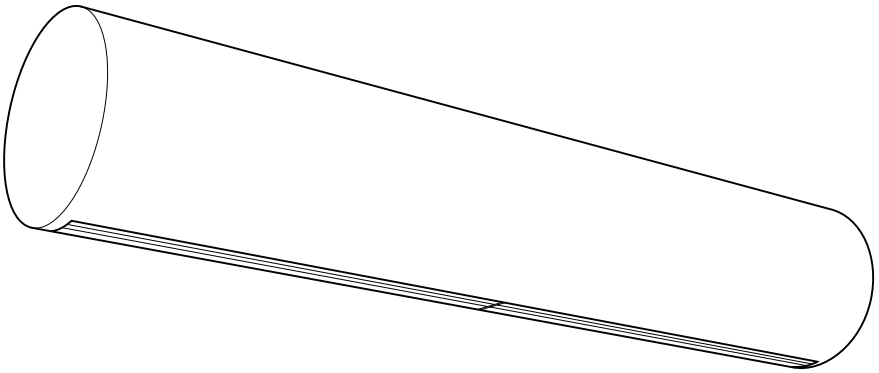
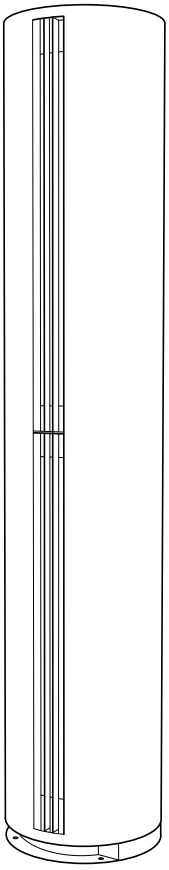
Original instructions

Coso





EN The introduction pages consist mainly of pictures. For translation of the English texts used, see the respective language pages.

FR Les pages de présentation contiennent principalement des images. Consulter la page correspondant à la langue souhaitée.

DE Die Einleitungsseiten bestehen hauptsächlich aus Bildern. Für die Übersetzung der verwendeten Texte in englischer Sprache, siehe die entsprechenden Sprachseiten.

SE Introduktionssidorna består huvudsakligen av bilder. För översättning av de engelska texter som används, se respektive språksidor.

NO Introduksjonssidene består hovedsakelig av bilder. For oversettelse av de engelske tekstene, se de respektive språksidene

DK Introduktionssiderne består hovedsageligt af billeder. For oversættelse af de engelske tekster, se siderne for de respektive sprog.

FI Esittelysivut koostuvat lähinnä kuvista. Suvuilla olevien enlanninkielisten sanojen käännökset löytyvät ko. kielisivuilta.

ES Las páginas introductorias contienen básicamente imágenes. Consulte la traducción de los textos en inglés que las acompañan en las páginas del idioma correspondiente.

NL De inleidende pagina's bevatten hoofdzakelijk afbeeldingen. Voor een vertaling van de gebruikte Engelse teksten, zie de pagina's van de resp. taal.

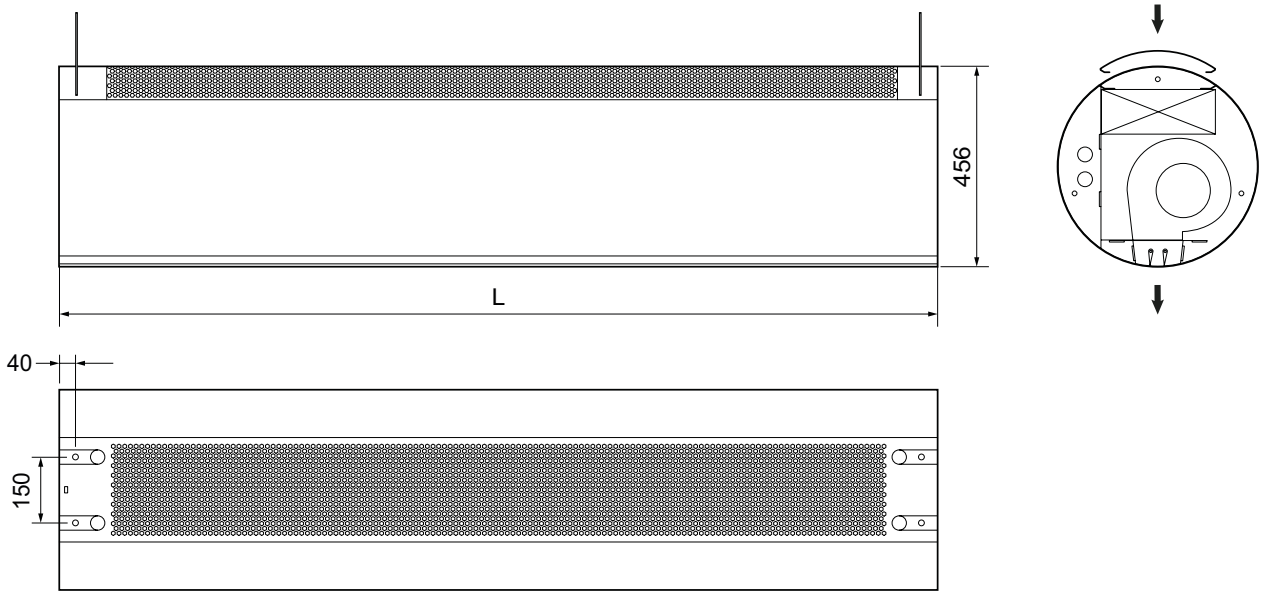
IT Le pagine introduttive contengono prevalentemente immagini. Per le traduzioni dei testi scritti in inglese, vedere le pagine nelle diverse lingue.

PL Początkowe strony zawierają głównie rysunki. Tłumaczenie wykorzystanych tekstów angielskich znajduje się na odpowiednich stronach językowych.

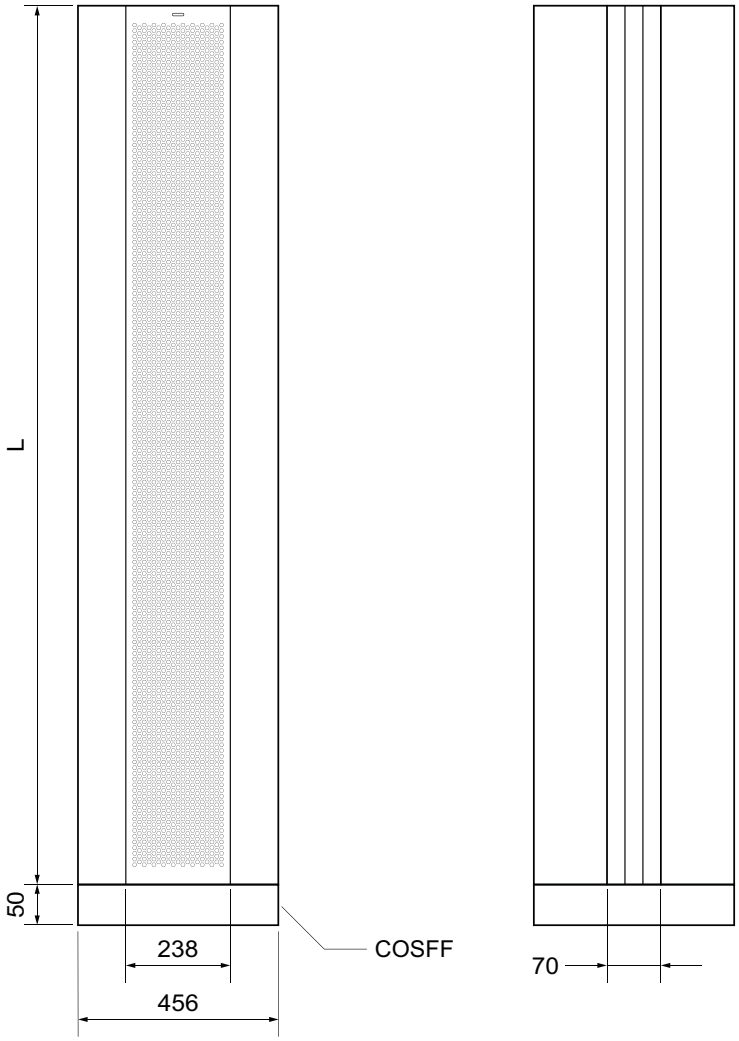
RU Страницы в начале Инструкции состоят в основном из рисунков, схем и таблиц. Перевод встречающегося там текста приведен в разделе RU.

Coso

Horizontal mounting



Vertical mounting



	L [mm]
COSx10	1000
COSx15	1500
COSx20	2000
COSx25	2500
COSx30	3000

Product key

Bold = Standard. Included in standard cost.

