

Инструкция по эксплуатации

Водяная тепловая завеса FRICO PA4220WH

Цены на товар на сайте:

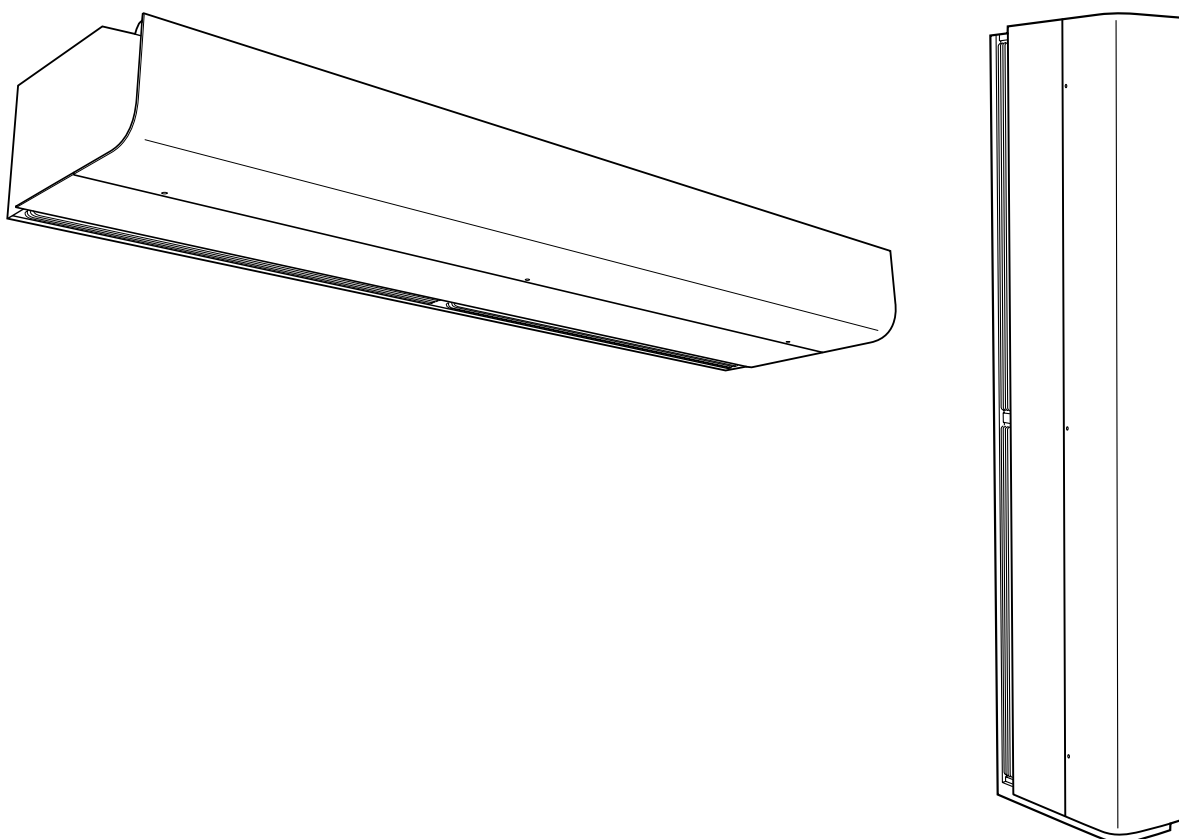
http://www.vseinstrumenti.ru/klimat/teplovie_zavesi/vodyanie/frico/pa4220wh/

Отзывы и обсуждения товара на сайте:

http://www.vseinstrumenti.ru/klimat/teplovie_zavesi/vodyanie/frico/pa4220wh/#tab-Responses

Original instructions

Thermozone PA3500/4200



SE ... 27

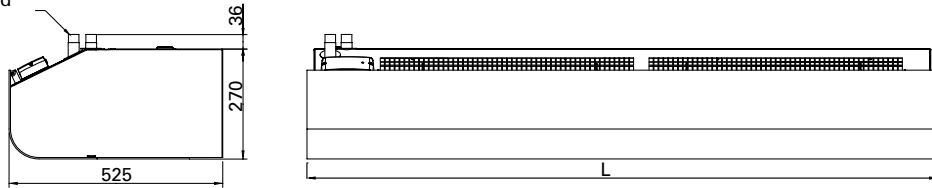
GB ... 31

Dimensions

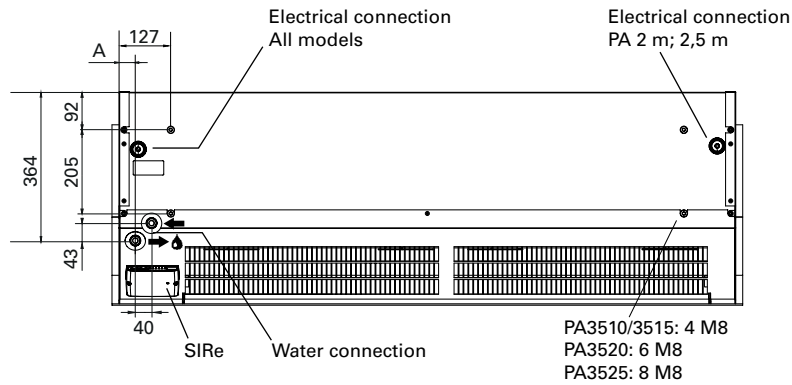
PA3500

Horizontal mounting

DN20 (3/4"),
outside thread

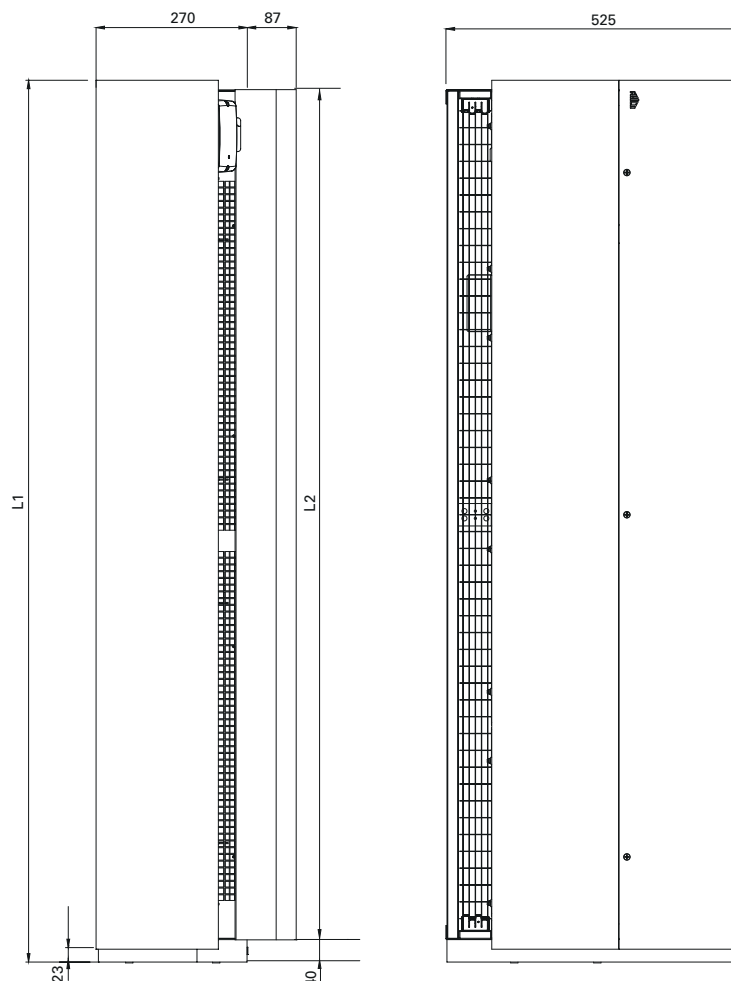


	L [mm]	A [mm]
PA3510	1039	40
PA3515	1549	40
PA3520	2039	40
PA3525	2549	39



Vertical mounting with Vertical kit and Design kit for vertical mounting

The unit can be reversed and placed on either side of the door. Connections and PC Board SIRe 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).



	L1 [mm]	L2 [mm]
PA3515*	1572	1515
PA3520*	2062	2005
PA3525*	2572	2515

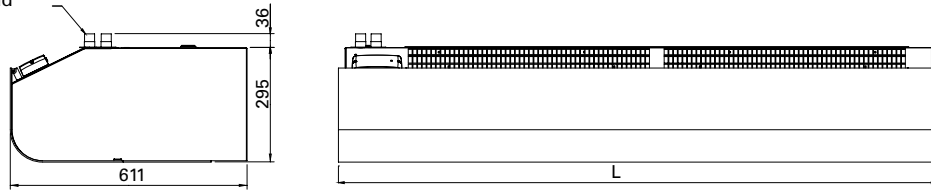
*) with Vertical kit
and Design kit for
vertical mounting

