Slim air curtain for entrances, with energy efficient control

Pamir 2500, with a recommended installation height of 2,5 m, has a modern and sleek design developed to fit all entrances and door ways in shops, offices and public premises. The air curtain is available for horizontal installation with wall brackets included. The front is easy to remove, which facilitates installation and allows easy maintenance.

Optimized door protection

In order to generate the best possible door protection in any given condition, the air curtain automatically adjusts the airflow based on outdoor temperature and room temperature.

Intelligent control options

The Pamir series 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.
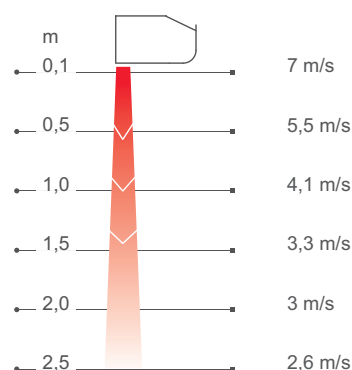

Pamir 2500

THERMOZONE TECHNOLOGY — made in SWEDEN

Available in 3 versions:

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

Air velocity profile

m		
0,1		7 m/s
0,5		5,5 m/s
1,0		4,1 m/s
1,5		3,3 m/s
2,0		3 m/s
2,5		2,6 m/s

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

Design and specifications are subject to change without notice.

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 draughts. 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 efficient, 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, or 2 m 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.

✿ Ambient, no heat - PAF2500 A (IP21)

Voltage motor: 230V~

Item number	Type	Output [kW]	Airflow*[1] [m³/h]	Sound power*[2] [dB(A)]	Sound pressure*[3] [dB(A)]	Amperage motor [A]	Length [mm]	Weight [kg]
246826	**PAF2510A**	0	900/1300	70	43/53	0,5	1050	16
246830	**PAF2515A**	0	1250/2100	71	44/54	0,7	1560	24
246834	**PAF2520A**	0	1800/2600	72	44/55	1,0	2050	32

⚡ Electrical heat - PAF2500 E (IP20)

Item number	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)	Length [mm]	Weight [kg]
246823	**PAF2510E05**	1,7/3,3/5,0	900/1450	17/11	68	42/51	0,5	400V3N~/7,2	1050	19
246824	**PAF2510E08**	3,0/5,0/8,0	900/1450	27/17	68	42/51	0,5	400V3N~/11,5	1050	20
246827	**PAF2515E08**	2,7/5,3/8,0	1400/2200	18/11	69	40/52	0,7	400V3N~/11,5	1560	30
246828	**PAF2515E12**	4,0/8,0/12	1400/2200	26/17	69	40/52	0,7	400V3N~/17,3	1560	32
246831	**PAF2520E10**	3,4/6,6/10	1800/2900	17/11	70	43/53	1,0	400V3N~/14,4	2050	36
246832	**PAF2520E16**	6,0/10/16	1800/2900	27/17	70	43/53	1,0	400V3N~/23,1	2050	40

● Water heat - PAF2500 W (IP21)

Item number	Type	Output*[5] [kW]	Airflow*[1] [m³/h]	Δt*[4,5] [°C]	Water volume [l]	Sound power*[2] [dB(A)]	Sound pressure*[3] [dB(A)]	Amperage motor [A]	Length [mm]	Weight [kg]
246825	**PAF2510W**	4,7	900/1300	12/11	0,7	69	42/53	0,45	1050	18
246829	**PAF2515W**	9,2	1250/2100	16/13	1,1	70	41/54	0,6	1560	26
246833	**PAF2520W**	11	1800/2600	15/13	1,4	71	43/55	0,9	2050	35

*[1]) Lowest/highest airflow of totally 3 fan steps.
*[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 lowest/highest airflow.
*[4]) Δt = temperature rise of passing air at maximum heat output and lowest/highest airflow.
*[5]) Applicable at water temperature 60/40 °C, air temperature, in +18 °C. See www.frico.net for additional calculations.

Pamir 2500 A and W are approved for 220V/1ph/60Hz. Product performance for 220V/1ph/60Hz will differ from stated data.