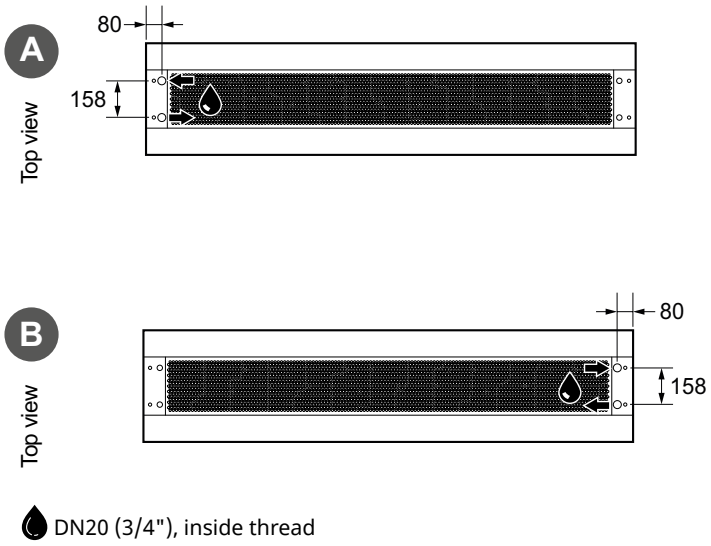
Type*[1]	Perfor-mance*[1]	Length*[1]	Heat*[1]	Mounting*[2]	Water connection*[3]	Electrical connection*[3]	Colour/Finish
COS	35	10	WL	H	**A (H)**	A	**RAL Classic***[6]
	42	15	WLL	**VL**	B	**B (H)**	B*[5]
		20	E	**VR**	**C (VR)**	**C (VL)**	MP*[5]
		25	A		**D (VL)**	**D (VR)**	
		30			**X***[4]		

*[1]) See Technical specifications.
*[2]) H = Horizontal, VL = Vertical left and VR = Vertical right, seen from inside.
*[3]) See drawings.
*[4]) State X for units with Electrical heating or Ambient (without heat).
*[5]) B = Brushed stainless steel, MP = Mirror polished stainless steel.
*[6]) Other colours available on request.

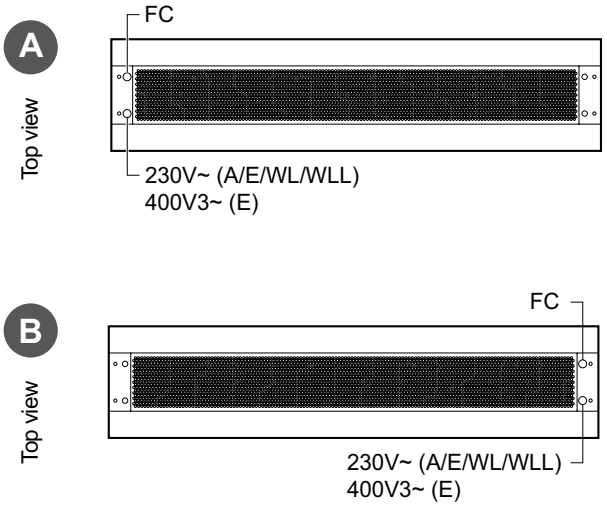
Example: COS4225WL - VL - D - C - RAL9010

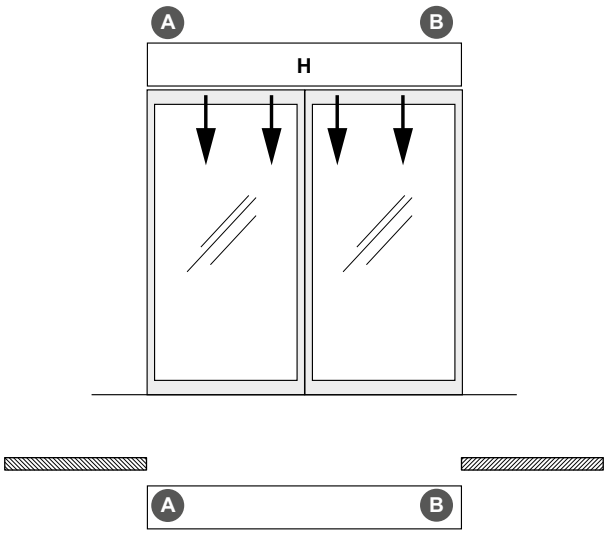
Other adaptations may be possible upon request, please contact Frico.

Horizontal mounting - Water connections

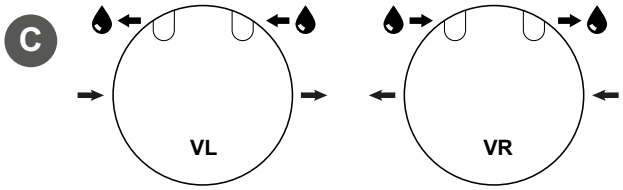


Horizontal mounting - Electrical connections

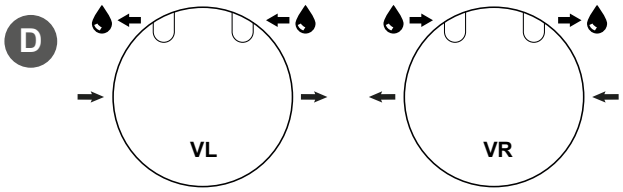




Vertical mounting - Water connections

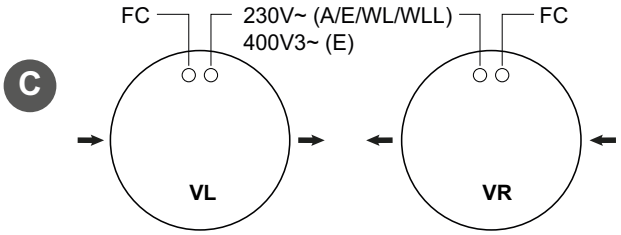


Top view of the top

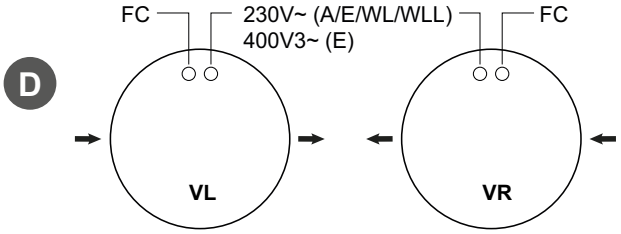


Top view of the bottom

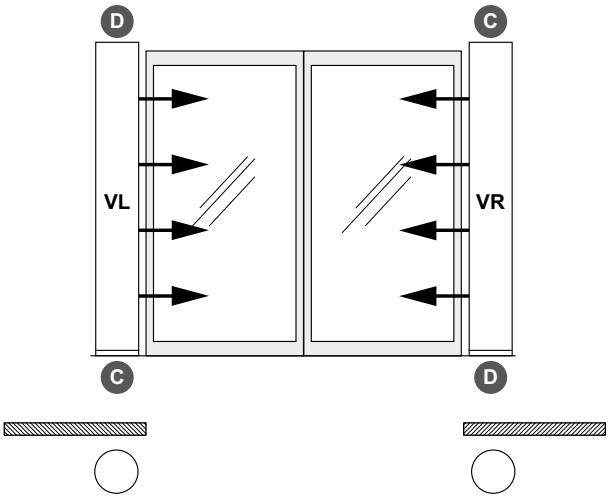
Vertical mounting - Electrical connections



