Sierra

FRICO

Unique energy-efficient air curtain for exclusive establishments

Sierra with a recommended installation height of 3,5 m or width of 5 m, has a striking design suitable for exclusive establishments. Sierra is equipped with energy-efficient EC motors which enable stepless control of the airflow. Customized to perfectly fit your entrance and make it unique, Sierra can be ordered with a finish in polished, brushed or mirror polished stainless steel or in the colour of your choice. The air curtain is available for horizontal or vertical installation.

Energy efficient and sustainable

The air curtain is equipped with EC motors that are up to 50% more energy efficient than traditional AC motors, and have a lower weight which makes for easier installations and greener transports.

Intelligent control options

Sierra is supplemented with an intelligent control system that allows you to optimize your comfort with minimum effort. Smart and automatic features enable simple set-up and operation for different Frico products groups.

High performance

Frico air curtains are developed and manufactured in Sweden.
The air curtains are tested in one of the most modern and advanced air and sound laboratories in Europe which means that we can guarantee a high performance product.
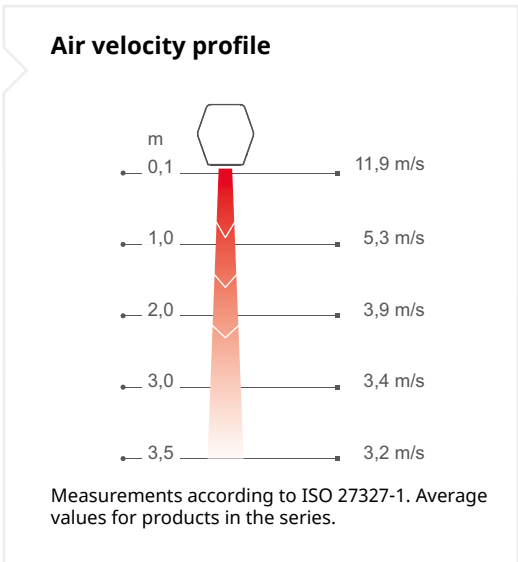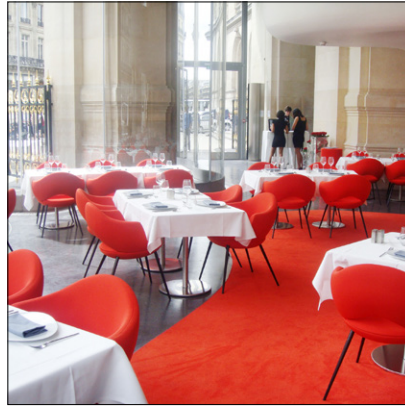
Sierra

THERMOZONE TECHNOLOGY

EC motor

Available in 3 versions:

- 🌀 Ambient (without heat)
- ⚡ Electrical heating
- 💧 Water heating

Air velocity profile

m	
0,1	11,9 m/s
1,0	5,3 m/s
2,0	3,9 m/s
3,0	3,4 m/s
3,5	3,2 m/s

Measurements according to ISO 27327-1. Average values for products in the series.

Frico's Thermozone technology optimizes the air curtain

THERMOZONE TECHNOLOGY

Frico air curtains create an invisible barrier at openings and doors which separates different temperature zones without limiting access for people and vehicles. Thermozone technology creates a highly uniform air barrier with a perfect balance between air volume and air velocity, regardless of whether it is the heat or the cold that you want to keep inside.

Great energy savings

In many premises doors remain open for a significant part of the day, this results in huge losses of expensively heated or cooled air, especially when the temperature difference between outdoor and indoor air is great. With correctly installed air curtains great energy savings can be obtained.

Comfortable indoor climate

Air curtains with Thermozone technology have optimized performance to provide a comfortable indoor climate free from drafts. The air curtain also keeps out emissions and insects.

Low sound level

With Thermozone technology Frico manufactures air curtains with very high airflow performance. This does not just make the air curtain more effective, but also has other advantages such as extremely low sound levels and reduced turbulence.