Manufactured in Sweden with a corrosion proof housing made of hot zinc-plate and powder coated steel panels. Front is made of powder coated steel. Colour front: white, RAL 9016. Colour grille, rear section and ends: grey, RAL 7046.

CE

Pamir 2500

Mounting

The recommended installation height of Pamir 2500 is 2,5 m. The air curtain is installed horizontally with the outlet air grille facing downwards as close to the door as possible. For the protection of wider doorways, several units can be mounted in series alongside each other.

The unit can be mounted with included wall brackets or be supplemented with accessories for mounting from the ceiling.
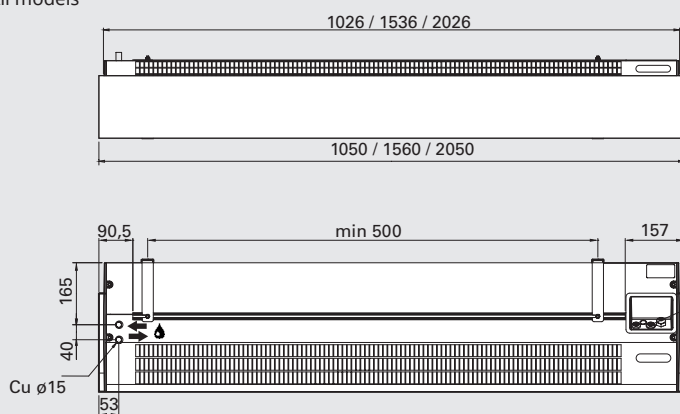
Connection

The front is easy to remove, which facilitates installation and allows easy maintenance.

The air curtain has an integrated PC board which is connected to the selected external control system FC. The PC board is accessed via cable glands on the top of the unit. Communication and sensor cables are connected to the PC board.
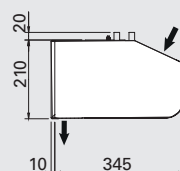
Units without heat and with water heat are connected with 1,5 m cord and plug. For electrical heated units the electrical connection is made on the top of the unit. Control (230V~) and power supply for heat (400V3N~) should be connected to a terminal block in the terminal box.

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. For an easy connection of valve systems, there are three different connection kits to choose from (accessories). See Valves and Accessories.
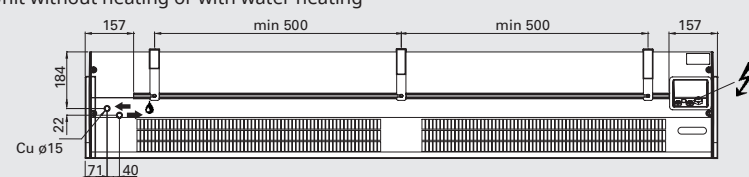
All models

1026 / 1536 / 2026
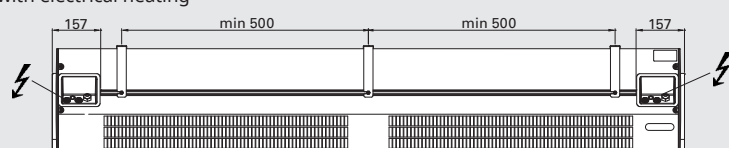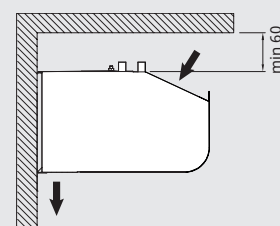1050 / 1560 / 2050

ø15 mm smooth copper pipe
20
210
10   345

90,5   min 500   157
165
40
Cu ø15
53

2 metre units
Unit without heating or with water heating

157   min 500   min 500   157
184
22
Cu ø15
71   40

Unit with electrical heating

157   min 500   min 500   157

Minimum distances

min 60

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

For wiring diagrams and other technical information, please see the manual. Recommended installation height varies depending on the relevant premises. See www.frico.net for further information.

FC Control system

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
- Built-in temperature sensor

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
- Enhanced water control possible

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

FC Building - BMS
FC Direct +
- 0-10V, potential free contact or Modbus
- Automatic air flow control*
- Automatic heat blocking*
- Heat and fan settings
- Alarm indication
- Read values
- Enhanced water control possible

* 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 calender function, you can choose periods of comfort and reduced mode. The control panel has a built-in temperature sensor, which is used for control when external sensors are not used.