Top view of the top



Top view of the bottom



Opening the unit

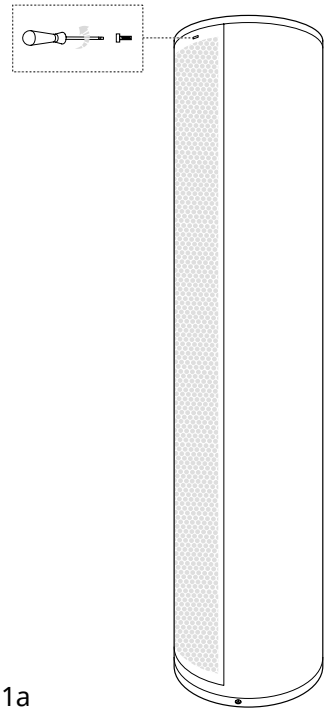


Fig. 1a

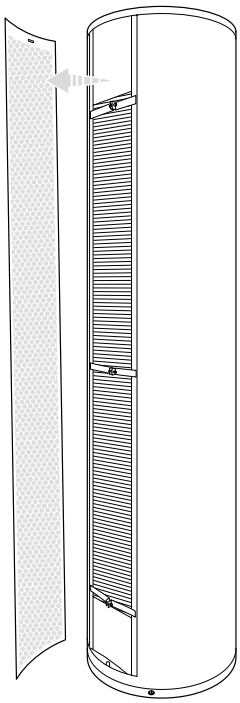


Fig. 1b

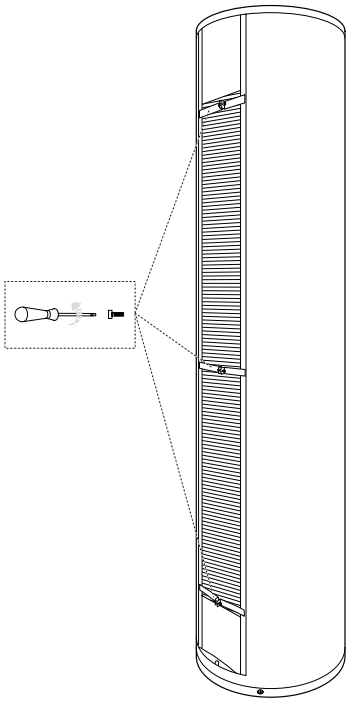


Fig. 1c

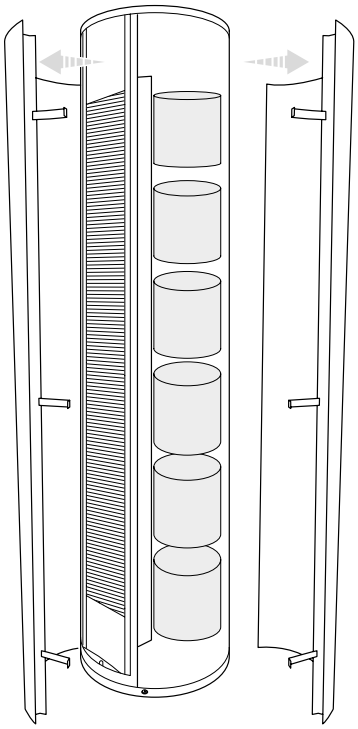


Fig. 1d

Mounting

Vertical mounting

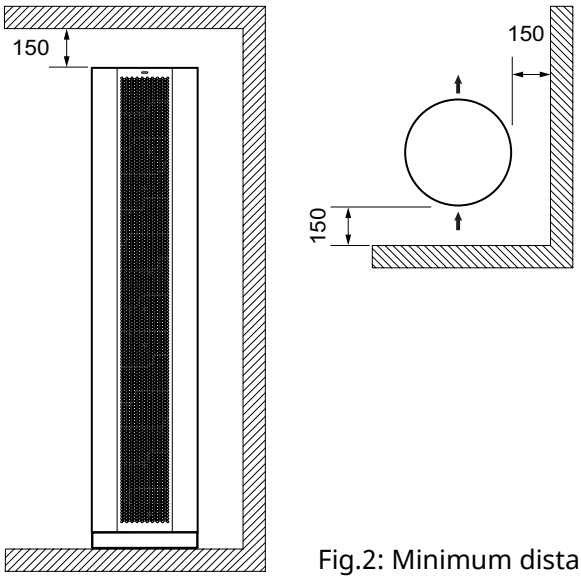
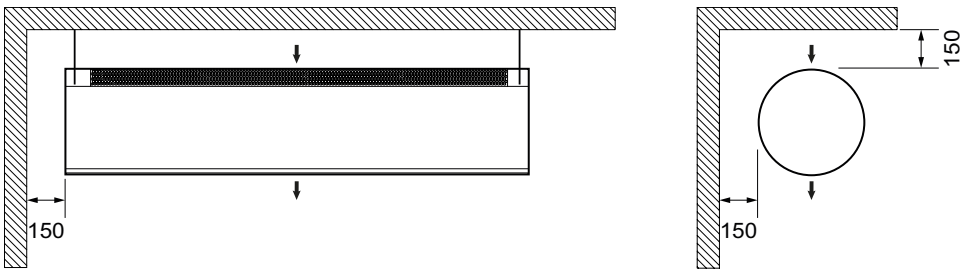


Fig.2: Minimum distance.

Horizontal mounting



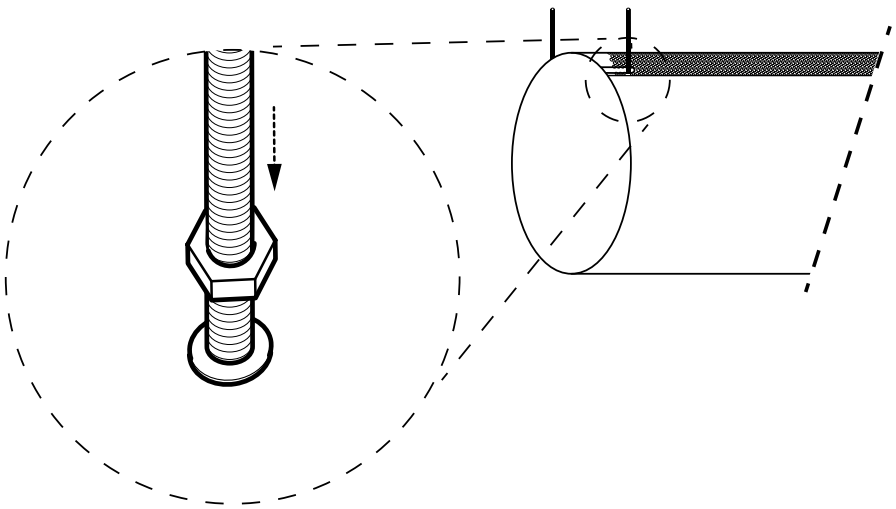


Fig. 3: Mounting on threaded bars outside the unit

Connections

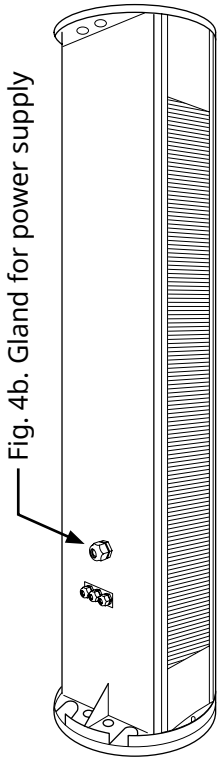
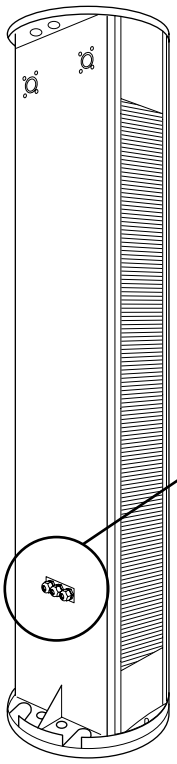


Fig. 4b. Gland for power supply

Electrical heating/ ambient



Water heating

Fig. 4a: PC board FC is integrated within the air curtain at delivery.

Item number	Type	Voltage [V]	Max output [kW]	Minimal cross section Cable [mm²]	Nominal cross section Terminal block [mm²]
-	**Controls**	230V~	-	1,5	4
FE10301	**COS3510E09**	400V3~	9	2,5	16
FE10306	**COS3515E12**	400V3~	12	4	16
FE10311	**COS3520E18**	400V3~	18	10	16
FE10316	**COS3525E18**	400V3~	18	10	16
FE10321	**COS3530E30**	400V3~	30	16	16
FE10326	**COS4210E15**	400V3~	15	6	16
FE10331	**COS4215E23**	400V3~	23	10	16
FE10336	**COS4220E30**	400V3~	30	16	16
FE10341	**COS4225E32**	400V3~	32	16	16
FE10346	**COS4230E32**	400V3~	32	16	16

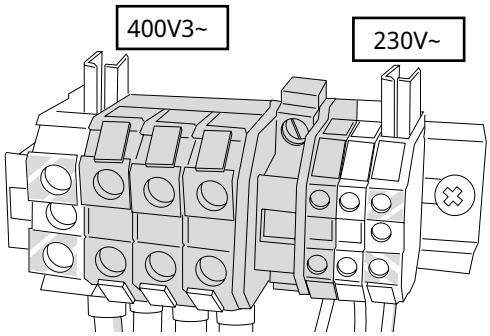
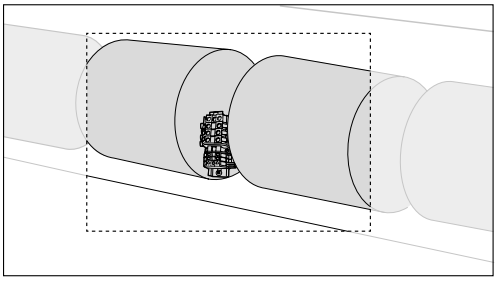