Dimensions

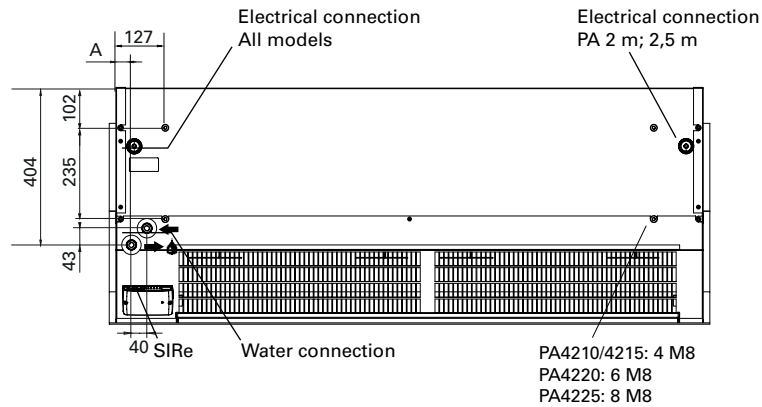
PA4200

Horizontal mounting

DN20 (3/4"),
outside thread



	L [mm]	A [mm]
PA4210	1039	40
PA4215	1549	40
PA4220	2039	40
PA4225	2549	39

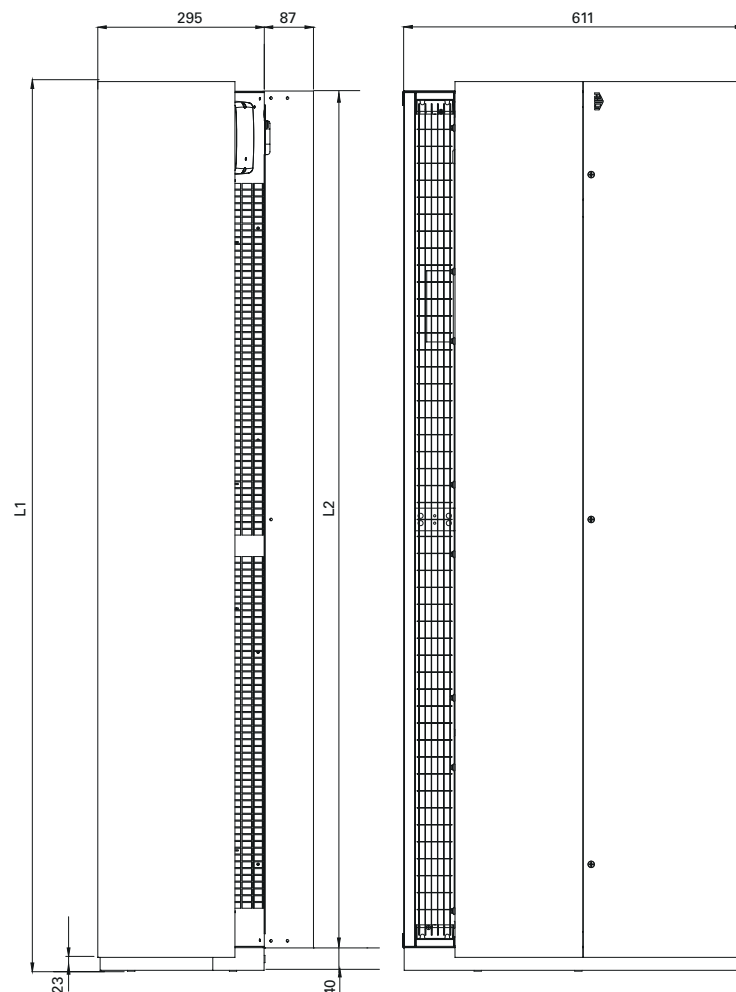


Vertical mounting with Vertical kit and Design kit for vertical mounting

The unit can be reversed and placed on either side of the door. Connections and PC Board SIRe 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).

	L1 [mm]	L2 [mm]
PA4215*	1572	1515
PA4220*	2062	2005
PA4225*	2572	2515

*) with Vertical kit
and Design kit for
vertical mounting



Open the unit

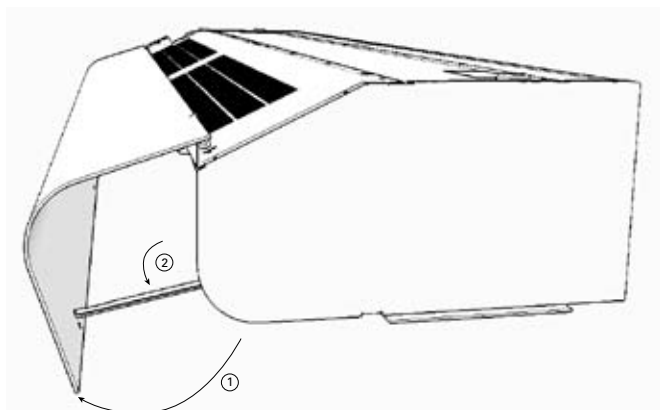


Fig. 1A: Open the unit by raising the front panel. The front is blocked in open position with the front hatch hook

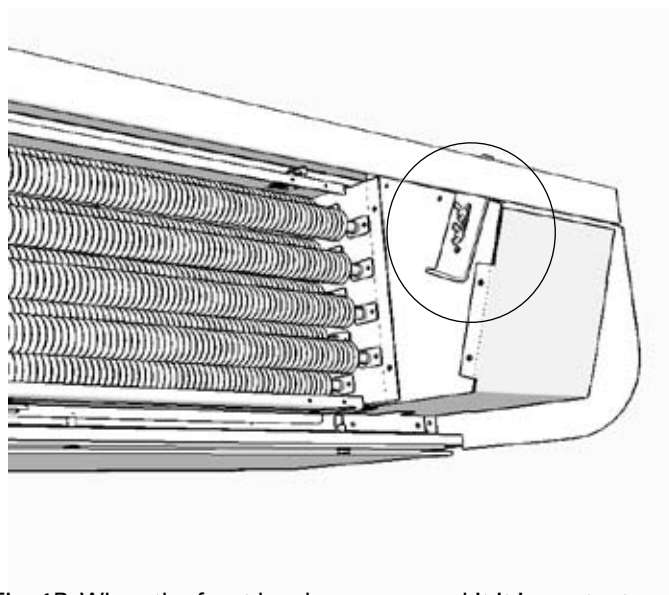


Fig. 1B: When the front has been removed it is important to be sure it is firmly seated in the front locks again.

Integrated control system

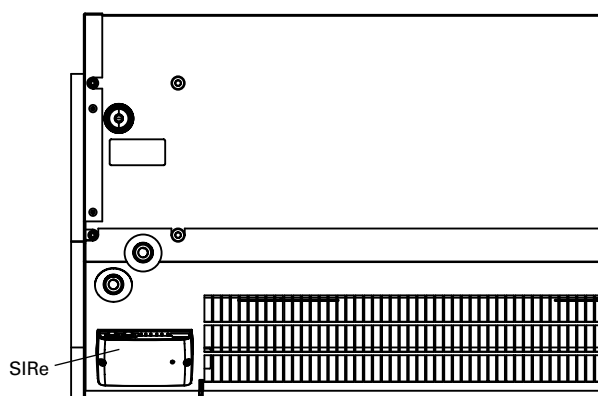


Fig. 2: Control card SIRe is integrated in the air curtain at delivery.

Mounting

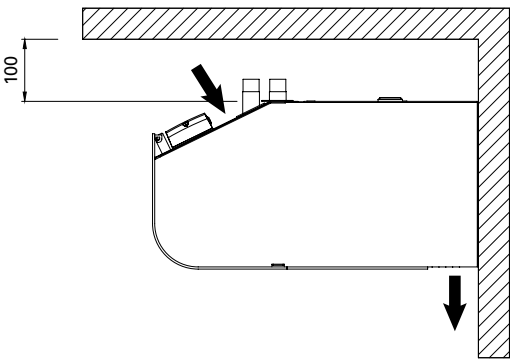


Fig. 3: Minimum distance.

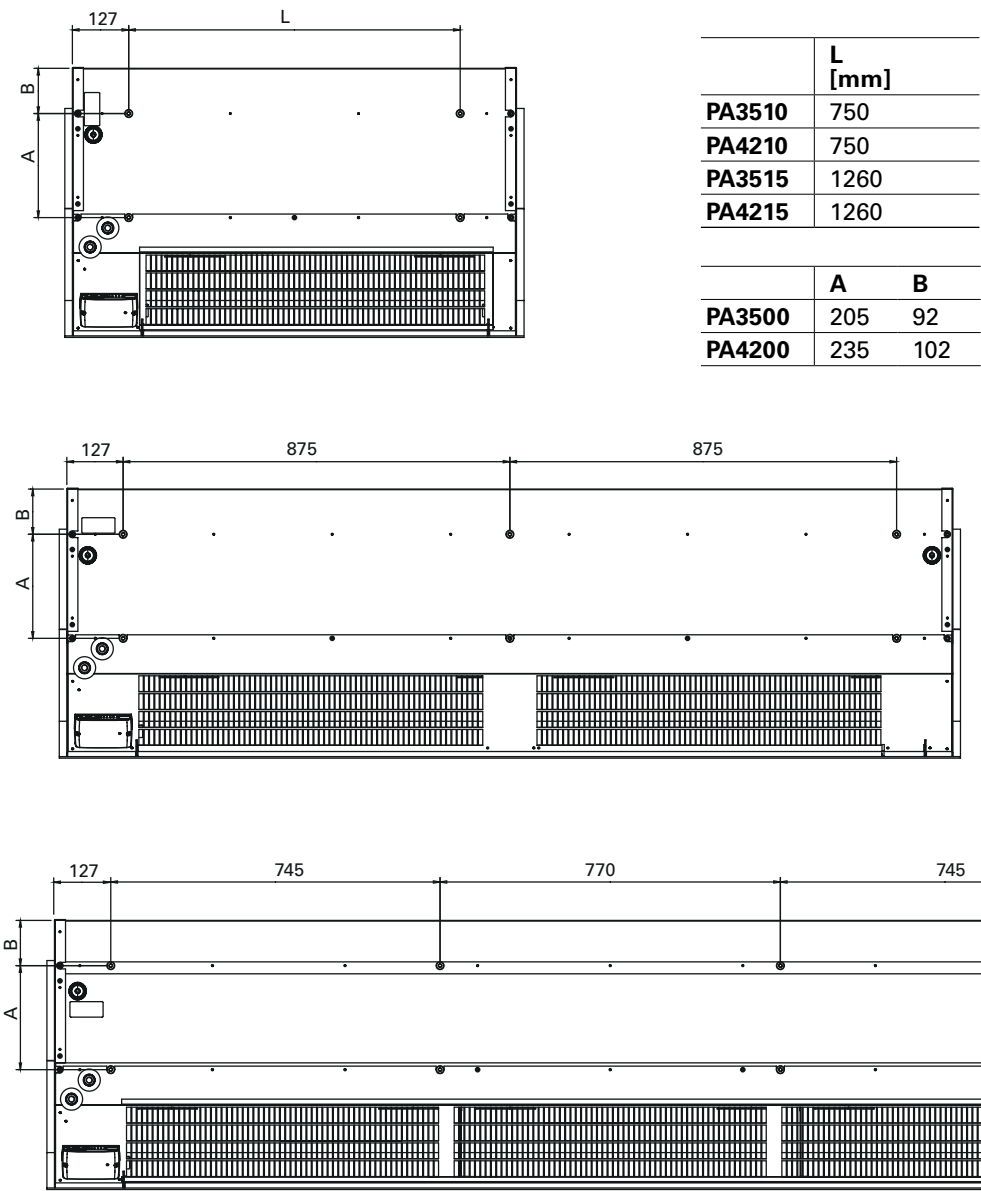


Fig. 4: M8-holes for mounting.

