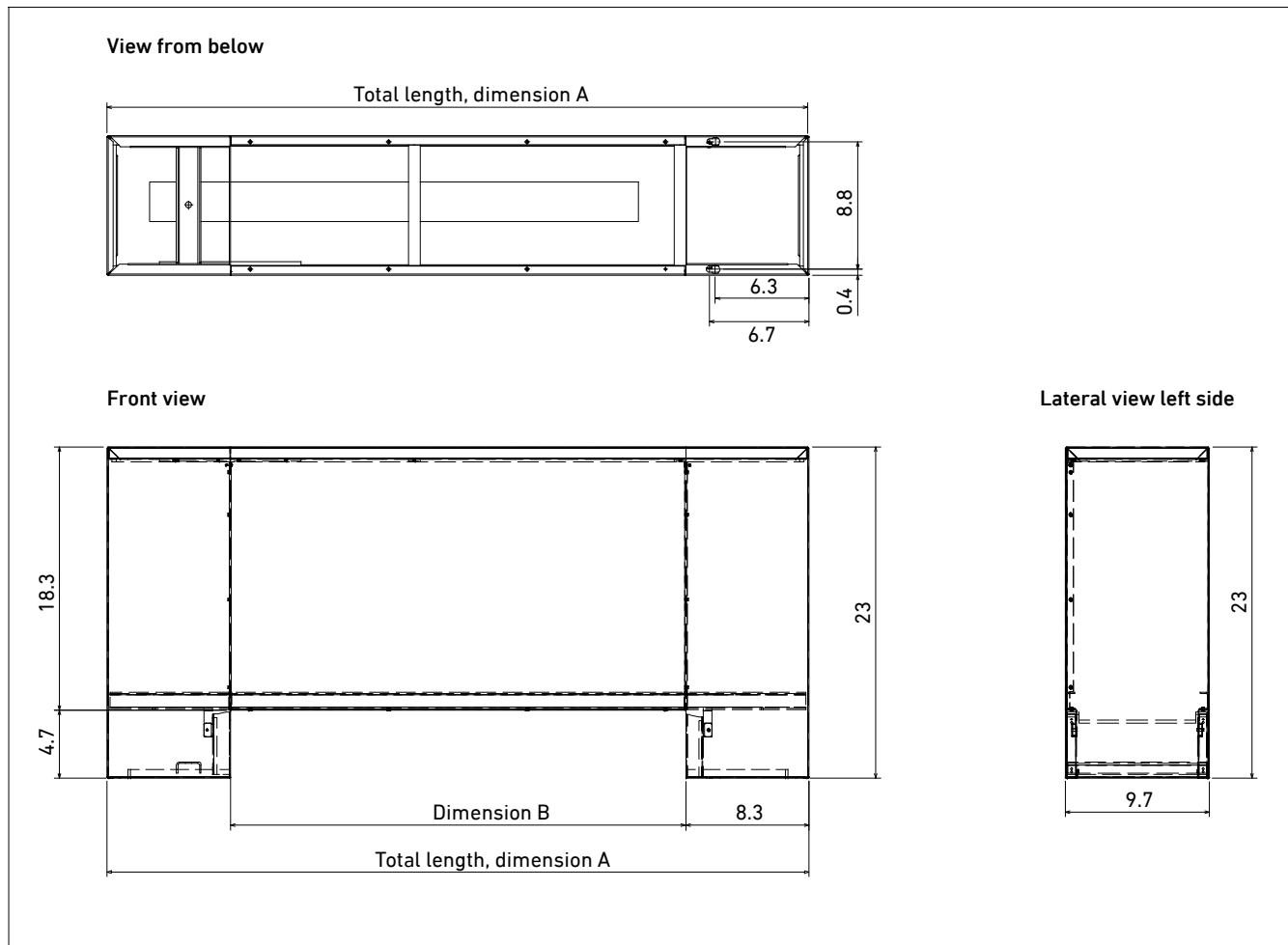
4-side casing of galvanized sheet metal for induction units (series HF...) and fan coil units (series VF...). Consisting of a supporting structure of channel-sections, rear cover panel, angle panel, side mullions and air outlet grille LDC (aluminum). All exposed surfaces are high-quality powder coated similar to RAL, thickness of layer 60 µm.

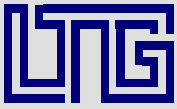
All units VF... are fixed to the casing using brackets.

Dimensions see table. Special lengths on request.

Dimensions, weights

Size	A	B	Weight [lb]
	[inch]		
630	38.2	23.8	35
800	47.2	32.9	40
1000	55.1	40.7	46
1250	63.0	48.6	53





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