Fig. 5: Terminal blocks



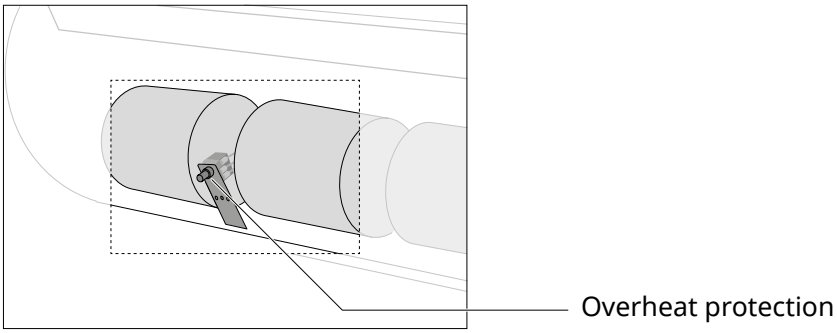
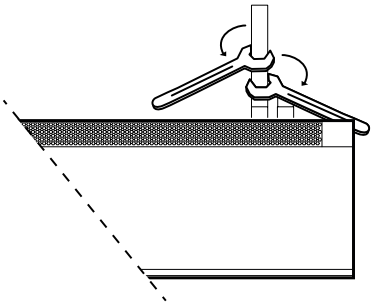


Fig. 6: Overheat protection

Water connection



NOTE! Use a pipe wrench or a similar tool to grip the air curtain connections to prevent straining of the pipes.

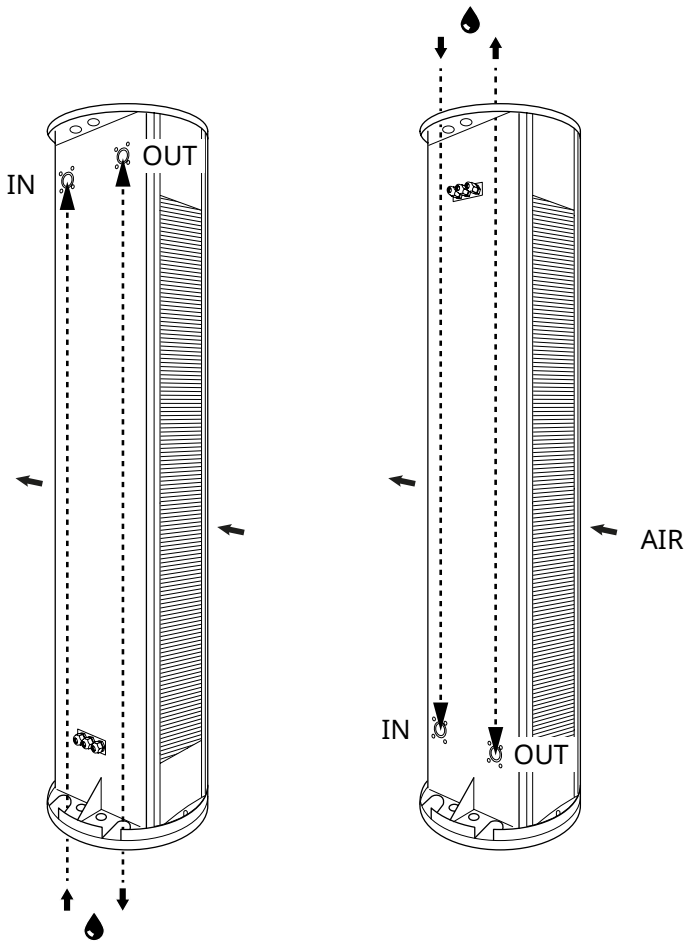


Fig. 7: Water connection, vertical mounting

Accessories - horizontal mounting

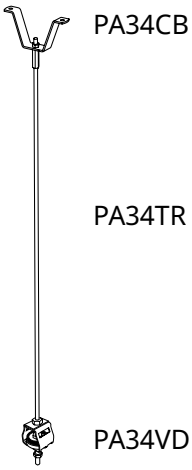


Fig. 8: PA34TR + PA34CB + PA34VD.
See separate manual for PA34TR.

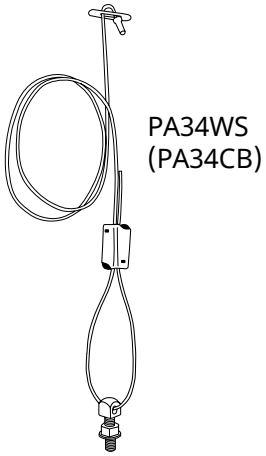
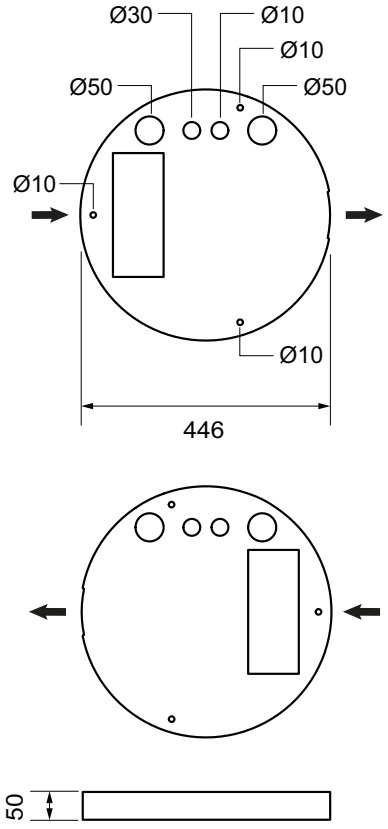


Fig.9: PA34WS + PA34CB
See separate manual for PA34WS.

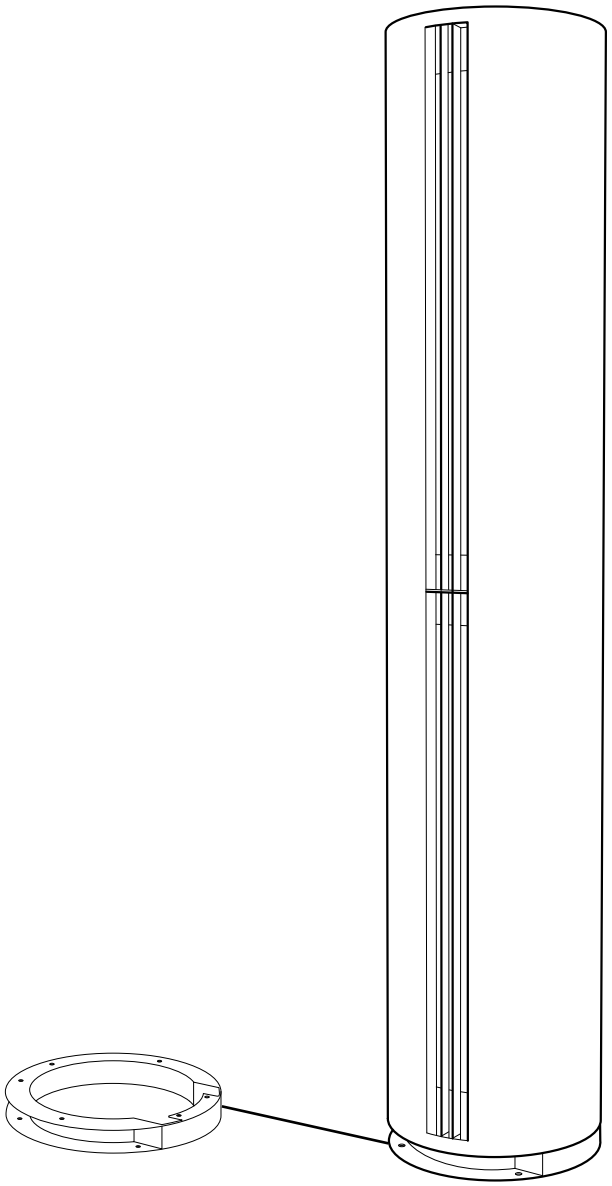
Item number	Type	Used for	Consists of	Length
18059	**PA34CB15**	COSx10	4 pcs	
18060	**PA34CB20**	COSx15 / COSx20 / COSx25 / COSx30	6 pcs	
18062	**PA34WS15**	COSx10	4 pcs	3 m
18063	**PA34WS20**	COSx15 / COSx20 / COSx25 / COSx30	6 pcs	3 m
18056	**PA34TR15**	COSx10	4 pcs	1 m
18057	**PA34TR20**	COSx15 / COSx20 / COSx25 / COSx30	6 pcs	1 m
18065	**PA34VD15**	COSx10	4 pcs	
18066	**PA34VD20**	COSx15 / COSx20 / COSx25 / COSx30	6 pcs	

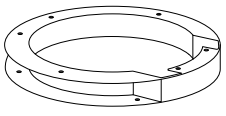
Accessories - vertical mounting

Note! The air curtain must be secured in the wall or ceiling. There is a rivet nut (M8) on the top of the unit for this purpose.