Horizontal mounting

Horizontal mounting - wall bracket PA34WB

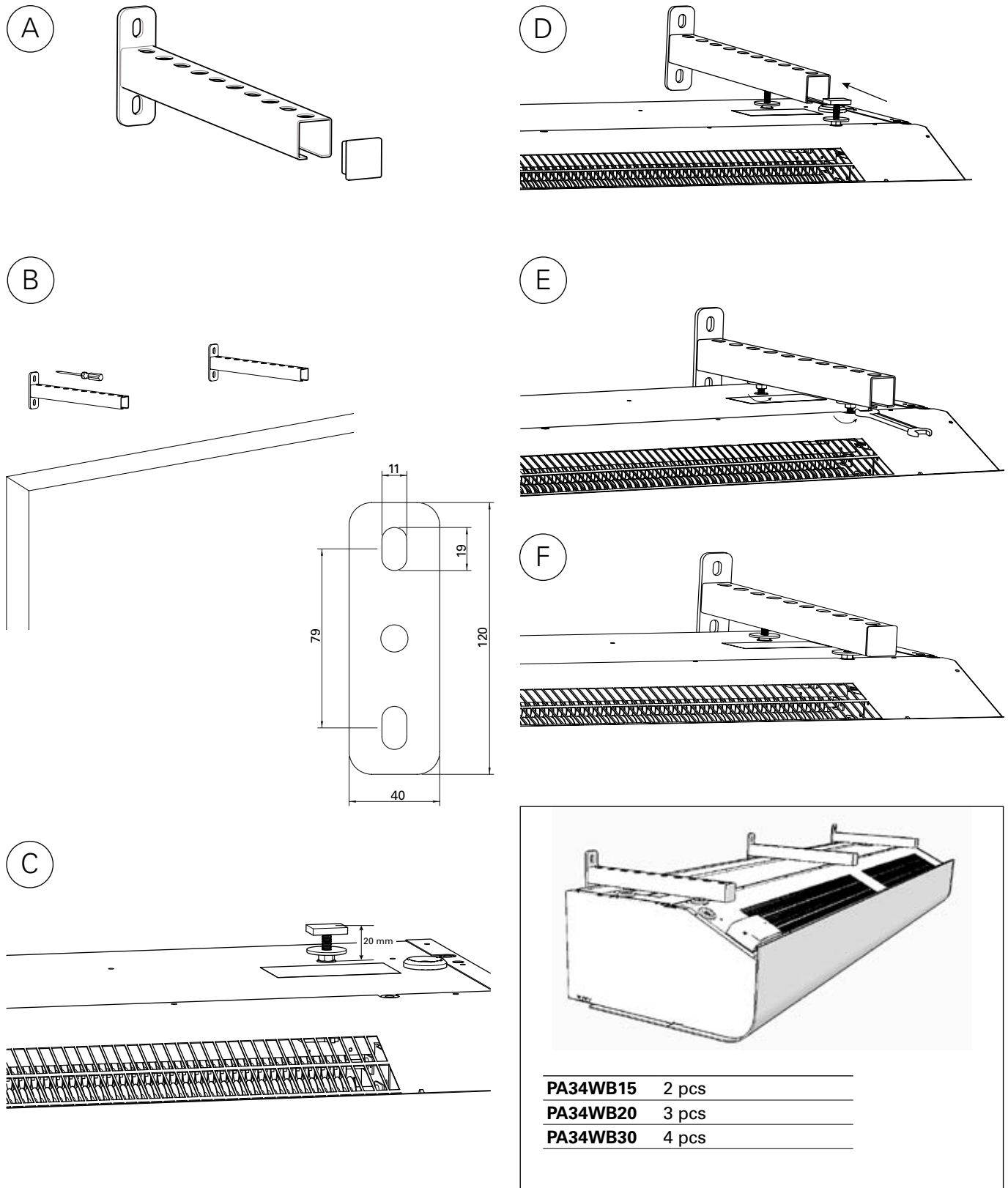


Fig. 5: Mounting with wall brackets (PA34WB), see also separate manual for PA34WB.

Horizontal mounting

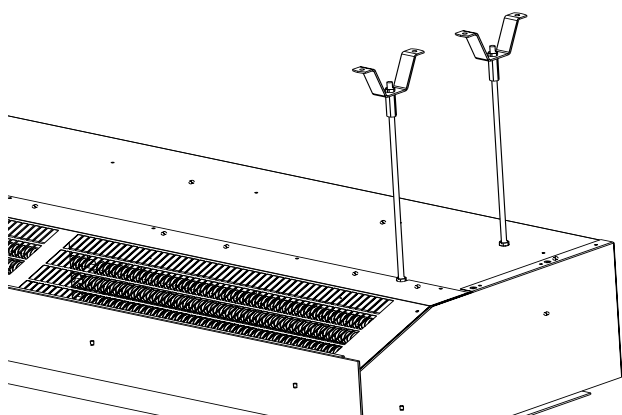
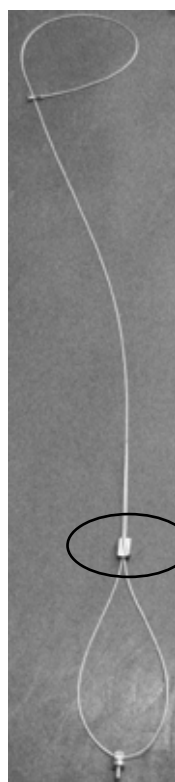


Fig. 6: Mounting with threaded bars (PA34TR) and ceiling brackets (PA34CB). Supplemented with vibration dampers (PA34VD) for reduced vibration. See separate manual for PA34TR.



Wire lock

Fig. 7: Mounting with wire suspension kit (PA34WS), used together with ceiling brackets (PA34CB). See separate manual for PA34WS.

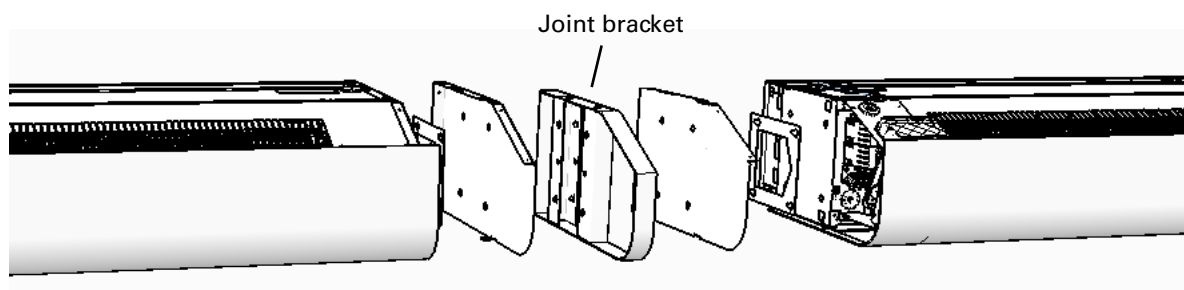


Fig. 8: Joining kit PA3JK to join horizontal units together. See separate manual for PA34JK - joining kit for horizontal units.

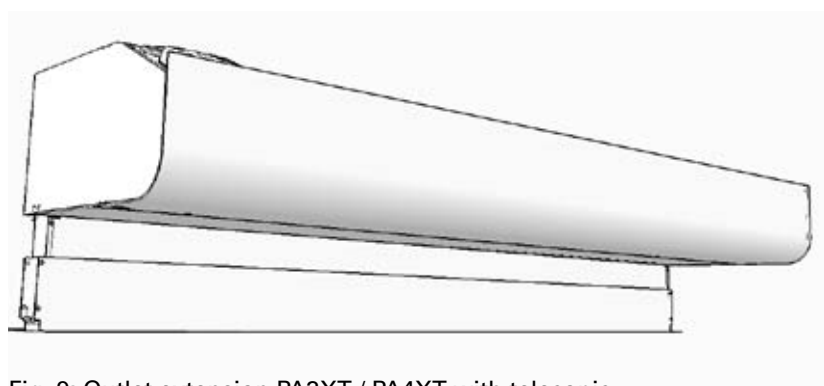


Fig. 9: Outlet extension PA3XT / PA4XT with telescopic function used for recessed mounting in false ceilings. See separate manual for PA3XT / PA4XT.

