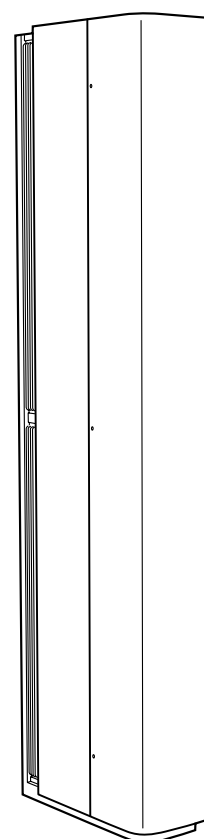
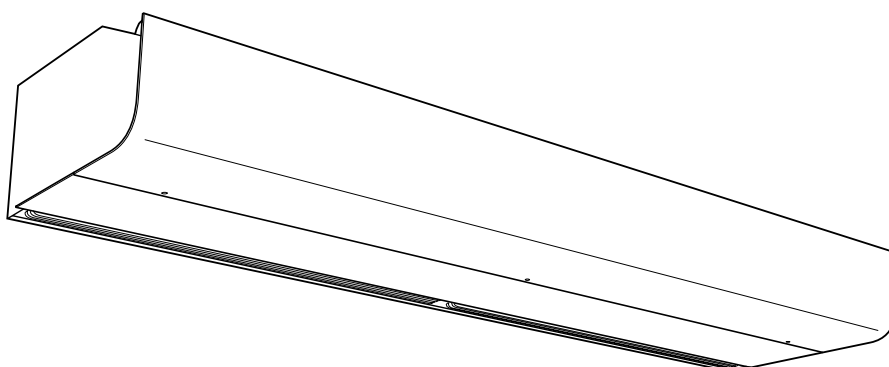


Original instructions
Pamir 3500/4200/5000



EN ... 21

SE ... 26

NO ... 32

FR ... 38

DE ... 44

NL ... 50

ES ... 56

IT ... 62

PL ... 68

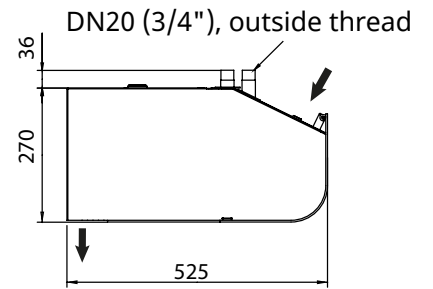
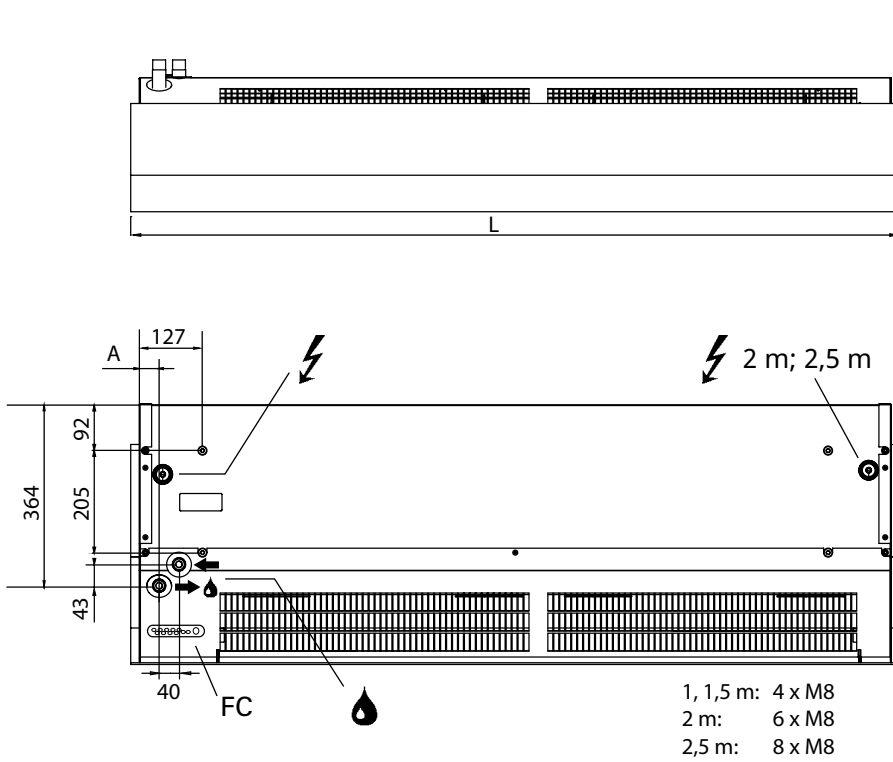
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FI ... 81

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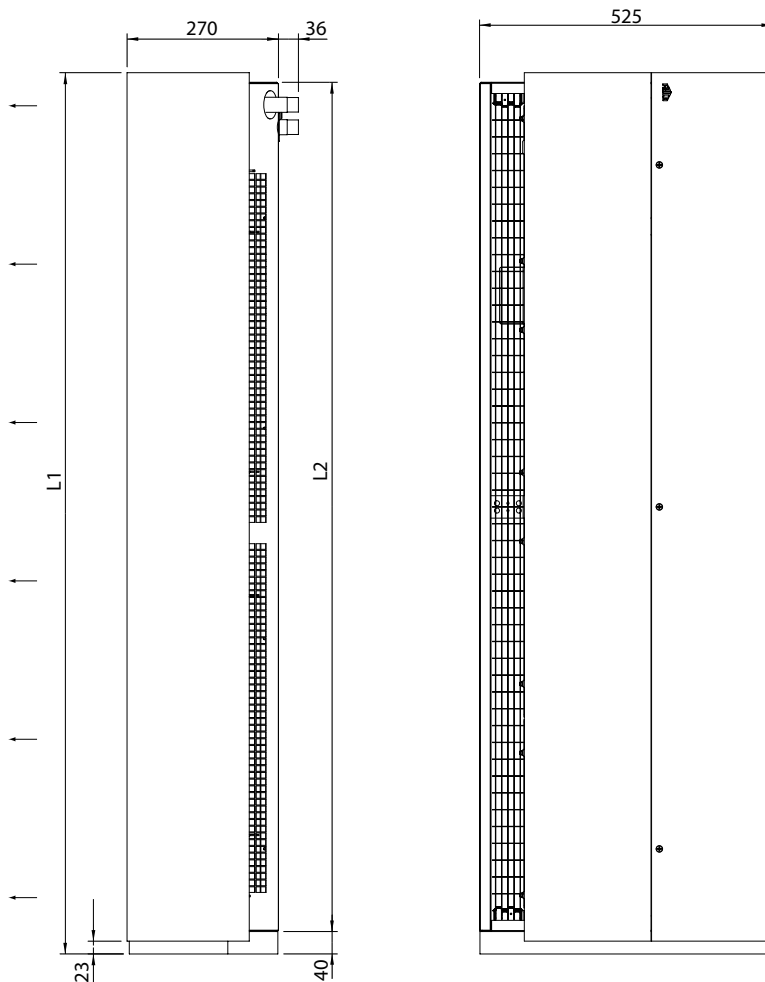
- EN The introduction pages consist mainly of pictures. For translation of the English texts used, see the respective language pages.
- SE Introduktionssidorna består huvudsakligen av bilder. För översättning av de engelska texter som används, se respektive språksidor.
- NO Introduksjonssidene består hovedsakelig av bilder. For oversettelse av de engelske tekstene, se de respektive språksidene
- 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.
- NL De inleidende pagina's bevatten hoofdzakelijk afbeeldingen. Voor een vertaling van de gebruikte Engelse teksten, zie de pagina's van de resp. taal.
- ES Las páginas introductorias contienen básicamente imágenes. Consulte la traducción de los textos en inglés que las acompañan en las páginas del idioma correspondiente.
- 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.
- FI Esittelysivut koostuvat lähinnä kuvista. Suvuilla olevien enlanninkielisten sanojen käännökset löytyvät ko. kielisivuilta.
- DK Introduktionssiderne består hovedsageligt af billeder. For oversættelse af de engelske tekster, se siderne for de respektive sprog.

Pamir 3500
Horizontal mounting



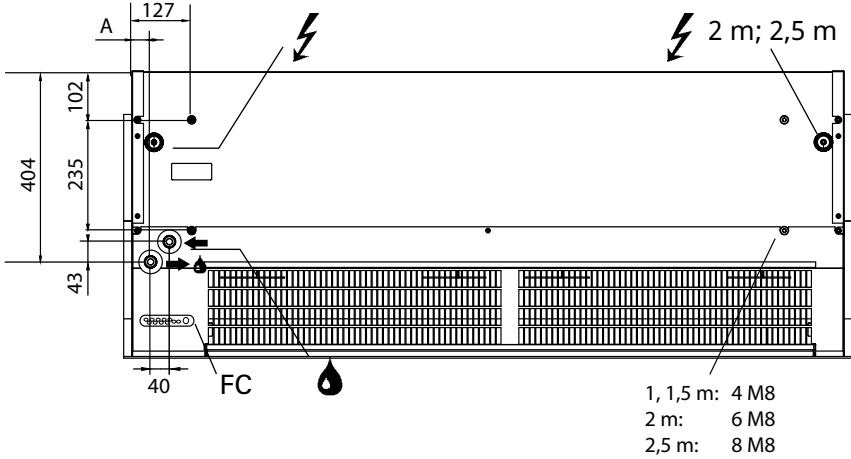
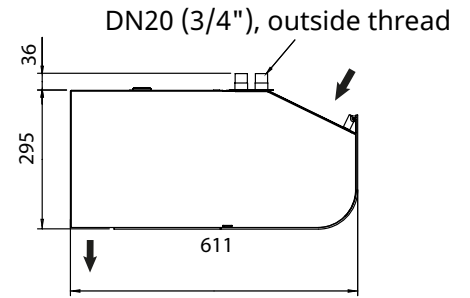
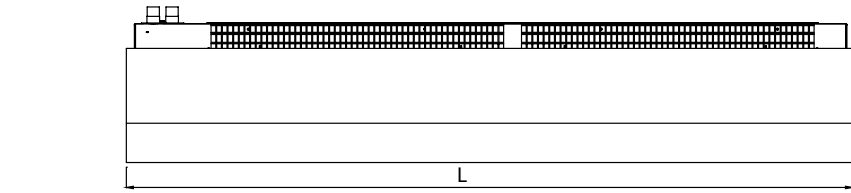
	L [mm]	A [mm]
PAFEC3510	1039	40
PAFEC3515	1549	40
PAFEC3520	2039	40
PAFEC3525	2549	39