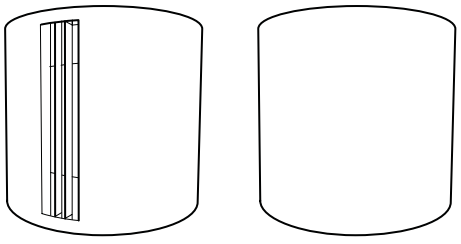
COSFF





COSFF

AXP300



COSEH05/COSEH10

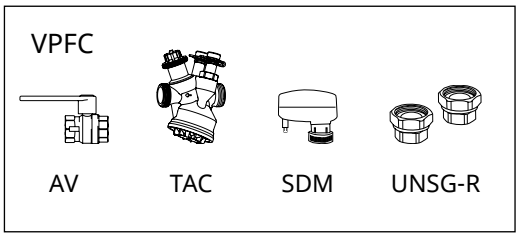
Item number	Type	Used for
FE10399	**COSFF**	COS-V
10028	**AXP300**	COS-V
FE10400	**COSEH05**	COS-V, ≤500 mm
FE10401	**COSEH10**	COS-V, 501-1000 mm

Accessories

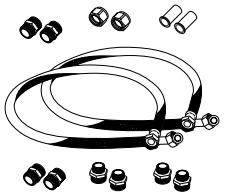
Valve systems

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

See separate manual.

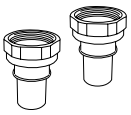


Item number	Type	L [mm]
459330	**WCK8**	1000
459331	**WCK9**	350



WCK

Item number	Type	Dimension
333344	**UNSG2015**	G20 x 15mm
333345	**UNSG2518**	G25 x 18mm
333346	**UNSG2522**	G25 x 22mm
333347	**UNSG3228**	G32 x 28mm
333348	**UNSG4035**	G40 x 35mm
333349	**ANS1515**	R15
333350	**ANS2018**	R20
333351	**ANS2022**	R20
333352	**ANS2528**	R25
333353	**ANS3235**	R32



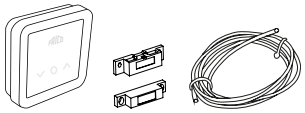
UNSG

ANS

Control systems

The air curtain must be supplemented with a control system.

FCDA - FC Direct

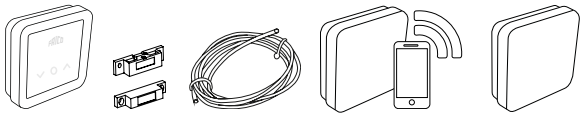


FCCF FCDC FCBC05

FCSA - FC Smart

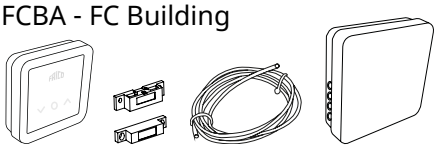
FCCF FCDC FCBC10 FCLAP

FCPA - FC Pro



FCCF FCDC FCBC10 FCLAP FCTXRF

FCBA - FC Building



FCCF FCDC FCBC10 FCBAP

Item number	Type	Name	Dimensions
74684	**FCDA**	FC Direct	89x89x26 mm (FCCF)
74685	**FCSA**	FC Smart	89x89x26 mm (FCCF)
74686	**FCPA**	FC Pro	89x89x26 mm (FCCF)
74687	**FCBA**	FC Building	89x89x26 mm (FCCF)

Accessories

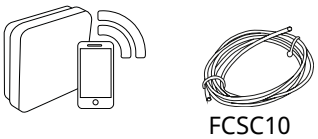
FCRTX

FCSC10

FCOTX

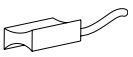
FCSC10

FCLAP



FCSC10

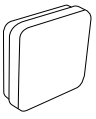
Item number	Type		Dimensions
74694	**FCRTX**		39x39x23 mm
74695	**FCOTX**		39x39x23 mm
74699	**FCLAP**		89x89x26 mm
74702	**FCWTA**	for water heated units	
17495	**FCDC**		
74718	**FCBC05**		5 m
74719	**FCBC10**		10 m
74720	**FCBC25**		25 m
74721	**FCSC10**		10 m
74722	**FCSC25**		25 m
74703	**FCTXRF**	for FC Smart, FC Pro	89x89x26 mm



FCWTA

FCDC

FCBC05/10/25
FCSC10/25



FCTXRF

See separate manual for FC.

Technical specifications Coso 3500

Ambient, no heat - COS35 A (IP20)

Type	Output [kW]	Airflow*1 [m³/h]	Sound power*2 [dB(A)]	Sound pressure*3 [dB(A)]	Length [mm]	Weight [kg]
COS3510A	0	1050/1700	77	49/61	1000	54
COS3515A	0	1550/2550	79	51/63	1500	63
COS3520A	0	2150/3400	79	51/63	2000	81
COS3525A	0	2650/4250	81	53/65	2500	90
COS3530A	0	3600/5800	81	53/65	3000	122

Electrical heat - COS35 E (IP20)

Type	Output steps [kW]	Airflow*1 [m³/h]	Δt*4 [°C]	Sound power*2 [dB(A)]	Sound pressure*3 [dB(A)]	Voltage [V] Amperage [A] (heat)	Length [mm]	Weight [kg]
COS3510E09	3/6/9	1000/1600	27/17	77	49/61	400V3~/13,0	1000	65
COS3515E12	4/8/12	1500/2450	24/15	79	51/63	400V3~/17,3	1500	73
COS3520E18	6/12/18	2000/3250	27/16	79	51/63	400V3~/26,0	2000	90
COS3525E18	6/12/18	2500/4050	21/13	81	53/65	400V3~/26,0	2500	100
COS3530E30	10/20/30	3500/5600	25/16	81	53/65	400V3~/43,3	3000	131

Water heat - COS35 WL (IP20)

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)]	Length [mm]	Weight [kg]
COS3510WL	10	1000/1600	19/21	1,2	77	48/61	1000	69
COS3515WL	16	1500/2450	19/21	1,9	79	50/63	1500	77
COS3520WL	21	2000/3250	19/22	2,6	79	50/63	2000	95
COS3525WL	29	2500/4050	21/23	3,4	81	52/65	2500	104
COS3530WL	38	3500/5600	20/22	4,1	81	52/65	3000	138

Water heat - COS35 WLL (IP20)

Type	Output*6 [kW]	Airflow*1 [m³/h]	Δt*4,6 [°C]	Water volume [l]	Sound power*2 [dB(A)]	Sound pressure*3 [dB(A)]	Length [mm]	Weight [kg]
COS3510WLL	7	1000/1600	13/14	1,7	77	48/61	1000	77
COS3515WLL	11	1500/2450	13/18	2,8	79	50/63	1500	64
COS3520WLL	15	2000/3250	14/15	3,9	79	50/63	2000	82
COS3525WLL	20	2500/4050	14/16	5,0	81	52/65	2500	91
COS3530WLL	25	3500/5600	13/15	6,1	81	52/65	3000	123

*1) Low/high airflow (2/10V).
*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 (2/10V).
*4) Δt = temperature rise of passing air at maximum heat output and low/high airflow (2/10V).
*5) Applicable at water temperature 60/40 °C, air temperature, in +18 °C.
*6) Applicable at water temperature 40/30 °C, air temperature, in +18 °C.
*5,6) See www.frico.net for additional calculations.

Approved for 220V/1ph/60Hz and 380V/3ph/60Hz. Product performance for 220V/1ph/60Hz and 380V/3ph/60Hz will differ from stated data.