Mounting - vertical

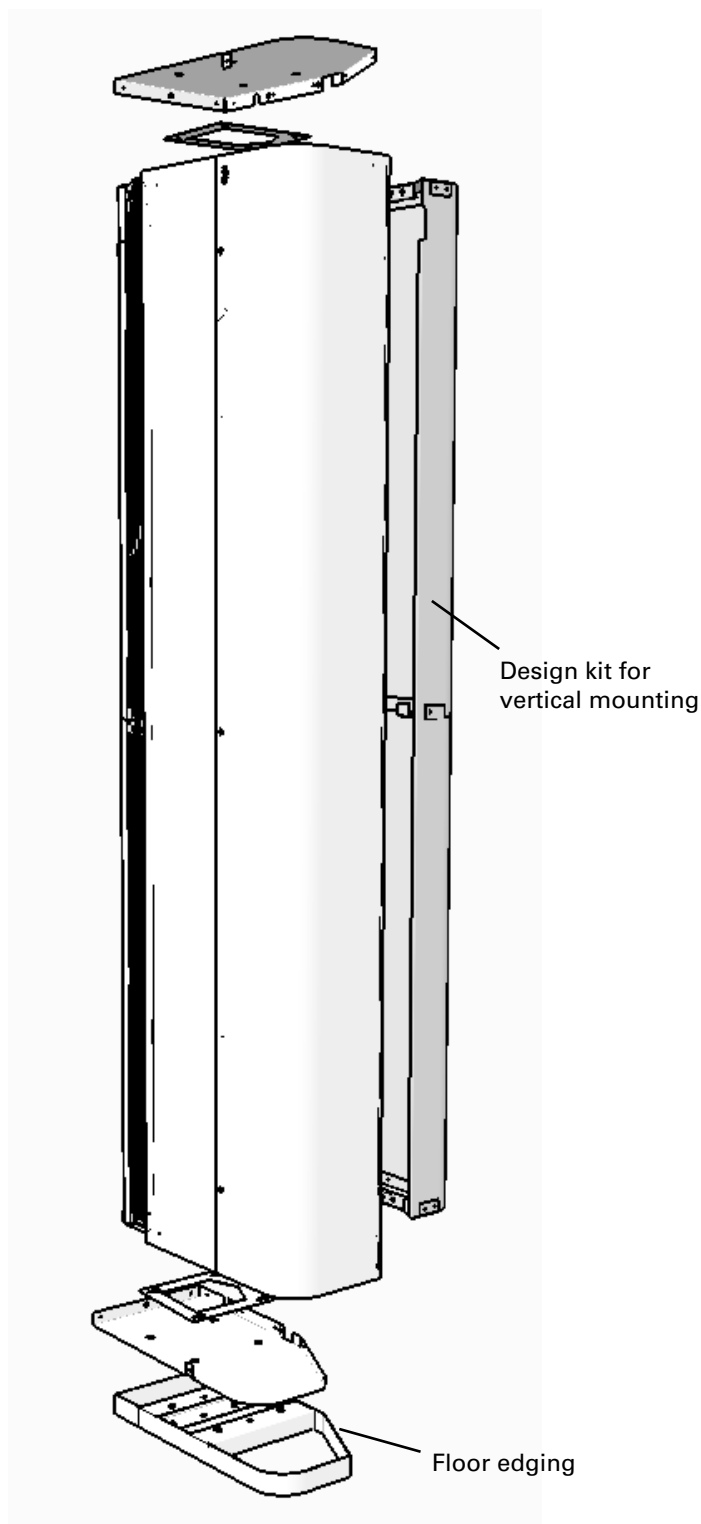


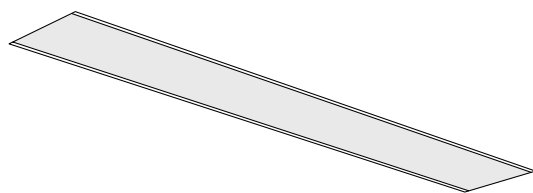
Fig. 10: Vertical kit PA3JK to adapt horizontal unit for vertical installation. Used together with design kit for vertical installation for a neater installation. See separate manual for PA3JK - Vertical installation.

Accessories

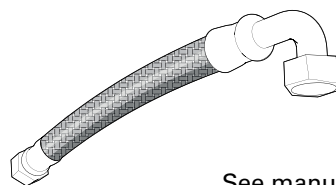
For horizontally mounted units

Mounting and installation

Type	Description	Number included	Length	
PA34WB15	Wall brackets for PA3510/3515/4210/4215	2 pcs	400 mm	Fig. 4
PA34WB20	Wall brackets for PA3520/4220	3 pcs	400 mm	Fig. 4
PA34WB30	Wall brackets for PA3525/4225	4 pcs	400 mm	Fig. 4
PA34CB15	Ceiling brackets for PA3510/3515/4210/4215	4 pcs		Fig. 5/6
PA34CB20	Ceiling brackets for PA3520/4220	6 pcs		Fig. 5/6
PA34CB30	Ceiling brackets for PA3525/4225	8 pcs		Fig. 5/6
PA34WS15	Wire suspension kit for PA3510/3515/4210/4215	4 pcs	3 m	Fig. 6
PA34WS20	Wire suspension kit for PA3520/4220	6 pcs	3 m	Fig. 6
PA34WS30	Wire suspension kit for PA3525/4225	8 pcs	3 m	Fig. 6
PA34TR15	Threaded bars for PA3510/3515/4210/4215	4 pcs	1 m	Fig. 5
PA34TR20	Threaded bars for PA3520/4220	6 pcs	1 m	Fig. 5
PA34TR30	Threaded bars for PA3525/4225	8 pcs	1 m	Fig. 5
PA34VD15	Vibration dampers for PA3510/3515/4210/4215	4 pcs		
PA34VD20	Vibration dampers for PA3520/4220	6 pcs		
PA34VD30	Vibration dampers for PA3525/4225	8 pcs		
PA3JK	Joining kit for PA3500			Fig. 7
PA4JK	Joining kit for PA4200			Fig. 7
PA34EF10	External intake filter for PA3510/4210			
PA34EF15	External intake filter for PA3515/4215			
PA34EF20	External intake filter for PA3520/4220			
PA34EF25	External intake filter for PA3525/4225			
FHDN20	Flexible hoses DN20, inside thread, 90° bend, water temp. up to 90° C	1 pair	350 mm	



See manual for PA34EF.



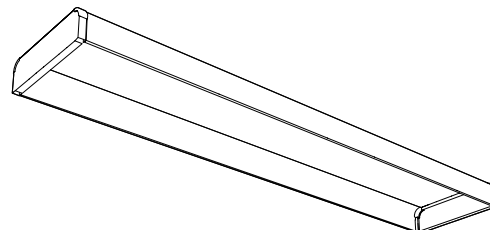
See manual for FHDN20.

Accessories

For horizontally mounted units

Design kit for wall mounting

Type	Description	HxDxW [mm]
PA3DW10	Design kit for wall mounting PA3510	87x382x1006
PA3DW15	Design kit for wall mounting PA3515	87x382x1516
PA3DW20	Design kit for wall mounting PA3520	87x382x2006
PA3DW25	Design kit for wall mounting PA3525	87x382x2516
PA4DW10	Design kit for wall mounting PA4210	87x424x1006
PA4DW15	Design kit for wall mounting PA4215	87x424x1516
PA4DW20	Design kit for wall mounting PA4220	87x424x2006
PA4DW25	Design kit for wall mounting PA4225	87x424x2516



See manual for PA3DW/PA4DW.

Design kit for ceiling mounting PA3500

Start parts

Type	Description	Number included
PA3DCN15S	Start part for PA3510/3515	2 pcs
PA3DCN20S	Start part for PA3520	3 pcs
PA3DCN30S	Start part for PA3525	4 pcs

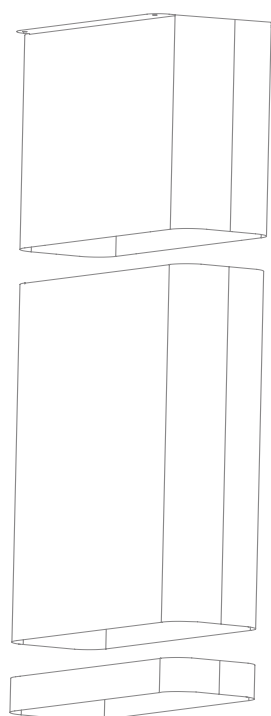
Intermediate parts

Type	Description	Number included
PA3DC15S	Intermediate part 300 mm for PA3510/3515	2 pcs
PA3DC20S	Intermediate part 300 mm for PA3520	3 pcs
PA3DC30S	Intermediate part 300 mm for PA3525	4 pcs
PA3DC15M	Intermediate part 500 mm for PA3510/3515	2 pcs
PA3DC20M	Intermediate part 500 mm for PA3520	3 pcs
PA3DC30M	Intermediate part 500 mm for PA3525	4 pcs
PA3DC15L	Intermediate part 700 mm for PA3510/3515	2 pcs
PA3DC20L	Intermediate part 700 mm for PA3520	3 pcs
PA3DC30L	Intermediate part 700 mm for PA3525	4 pcs

Telescopic
part

Intermediate
part

Start part



Telescopic parts

Type	Description	Number included
PA3DC15T	Telescopic part for PA3510/3515	2 pcs
PA3DC20T	Telescopic part for PA3520	3 pcs
PA3DC30T	Telescopic part for PA3525	4 pcs

See manual for PA3DC.

Accessories

For horizontally mounted units

Design kit for ceiling mounting PA4200

Intermediate parts

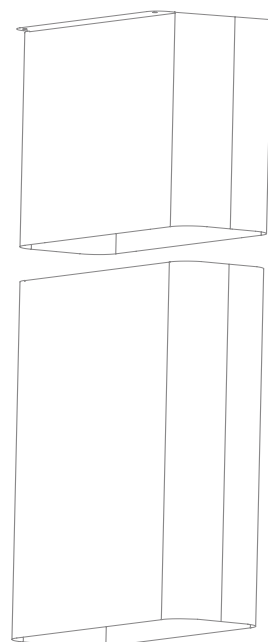
Type	Description	Number included
PA4DC15S	Intermediate part 300 mm for PA4210/4215	2 pcs
PA4DC20S	Intermediate part 300 mm for PA4220	3 pcs
PA4DC30S	Intermediate part 300 mm for PA4225	4 pcs
PA4DC15M	Intermediate part 500 mm for PA4210/4215	2 pcs
PA4DC20M	Intermediate part 500 mm for PA4220	3 pcs
PA4DC30M	Intermediate part 500 mm for PA4225	4 pcs
PA4DC15L	Intermediate part 700 mm for PA4210/4215	2 pcs
PA4DC20L	Intermediate part 700 mm for PA4220	3 pcs
PA4DC30L	Intermediate part 700 mm for PA4225	4 pcs

Telescopic parts

Type	Description	Number included
PA4DC15T	Telescopic part for PA4210/4215	2 pcs
PA4DC20T	Telescopic part for PA4220	3 pcs
PA4DC30T	Telescopic part for PA4225	4 pcs

Telescopic part

Intermediate part



See manual for PA4DC.

For recessed mounting in false ceiling

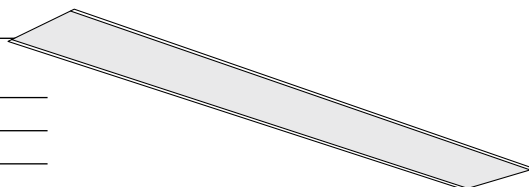
Type	Description	
PA3XT10	Outlet extension for PA3510, 130-200 mm	Fig. 8
PA3XT15	Outlet extension for PA3515, 130-200 mm	Fig. 8
PA3XT20	Outlet extension for PA3520, 130-200 mm	Fig. 8
PA3XT25	Outlet extension for PA3525, 130-200 mm	Fig. 8
PA4XT10	Outlet extension for PA4210, 130-200 mm	Fig. 8
PA4XT15	Outlet extension for PA4215, 130-200 mm	Fig. 8
PA4XT20	Outlet extension for PA4220, 130-200 mm	Fig. 8
PA4XT25	Outlet extension for PA4225, 130-200 mm	Fig. 8

Accessories

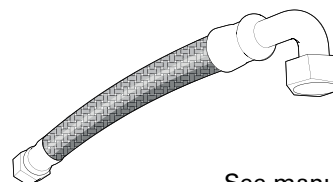
For vertically mounted units

Mounting and installation

Type	Description
PA3JK	Vertical kit for PA3500(fig. 9)
PA4JK	Vertical kit for PA4200 (fig. 9)
PA34EF10	External intake filter for PA3510/4210
PA34EF15	External intake filter for PA3515/4215
PA34EF20	External intake filter for PA3520/4220
PA34EF25	External intake filter for PA3525/4225
FHDN20	Flexible hoses DN20, inside thread, 90° bend, water temp. up to 90° C



See manual for PA34EF.