Create the optimal solution to suit your specific needs

After you selected the air curtain to suit your specific needs (ambient, electrical heating, water heating) and length 1, 1,5, 2, or 2,5 you assemble your control and accessory options:

Select control system

Choose one of our FC Control systems.

Add valve system

Water heated units must be supplemented with a valve system.

Select mounting options

Add mounting accessories if needed.

Sierra

❄ Ambient, no heat - SIFEC A (IP20)

Voltage motor: 230V~

Type	Output [kW]	Airflow*1 [m³/h]	Sound power*2 [dB(A)]	Sound pressure*3 [dB(A)]	Amperage motor [A]	Weight [kg]
SIFEC10A-H	0	900/1850	77	46/61	2,3	44
SIFEC15A-H	0	1400/2750	79	48/63	3,2	54
SIFEC20A-H/V	0	1850/3600	82	48/66	4,1	63
SIFEC25A-H/V	0	2400/4500	83	49/67	5,1	72

⚡ Electrical heat - SIFEC E (IP20)

Type	Output steps [kW]	Airflow*1 [m³/h]	Δt*4 [°C]	Sound power*2 [dB(A)]	Sound pressure*3 [dB(A)]	Amperage motor [A]	Voltage [V] Amperage [A] (heat)	Weight [kg]
SIFEC10E8-H	2,7/5,5/8,1	900/1850	26/13	77	46/61	2,3	400V3~/11,7	48
SIFEC15E12-H	3,9/7,8/12	1400/2750	26/13	79	48/63	3,2	400V3~/16,9	62
SIFEC20E16-H/V	5,4/11/16	1850/3600	26/13	82	48/66	4,1	400V3~/23,4	75
SIFEC25E20-H/V	6,6/13/20	2400/4500	25/13	83	49/67	5,1	400V3~/28,6	89

💧 Water heat - SIFEC WL, coil for low water temperature (≤80 °C) (IP20)

Type	Output*5 H*7 [kW]	V*8 [kW]	Airflow*1 [m³/h]	Δt*4,5 H*7 [°C]	V*8 [°C]	Water volume [l]	Sound power*2 [dB(A)]	Sound pressure*3 [dB(A)]	Amperage motor [A]	Weight [kg]
SIFEC10WL-H	8,5	-	850/1700	19/15	-	2,0	77	46/61	2,3	63
SIFEC15WL-H	14	-	1250/2600	24/19	-	3,2	79	48/63	3,2	73
SIFEC20WL-H/V	21	21	1650/3300	24/19	24/19	4,3	82	48/66	4,1	82
SIFEC25WL-H/V	28	25	2200/4250	24/20	22/17	5,4	83	49/67	5,1	91

💧 Water heat - SIFEC WH, coil for high temperature water (≥80 °C) (IP20)

Type	Output*6 H*7 [kW]	V*8 [kW]	Airflow*1 [m³/h]	Δt*4,6 H*7 [°C]	V*8 [°C]	Water volume [l]	Sound power*2 [dB(A)]	Sound pressure*3 [dB(A)]	Amperage motor [A]	Weight [kg]
SIFEC10WH-H	11	-	850/1700	24/18	-	1,1	77	46/61	2,3	59
SIFEC15WH-H	15	-	1250/2600	23/17	-	1,9	79	48/63	3,2	69
SIFEC20WH-H/V	20	28	1650/3300	24/18	32/25	2,5	82	48/66	4,1	78
SIFEC25WH-H/V	26	32	2200/4250	23/18	29/22	3,3	83	49/67	5,1	87

