

Thermozone SF

⚡ 6-30 kW Electrical heat
💧 Water heat



Length: 2,2 metres



Thermozone® SF

Air curtains for vertical mounting in revolving doors

Thermozone SF is an ideal solution for any environment with revolving doors. The air curtain is mounted vertically and its curved design integrates neatly with the door. Thermozone SF efficiently protects the exposed area just above the floor.

The revolving door is a very efficient solution in buildings where the wind stress and pressure difference over the entrance is high. Although the revolving door prevents the stream of cold air entering the building it brings cold air in with every turn.

Thermozone SF prevents the cold air from leaving the revolving doors, providing good heating comfort and the opportunity to make use of the floor space close to the opening.

The air curtain can also contribute to heating the entrance.

- Thermozone SF represents an overall solution for revolving doors.
- Curved design that integrates neatly with the door.
- Highest output in the exposed area just above the floor.
- A specially designed inlet grille protects the heating coil and makes a dust filter superfluous.
- Standard length 2200 mm. Extension possible up to 3900 mm (extension without fans).
- To make the installation quicker and more compact, valves can be integrated in the unit (accessory).
- Easy connection of water heated units with flexible hoses (accessory).
- Corrosion proof housing made of zinc-plated steel panels.

Technical specifications | Thermozone SF E with electrical heat ⚡

Type	Output steps [kW]	Airflow [m³/h]	Sound level*1 [dB(A)]	Δt *2 [°C]	Voltage [V] Amperage [A] (control)	Voltage [V] Amperage [A] (heat)	Height [mm]	Weight [kg]
SF18E09	0/6/9	1800	55	15	230V~/2,52A	400V3~/17,5A	2200*3	110
SF24E12	0/8/12	2400	56	15	230V~/3,36A	400V3~/17,5A	2200*3	116
SF36E18	0/12/18	3600	57	15	230V~/4,48A	400V3~/26A	2200*3	122
SF54E30	0/20/30	5400	57	17	230V~/6,72A	400V3~/43,5A	2200*3	110

Technical specifications | Thermozone SF WL with water heat 💧

Type	Output*4 [kW]	Airflow [m³/h]	Sound level*1 [dB(A)]	Water volume [l]	Δt *2 [°C]	Voltage [V]	Amperage [A]	Height [mm]	Weight [kg]
SF18WL	18	1800	55	2,43	30	230V~	2,52	2200*3	110
SF24WL	24	2400	56	2,89	29	230V~	3,36	2200*3	116
SF36WL	38	3600	57	4,26	31	230V~	4,48	2200*3	122
SF54WL	49	5400	57	4,26	27	230V~	6,72	2200*3	110

*1) Conditions: Distance to the unit 5 metres. Directional factor: 2. Equivalent absorption area: 200 m².

*2) Δt = temperature rise of passing air at max heat output and highest airflow.

*3) Extension possible up to 3900 mm (extension without fans).

*4) Applicable at water temperature 80/60 °C, air temperature 15 °C.

Protection class Thermozone SF: (IP20), normal design.
CE-compliant.

Ordering

Select air curtain

To select which air curtain to order, multiply the width with the height of the opening of the revolving door, to get the surface of the opening. To create comfort in the entrance area between 3,5 and 5 kW heating per square meter of opening, depending on the lowest outdoor temperature, is needed.

Order key

Type - Connections position - Total height - Finish / Material

Example: SF24E12 - 1 - 2800 mm - RAL7035

Type	See Technical specifications
Connections position	From below (1) or above (2), see fig. 1.
Total height	Extension possible up to 3900 mm. Extension without fans. Units higher than 3000 mm are delivered in two pieces. Min. height 2200 mm.
Finish / Material	Coating or stainless steel, see table.