Vertical mounting



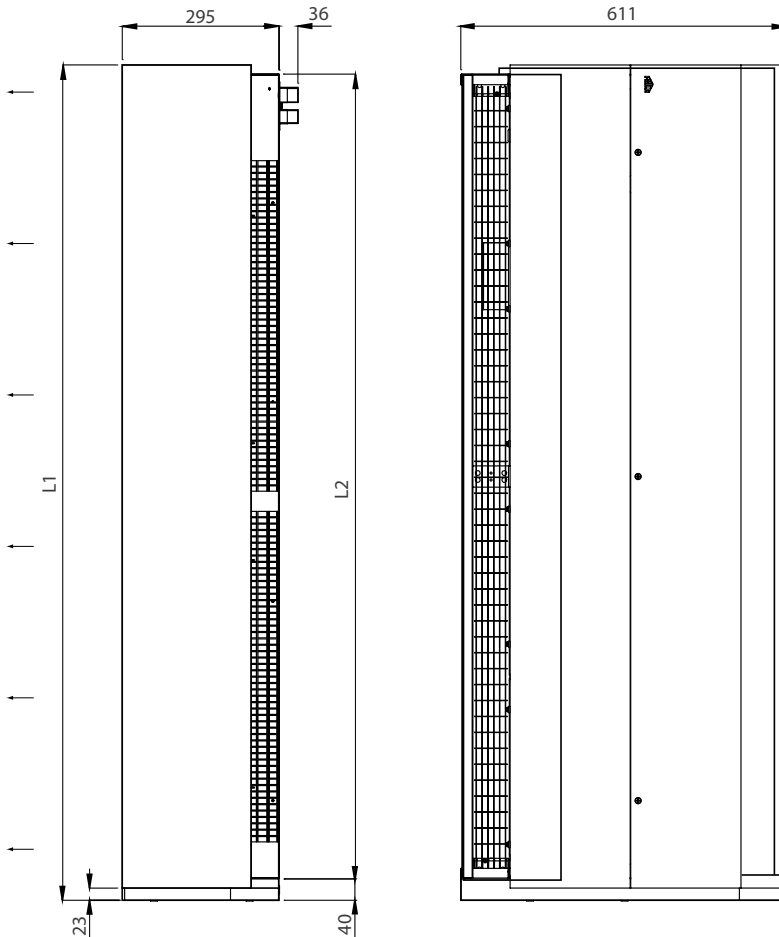
	L1 [mm]	L2 [mm]
PAFEC3515	1572	1515
PAFEC3520	2062	2004
PAFEC3525	2572	2515

Pamir 4200/5000
Horizontal mounting



	L [mm]	A [mm]
PAFEC4210/5010	1039	40
PAFEC4215/5015	1549	40
PAFEC4220/5020	2039	40
PAFEC4225/5025	2549	39

Vertical mounting



	L1 [mm]	L2 [mm]
PAFEC4215/5015	1572	1515
PAFEC4220/5020	2062	2004
PAFEC4225/5025	2572	2515

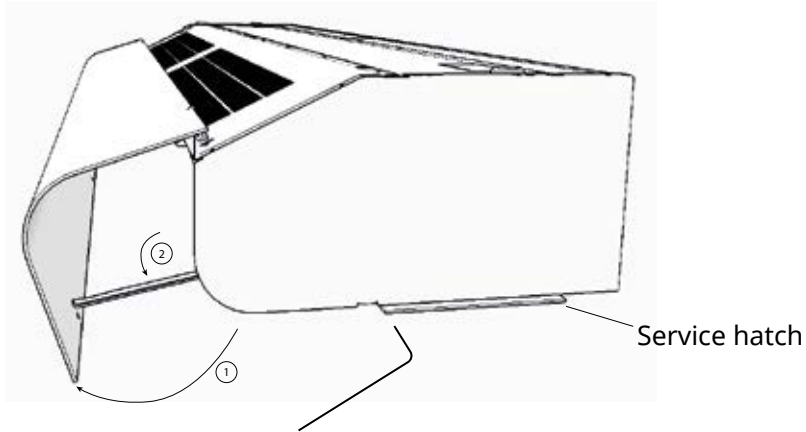


Fig. 1A: Open the unit.

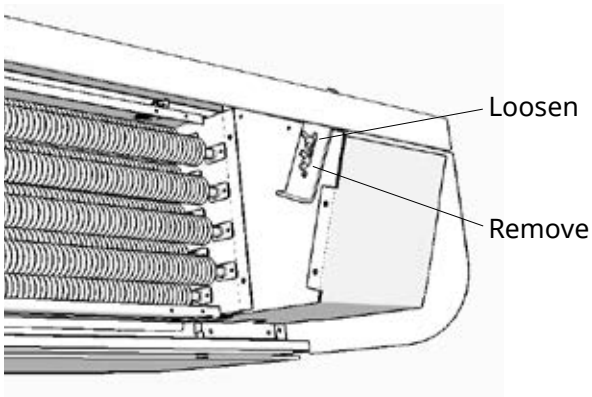


Fig. 1B: To remove the front plate, the locking devices on both sides must be loosened. When the front is reinstalled, it is important to ensure that it is firmly seated in the front locks.

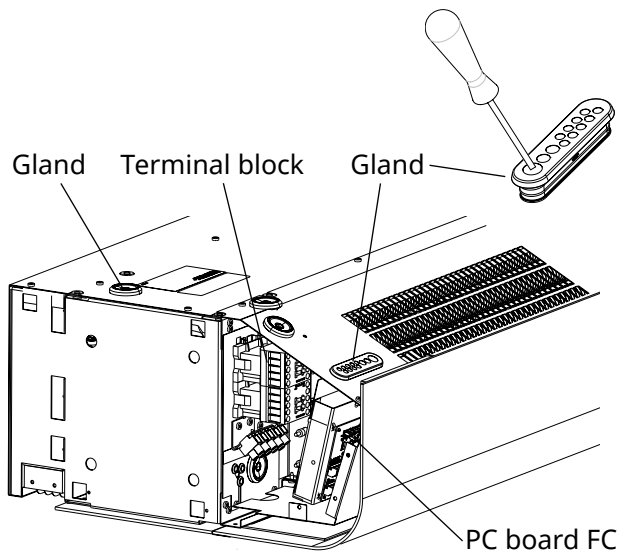


Fig. 2: PC board FC is integrated within the air curtain at delivery.

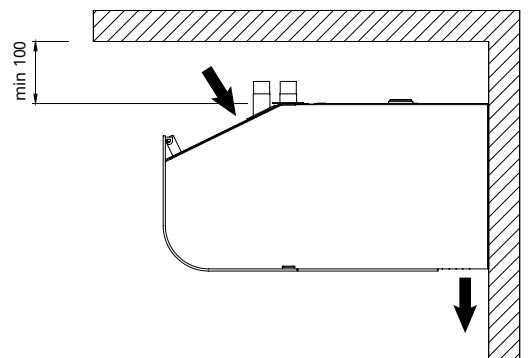


Fig. 3: Minimum distance.

Water connection

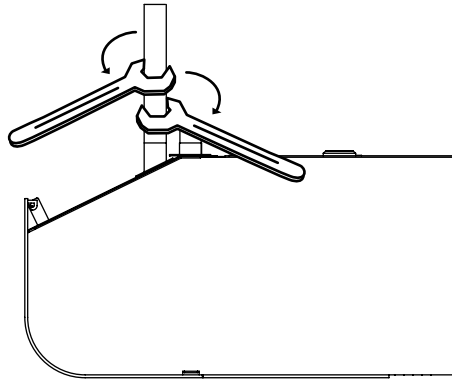


Fig. 4a: NOTE! Use a pipe wrench or a similar tool to grip the air curtain connections to prevent straining of the pipes.

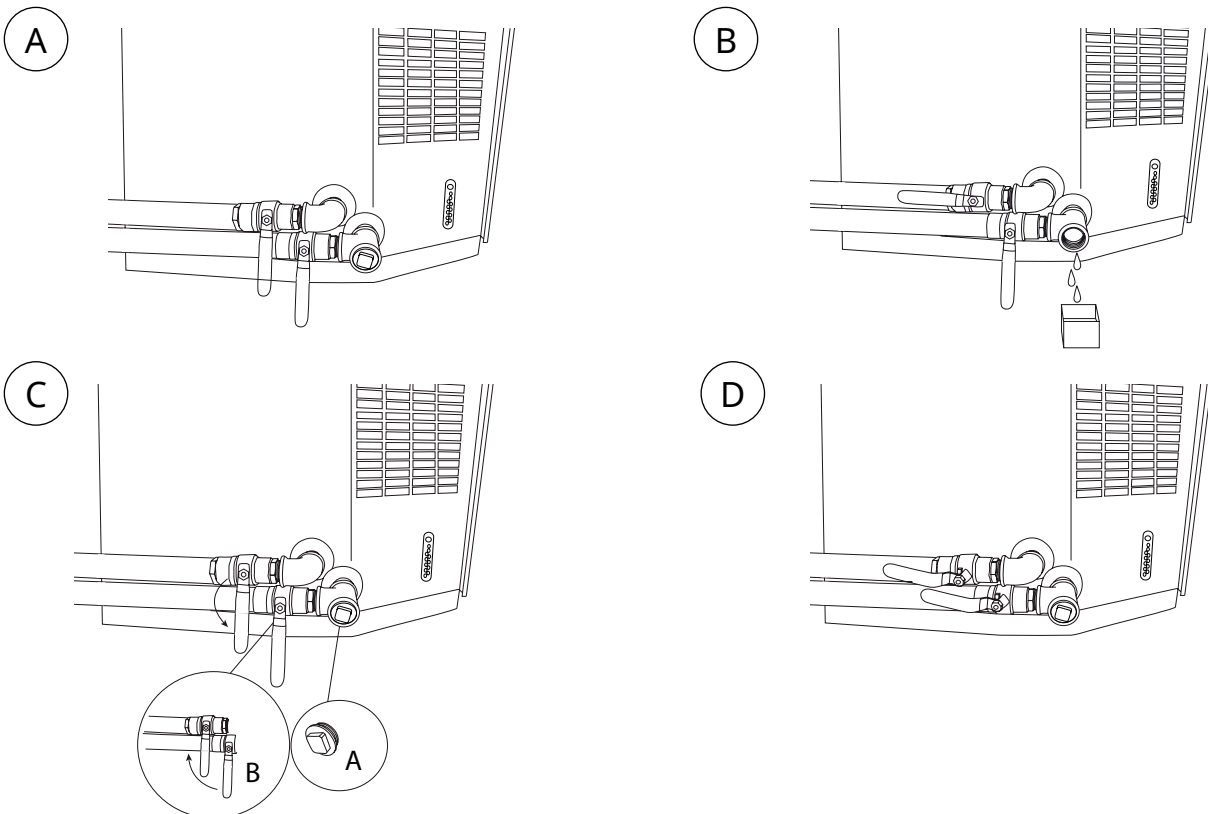
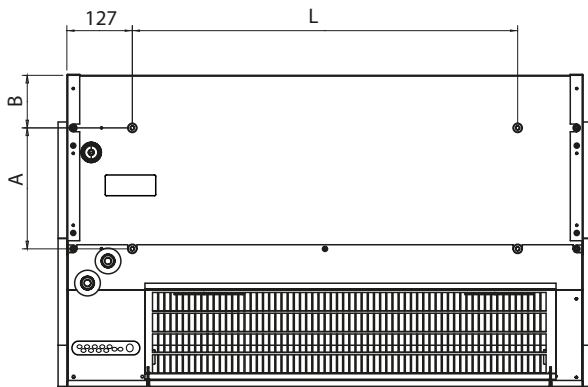