*1) Low/high airflow (2V/10V).
*2) Sound power (L_{WA}) measurements according to ISO 27327-2: 2014, Installation type E.
*3) Sound pressure (L_{pA}). Conditions: Distance to the unit 5 metres. Directional factor: 2. Equivalent absorption area: 200 m². At low/high airflow (2V/10V).
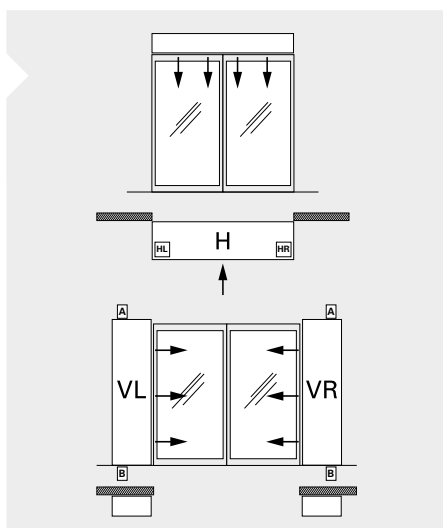*4) Δt = temperature rise of passing air at maximum heat output and low/high airflow (2V/10V).
*5) Applicable at water temperature 60/40 °C, air temperature, in +18 °C.
*6) Applicable at water temperature 80/60 °C, air temperature, in +18 °C.
*7) Horizontal mounting
*8) Vertical mounting
*5,6) See www.frico.net for additional calculations.

Product key

Type - Unit shape - Connections position - Material / Colour
Example: SIFEC20WL - VL - A - P

Type	See Technical specifications.
Unit shape	HL (Horizontal, connections on the left) HR (Horizontal, connections on the right) VL (Vertical left) or VR (Vertical right) seen from inside
Connection position	A or B, see sketch
Material/Colour	P = Polished stainless steel B = Brushed stainless steel MP = Mirror polished stainless steel State RAL code = Powder coating RAL State NCS code = Powder coating NCS

Contact Frico before ordering for more information about the product and special adaptations.

Manufactured in Sweden with a corrosion proof housing made of hot zinc-plate and powder coated steel panels. Front and rear section are made of polished or brushed stainless steel but also available in mirror-polished stainless steel or in powder coated steel, any RAL/NCS colour. Colour intake grille, outlet grille and ends: black, RAL 9005.

CE

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Horizontal mounting

The recommended installation height of Sierra is 3,5 m. The air curtain can be installed on a wall or supended from a ceiling. When the air curtain is mounted horizontally the outlet air grille must be facing downwards as close to the door as possible.
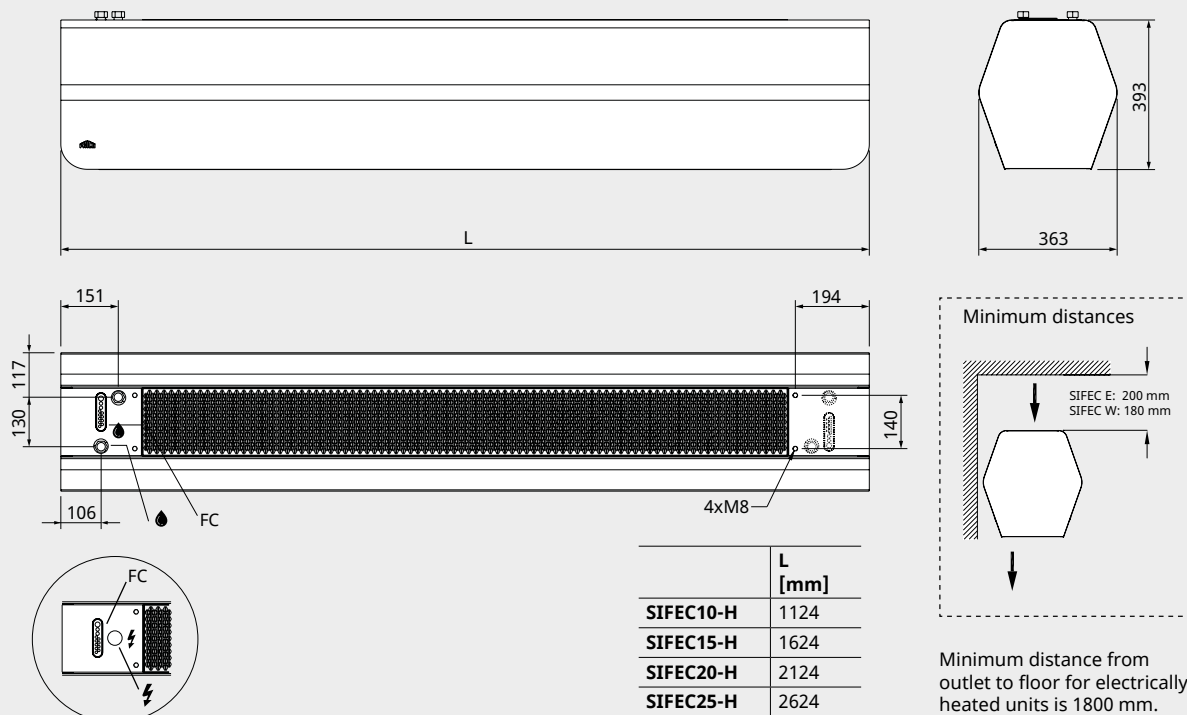
Connection