Finish / Material selection

Powder coating RAL	State RAL code
Powder coating NCS	State NCS code
Stainless steel, brushed grain 240	State B240
Stainless steel, polished bright annealed	State P
Stainless steel, mirror polished	State M

Connections position

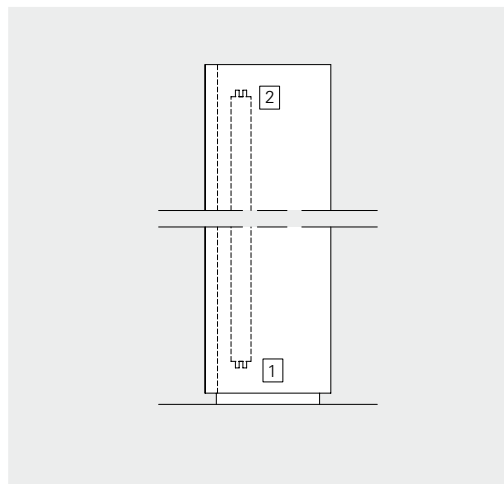
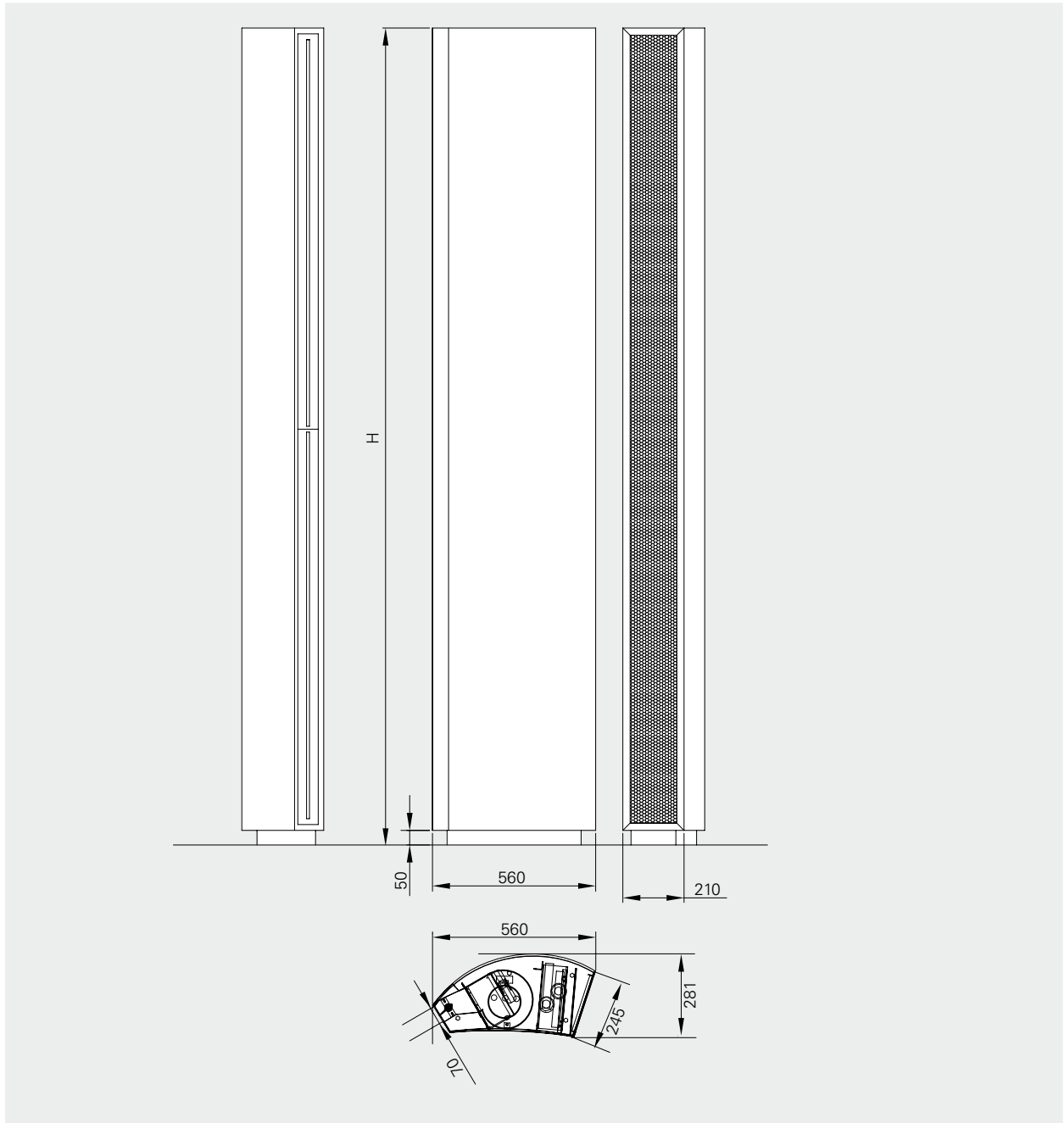


Fig. 1 From below (1) or above (2), inside connection

Dimensions



Mounting and installation

The floor-standing SF unit is mounted on adjustable feet that make it possible to compensate for possible irregularities in the floor. The feet are bolted to the floor and covered by a covering edge. SF is mounted to the left of the door seen from inside the building and should also be secured to the door.