Fig. 4b: Filling the water coil, vertical mounting

M8-holes for mountings

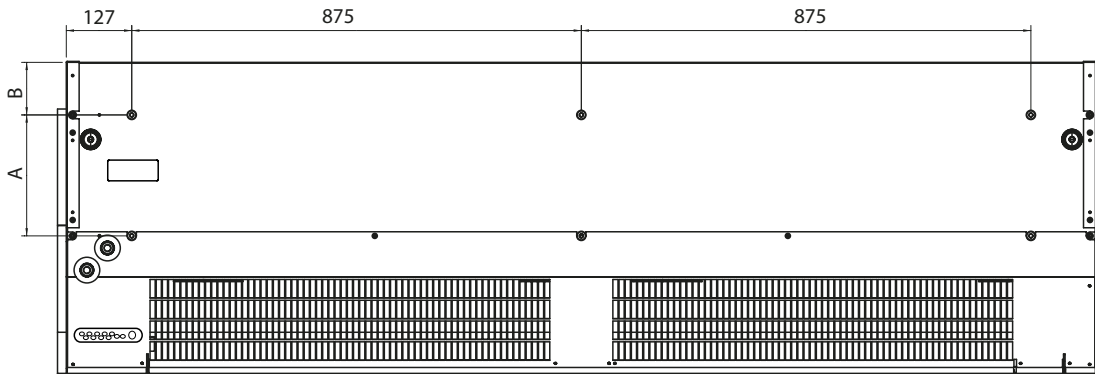
PAFEC 3510 / 3515 / 4210 / 4215 / 5010 / 5015



	L [mm]
PAFEC3510	750
PAFEC4210	750
PAFEC5010	750
PAFEC3515	1260
PAFEC4215	1260
PAFEC5015	1260

	A [mm]	B [mm]
PAFEC3500	205	92
PAFEC4200	235	102
PAFEC5000	235	102

PAFEC3520 / 4220 / 5020



PAFEC3525 / 4225 / 5025

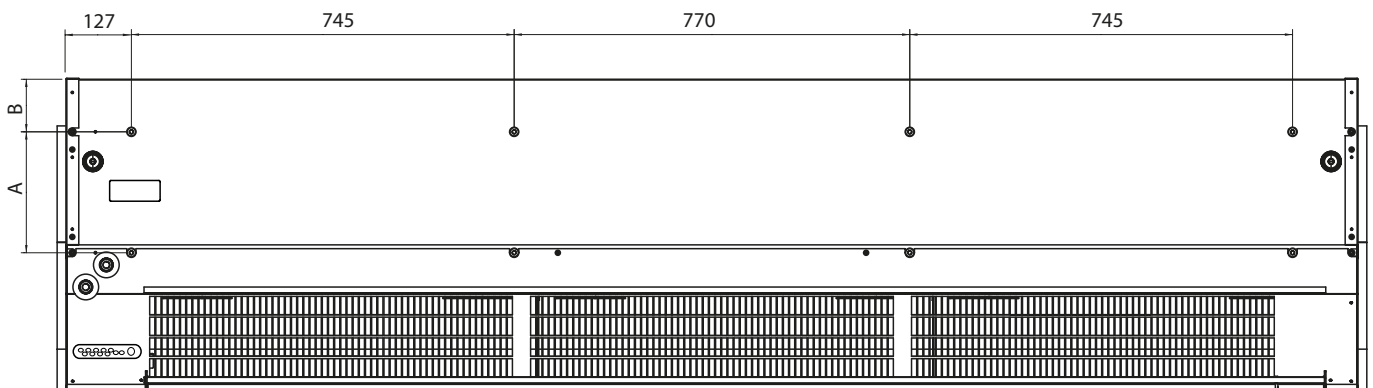


Fig. 5: M8-holes for mounting.

Accessories - horizontal mounting

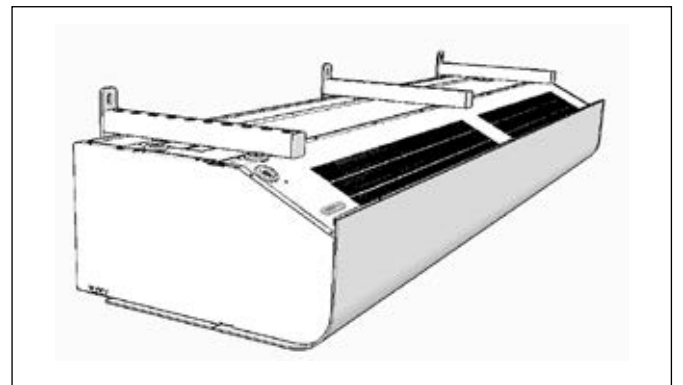
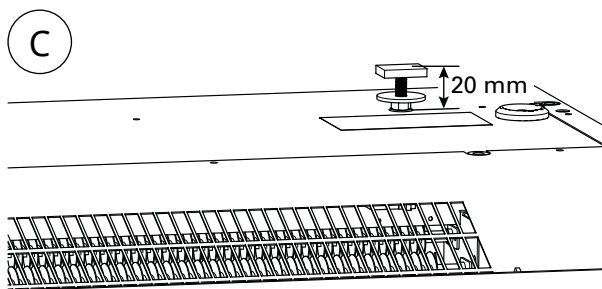
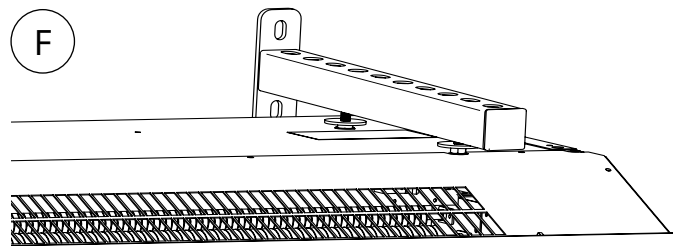
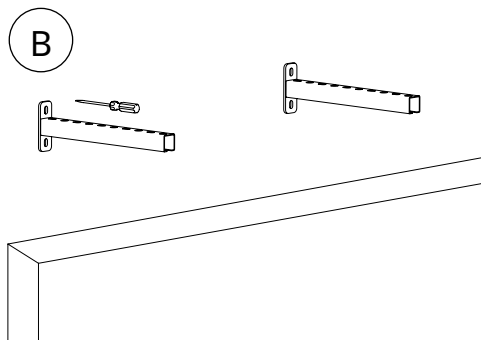
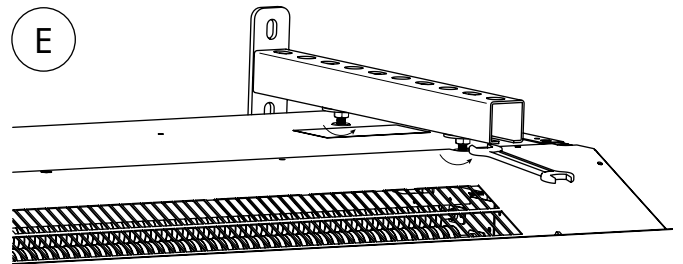
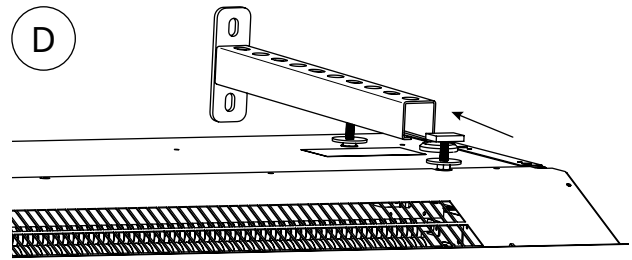
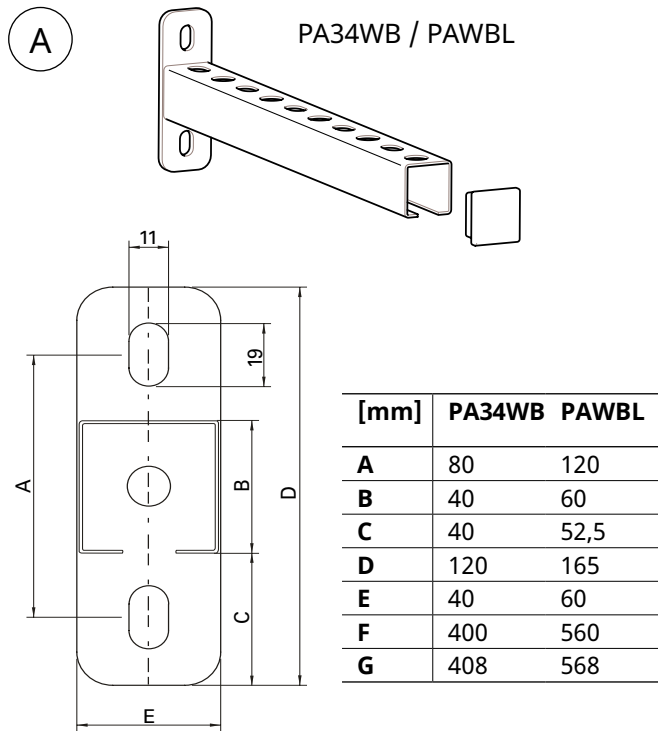


Fig. 6: See separate manual for PA34WB/PAWBL.