An easy to open front and inlet grille allow quick access to facilitate both installation and maintenance.

The air curtain has an integrated PC board which is connected to the selected external control system FC. Control is supplied by 230V~ to the terminal block. The PC board is accessed via cable glands on the top of the unit. Communication- and sensor cables are connected to the PC board. The electrical connection is made on the top of the unit.

Water heated units are connected to the water system on top of the unit. Flexible hoses are available as accessories. Water heated units must always be supplemented with a valve kit mounted outside the unit. See Valves and Accessories.

Inside thread : 3/4", DN20

393

363

L

151

194

117

130

106

FC

FC

140

4xM8

Minimum distances

SIFEC E: 200 mm
SIFEC W: 180 mm

Minimum distance from outlet to floor for electrically heated units is 1800 mm.

	L [mm]
SIFEC10-H	1124
SIFEC15-H	1624
SIFEC20-H	2124
SIFEC25-H	2624

For wiring diagrams and other technical information, please see the manual and www.frico.net.

Recommended installation height varies depending on the relevant premises. See www.frico.net for further information.

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Vertical mounting

The recommended installation width of Sierra is 5 m with air curtains on both sides of the opening.

The air curtain is mounted vertically as close as possible to the door. For the best effect air curtains should be placed on both sides of the opening. The extension hood (accessory) fills the space between the unit and the ceiling and provides a neater installation.
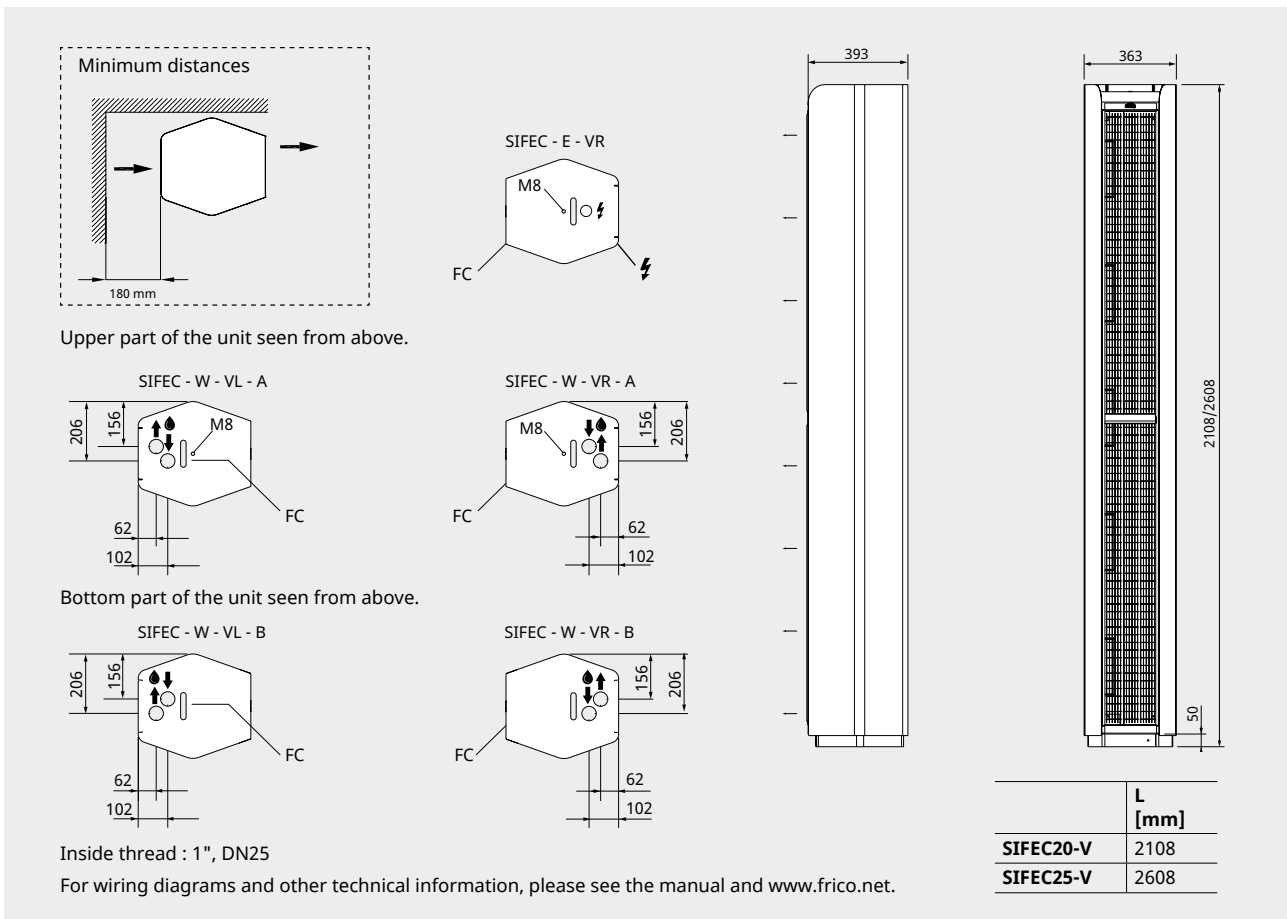
Connection

An easy to open front and inlet grille allow quick access to facilitate both installation and maintenance.