	Voltage motor: 230V~	
Type	**Motor [W]**	**Amperage motor [A]**
COS3510	350	2,3
COS3515	520	3,2
COS3520	700	4,1
COS3525	870	5,1
COS3530	1230	6,9

Technical specifications Coso 4200

Ambient, no heat - COS42 A (IP20)

Type	Output [kW]	Airflow*[1] [m³/h]	Sound power*[2] [dB(A)]	Sound pressure*[3] [dB(A)]	Length [mm]	Weight [kg]
COS4210A	0	1500/2400	79	51/63	1000	61
COS4215A	0	2050/3250	81	53/65	1500	69
COS4220A	0	2950/4750	81	53/65	2000	95
COS4225A	0	3500/5600	83	55/67	2500	97
COS4230A	0	3950/6400	83	55/67	3000	129

Electrical heat - COS42 E (IP20)

Type	Output steps [kW]	Airflow*[1] [m³/h]	Δt*[4] [°C]	Sound power*[2] [dB(A)]	Sound pressure*[3] [dB(A)]	Voltage [V] Amperage [A] (heat)	Length [mm]	Weight [kg]
COS4210E15	5/10/15	1400/2300	32/20	79	51/63	400V3~/21,7	1000	72
COS4215E23	7,5/15/23	1850/3050	36/22	81	53/65	400V3~/32,5	1500	80
COS4220E30	10/20/30	2750/4500	32/20	81	53/65	400V3~/43,3	2000	97
COS4225E32	11/21/32	3500/5350	29/18	83	55/67	400V3~/46,2	2500	107
COS4230E32	11/21/32	3800/6100	25/16	83	55/67	400V3~/46,2	3000	138

Water heat - COS42 WL (IP20)

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)]	Length [mm]	Weight [kg]
COS4210WL	16	1400/2300	21/24	1,7	79	50/63	1000	76
COS4215WL	20	1850/3050	19/22	1,9	81	52/65	1500	84
COS4220WL	28	2750/4500	18/21	2,6	81	52/65	2000	103
COS4225WL	35	3300/5350	19/21	3,4	83	54/67	2500	119
COS4230WL	41	3800/6100	19/22	4,1	83	54/67	3000	145

Water heat - COS42 WLL (IP20)

Type	Output*[6] [kW]	Airflow*[1] [m³/h]	Δt*[4,6] [°C]	Water volume [l]	Sound power*[2] [dB(A)]	Sound pressure*[3] [dB(A)]	Length [mm]	Weight [kg]
COS4210WLL	9	1400/2300	12/13	1,7	79	50/63	1000	84
COS4215WLL	13	1850/3050	12/14	2,8	81	52/65	1500	92
COS4220WLL	19	2750/4500	12/14	3,9	81	52/65	2000	96
COS4225WLL	23	3300/5350	13/14	5,0	83	54/67	2500	147
COS4230WLL	27	3800/6100	13/14	6,1	83	54/67	3000	165

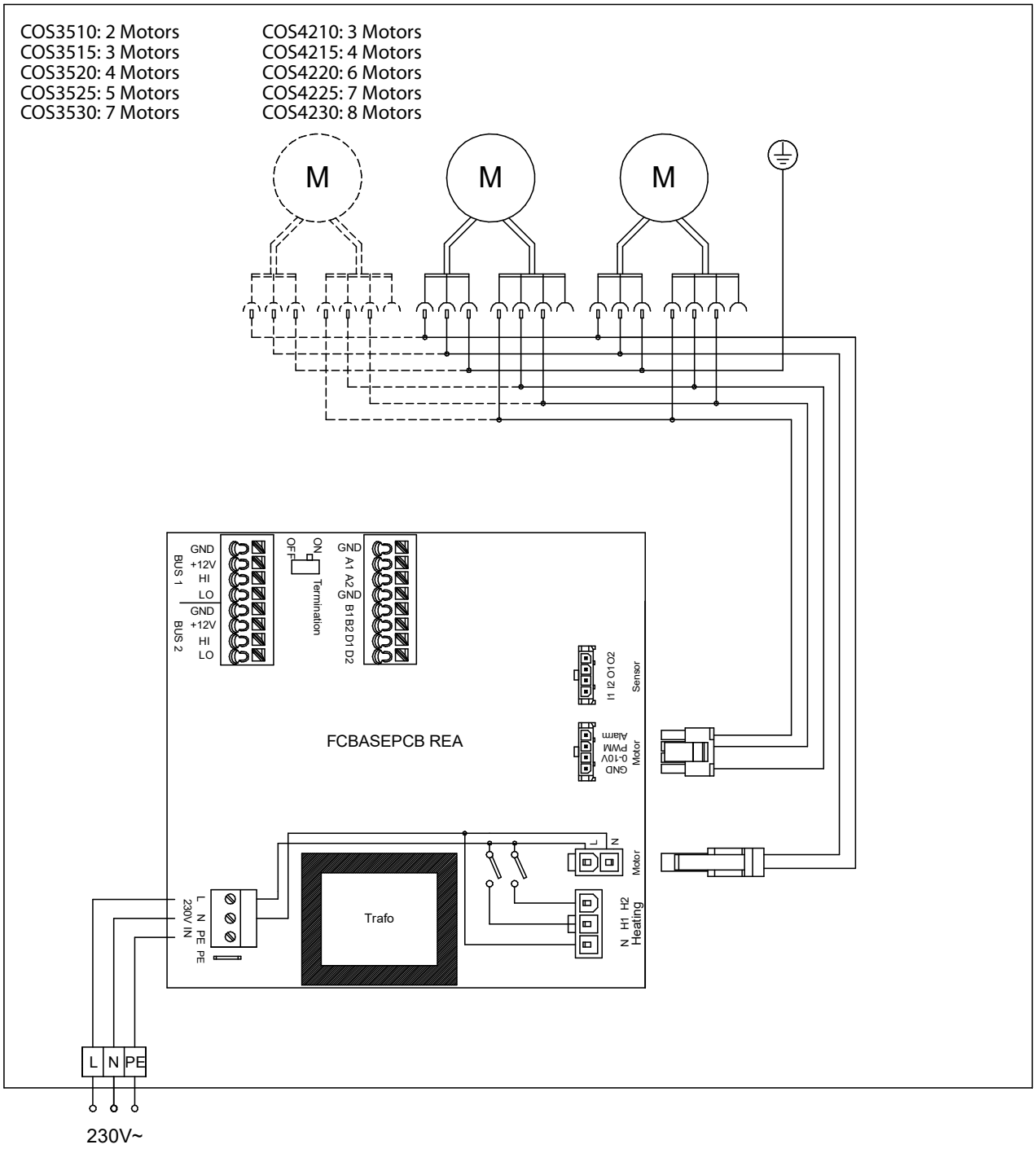
*[1]) Low/high airflow (2/10V).
*[2]) Sound power (L_{WA}) measurements according to ISO 27327-2: 2014, Installation type E.
*[3]) Sound pressure (L_{pA}). Conditions: Distance to the unit 5 metres. Directional factor: 2. Equivalent absorption area: 200 m². At low/high airflow (2/10V).
*[4]) Δt = temperature rise of passing air at maximum heat output and low/high airflow (2/10V).
*[5]) Applicable at water temperature 60/40 °C, air temperature, in +18 °C.
*[6]) Applicable at water temperature 40/30 °C, air temperature, in +18 °C.
*[5,6]) See www.frico.net for additional calculations.

Approved for 220V/1ph/60Hz and 380V/3ph/60Hz. Product performance for 220V/1ph/60Hz and 380V/3ph/60Hz will differ from stated data.