Water heated units can be delivered with pre-mounted valves VKSF (accessory). Flexible hoses (1" inside thread) in different lengths are available as accessory for easy connection to the pipe system.

Control kits

Electrical ⚡

Level 2

Airflow and heat output are controlled automatically based on the opening of the door and the room temperature.

When the door is rotating the fan runs on high speed, when the door is switched off the fan will continue to run for the desired time (2s–10 min.) set on MDC. When the door is switched off the fan runs on low speed if there is a need for heating, if not the fan is switched off.

Note: For door contact function the MDC shall be connected to a volt-free change-over contact in the door automation, which gives a closed contact when the revolving door is turned on. See wiring diagrams. This function can be supplied by most door manufacturers.

The room thermostat controls the heat output. E.g. the thermostat is set on 23 °C and the difference between the steps 4 °C. The thermostat will activate below 19 °C when the door is switched off. When the door is switched on, the thermostat will activate below 23 °C and normally the heat is switched on.

Control kit:CK02E:

- CB32N, control box, controls the airflow in 3 steps and heat output in 2 steps
- MDC, door contact with time delay
- RTI2, electronic 2-step thermostat

Water 💧

Level 2

Airflow and heat output are controlled automatically based on the opening of the door and the room temperature. When the door is open the fan runs on high speed, when the door closes the fan will continue to run for the desired time (2s–10 min.) set on the MDC. When the door is closed the fan runs on low speed if there is a need for heating, if not the fan is switched off.

Note: For door contact function the MDC shall be connected to a volt-free change-over contact in the door automation, which gives a closed contact when the revolving door is turned on. See wiring diagrams. This function can be supplied by most door manufacturers.

The room thermostat controls the heat output on/off. E.g. the thermostat is set on 23 °C and the difference between the stages 4 °C. The thermostat will activate below 19 °C when the door is closed. When the door opens, the thermostat will activate below 23 °C and normally the heat is switched on.

Control kit CK02W:

- CB30N, control box, controls the airflow in 3 steps.
- MDC, magnetic door contact with time delay.
- RTI2, 2-step room thermostat.

Note! A set of valves VR20 or VR25 or actuator+valve SD20+TVV20 or TVV25 should be added for a complete control kit.



Output charts water

SFWL								
Incoming / outgoing water temperature 80/60 °C								
Type	Fan position	Airflow [m³/h]	Incoming air temp.= +15 °C			Incoming air temp. = +20 °C		
			Output [kW]	Outgoing air temp. [°C]	Water flow [l/s]	Output [kW]	Outgoing air temp. [°C]	Water flow [l/s]
SF18WL	max	1800	18,0	45	0,22	16,4	47	0,20
	min	900	11,0	51	0,13	10,0	53	0,12
SF24WL	max	2400	23,5	44	0,29	21,3	46	0,26
	min	1200	14,4	51	0,18	13,1	52	0,16
SF36WL	max	3600	37,9	46	0,46	34,3	48	0,42
	min	1800	23,0	53	0,28	20,9	55	0,26
SF54WL	max	5400	49,2	42	0,60	44,5	45	0,54
	min	2700	30,9	49	0,38	28,0	51	0,34