The air curtain has an integrated PC board which is connected to the selected external control system FC. Control is supplied by 230V~ to the terminal block. The PC board is accessed via cable glands on the top or bottom of the unit. Communication- and sensor cables are connected to the PC board.

The electrical connection is made on the top or bottom of the unit depending on selection.

Water heated units are connected to the water system on top or bottom of the unit depending on selection. See product key. Flexible hoses are available as accessories. Water heated units must always be supplemented with a valve kit mounted outside the unit. See Valves and Accessories. Connections made from below the unit must be prepared in the floor according to the drawing.

Minimum distances

180 mm

Upper part of the unit seen from above.

SIFEC - E - VR

M8

FC

SIFEC - W - VL - A

206 156 M8

62
102

FC

SIFEC - W - VR - A

M8 156 206

FC

62
102

Bottom part of the unit seen from above.

SIFEC - W - VL - B

206 156

62
102

FC

SIFEC - W - VR - B

156 206

FC

62
102

Inside thread : 1", DN25

For wiring diagrams and other technical information, please see the manual and www.frico.net.

393

363

2108/2608

50

	L [mm]
SIFEC20-V	2108
SIFEC25-V	2608

Recommended installation width varies depending on the relevant premises. See www.frico.net for further information.

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Sierra

Frico air curtains come with an integrated PC-board and are supplemented with the intelligent control system FC of your choice, working together to create many smart and energy saving features. There are four different packages to choose from, depending on your requirements.