Item number	Type		Consists of	Length
18044	PA34WB15	PAFEC 3510 / 3515 / 4210 / 4215 / 5010 / 5015	2 pcs	400 mm
18045	PA34WB20	PAFEC 3520 / 4220 / 5020	3 pcs	400 mm
18046	PA34WB30	PAFEC 3525 / 4225 / 5025	4 pcs	400 mm
214951	PAWBL15	PAFEC 3510 / 3515 / 4210 / 4215 / 5010 / 5015	2 pcs	560 mm
214952	PAWBL20	PAFEC 3520 / 4220 / 5020	3 pcs	560 mm
214953	PAWBL30	PAFEC 3525 / 4225 / 5025	4 pcs	560 mm

Accessories - horizontal mounting

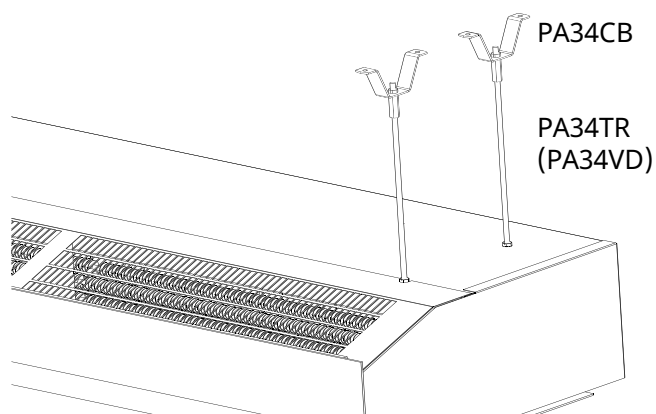


Fig. 7: PA34TR + PA34CB + PA34VD.
See separate manual for PA34TR.

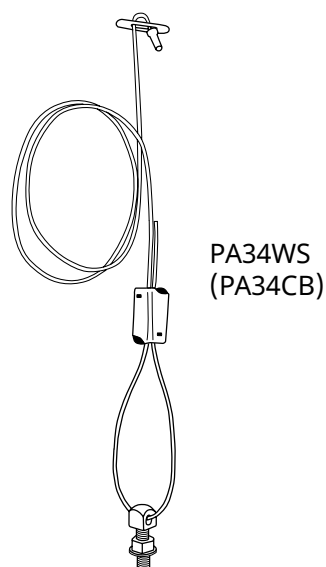


Fig.8: PA34WS + PA34CB
See separate manual for PA34WS.

Item number	Type		Consists of	Length
18059	PA34CB15	PAFEC 3510 / 3515 / 4210 / 4215 / 5010 / 5015	4 pcs	
18060	PA34CB20	PAFEC 3520 / 4220 / 5020	6 pcs	
18061	PA34CB30	PAFEC 3525 / 4225 / 5025	8 pcs	
18062	PA34WS15	PAFEC 3510 / 3515 / 4210 / 4215 / 5010 / 5015	4 pcs	3 m
18063	PA34WS20	PAFEC 3520 / 4220 / 5020	6 pcs	3 m
18064	PA34WS30	PAFEC 3525 / 4225 / 5025	8 pcs	3 m
18056	PA34TR15	PAFEC 3510 / 3515 / 4210 / 4215 / 5010 / 5015	4 pcs	1 m
18057	PA34TR20	PAFEC 3520 / 4220 / 5020	6 pcs	1 m
18058	PA34TR30	PAFEC 3525 / 4225 / 5025	8 pcs	1 m
18065	PA34VD15	PAFEC 3510 / 3515 / 4210 / 4215 / 5010 / 5015	4 pcs	
18066	PA34VD20	PAFEC 3520 / 4220 / 5020	6 pcs	
18067	PA34VD30	PAFEC 3525 / 4225 / 5025	8 pcs	

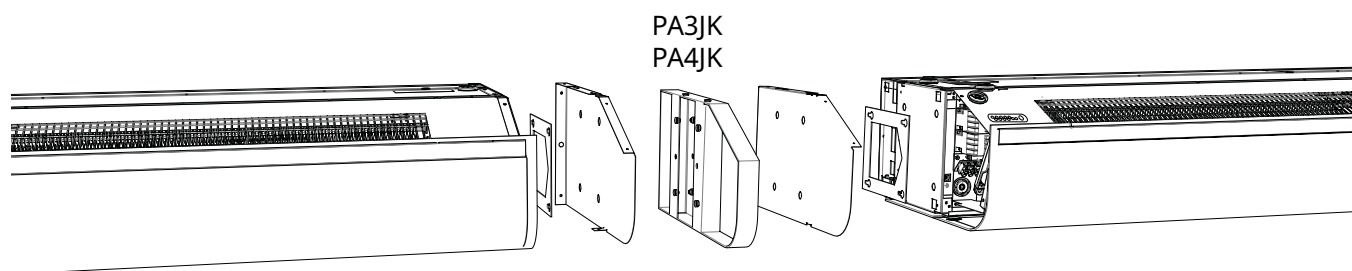


Fig. 9: See separate manual for PA3JK / PA4JK.

Item number	Type	
110759	PA3JK	PAFEC 3500
110760	PA4JK	PAFEC 4200 / 5000

Accessories - horizontal mounting

Item number	Type		Length
19085	PA3XT10	PAFEC 3510	130-200 mm
19086	PA3XT15	PAFEC 3515	130-200 mm
19087	PA3XT20	PAFEC 3520	130-200 mm
19088	PA3XT25	PAFEC 3525	130-200 mm
19090	PA4XT10	PAFEC 4210 / 5010	130-200 mm
19091	PA4XT15	PAFEC 4215 / 5015	130-200 mm
19092	PA4XT20	PAFEC 4220 / 5020	130-200 mm
19093	PA4XT25	PAFEC 4225 / 5025	130-200 mm

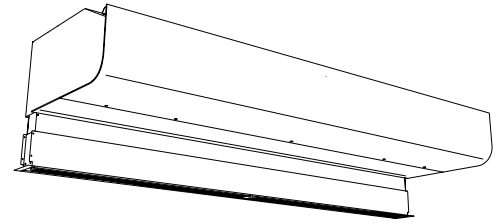
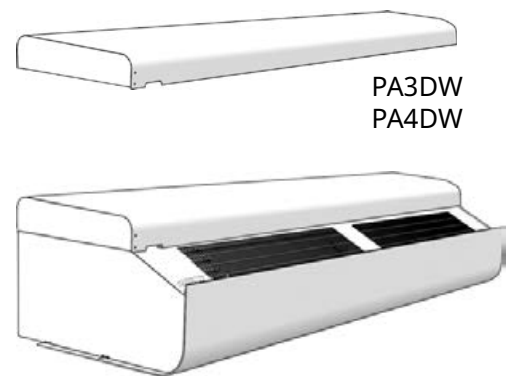


Fig. 10: See separate manual for PA3XT / PA4XT.

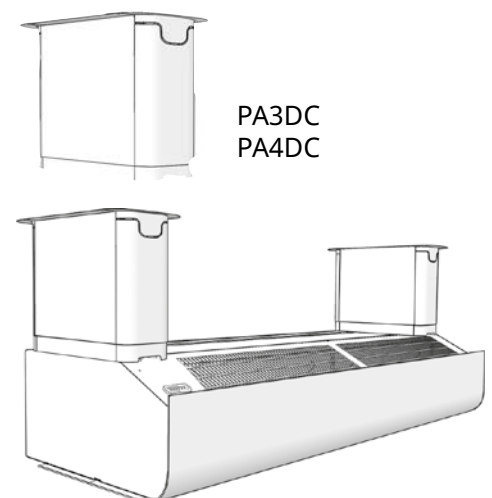
Item number	Type		Dimensions
110834	PA3DW10	PAFEC 3510	87x382x1006 mm
110835	PA3DW15	PAFEC 3515	87x382x1516 mm
110836	PA3DW20	PAFEC 3520	87x382x2006 mm
110837	PA3DW25	PAFEC 3525	87x382x2516 mm
110838	PA4DW10	PAFEC 4210 / 5010	87x424x1006 mm
110839	PA4DW15	PAFEC 4215 / 5015	87x424x1516 mm
110840	PA4DW20	PAFEC 4220 / 5020	87x424x2006 mm
110841	PA4DW25	PAFEC 4225 / 5025	87x424x2516 mm



See separate manual for PA3DW / PA4DW.

Item number	Type		Length
13552	PA3DCS	PAFEC 3500	200-300 mm
13553	PA3DCM	PAFEC 3500	300-500 mm
13555	PA3DCL	PAFEC 3500	500-900 mm
13556	PA3DXT	PAFEC 3500	420 mm
13557	PA4DCS	PAFEC 4200 / 5000	200-300 mm
13559	PA4DCM	PAFEC 4200 / 5000	300-500 mm
13560	PA4DCL	PAFEC 4200 / 5000	500-900 mm
13561	PA4DXT	PAFEC 4200 / 5000	420 mm

PAFEC3510 / 4210 / 5010: 2 pcs
 PAFEC3515 / 4215 / 5015: 2 pcs
 PAFEC3520 / 4220 / 5020: 3 pcs
 PAFEC3525 / 4225 / 5025: 4 pcs



See separate manual for PA3DC / PA4DC.