Voltage motor: 230V~

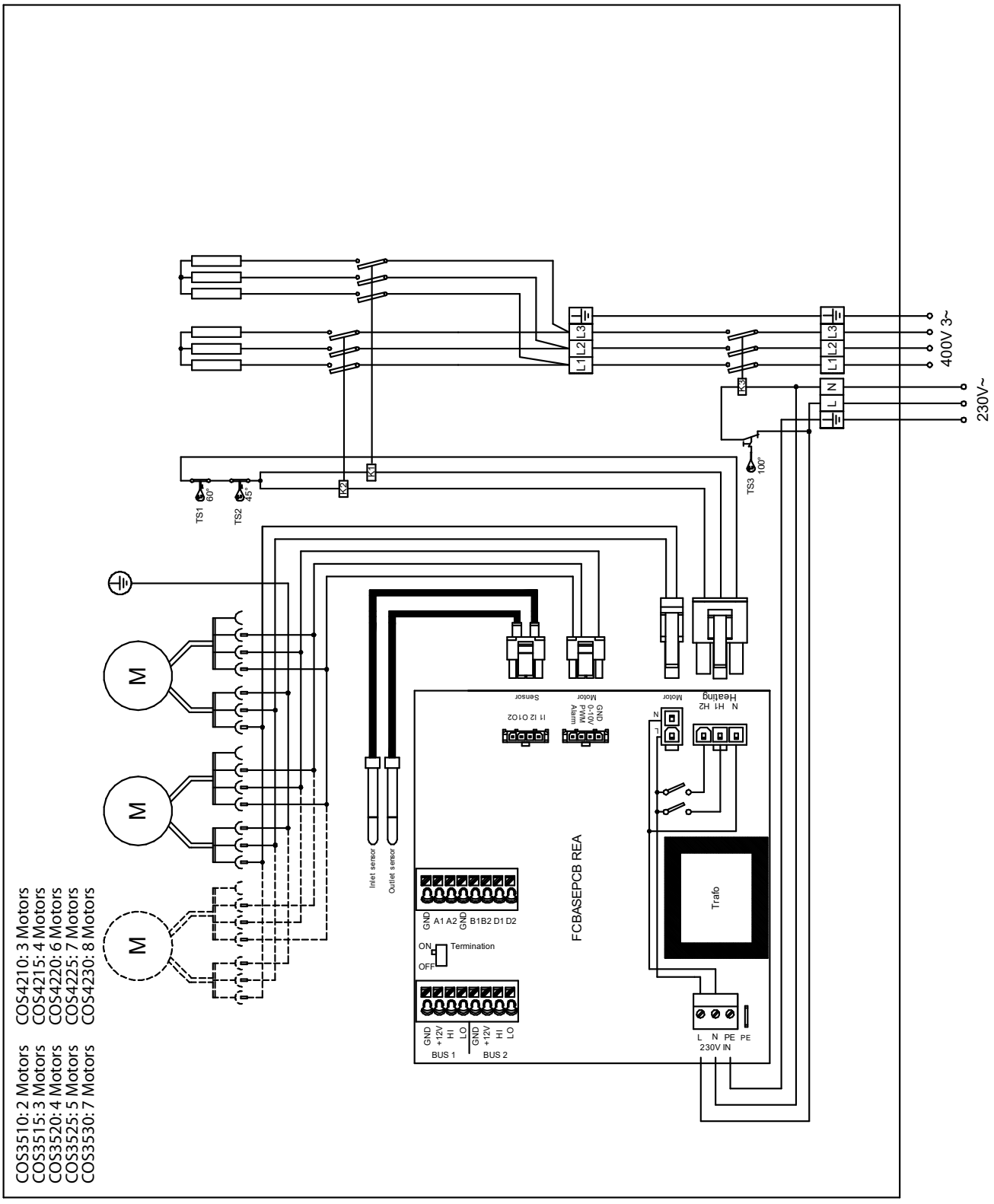
Type	Motor [W]	Amperage motor [A]
COS4210	520	3,2
COS4215	700	4,1
COS4220	1050	6,0
COS4225	1230	6,9
COS4230	1400	8,1

COS A



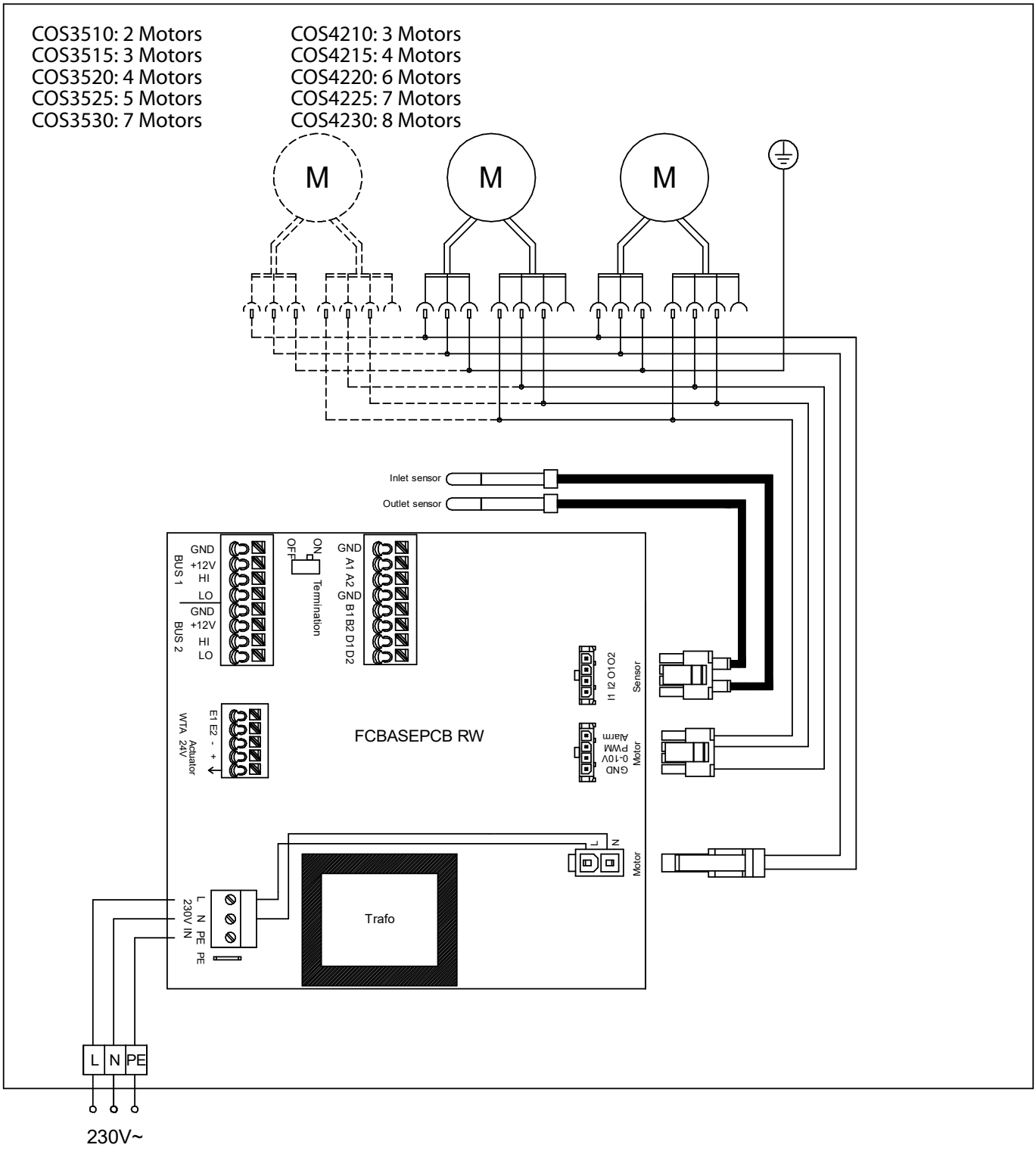
Wiring diagrams for control system in the FC manual.

COS E



Wiring diagrams for control system in the FC manual.

COS W



Wiring diagrams for control system in the FC manual.

Installation and operating instructions

General Instructions

Read these instructions carefully prior to installation and use. Keep this manual for future reference.
The product may only be used as set out in the assembly and operating instructions. The guarantee is only valid should the product be used in the manner intended and in accordance with the instructions.

Application

Coso creates an efficient temperature dividing air barrier in door openings. The air curtain is ordered by using the product key and manufactured accordingly.
The recommended installation width of Coso 3500 is 5 m and the recommended installation width of Coso 4200 is 6 m, with air curtains on both sides of the opening. The recommended installation height of Coso 3500 is 3,5 m and the recommended installation height of Coso 4200 is 4,2 m. The air curtains are available in several versions: without heat (A), with electrical heating (E), or with water heating (WL/WLL).
Protection class: IP20.

Operation

Air is drawn in at the top/rear of the unit and blown downwards/outwards shielding the door opening and minimizing heat loss. To achieve the optimum air curtain effect the unit must extend the full height/width of the door opening.

The grille for directing the outlet air is adjustable and is normally angled outwards to achieve the best protection against incoming air.

The efficiency of the air curtain depends on the air temperature, the pressure differential across the doorway and any wind load.

NOTE! Negative pressure in the building considerably reduces the efficiency of the air curtain. The ventilation should therefore be balanced.

Mounting

The air curtain range can be adapted for vertical or horizontal installation. The product must be mounted in such a way as to allow future service and maintenance. Ensure that the panels are accessible and can be removed for easy maintenance.

The power supply to the unit must be disconnected during all service, repair and maintenance work.

Vertical mounting

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.

For vertical mounting, the unit must be supplemented with a floor frame COSFF, ordered separately. Attach the frame horizontally to the floor using fasteners appropriate for the surface. The floor frame is painted in the same colour as the air curtain.

The position of the air curtain (to the left or to the right of the opening) must be specified when ordering, see the product key.

Two units can be mounted directly on top of each other. This must be specified when ordering, as the air curtains' end gables will be prepared with holes to enable to join the air curtains together.

Note! The air curtain must be secured in the wall or ceiling. There is a rivet nut (M8) on the top of the unit for this purpose. Ensure that the fasteners do not come loose by securing them properly, for example, using lock nuts or thread-locking fluid.