FC Direct

Entry level
- Door contact
- Calendar function
- Filter timer

FC Smart

FC Direct +
- *Control via app (Bluetooth)*
- *Wireless sensors possible*
- *Adjustable calendar function*
- *Away and Boost function*
- *Adjustable filter timer*
- *Vestibule function*
- *Zone possibility*

FC Pro

FC Direct + FC Smart +
- Automatic air flow control
- Automatic heat blocking

FC Building - BMS

FC Direct +
- *0-10V or Modbus*
- *Automatic air flow control**
- *Automatic heat blocking**
- *Heat and fan settings*
- *Alarm indication*
- *Read values*
- ** Requires outdoor temp signal*

FC Direct

Entry level control system for a great start. The door contact provides an automatic energy-saving function, as the air curtain becomes active only when the door is open. When the door is closed, it remains on stand-by or runs on a lower fan speed if extra heat is needed. With the calendar function, you can schedule when the system should be active.

FC Smart

Second level control system for full freedom. FC Smart comes with all features from FC Direct plus additional energy saving features and the possibility of app control (Bluetooth). The app gives you access to all functions in the system, allowing you to set it up exactly the way you want it. It also enables you to create different zones with different settings in a larger system.

FC Pro

Third level control system for maximum savings. FC Pro comes with all features from FC Direct and FC Smart plus additional automatic energy saving features. By receiving and reacting to information about indoor and outdoor temperatures, the right amount of heat and air flow is added to avoid overshoots and thus reducing energy consumption.

FC Building - BMS system

Comprehensive control system for buildings, with the option to control via 0-10V or Modbus. FC Building enables you to receive product information status and alarms. Modbus allows for full use of all the energy saving features within the control system.

Item number	Type	Description
74684	**FCDA**	FC Direct, first level control system
74685	**FCSA**	FC Smart, second level control system
74686	**FCPA**	FC Pro, third level control system
74687	**FCBA**	FC Building, BMS system

Control system content and accessories

FC Control system helps to create many smart and energy saving features. In addition to our four packages, components can be added to expand and customize the system. With the app levels (FC Smart and FC Pro) it is also possible to create and control different zones. Each added zone needs to be equipped with one FC Direct and can be designed to fit its specific needs by adding different accessories.

FC Direct, control kit
Control panel for fan and heat, door contact and 5 m communication cable. Used for additional zones with FC Smart and FC Pro. IP44.

FCRTX, external room temperature sensor
For reading of the room temperature on another location than that of the control panel, incl. 10 m sensor cable. IP20.

FCOTX, outdoor temperature sensor
Reading the outdoor temperature, incl. 10 m sensor cable. Enables automatic air curtain control and heat blocking. IP44.

FCLAP, local access point
Local access point for extra sensors (when operating more than 8 sensors) and extended range for sensors or app control (Bluetooth), incl. 10 m communication cable. IP44.

FCSC/FCBC, cable
FCSC Sensor cable available in 10 or 25 m for extra length. FCBC Communication cable for additional products within the same zone, available in 5, 10 or 25 m.

FCDC, door contact
The door contact regulates the airflow on/off. Allows you to control air curtains at different doorways individually within the same zone.

FCTXRF, indoor/outdoor wireless sensor
Indoor/outdoor wireless sensor with same features as FCRTX and FCOTX. Range up to 50 m. Battery life: 3-5 years. IP44.

FC Direct

Content
• FCCF control panel
• FCBC05
• FCDC

FC Smart

Content
• FCCF control panel
• FCBC10
• FCDC
• FCLAP

FC Pro

Content
• FCCF control panel
• FCBC10
• FCDC
• FCLAP
• FCTXRF

FC Building - BMS

Content
• FCCF control panel
• FCBC10
• FCDC
• FCBAP building access point

Item number	Type	Description	Dimensions
74684	**FCDA**	FC Direct, first level control system	89x89x26 mm (FCCF)
74694	**FCRTX**	External room temperature sensor	39x39x23 mm
74695	**FCOTX**	Outdoor temperature sensor	39x39x23 mm
74699	**FCLAP**	Local access point for extra sensors and extended range	89x89x26 mm
74718	**FCBC05**	Extra communication cable, 5 m	5 m
74719	**FCBC10**	Extra communication cable, 10 m	10 m
74720	**FCBC25**	Extra communication cable, 25 m	25 m
74721	**FCSC10**	Extra sensor cable, 10 m	10 m
74722	**FCSC25**	Extra sensor cable, 25 m	25 m
17495	**FCDC**	Door contact	
74703	**FCTXRF**	Indoor/outdoor wireless sensor (for FC Smart, FC Pro)	89x89x26 mm

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Water heated units must be supplemented with valves. The valve system controls the water flow and activates maximum heat only when needed. By activating the built-in bypass feature, a small leakage flow is let through to make sure there is always hot water in the heating coil, providing frost protection and faster heating. The return water temperature sensor is making sure that as much energy as possible from the water in the coil is used, thus reducing energy consumption.