Accessories - vertical mounting

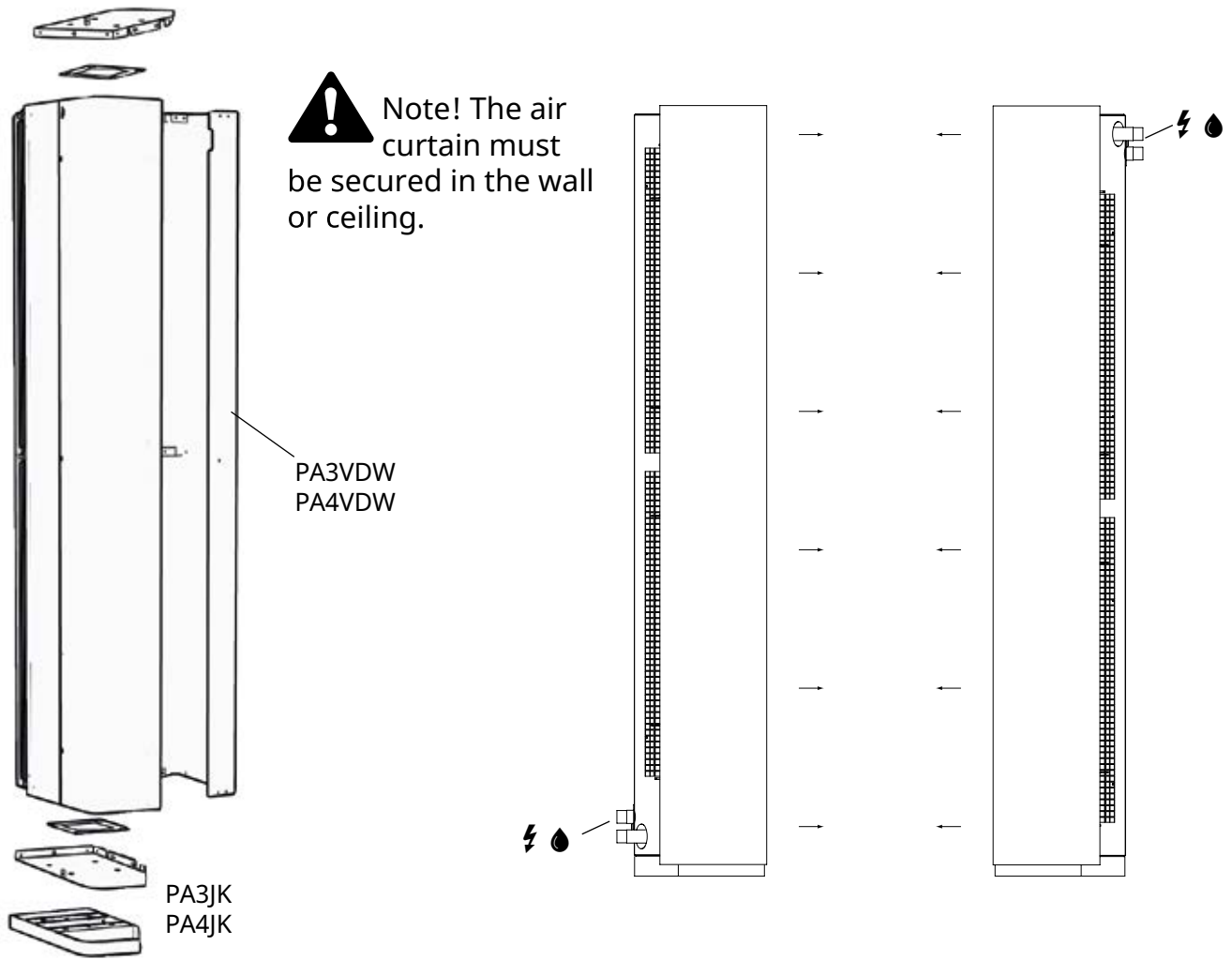
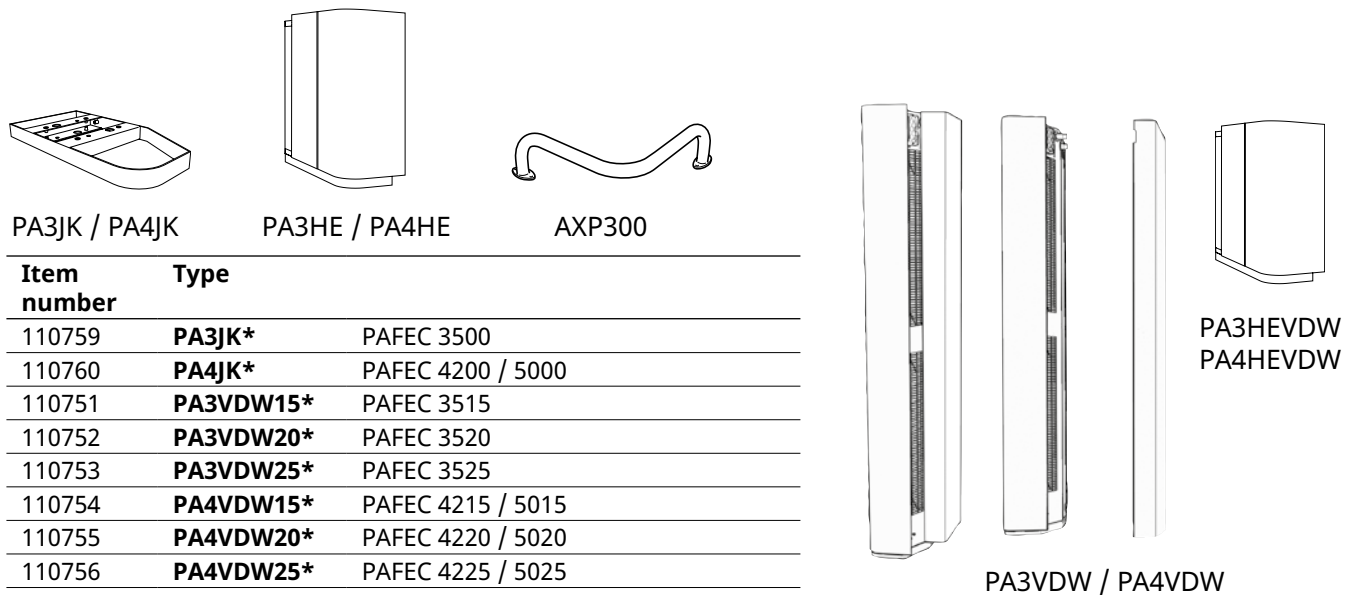


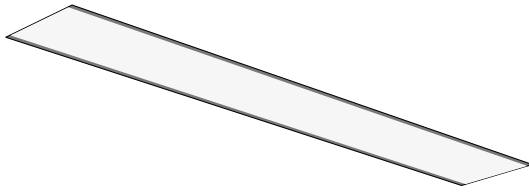
Fig. 11: See separate manual for PA3JK / PA4JK.



Item number	Type	
110759	PA3JK*	PAFEC 3500
110760	PA4JK*	PAFEC 4200 / 5000
110751	PA3VDW15*	PAFEC 3515
110752	PA3VDW20*	PAFEC 3520
110753	PA3VDW25*	PAFEC 3525
110754	PA4VDW15*	PAFEC 4215 / 5015
110755	PA4VDW20*	PAFEC 4220 / 5020
110756	PA4VDW25*	PAFEC 4225 / 5025
FE10244	PA3HE*	PAFEC 3500
FE10245	PA4HE*	PAFEC 4200 / 5000
FE10246	PA3HEVDW*	PAFEC 3500
FE10247	PA4HEVDW*	PAFEC 4200 / 5000
10028	AXP300	PAFEC 3500 / 4200 / 5000

*)See separate manual

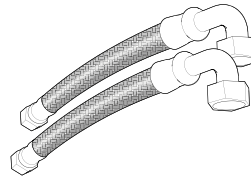
Accessories 



PA34EF



DTV200S



FHDN

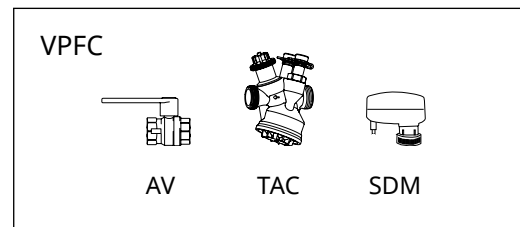
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19064	PA34EF10	PAFEC 3510W / 4210W / 5010W	
19065	PA34EF15	PAFEC 3515W / 4215W / 5015W	
19066	PA34EF20	PAFEC 3520W / 4220W / 5020W	
19067	PA34EF25	PAFEC 3525W / 4225W / 5025W	
17597	DTV200S*	PAFEC 3500W / 4200W / 5000W	
18055	FHDN20	PAFEC 3500W / 4200W / 5000W	350 mm
88906	FHDN2010	PAFEC 3500W / 4200W / 5000W	1000 mm

*) See separate manual.

Valve systems

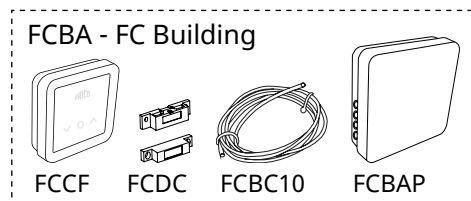
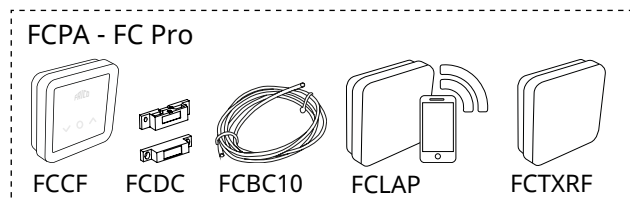
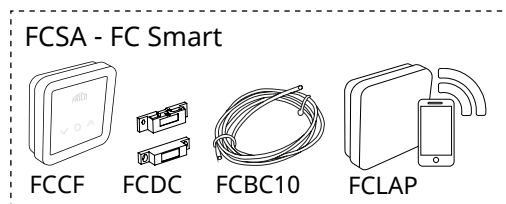
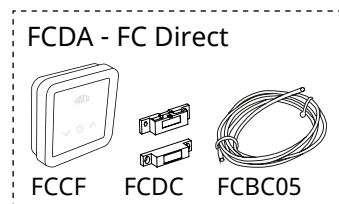
Item number	Type	DN	Flow range [l/s]
238293	VPFC15LF	DN15	0,012-0,068
238294	VPFC15NF	DN15	0,024-0,13
238295	VPFC20	DN20	0,058-0,32
238296	VPFC25	DN25	0,10-0,60
238297	VPFC32	DN32	0,22-1,03

See separate manual.



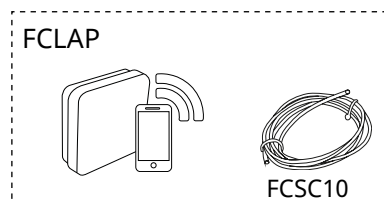
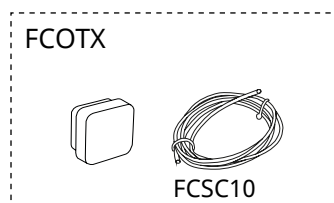
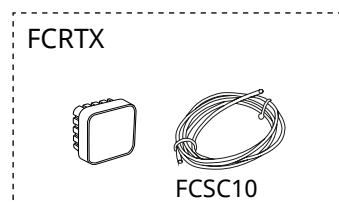
Control systems

The air curtain must be supplemented with a control system.