See manual for FHDN20.

Design kit and extension hood

Type	Description
PA3VDW15	Design kit for vertical mounting PA3515 Fig. 9
PA3VDW20	Design kit for vertical mounting PA3520 Fig. 9
PA3VDW25	Design kit for vertical mounting PA3525 Fig. 9
PA4VDW15	Design kit for vertical mounting PA4215 Fig. 9
PA4VDW20	Design kit for vertical mounting PA4220 Fig. 9
PA4VDW25	Design kit for vertical mounting PA4225 Fig. 9
PA3HE	Extension hood for PA3500
PA4HE	Extension hood for PA4200

See manual for PA3HE/PA4HE.

Accessories

Regulations alternatives

This aircurtain is supplied with an intelligent and well designed low voltage control system SIRE which can be customized for each unique application and environment. The control system is pre-installed in the aircurtain with an integrated control card.

SIRE is supplied pre-programmed with quick-release connections and is very easy to use and install. There are three different levels with different functionality to choose from, Basic, Competent or Advanced.

Type	RSK-nr	Description	HxWxD [mm]	L [m]
SIREB		Control system Basic		
SIREAC		Control system Competent		
SIREAA		Control system Advanced		
SIRERTX	673 09 22	External room temperature sensor	70x33x23	
SIREUR	673 09 21	Kit for recessed installation	114x70x50	
SIREWTA		Clamp-on sensor		
SIRECJ4		Joint piece for two pcs. RJ11 (4/4)		
SIRECJ6		Joint piece for two pcs. RJ12 (6/6)		
SIRECC603	673 09 23	Modular cable RJ12		3
SIRECC605	673 09 24	Modular cable RJ12		5
SIRECC610	673 09 25	Modular cable RJ12		10
SIRECC615	673 09 26	Modular cable RJ12		15
SIRECC403	673 09 27	Modular cable RJ11		30
SIRECC405	673 09 28	Modular cable RJ11		50
SIRECC410	673 09 29	Modular cable RJ11		10
SIRECC415	673 09 30	Modular cable RJ11		15

Water regulation

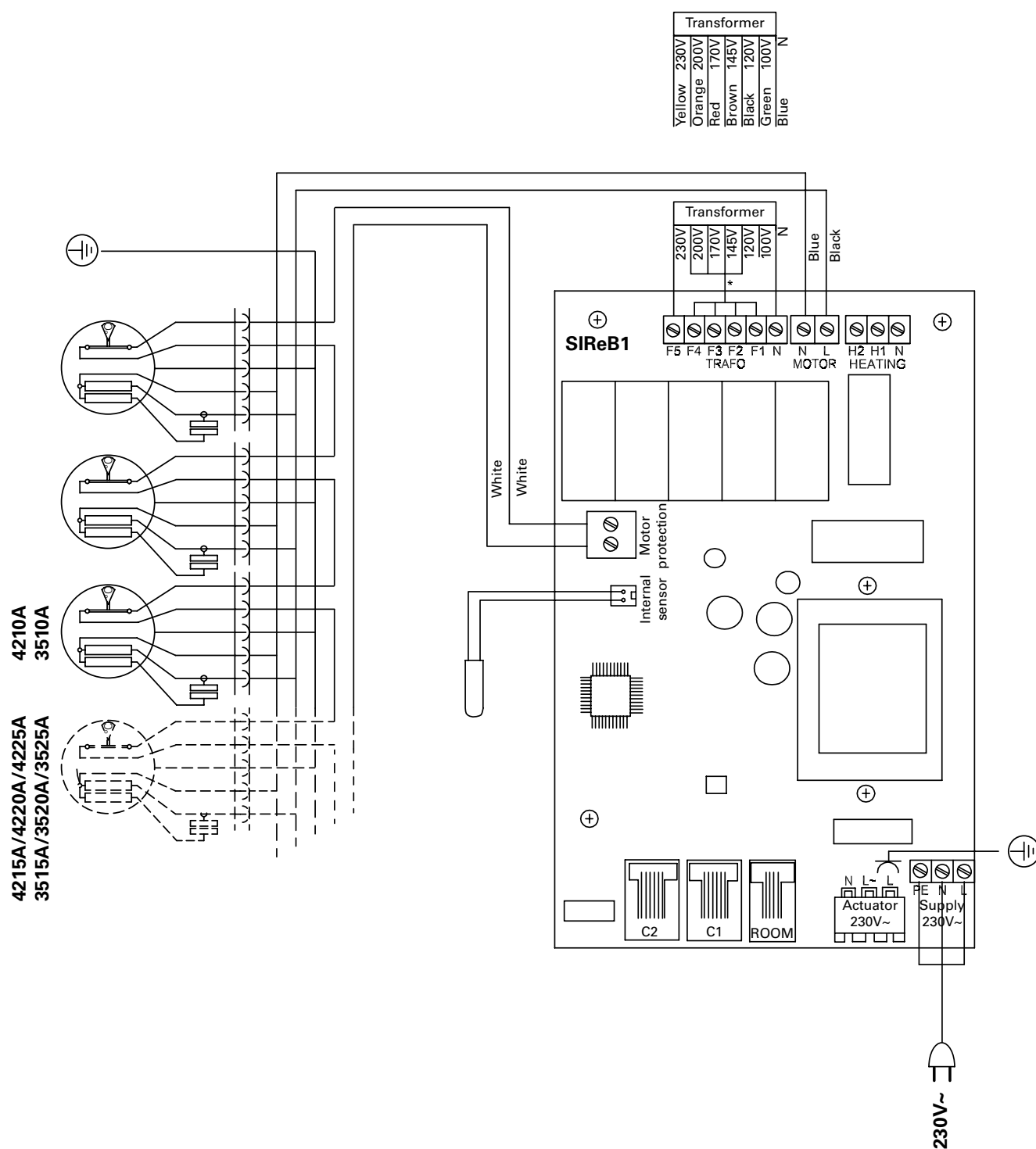
Type	RSK-nr	Description	Flow	Connection
VMO15LF	673 09 47	Modulating valve kit	Low	DN15
VMO15NF	673 09 48	Modulating valve kit	Normal	DN15
VMO20	673 09 49	Modulating valve kit	Normal	DN20
VMO25	673 09 50	Modulating valve kit	Normal	DN25
VMOP15LF	673 09 51	Pressure independent and modulating valve kit	Low	DN15
VMOP15NF	673 09 52	Pressure independent and modulating valve kit	Normal	DN15
VMOP20	673 09 53	Pressure independent and modulating valve kit	Normal	DN20
VMOP25	673 09 54	Pressure independent and modulating valve kit	Normal	DN25
VOS15LF	673 09 35	Valve kit on/off	Low	DN15
VOS15NF	673 09 36	Valve kit on/off	Normal	DN15
VOS20	673 09 37	Valve kit on/off	Normal	DN20
VOS25	673 09 38	Valve kit on/off	Normal	DN25
VOSP15 LF	673 09 43	Pressure independent valve kit	Low	DN15
VOSP15NF	673 09 44	Pressure independent valve kit	Normal	DN15
VOSP20	673 09 45	Pressure independent valve kit	Normal	DN20
VOSP25	673 09 46	Pressure independent valve kit	Normal	DN25
VOT15		Three way valve and actuator on/off	Normal flow	DN15
VOT20		Three way valve and actuator on/off	Normal flow	DN20
VOT25		Three way valve and actuator on/off	Normal flow	DN25
VMT15		Three way valve and modulating actuator	Normal flow	DN15
VMT20		Three way valve and modulating actuator	Normal flow	DN20
VMT25		Three way valve and modulating actuator	Normal flow	DN25
VAT	482 98 30	Adjustment tool for valve kit		