The extension hood (accessory) fills the space between the unit and the ceiling and provides a neater installation.

Design covers are available for special order.

Horizontal mounting

The air curtain is installed horizontally with the outlet air grille facing downwards as close to the door as possible. Minimum distance from outlet to floor for electrically heated units is 1800 mm. For other minimum distances, see fig. 2.

For the protection of wider openings, several units can be mounted directly next to each other. This must be specified when ordering, as the air curtains' end gables will be prepared with holes to enable to join the air curtains together.

Design covers are available for special order.

Horizontal mounting on the ceiling
Threaded rods, wire suspension kits and ceiling brackets for ceiling mounting are available as accessories, see fig. 8 and 9 and separate manuals.

Mount the threaded bars using the blind rivet nut. See Fig. 3. Ensure that the fasteners do not come loose by securing them properly, for example, using lock nuts or thread-locking fluid.

Opening the unit

1. Disconnect the power supply.
2. Remove the screw holding the intake grill in place. See Fig. 1a.
3. Remove the intake grill. See Fig. 1b.
4. Loosen the screws holding the side panels in place. See Fig. 1c.
5. Remove the side panels to access the internal compartment, cables, PC board, and connections. See Fig. 1d.

Electrical installation

The installation, which should be preceded by an isolator switch with a contact separation of at least 3 mm, should only be wired by a competent electrician and in accordance with the latest edition of IEE wiring regulations.

The air curtain has an integrated PC board which is connected to the selected external control system FC. FC must be ordered separately.

The PC board is mounted on a hatch inside the unit. Open and pull out the hatch to access the PC board. See Fig. 4a. Note! Exact position may vary. Communication and sensor cables are connected to the PC board. Make sure to use cables long enough as they are drawn within the unit.

Settings are made on the FC control panel. Should more than one air curtain be controlled by a single FC, an additional communication cable FCBC per unit will be required. See manual for FC.

Control is supplied by 230V~ to terminal blocks (Fig. 5) placed inside the unit, accessible via a gland (see Fig. 4b) placed according to your order, see the product key. For units with electrical heating, the power supply (400V3~) is connected to terminal blocks in the same area. Connections made from below the unit must be prepared in the floor according to the drawing. See wiring diagrams, table of cable diameter and Fig. 5.

Start-up (E)

When the unit is used for the first time or after a long period of non-use, smoke or an odour may result from dust or dirt which has collected on the element. This is completely normal and disappears after a short time.

Connecting the water coil (W)

The installation must be carried out by an authorised installer.

The water coil has copper tubes with aluminium fins and is suitable for connection to a closed water heating system. The heating coil must not be connected to a mains pressure water system or an open water system.

Note that the unit shall be preceded by a regulating valve, see Frico valve kit.

The valve and actuator may preferably be placed concealed behind the side panel. The water coil is connected via connections DN20 (3/4’’), inside thread. The connections are placed on the air curtain according to your order, see the product key. Connections made from below the unit must be prepared in the floor according to the drawing. See Fig. 7. Flexible hoses are available as accessories.

NOTE: Care must be taken when connecting the pipes. Use a pipe wrench or a similar tool to grip the air curtain connections to prevent straining of the pipes and subsequent water leakage during connection to the water supply pipe-work.

The connections to the heating coil must be equipped with shut off valves to allow trouble-free removal.
The water coils in vertical units are equipped with air valves. Air valves are not included for horizontal units. An air valve should be connected at a high point in the pipe system.

Adjustment of the air curtain and airflow

The direction and speed of the airflow should be adjusted considering the load on the opening. Pressure forces affect the airstream and force it inwards towards the premises (when the premises are heated and the outdoor air is cold).

The airstream should, therefore, be directed outwards to withstand the load. Generally speaking, the higher the load, the greater the angle required.

Basic setting fan speed
The fan speed when the door is open is set using the control. Note that the airflow direction and the fan speed may need fine adjustment depending on the loading of the door.

Filter (W)
The heat coil fin distance, in combination with the hole diameter of the intake grille, protects against dirt and blockage and makes a separate filter unnecessary.

Maintenance
Since fan motors and other components are maintenance-free, no maintenance other than cleaning is necessary. The level of cleaning can vary depending on local conditions. Undertake cleaning at least twice a year. Inlet and exhaust grilles, impeller and elements can be vacuum cleaned or wiped using a damp cloth. Use a brush when vacuuming to prevent damaging sensitive parts. Avoid the use of strong alkaline or acidic cleaning agents.

Temperature control
Temperature control of FC maintains the exhaust temperature. Should the temperature exceed the preset value, the overheating alarm will activate. For more information see the FC manual.

Overheating
The air curtain unit with electrical heating is equipped with an overheat protection. If it is deployed due to overheating, reset as follows:
1. Disconnect the power supply with the isolator switch.
2. Allow the electrical coil to cool.
3. Determine the cause of overheating and rectify the fault.
4. Check if the manual overheating protection inside the unit has deployed. If this is the case, reset it by pushing the button. Fig.6.
5. Reconnect the unit.

Replacing the electrical coil (E)
1. Mark and disconnect the cables to the electric coil.
2. Remove the mounting screws securing the electric coil in the unit and lift out.
3. Replace faulty electrical coil.
4. Install the new electric coil in reverse order to the above.

Replacing the water coil (W)
1. Shut off the water supply to the unit.
2. Disconnect the connections to the water coil.
3. Remove the mounting screws securing the coil in the unit and lift out.
4. Install the new coil in reverse order to the above.

Safety cut-out
All motors are equipped with an integrated safety cut-out. This will operate, stopping the air curtain should the motor temperature rise excessively or the electronics fail or overheat. The cut-out will automatically reset when the motor temperature has returned to within the motor’s operating limits. Failure or damage to electronics components may require repair or replacement of such components or the entire product.

Fan replacement
1. Determine which of the fans is not functioning.
2. Disconnect the cables from the relevant fan.
3. Remove the screws securing the fan and lift the fan out.
4. Install the new fan as above in reverse order.

Replacing the PC board
1. The PC board is mounted on a hatch inside the unit. Open and pull out the hatch to access the PC board. See Fig. 4a.
2. Mark and disconnect the cables to the PC board.
3. Unhatch the board from its PCB snap-in spacers and lift out.
4. Install the new PC board as above in reverse order.

Troubleshooting
If the fans are not running or do not perform properly, check the following:
- The power supply.
- That the intake grille/filter is not dirty.
- That the motor's safety cut-out has not been deployed.
- Functions and settings of the FC control system, see the FC manual.

If there is no heat, check the following:
- Functions and settings of the FC control system, see the FC manual.

For units with electrical heating, also check the following:
- Power supply to electric heater coil; check fuses and circuit-breaker (if any).
- That the overheat protection has not been deployed.

For units with a water coil, also check the following:
- That the water coil is vented
- That there is sufficient water flow and pressure.
- That the incoming water is heated adequately.
- That the valves and the actuators are correctly installed and working.

If the fault cannot be rectified, please contact a qualified service technician.

Residual current circuit breaker (E)

When the installation is protected by means of a residual current circuit breaker, which trips when the appliance is connected, this may be due to moisture in the heating element. When an appliance containing a heater element has not been used for a long period or stored in a damp environment, moisture can enter the element.

This should not be seen as a fault, but is simply rectified by connecting the appliance to the main supply via a socket without a safety cut-out so that the moisture can be eliminated from the element. The drying time can vary from a few hours to a few days. As a preventive measure, the unit should occasionally be run for a short time when it is not being used for extended periods of time.

Packaging

Packaging materials are chosen with consideration to the environment and are therefore recyclable.

Handling of product at end of working life

This product may contain substances necessary for the functionality of the product but potentially dangerous for the environment. The product should not be disposed of mixed with general household waste but delivered to a designated collection point for environmental recycling. Please contact the local authority for further details of your nearest designated collection point.

Safety

- *For all installations of electrically heated products a residual current circuit breaker* 300 mA *for fire protection must be used.*
- *Keep the areas around the air intake and exhaust grilles free from possible obstructions!*
- *The unit must not be fully or partially covered as overheating can result in a fire risk!*
- *Lifting equipment must be used to lift the unit.*
- *This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.*
- *Children of less than 3 years should be kept away unless continuously supervised.*
- *Children aged from 3 years and less than 8 years shall only switch on/off the appliance provided that it has been placed or installed in its intended normal operating position and they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.*
- *Children aged from 3 years and less than 8 years shall not plug in, regulate and clean the appliance or perform user maintenance.*

CAUTION — Some parts of this product can become very hot and cause burns. Particular attention has to be given where children and vulnerable people are present.

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