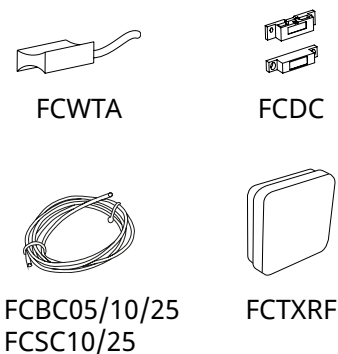


Item number	Type	Name	Dimensions
74684	FCDA	FC Direct	89x89x26 mm (FCCF)
74685	FCSA	FC Smart	89x89x26 mm (FCCF)
74686	FCPA	FC Pro	89x89x26 mm (FCCF)
74687	FCBA	FC Building	89x89x26 mm (FCCF)

Accessories

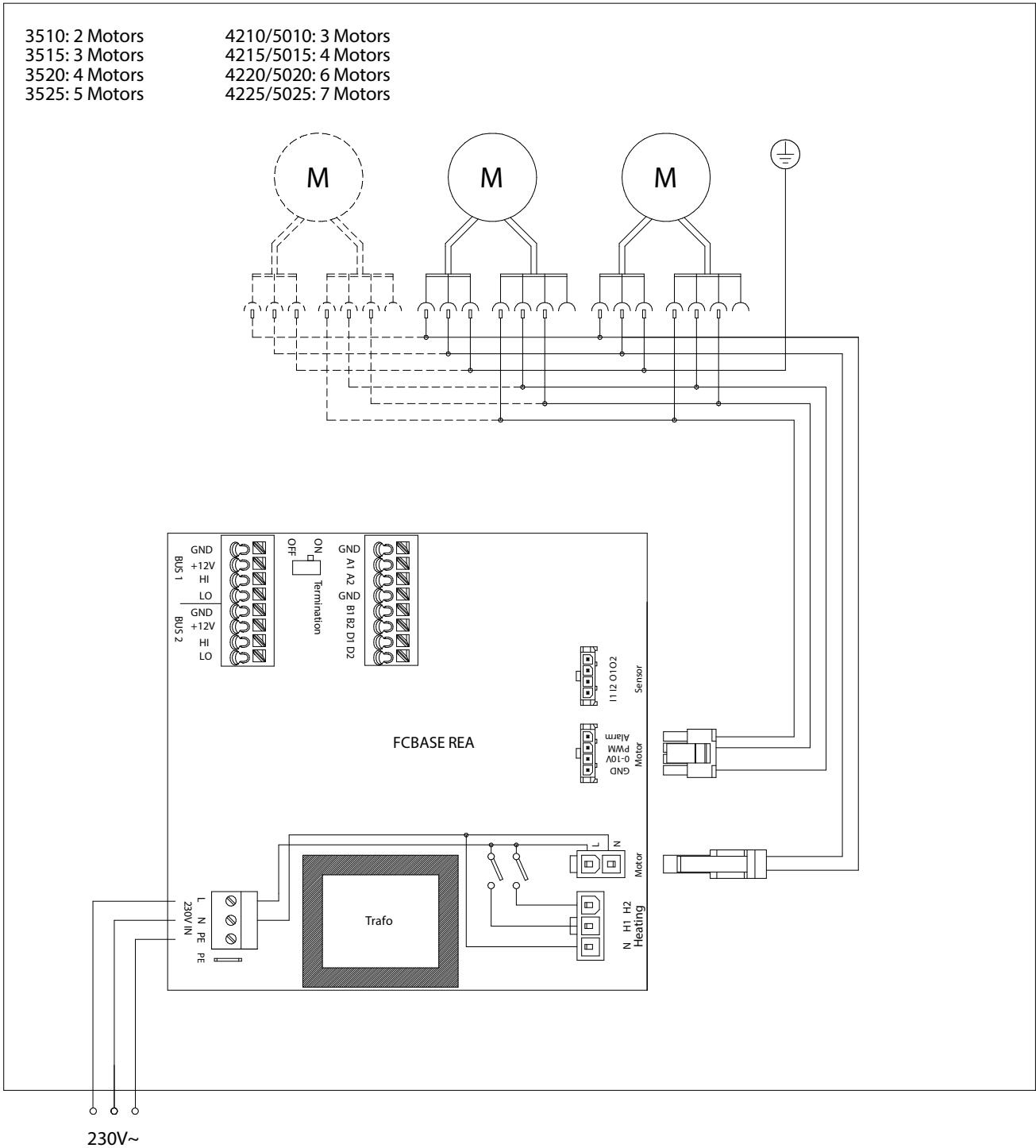


Item number	Type	Dimensions
74694	FCRTX	39x39x23 mm
74695	FCOTX	39x39x23 mm
74699	FCLAP	89x89x26 mm
74702	FCWTA	for water heated units
17495	FCDC	
74718	FCBC05	5 m
74719	FCBC10	10 m
74720	FCBC25	25 m
74721	FCSC10	10 m
74722	FCSC25	25 m
74703	FCTXRF	for FC Smart, FC Pro 89x89x26 mm



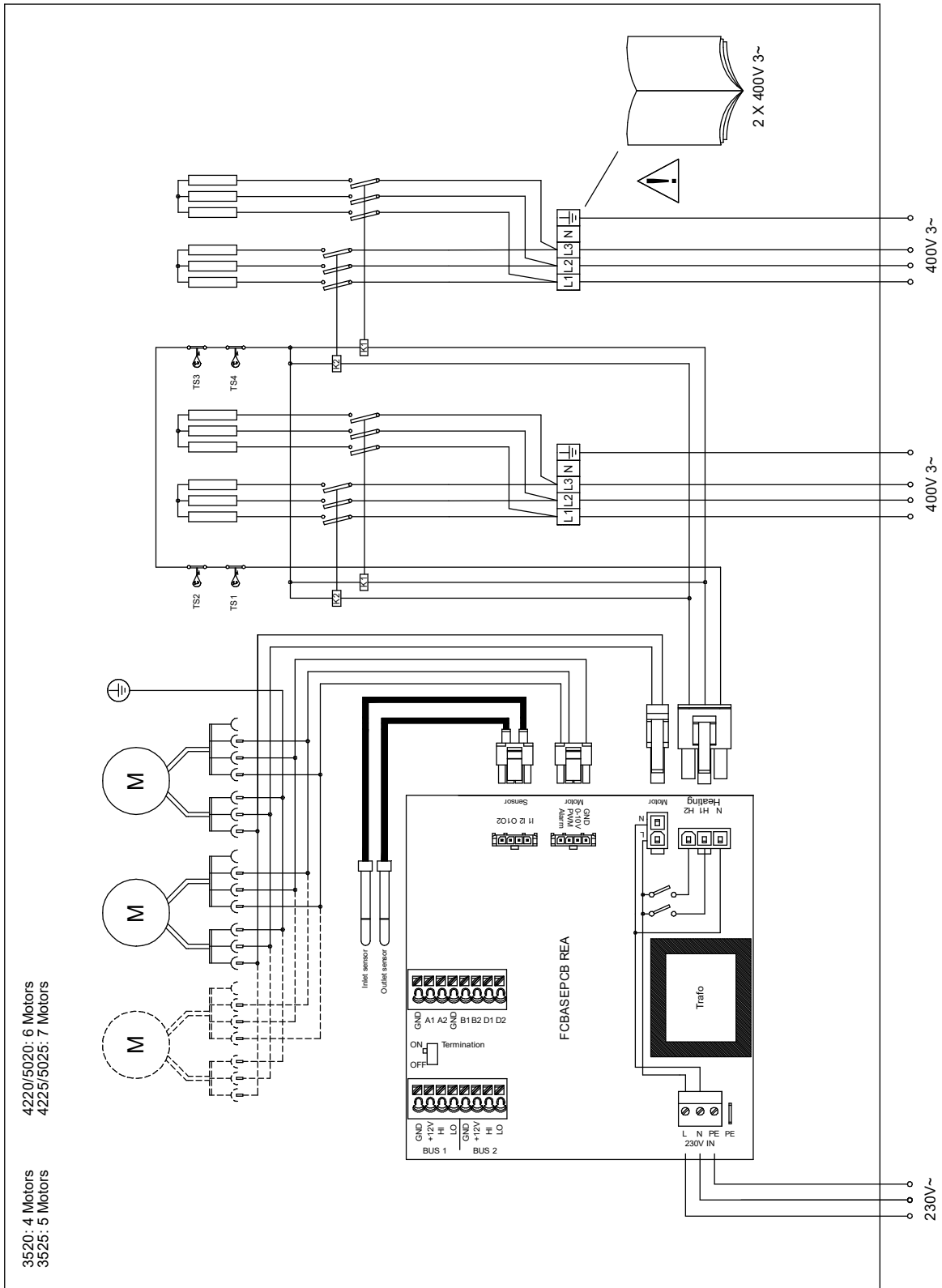
See separate manual for FC.

PAFEC3500 A
 PAFEC4200 A
 PAFEC5000 A



Wiring diagrams for control system in the FC manual.