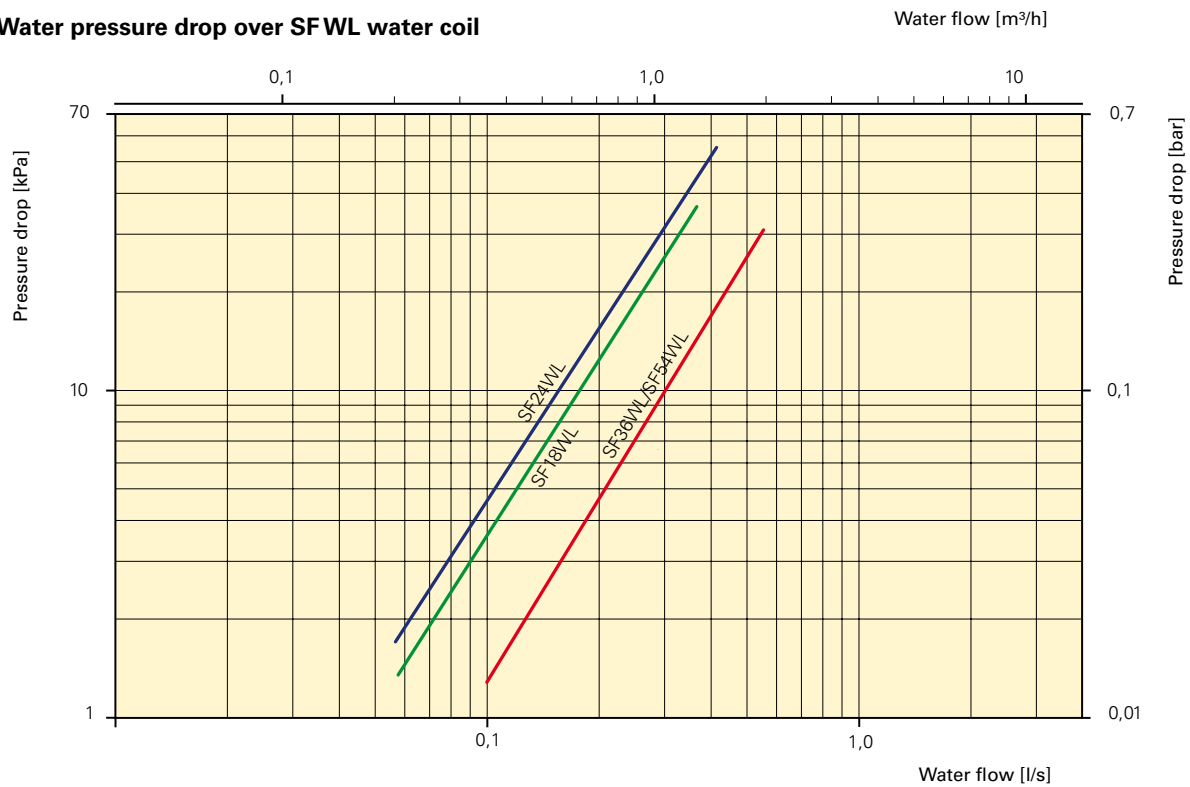
Incoming / outgoing water temperature 60/50 °C								
Type	Fan position	Airflow [m³/h]	Incoming air temp.= +15 °C			Incoming air temp. = +20 °C		
			Output [kW]	Outgoing air temp. [°C]	Water flow [l/s]	Output [kW]	Outgoing air temp. [°C]	Water flow [l/s]
SF18WL	max	1800	13,3	37	0,32	11,6	39	0,28
	min	900	8,0	42	0,19	7,0	43	0,17
SF24WL	max	2400	17,3	36	0,42	15,1	39	0,37
	min	1200	10,6	41	0,26	9,2	43	0,22
SF36WL	max	3600	27,7	38	0,67	24,2	40	0,59
	min	1800	16,9	43	0,41	14,8	44	0,36
SF54WL	max	5400	36,4	35	0,88	31,7	38	0,77
	min	2700	22,7	40	0,55	19,8	42	0,48

Incoming / outgoing water temperature 60/40 °C								
Type	Fan position	Airflow [m³/h]	Incoming air temp.= +15 °C			Incoming air temp. = +20 °C		
			Output [kW]	Outgoing air temp. [°C]	Water flow [l/s]	Output [kW]	Outgoing air temp. [°C]	Water flow [l/s]
SF18WL	max	1800	10,9	33	0,13	9,2	35	0,11
	min	900	6,8	37	0,08	5,7	39	0,07
SF24WL	max	2400	14,3	33	0,17	12,0	35	0,14
	min	1200	8,9	37	0,11	7,5	39	0,09
SF36WL	max	3600	22,8	34	0,28	19,1	36	0,23
	min	1800	14,0	38	0,17	11,9	40	0,14
SF54WL	max	5400	29,5	31	0,36	24,8	34	0,30
	min	2700	18,8	36	0,23	15,8	37	0,19