Wiring diagrams

Internal wiring diagram

PA3500 A

PA4200 A

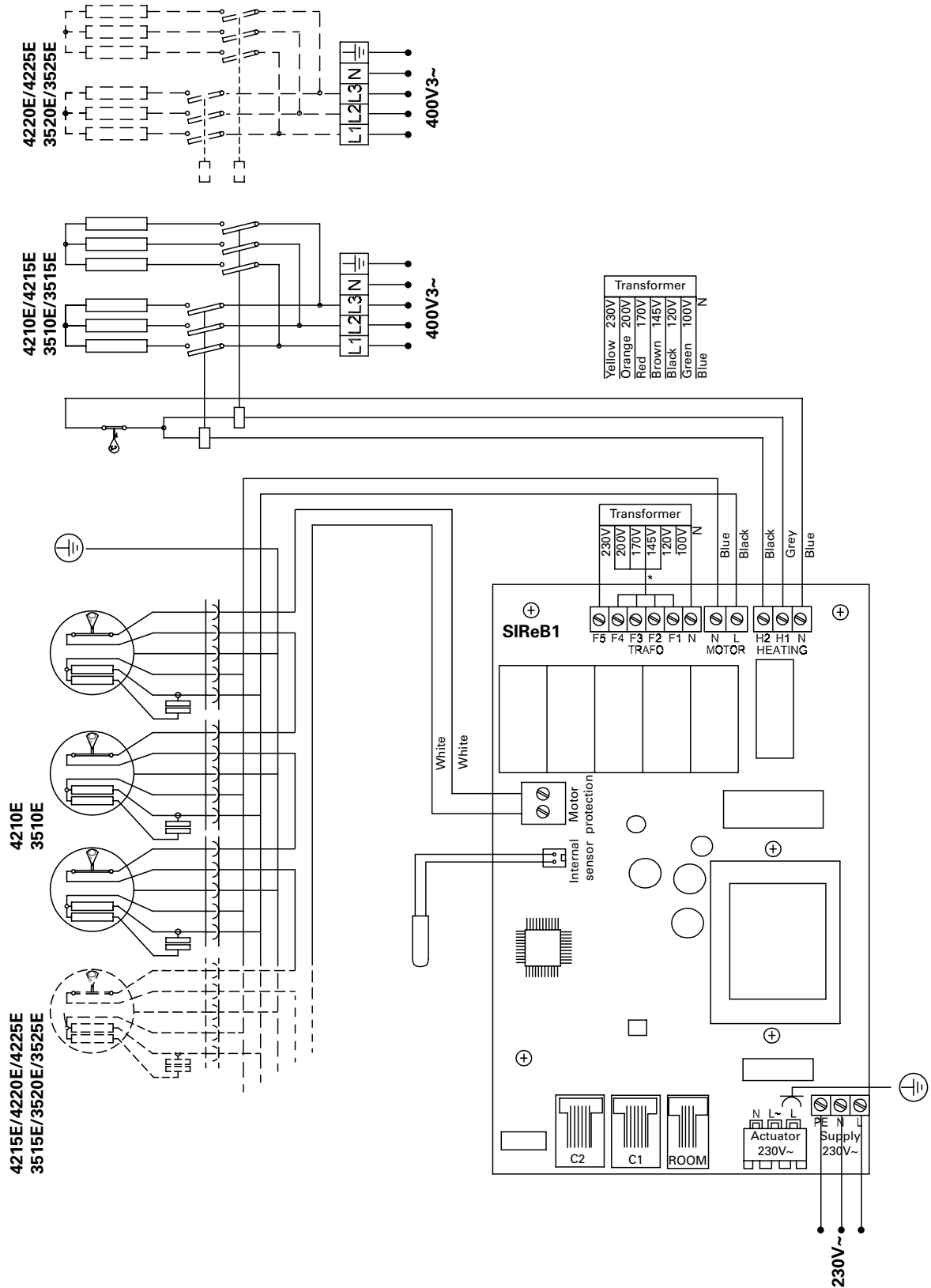


Wiring diagrams

Internal wiring diagram

PA3500 E

PA4200 E

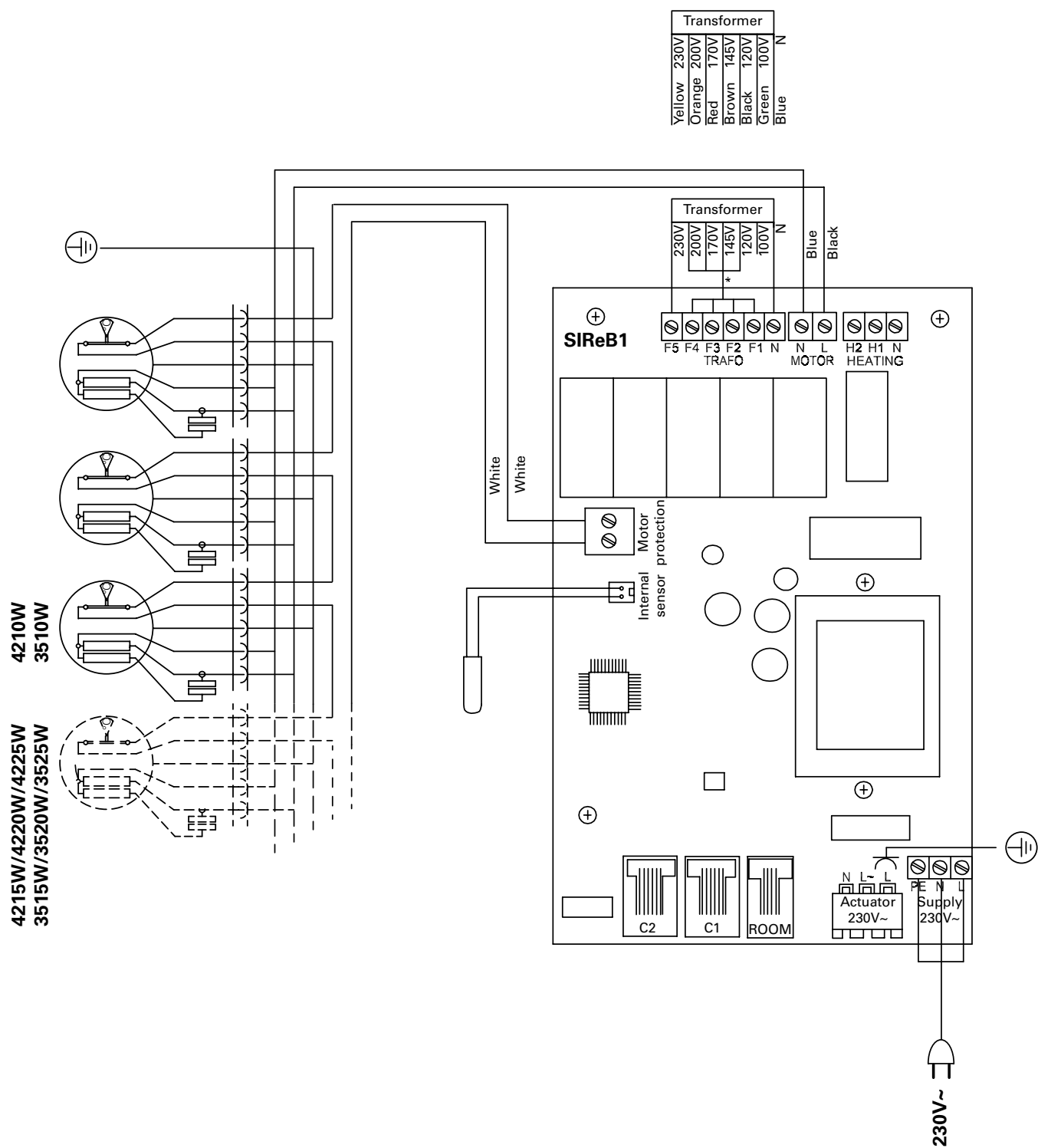


Wiring diagrams

Internal wiring diagram

PA3500 W

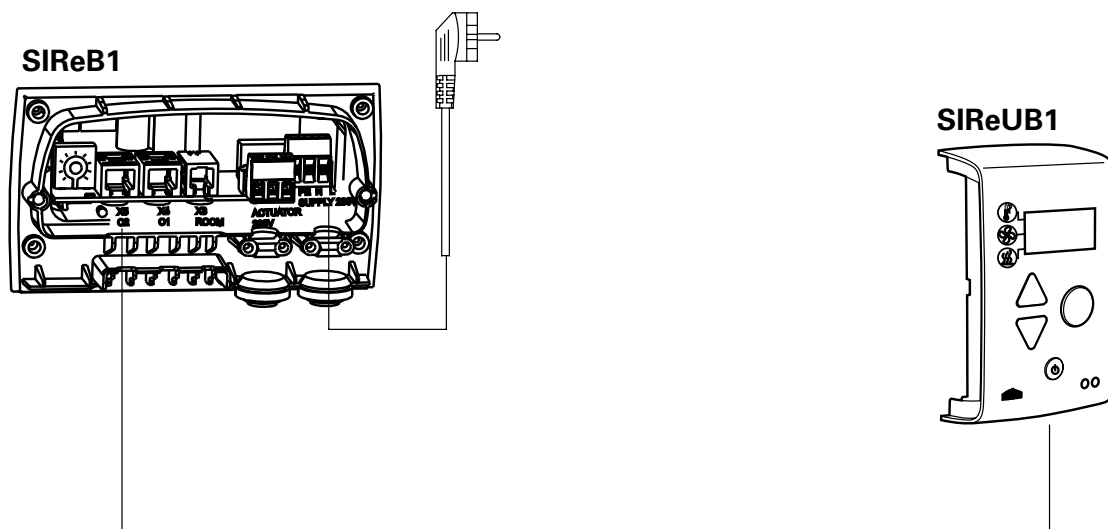
PA4200 W



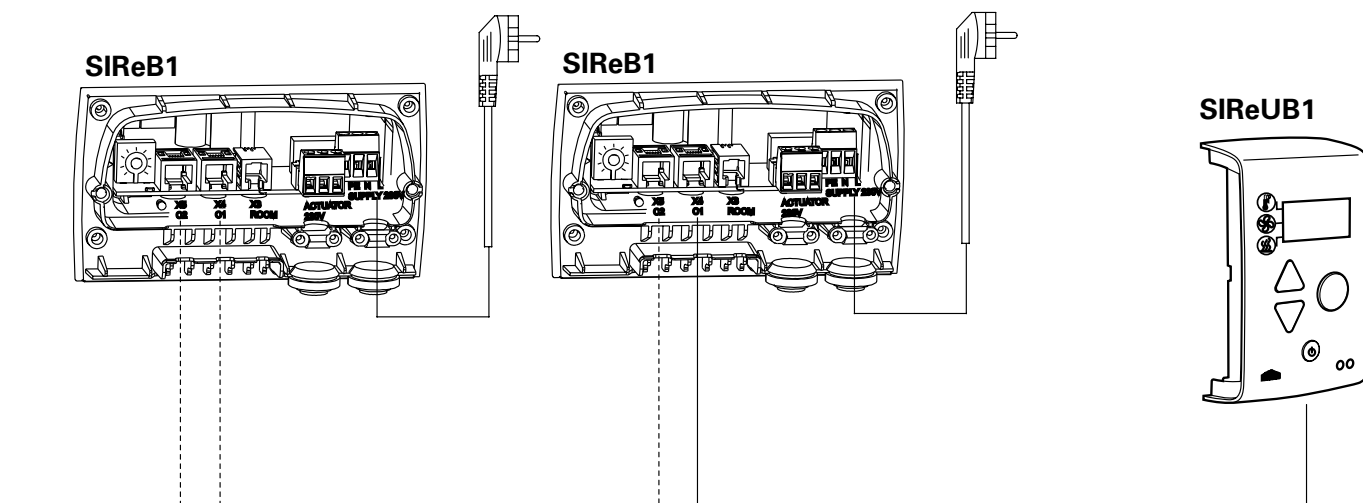
Wiring diagrams

Control options for units without heat

SIReB Basic



SIReB Basic - Parallel connection

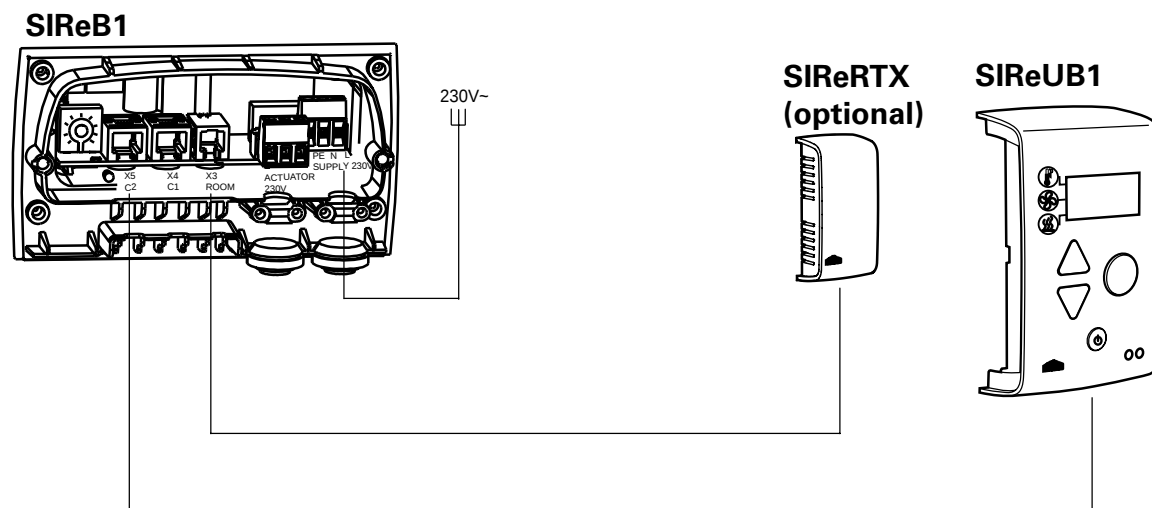


Wiring diagrams for SIReAC Competent, see manual for SIRe.