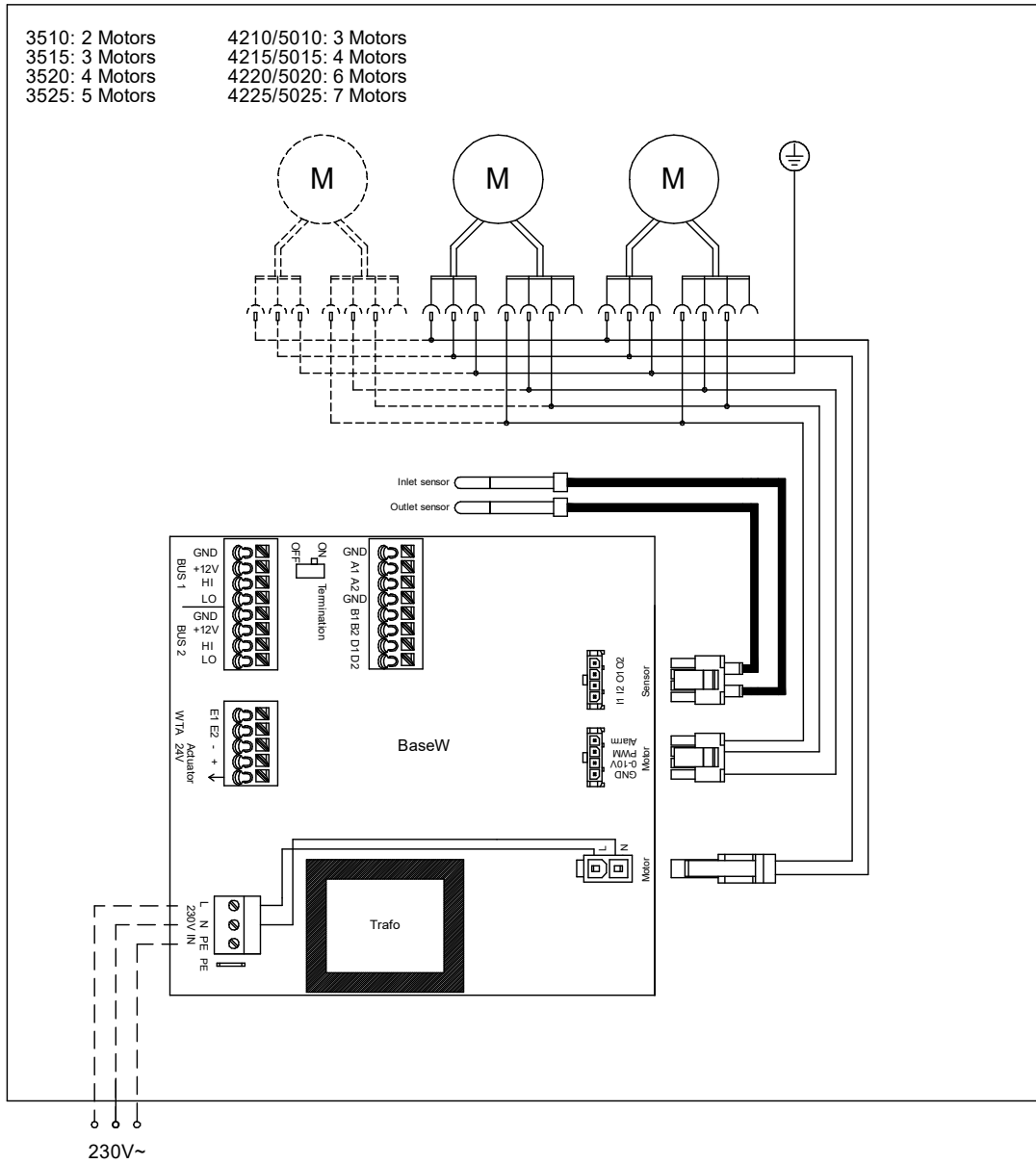
PAFEC3520/25 E
 PAFEC4220/25 E
 PAFEC5020/25 E



Wiring diagrams for control system in the FC manual.

Pamir 3500/4200/5000

PAFEC3500 W
 PAFEC4200 W
 PAFEC5000 W



Wiring diagrams for control system in the FC manual.

Technical specifications Pamir 3500

Voltage motor: 230V~

☼ Ambient, no heat - PAFEC3500 A (IP24**)

Item number	Type	Output [kW]	Airflow* ¹ [m ³ /h]	Sound power* ² [dB(A)]	Sound pressure* ³ [dB(A)]	Motor [W]	Amperage motor [A]	Weight [kg]
189577	PAFEC3510A	0	900/1800	76	44/60	340	2,3	33
189581	PAFEC3515A	0	1400/2700	79	46/63	510	3,2	48
189585	PAFEC3520A	0	1900/3500	80	47/64	670	4,1	63
189589	PAFEC3525A	0	2350/4400	81	47/65	860	5,1	72

⚡ Electrical heat - PAFEC3500 E (IP20)

Item number	Type	Output steps [kW]	Airflow* ¹ [m ³ /h]	Δt * ⁴ [°C]	Sound power* ² [dB(A)]	Sound pressure* ³ [dB(A)]	Motor [W]	Amperage motor [A]	Voltage [V] Amperage [A](heat)	Weight [kg]
189576	PAFEC3510E08	2,7/5,4/8,1	900/1800	27/13	76	44/60	340	2,3	400V3~/11,7	37
189580	PAFEC3515E12	3,9/7,8/12	1400/2700	26/13	79	46/63	510	3,2	400V3~/16,9	50
189584	PAFEC3520E16	5,4/11/16	1900/3500	25/14	80	47/64	670	4,1	400V3~/23,4	70
189588	PAFEC3525E20	6,6/13/20	2350/4400	25/14	81	47/65	860	5,1	400V3~/28,6	89

💧 Water heat - PAFEC3500 WL (IP24**)

Item number	Type	Output* ⁵ [kW]	Airflow* ¹ [m ³ /h]	Δt * ^{4,5} [°C]	Water volume [l]	Sound power* ² [dB(A)]	Sound pressure* ³ [dB(A)]	Motor [W]	Amperage motor [A]	Weight [kg]
189579	PAFEC3510WL	11	850/1700	24/19	1,5	75	42/59	340	2,3	42
189583	PAFEC3515WL	18	1350/2600	25/20	2,4	77	45/61	510	3,2	58
189587	PAFEC3520WL	24	1800/3400	25/21	3,2	78	45/62	670	4,1	73
189591	PAFEC3525WL	31	2250/4300	26/21	4,0	80	47/64	860	5,1	90

💧 Water heat - PAFEC3500 WH (IP24**)

Item number	Type	Output* ⁶ [kW]	Airflow* ¹ [m ³ /h]	Δt * ^{4,6} [°C]	Water volume [l]	Sound power* ² [dB(A)]	Sound pressure* ³ [dB(A)]	Motor [W]	Amperage motor [A]	Weight [kg]
189578	PAFEC3510WH	9,9	850/1700	22/17	1,1	75	42/59	340	2,3	39
189582	PAFEC3515WH	15	1350/2600	22/17	1,6	77	45/61	510	3,2	56
189586	PAFEC3520WH	21	1800/3400	23/18	2,2	78	45/62	670	4,1	71
189590	PAFEC3525WH	26	2250/4300	23/18	2,7	80	47/64	860	5,1	85

💧 Water heat - PAFEC3500 WLL (IP24**)

Item number	Type	Output* ⁷ [kW]	Airflow* ¹ [m ³ /h]	Δt * ^{4,7} [°C]	Water volume [l]	Sound power* ² [dB(A)]	Sound pressure* ³ [dB(A)]	Motor [W]	Amperage motor [A]	Weight [kg]
189594	PAFEC3510WLL	6,8	800/1600	15/13	2,0	74	42/58	340	2,3	44
189592	PAFEC3515WLL	10	1250/2500	14/12	4,1	76	44/60	510	3,2	63
189593	PAFEC3520WLL	15	1700/3300	15/13	5,6	77	44/61	680	4,1	80
189595	PAFEC3525WLL	19	2100/4200	15/13	8,3	79	46/63	870	5,1	97

*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 80/60 °C, air temperature, in +18 °C.*⁷) Applicable at water temperature 40/30 °C, air temperature, in +18 °C.*^{5,6,7}) See www.frico.net for additional calculations.

***) Horizontal mounting and vertical mounting to the right (seen from the inside): IP24

Vertical mounting to the left (seen from the inside): IP21



Technical specifications Pamir 4200

Voltage motor: 230V~

☼ Ambient, no heat - PAFEC4200 A (IP24**)

Item number	Type	Output [kW]	Airflow* ¹ [m ³ /h]	Sound power* ² [dB(A)]	Sound pressure* ³ [dB(A)]	Motor [W]	Amperage motor [A]	Weight [kg]
230355	PAFEC4210A	0	1200/2400	78	46/62	505	3,2	43
230360	PAFEC4215A	0	1800/3500	80	47/64	675	4,1	57
230365	PAFEC4220A	0	2300/4700	81	48/65	1015	6,0	76
230370	PAFEC4225A	0	3100/6150	83	50/67	1200	6,9	92

⚡ Electrical heat - PAFEC4200 E (IP20)

Item number	Type	Output steps [kW]	Airflow* ¹ [m ³ /h]	Δt * ⁴ [°C]	Sound power* ² [dB(A)]	Sound pressure* ³ [dB(A)]	Motor [W]	Amperage motor [A]	Voltage [V] Amperage [A](heat)	Weight [kg]
230356	PAFEC4210E12	3,9/7,8/12	1200/2400	30/15	78	46/62	505	3,2	400V3~/16,9	44
230361	PAFEC4215E18	6,0/12/18	1800/3500	30/15	80	47/64	675	4,1	400V3~/26	64
230366	PAFEC4220E24	7,8/16/24	2300/4700	30/15	81	48/65	1015	6,0	400V3~/33,8	85
230371	PAFEC4225E30	9,9/20/30	3100/6150	29/15	83	50/67	1200	6,9	400V3~/42,9	100

💧 Water heat - PAFEC4200 WL (IP24**)

Item number	Type	Output* ⁵ [kW]	Airflow* ¹ [m ³ /h]	Δt * ^{4,5} [°C]	Water volume [l]	Sound power* ² [dB(A)]	Sound pressure* ³ [dB(A)]	Motor [W]	Amperage motor [A]	Weight [kg]
230358	PAFEC4210WL	15	1100/2300	24/19	1,9	78	45/62	510	3,2	50
230363	PAFEC4215WL	23	1700/3400	25/20	3,0	80	46/64	680	4,1	66
230368	PAFEC4220WL	32	2200/4600	25/20	4,1	81	47/65	1030	6,0	91
230373	PAFEC4225WL	41	2800/5750	26/21	5,2	83	49/67	1200	6,9	110

💧 Water heat - PAFEC4200 WH (IP24**)

Item number	Type	Output* ⁶ [kW]	Airflow* ¹ [m ³ /h]	Δt * ^{4,6} [°C]	Water volume [l]	Sound power* ² [dB(A)]	Sound pressure* ³ [dB(A)]	Motor [W]	Amperage motor [A]	Weight [kg]
230357	PAFEC4210WH	13	1100/2300	22/17	1,3	78	45/62	510	3,2	49
230362	PAFEC4215WH	19	1700/3400	22/17	2,0	80	46/64	680	4,1	66
230367	PAFEC4220WH	27	2200/4600	23/18	2,7	81	47/65	1030	6,0	88
230372	PAFEC4225WH	33	2800/5750	22/17	3,8	83	49/67	1200	6,9	106

💧 Water heat - PAFEC4200 WLL (IP24**)

Item number	Type	Output* ⁷ [kW]	Airflow* ¹ [m ³ /h]	Δt * ^{4,7} [°C]	Water volume [l]	Sound power* ² [dB(A)]	Sound pressure* ³ [dB(A)]	Motor [W]	Amperage motor [A]	Weight [kg]
230359	PAFEC4210WLL	9,3	1000/2200	15/12	2,5	77	45/61	510	3,2	53
230364	PAFEC4215WLL	14	1600/3300	15/13	4,7	79	46/63	680	4,1	73
230369	PAFEC4220WLL	19	2100/4450	15/13	7,5	80	46/64	1030	6,0	99
230374	PAFEC4225WLL	24	2700/5600	15/13	9,6	82	48/66	1200	6,9	120

*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 80/60 °C, air temperature, in +18 °C.*⁷) Applicable at water temperature 40/30 °C, air temperature, in +18 °C.*^{5,6,7}) See www.frico.net for additional calculations.