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. The app FRICO CONTROL is available for both iOS and Android.

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, potential free contact (e.g. a relay) and/or Modbus RTU (RS485). 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. Air curtains and fan heaters with FC can be installed in separate zones in the same system.

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 wireless sensors (when operating more than 8 sensors) and extended range for wireless 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. The set up as outdoor or indoor sensor is made by a switch inside the sensor. Range up to 50 m. Battery life: 3-5 years (2xAAA). 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
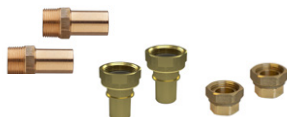- FCCF control panel
- FCBC10
- FCDC
- FCBAP building access point

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 wireless 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

Pamir 2500

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.

UNSG-R, UNSG, ANS, connection kits for valve system
UNSG-R: union set with swiveling nut and female thread.
UNSG: union set with swiveling nut and press end.
ANS: adapter nippel set with male thread and press end.

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	DN	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

Item number	Type	Description	Consists of
333340	**UNSG20R15**	Union set G20 x R15	2
333341	**UNSG25R20**	Union set G25 x R20	2
333342	**UNSG32R25**	Union set G32 x R25	2
333343	**UNSG40R32**	Union set G40 x R32	2
333344	**UNSG2015**	Union set G20 x 15mm	2
333345	**UNSG2518**	Union set G25 x 18mm	2
333346	**UNSG2522**	Union set G25 x 22mm	2
333347	**UNSG3228**	Union set G32 x 28mm	2
333348	**UNSG4035**	Union set G40 x 35mm	2
333349	**ANS1515**	Adapter nippel set R15	2
333350	**ANS2018**	Adapter nippel set R20	2
333351	**ANS2022**	Adapter nippel set R20	2
333352	**ANS2528**	Adapter nippel set R25	2
333353	**ANS3235**	Adapter nippel set R32	2
74702	**FCWTA**	Return water temperature sensor	1

Accessories - water heated units

FHDN15, flexible hoses
Flexible hoses for easy and practical installation of water heated unit. Used together with water connection kit PAWAK or similar. DN15, inside thread, 90° bend.

PA2EF, external intake filter
Fine mesh filter that prevents ingress of dirt and deposits to water heated units. The filter is easy to attach and remove thanks to the integrated magnetic strips. Makes maintenance easier since the unit does not need to be opened.

PAWAK15, water connection kit
Kit with pipe connections with compression fitting on one end and outside thread (1/2" DN15) on the other to facilitate the connection of the plain copper pipes at the water coil.

Item number	Type	Used for	Consists of
77179	**FHDN15**	PAF2500W	2
14875	**PA2EF10**	PAF2510W	
14876	**PA2EF15**	PAF2515W	
14877	**PA2EF20**	PAF2520W	
27279	**PAWAK**	PAF2500W	

Accessories - mounting

PA2PF, ceiling mounting brackets
Mountings for installing the unit in the ceiling using hanging brackets or threaded bars (not included).

PA34TR, threaded bars
Threaded bars for installing unit on to a ceiling. Length 1 m. Used together with ceiling mounting brackets PA2PF.

PA2P, hanging brackets
Hanging brackets for installing the unit suspended from the ceiling. Length 1 m. The hanging brackets are covered by a white plastic trim to cover the cables. The brackets may be cut to shorter length, if required. Used together with ceiling mounting brackets PA2PF.

Item number	Type	Used for	Consists of
19415	**PA2PF15**	PAF2510, PAF2515	4
19417	**PA2PF20**	PAF2520	6
14875	**PA2EF10**	PAF2510W	
14876	**PA2EF15**	PAF2515W	
14877	**PA2EF20**	PAF2520W	
18056	**PA34TR15**	PAF2510, PAF2515	4
18057	**PA34TR20**	PAF2520	6
19568	**PA2P15**	PAF2510, PAF2515	2
19569	**PA2P20**	PAF2520	3