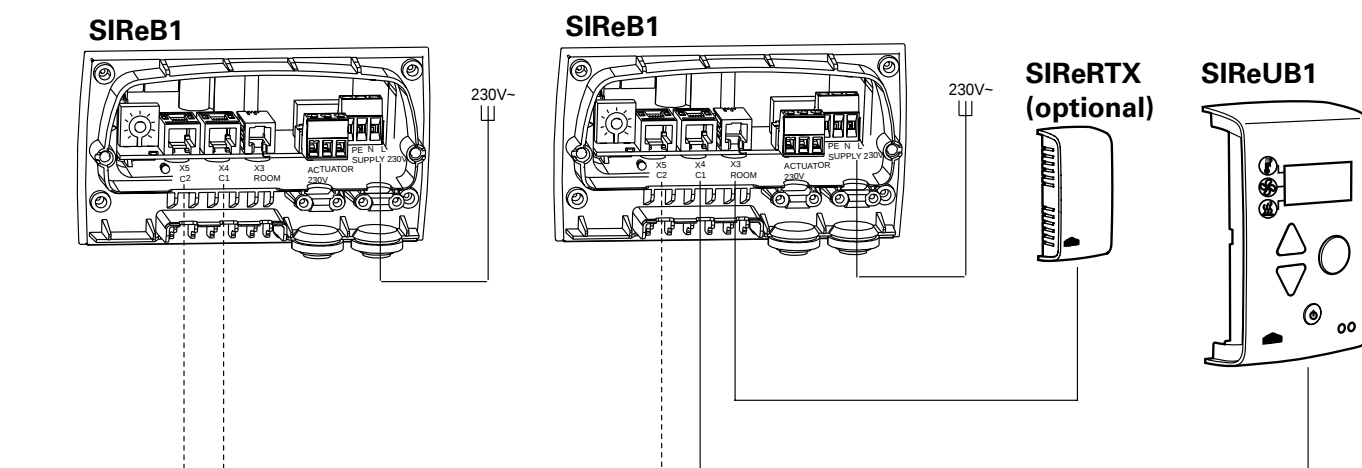
Wiring diagrams

Control options for electrically heated units

SIReB Basic



SIReB Basic - Parallel connection

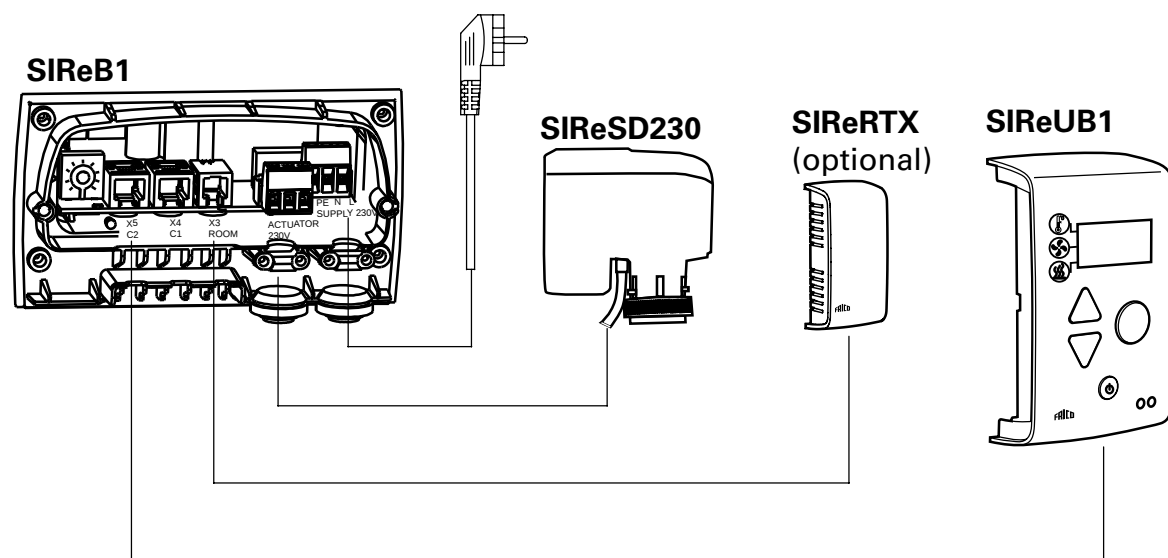


Wiring diagrams for SIReAC Competent and SIReAA Advanced, see manuals for SIRe.

Wiring diagrams

Control options for water heated units

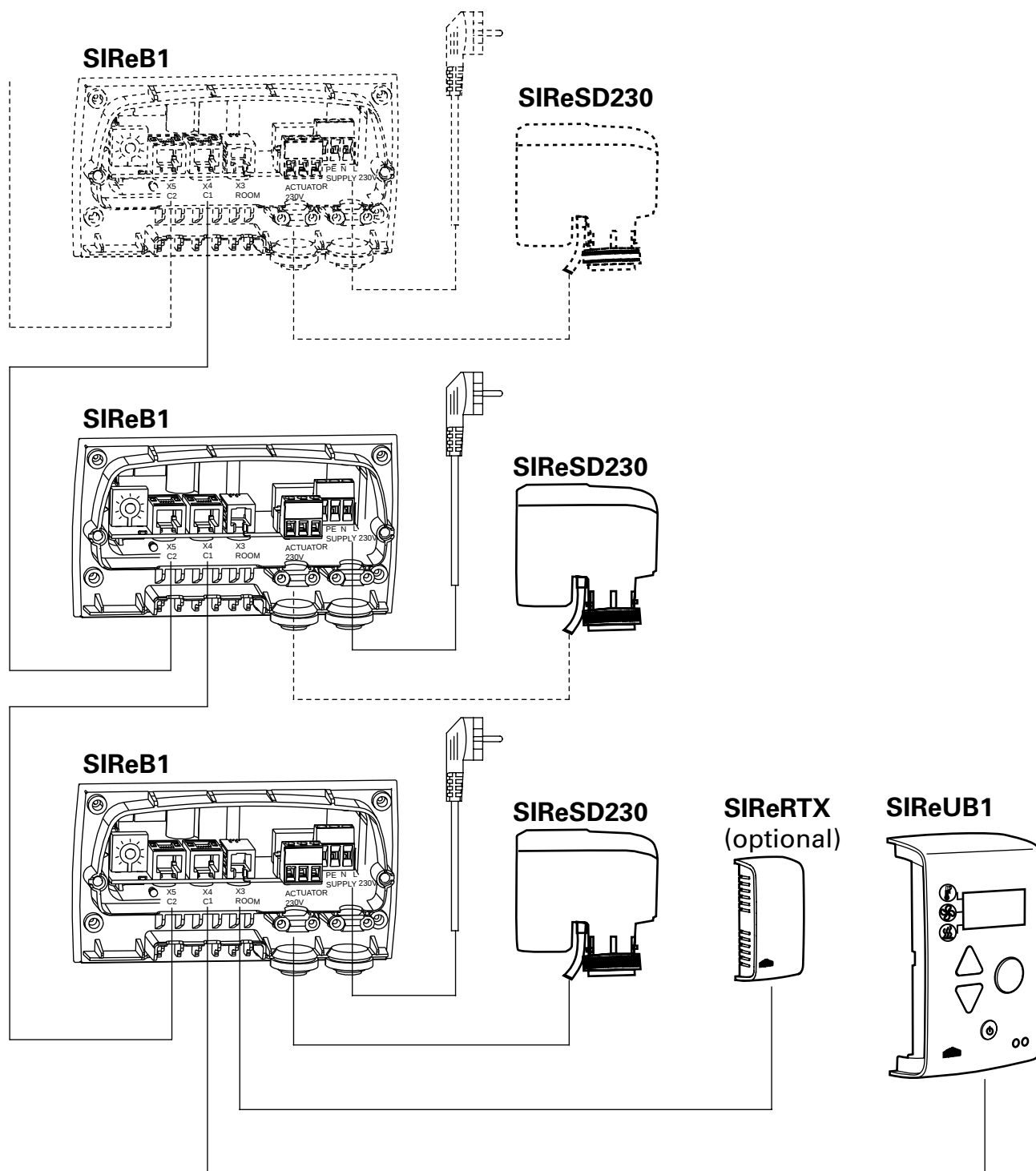
SiReB Basic



Wiring diagrams

Control options for water heated units

SIReB Basic - Parallel connection



Wiring diagrams for SIReAC Competent and SIReAA Advanced, see manuals for SIRe.