***) Horizontal mounting and vertical mounting to the right (seen from the inside): IP24

Vertical mounting to the left (seen from the inside): IP21



Technical specifications Pamir 5000

Voltage motor: 230V~

☼ Ambient, no heat - PAFEC5000 A (IP24**)

Item number	Type	Output [kW]	Airflow* ¹ [m ³ /h]	Sound power* ² [dB(A)]	Sound pressure* ³ [dB(A)]	Motor [W]	Amperage motor [A]	Weight [kg]
230375	PAFEC5010A	0	900/2950	80	34/66	710	4,4	39
230379	PAFEC5015A	0	1350/4200	84	35/68	935	5,6	51
230383	PAFEC5020A	0	1700/5900	86	39/70	1420	8,1	67
230387	PAFEC5025A	0	2150/7200	87	41/71	1660	9,2	82

⚡ Electrical heat - PAFEC5000 E (IP20)

Item number	Type	Output steps [kW]	Airflow* ¹ [m ³ /h]	Δt * ⁴ [°C]	Sound power* ² [dB(A)]	Sound pressure* ³ [dB(A)]	Motor [W]	Amperage motor [A]	Voltage [V] Amperage [A](heat)	Weight [kg]
230376	PAFEC5010E12	3,9/7,8/12	900/2950	40/12	80	34/66	710	4,4	400V3~/16,9	46
230380	PAFEC5015E18	6,0/12/18	1350/4200	40/13	84	35/68	935	5,6	400V3~/26	66
230384	PAFEC5020E24	7,8/16/24	1700/5900	40/12	86	39/70	1420	8,1	400V3~/33,8	86
230388	PAFEC5025E30	9,9/20/30	2150/7200	42/12	87	41/71	1660	9,2	400V3~/42,9	104

💧 Water heat - PAFEC5000 WL (IP24**)

Item number	Type	Output* ⁵ [kW]	Airflow* ¹ [m ³ /h]	Δt * ^{4,5} [°C]	Water volume [l]	Sound power* ² [dB(A)]	Sound pressure* ³ [dB(A)]	Motor [W]	Amperage motor [A]	Weight [kg]
230378	PAFEC5010WL	17	650/2700	28/18	1,9	82	32/66	700	4,3	46
230382	PAFEC5015WL	26	1150/3950	27/19	3,0	82	33/66	920	5,5	62
230386	PAFEC5020WL	35	1550/5400	27/19	4,1	83	35/67	1400	8,0	82
230390	PAFEC5025WL	46	1850/6900	28/20	5,2	85	37/69	1650	9,1	100

💧 Water heat - PAFEC5000 WH (IP24**)

Item number	Type	Output* ⁶ [kW]	Airflow* ¹ [m ³ /h]	Δt * ^{4,6} [°C]	Water volume [l]	Sound power* ² [dB(A)]	Sound pressure* ³ [dB(A)]	Motor [W]	Amperage motor [A]	Weight [kg]
230377	PAFEC5010WH	14	650/2700	26/16	1,3	82	32/66	700	4,3	45
230381	PAFEC5015WH	21	1150/3950	25/16	2,0	82	33/66	920	5,5	60
230385	PAFEC5020WH	30	1550/5400	26/16	2,7	83	35/67	1400	8,0	79
230389	PAFEC5025WH	37	1850/6900	26/16	3,8	85	37/69	1650	9,1	96

*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 80/60 °C, air temperature, in +18 °C.*^{5,6}) See www.frico.net for additional calculations.***) Horizontal mounting and vertical mounting to the right (seen from the inside): IP24
Vertical mounting to the left (seen from the inside): IP21

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

Pamir creates an efficient temperature dividing air barrier in door openings.

Pamir 3500 has a recommended installation height of 3,5 m.

Pamir 4200 has a recommended installation height of 4,2 m.

Pamir 5000 has a recommended installation height of 5,0 m.

Pamir air curtains are available in 3 versions: without heat (ambient), with electrical heating, or with water heating.

Protection class for units with electrical heating: IP20.

Protection class for units without heating and units with water heating: IP24 (IP21 when vertically mounted to the left, seen from the inside.)

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 units can also be installed by recessing into suspended ceilings.

The product must be mounted in such a way to allow future service and maintenance. Ensure that the front panel/service hatch is accessible and can be fully opened.

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. 3.

For the protection of wider openings, several units can be mounted next to each other using a joining kit PA3JK/PA4JK.

Design kits which conceals cables, pipes and mountings are available for both wall and ceiling installations.

Mounting with wall brackets

Wall brackets PA34WB and PAWBL are available as accessories.

1. Remove the plastic covers on the wall brackets. (Fig. 6A)
2. Mount the brackets on the wall according to the dimensions fig. 6B.
3. Fasten the hammerhead screws on the unit in the holes M8. (Fig. 5 and 6C)
4. Lock the nuts so that the hammerhead screws are at 20 mm height. Note the direction of the screw heads. (Fig. 6C)
5. Slide the unit on the consoles. (Fig. 6D)
6. Lock the nuts against the bracket and return the plastic covers. (Fig. 6E)

Horizontal mounting on the ceiling

Threaded rods, wire suspension kits and ceiling brackets for ceiling mounting are available as accessories, see fig. 7 and 8 and separate manuals.

Horizontal recessed mounting in false ceilings

Outlet extension used for recessed installation is available as an accessory, see fig. 10 and separate manual.

Vertical mounting

Units from 1,5 metres and longer may be used vertically. 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, each unit must be supplemented with a vertical kit PA3JK/PA4JK. The unit can be reversed and placed on either side of the door. Connections and PC Board are positioned near floor level when the air curtain is placed to the left of the door and at the top when it is placed to the right (seen from the inside). See fig. 11 and separate manual.

The air curtain is mounted on a floor frame that is included in the vertical kit. The frame is attached horizontally to the floor using fasteners appropriate for the surface.

Max two units can be mounted directly on top of each other, the floor frame is then used as a joining bracket.

Note! The air curtain must be secured in the wall or ceiling. Fasteners are not included.

A design kit that provides a neater installation for concealing cables and pipes is available as an accessory, see accessories pages.

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 accessed via cable glands on the top of the unit (horizontal) or on the back (vertical). See Fig. 2. FC is supplied pre-programmed. Communication- and sensor cables are connected to the PC board.

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.

Unit without heating or with water heating

The electrical connection is made on the top of the unit (horizontal) or on the back (vertical). Pierce the gland with a screwdriver before entering the cable. See Fig. 2. Control is supplied by 230V~ to the PC board.

Unit with electrical heating

The electrical connection is made on the top of the unit (horizontal) or on the back (vertical). Pierce the gland with a screwdriver before entering the cable. See Fig. 2. Control is supplied by 230V~ to the PC board. Power supply for heating (400V3~) is routed via the motor compartment, secured with preinstalled cable ties, and connected to the terminal block in the terminal box. 2-metre and longer units require dual power supplies. See dimension drawings.

The largest cable diameter for the terminal block is 16 mm². The cable glands used must meet the protection class requirements. In the distribution board, it is to be indicated that "the air curtains can be supplied from more than one connection".

Type	Output [kW]	Voltage [V]	Minimum area* [mm ²]
Control	0	230V~	1,5
PAFEC3510E08	8	400V3~	2,5
PAFEC3515E12	12	400V3~	4
PAFEC4210E12 PAFEC5010E12	12	400V3~	4
PAFEC4215E18 PAFEC5015E18	18	400V3~	10
PAFEC3520E16 *1	8	400V3~	2,5
	8	400V3~	2,5
PAFEC3525E20 *1	8	400V3~	2,5
	12	400V3~	4
PAFEC4220E24 *1	12	400V3~	4
PAFEC5020E24 *1	12	400V3~	4
PAFEC4225E30 *1	12	400V3~	4
PAFEC5025E30 *1	18	400V3~	10

*1) 2 m and 2.5 m units are connected with two power supplies. The 2.5 m unit has electric coils with two different outputs, and the coil to the left, on the horizontal unit, viewed from inside the premises, has the highest output.

*) Dimensioning of external wiring shall comply with applicable regulations and local deviations may occur.

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 authorized installer.

The water coil has copper tubes with aluminium fins and is suitable for connection to a closed water heating system. Steel connection pipe. 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 water coil is connected on top of the unit (horizontal mounting) or on the back (vertical mounting) via connections DN20 (3/4"), external thread. 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.

A vent valve should be connected at a high point in the pipe system. Air valves are not included.

For vertical installation and bottom water connection it is not possible to bleed the coil in the unit. Ensure that the water coil is filled with water and that no air remains, prior to commissioning. See Fig. 4.

Our recommended solution is to use a T-connection and shut off valves. Small air bubbles may remain, but will disappear with normal operation.

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 water coil is protected against dirt and blockage by an air filter which covers the coil face. In environments where the filter needs cleaning often, it is advisable to use an external intake filter (see accessories pages), which provides an easier maintenance, since the unit does not need to be opened.

Service, repairs and maintenance

For all service, repair and maintenance first carry out the following:

1. Disconnect the power supply.
2. Remove the screws and raise the front panel. The front is locked in the open position with the front hatch hook, see fig 1A or removed completely, see fig. 1B. The service hatch is removed by loosening the screws.
3. After service, repairs and maintenance fasten the service hatch and the front. When the front is reinstalled it is important to ensure that it is firmly seated in the front locks. See Fig. 1B. Place the front on the edge, push the hook into the slot and tighten the wing nuts.

Maintenance

Unit with water heating

The appliance filter should be cleaned regularly to ensure the air curtain effect and heat emission from the device. How often depends on local circumstances. A clogged filter is not a risk, but the appliance function can fail.

1. Disconnect the power supply.
2. Remove the screws and raise the front panel. The front is locked in open position with the front hatch hook. See Fig. 1A.
3. Remove the filter and vacuum clean or wash it. If the filter is clogged or damaged, it may need to be changed.

All units

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. 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 located in the terminal box. Fig. 2
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 air free.
- That there is sufficient water flow and pressure.
- That incoming water is heated adequately.

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 should 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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