VPFC, pressure independent and modulating valve system
Two way pressure independent control and adjustment valve with modulating actuator and shut-off valve.

FCWTA, return water temperature sensor
Enables control of return water temperature and automatic bypass function, which provides extended frost protection and reduced energy consumption.

Item number	Type	Dimension valves	Flow range l/s
238293	**VPFC15LF**	DN15	0,012-0,068
238294	**VPFC15NF**	DN15	0,024-0,13
238295	**VPFC20**	DN20	0,058-0,32
238296	**VPFC25**	DN25	0,10-0,60
238297	**VPFC32**	DN32	0,22-1,03
74702	**FCWTA**	Return water temperature sensor	

Accessories - water heated units

FH1020, flexible hoses
Flexible hoses for easy and practical installation of water heated unit. Length 1 m. DN20, 1" inside/outside thread.

FH1025, flexible hoses
Flexible hoses for easy and practical installation of water heated unit. Length 1 m. DN25, 1" inside/outside thread.

Item number	Type	Used for	Consists of
237568	**FH1020**	SIFEC10/15/20/25W-H	2
330955	**FH1025**	SIFEC10/15/20/25W-V	2

Accessories - horizontal mounting

SIFW, wall bracket
Brackets for installing a unit horizontally on a wall. Two brackets are required for each unit.
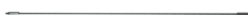Available in three designs:
- SIFWBB, brushed stainless steel
- SIFWBP, polished stainless steel
- SIFWBMP, mirror polished stainless steel

PA34CB, ceiling brackets
Ceiling brackets for installing the unit from the ceiling using wires or threaded bars (not included). Best combined with vibration dampers (PA34VD) when using threaded bars.

PA34WS, wire suspension kit
Galvanized wires with wire locks to secure the unit from the ceiling. Length 3 m. Used together with ceiling brackets (PA34CB).

PA34TR, threaded bars
Threaded bars for installing unit on to a ceiling. Length 1 m. Used together with ceiling brackets (PA34CB). Supplemented with vibration dampers (PA34VD) for reduced vibration.

PA34VD, vibration dampers
Reduces vibrations for ceiling installations with threaded bars.

Item number	Type	Used for	Consists of
251886	**SIFWBB**	SIFEC10/15/20/25-H	1
251887	**SIFWBP**	SIFEC10/15/20/25-H	1
251888	**SIFWBMP**	SIFEC10/15/20/25-H	1
18059	**PA34CB15**	SIFEC10/15-H	4
18060	**PA34CB20**	SIFEC20-H	6
18061	**PA34CB30**	SIFEC25-H	8
18062	**PA34WS15**	SIFEC10/15-H	4
18063	**PA34WS20**	SIFEC20-H	6
18064	**PA34WS30**	SIFEC25-H	8
18056	**PA34TR15**	SIFEC10/15-H	4
18057	**PA34TR20**	SIFEC20-H	6
18058	**PA34TR30**	SIFEC25-H	8
18065	**PA34VD15**	SIFEC10/15-H	4
18066	**PA34VD20**	SIFEC20-H	6
18067	**PA34VD30**	SIFEC25-H	8

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SIFEH, extension hood
Fills the space between the unit and the ceiling for vertical mounting and provides a neater installation. Height 150-1000 mm.

AXP300, collision protection
Floor placed protection against impact from e.g. shopping trolleys.

Item number	Type	Used for	Consists of
FE10234	**SIFEH**	SIFEC20/25-V	1
10028	**AXP300**	SIFEC20/25-V	1