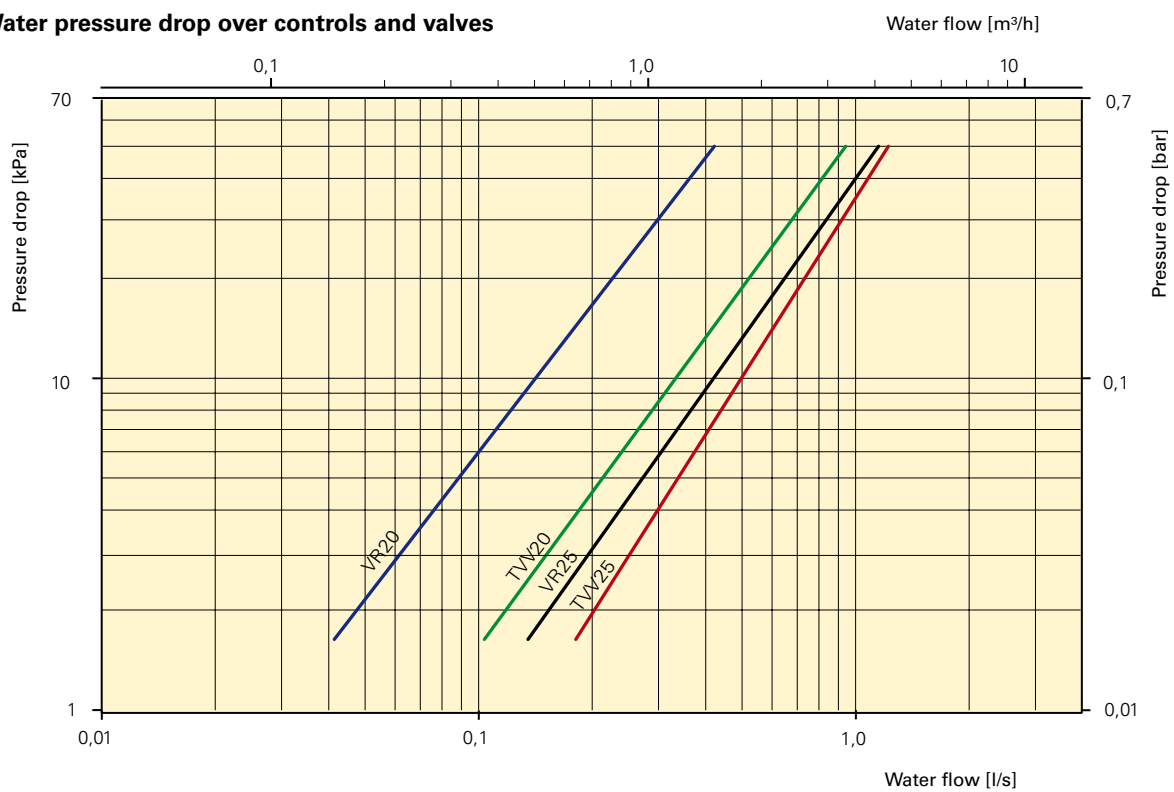
Incoming / outgoing water temperature 60/30 °C								
Type	Fan position	Airflow [m³/h]	Incoming air temp.= +15 °C			Incoming air temp. = +20 °C		
			Output [kW]	Outgoing air temp. [°C]	Water flow [l/s]	Output [kW]	Outgoing air temp. [°C]	Water flow [l/s]
SF18WL	max	1800	8,2	29	0,07	6,1	30	0,05
	min	900	4,5	30	0,04	2,7	29	0,02
SF24WL	max	2400	10,8	28	0,09	8,4	30	0,07
	min	1200	6,8	32	0,06	4,6	32	0,04
SF36WL	max	3600	17,0	29	0,14	12,7	30	0,10
	min	1800	9,3	30	0,08	5,1	29	0,04
SF54WL	max	5400	21,9	27	0,18	16,7	29	0,13
	min	2700	14,2	31	0,11	8,1	29	0,07

Pressure drop water

Water pressure drop over SFWL water coil



Water pressure drop over controls and valves



The pressure drop is calculated for an average temperature of 70 °C (PVV 80/60).
For other water temperatures, the pressure drop is multiplied by the factor K.

Average temp. water °C	40	50	60	70	80	90
K	1,10	1,06	1,03	1,00	0,97	0,93