Output charts water PA3500

PA3500 WL

Standard coil			Incoming / outgoing water temperature 80/60 °C							
Type	Fan position	Airflow [m³/h]	Incoming air temp. = +15 °C				Incoming air temp. = +20 °C			
			Output [kW]	Outgoing air temp. [°C]	Water flow [l/s]	Pressure drop [kPa]	Output [kW]	Outgoing air temp. [°C]	Water flow [l/s]	Pressure drop [kPa]
PA3510WL	max	1800	21,7	50	0,26	21,4	19,4	52	0,24	17,5
	min	860	12,9	59	0,16	8,3	11,5	60	0,14	6,8
PA3515WL	max	2600	33,1	52	0,40	32,1	29,7	54	0,36	26,3
	min	1240	19,4	61	0,24	12,1	17,4	68	0,21	10,0
PA3520WL	max	3200	42,0	53	0,51	19,9	37,7	55	0,46	16,4
	min	1530	24,2	62	0,30	7,5	21,9	62	0,27	6,2
PA3525WL	max	4600	59,1	52	0,72	44,2	53,1	54	0,65	36,3
	min	2200	34,6	61	0,42	16,7	31,1	62	0,38	13,8

PA3500 WL

Standard coil			Incoming / outgoing water temperature 60/50 °C							
Type	Fan position	Airflow [m³/h]	Incoming air temp. = +15 °C				Incoming air temp. = +20 °C			
			Output [kW]	Outgoing air temp. [°C]	Water flow [l/s]	Pressure drop [kPa]	Output [kW]	Outgoing air temp. [°C]	Water flow [l/s]	Pressure drop [kPa]
PA3510WL	max	1800	15,9	41	0,39	44,3	13,7	43	0,33	33,9
	min	860	9,3	47	0,23	17,0	8,1	48	0,20	13,0
PA3515WL	max	2600	24,2	42	0,59	66,1	20,9	44	0,51	50,6
	min	1240	14,0	48	0,34	24,6	12,1	49	0,29	18,9
PA3520WL	max	3200	30,6	43	0,74	41,1	26,5	45	0,64	31,4
	min	1530	17,7	49	0,43	15,1	15,3	50	0,37	11,6
PA3525WL	max	4600	43,0	42	1,04	90,8	37,2	44	0,90	69,6
	min	2200	25,0	48	0,61	33,8	21,6	49	0,52	26,0

PA3500 WL

Standard coil			Incoming / outgoing water temperature 60/40 °C							
Type	Fan position	Airflow [m³/h]	Incoming air temp. = +15 °C				Incoming air temp. = +20 °C			
			Output [kW]	Outgoing air temp. [°C]	Water flow [l/s]	Pressure drop [kPa]	Output [kW]	Outgoing air temp. [°C]	Water flow [l/s]	Pressure drop [kPa]
PA3510WL	max	1800	13,0	36	0,16	9,0	10,8	38	0,13	6,4
	min	860	7,8	41	0,09	3,6	6,5	42	0,08	2,6
PA3515WL	max	2600	20,1	38	0,24	13,7	16,8	39	0,20	9,9
	min	1240	11,9	43	0,14	5,4	9,9	44	0,12	3,9
PA3520WL	max	3200	25,5	38	0,31	8,5	21,2	40	0,26	6,2
	min	1530	15,0	44	0,18	3,3	12,5	44	0,15	2,4
PA3525WL	max	4600	36,2	38	0,44	19,2	30,2	40	0,37	13,9
	min	2200	21,4	43	0,26	7,5	17,9	44	0,22	5,5

PA3500 WL

Standard coil			Incoming / outgoing water temperature 60/30 °C							
Type	Fan position	Airflow [m³/h]	Incoming air temp. = +15 °C				Incoming air temp. = +20 °C			
			Output [kW]	Outgoing air temp. [°C]	Water flow [l/s]	Pressure drop [kPa]	Output [kW]	Outgoing air temp. [°C]	Water flow [l/s]	Pressure drop [kPa]
PA3510WL	max	1800	9,4	30	0,08	2,5	6,9	31	0,06	1,5
	min	860	5,6	34	0,05	1,0	3,9	34	0,03	0,6
PA3515WL	max	2600	15,1	32	0,12	4,1	11,3	33	0,09	2,5
	min	1240	9,0	36	0,07	1,7	6,7	36	0,05	1,0
PA3520WL	max	3200	18,9	32	0,15	2,5	14,0	33	0,11	1,5
	min	1530	11,2	36	0,09	1,0	8,0	35	0,06	0,6
PA3525WL	max	4600	27,7	33	0,22	5,9	21,0	34	0,17	3,6
	min	2200	16,6	37	0,13	2,4	12,6	37	0,10	1,5

Output charts water PA3500

PA3500 WHH*

Special coil			Incoming / outgoing water temperature 130/70 °C							
Type	Fan position	Airflow [m³/h]	Incoming air temp. = +15 °C				Incoming air temp. = +20 °C			
			Output [kW]	Outgoing air temp. [°C]	Water flow [l/s]	Pressure drop [kPa]	Output [kW]	Outgoing air temp. [°C]	Water flow [l/s]	Pressure drop [kPa]
PA3510WHH*	max	1800	15,7	41	0,07	3,8	14,5	44	0,06	3,3
	min	860	10,0	49	0,04	1,7	9,2	52	0,04	1,5
PA3515WHH*	max	2600	23,5	41	0,10	2,0	21,6	45	0,09	1,7
	min	1240	14,8	50	0,06	0,9	13,6	53	0,06	0,8
PA3520WHH*	max	3200	31,2	43	0,13	4,1	28,8	47	0,12	3,5
	min	1530	19,6	52	0,08	1,8	18,1	55	0,07	1,5
PA3525WHH*	max	4600	42,3	42	0,17	2,8	39,1	45	0,16	2,4
	min	2200	26,7	50	0,11	1,2	24,6	53	0,10	1,1

*) Air curtain equipped with water coil WHH is available on request.

PA3500 WH

Standard coil			Incoming / outgoing water temperature 110/80 °C							
Type	Fan position	Airflow [m³/h]	Incoming air temp. = +15 °C				Incoming air temp. = +20 °C			
			Output [kW]	Outgoing air temp. [°C]	Water flow [l/s]	Pressure drop [kPa]	Output [kW]	Outgoing air temp. [°C]	Water flow [l/s]	Pressure drop [kPa]
PA3510WH	max	1800	16,0	41	0,13	11,0	14,8	44	0,12	9,6
	min	860	10,1	49	0,08	4,8	9,4	52	0,08	4,2
PA3515WH	max	2600	24,1	42	0,20	6,1	22,3	45	0,18	5,3
	min	1240	15,1	51	0,12	2,6	14,0	53	0,12	2,3
PA3520WH	max	3200	31,6	44	0,26	12,1	29,2	47	0,24	10,6
	min	1530	19,7	53	0,16	5,2	18,2	55	0,15	4,5
PA3525WH	max	4600	43,1	42	0,35	8,3	39,9	46	0,33	6,2
	min	2200	27,1	51	0,22	3,6	25,0	54	0,21	3,1

PA3500 WH

Standard coil			Incoming / outgoing water temperature 90/70 °C							
Type	Fan position	Airflow [m³/h]	Incoming air temp. = +15 °C				Incoming air temp. = +20 °C			
			Output [kW]	Outgoing air temp. [°C]	Water flow [l/s]	Pressure drop [kPa]	Output [kW]	Outgoing air temp. [°C]	Water flow [l/s]	Pressure drop [kPa]
PA3510WH	max	1800	13,1	36	0,16	16,4	12,0	40	0,15	13,9
	min	860	8,3	43	0,10	7,2	7,5	46	0,09	6,1
PA3515WH	max	2600	19,7	37	0,24	9,2	18,0	41	0,22	7,8
	min	1240	12,4	44	0,15	3,9	11,3	47	0,14	3,3
PA3520WH	max	3200	25,8	39	0,32	18,1	23,6	42	0,29	15,3
	min	1530	16,1	46	0,20	7,7	14,7	48	0,18	6,5
PA3525WH	max	4600	35,3	37	0,43	16,8	32,2	41	0,39	14,2
	min	2200	22,1	44	0,27	7,1	20,2	47	0,25	6,0

PA3500 WH

Standard coil			Incoming / outgoing water temperature 80/60 °C							
Type	Fan position	Airflow [m³/h]	Incoming air temp. = +15 °C				Incoming air temp. = +20 °C			
			Output [kW]	Outgoing air temp. [°C]	Water flow [l/s]	Pressure drop [kPa]	Output [kW]	Outgoing air temp. [°C]	Water flow [l/s]	Pressure drop [kPa]
PA3510WH	max	1800	10,9	33	0,13	12,0	9,8	36	0,12	9,9
	min	860	6,8	38	0,08	5,3	6,15	41	0,08	4,3
PA3515WH	max	2600	16,4	33	0,20	6,7	14,6	37	0,18	5,4
	min	1240	10,3	39	0,13	2,9	9,2	42	0,11	2,3
PA3520WH	max	3200	21,5	35	0,26	13,3	19,3	38	0,24	10,9
	min	1530	13,4	41	0,16	5,7	12,0	43	0,15	4,6
PA3525WH	max	4600	29,3	34	0,36	12,1	26,2	37	0,32	9,9
	min	2200	18,4	39	0,22	5,2	16,5	42	0,20	4,2

Output charts water PA4200

PA4200 WL

Standard coil			Incoming / outgoing water temperature 80/60 °C							
Type	Fan position	Airflow [m³/h]	Incoming air temp. = +15 °C				Incoming air temp. = +20 °C			
			Output [kW]	Outgoing air temp. [°C]	Water flow [l/s]	Pressure drop [kPa]	Output [kW]	Outgoing air temp. [°C]	Water flow [l/s]	Pressure drop [kPa]
PA4210WL	max	2700	31,0	48	0,38	49,0	27,8	51	0,34	40,3
	min	1280	18,5	57	0,23	19,3	16,6	58	0,20	15,9
PA4215WL	max	3700	45,2	51	0,55	41,6	40,5	53	0,49	34,1
	min	1760	26,6	59	0,33	15,8	23,9	60	0,29	13,0
PA4220WL	max	5300	63,9	50	0,78	35,7	57,3	52	0,70	29,2
	min	2520	37,8	59	0,46	13,7	33,9	60	0,41	11,3
PA4225WL	max	6350	79,3	51	0,97	62,7	71,2	53	0,87	51,5
	min	3020	46,5	60	0,57	23,8	41,8	61	0,51	19,6

PA4200 WL

Standard coil			Incoming / outgoing water temperature 60/50 °C							
Type	Fan position	Airflow [m³/h]	Incoming air temp. = +15 °C				Incoming air temp. = +20 °C			
			Output [kW]	Outgoing air temp. [°C]	Water flow [l/s]	Pressure drop [kPa]	Output [kW]	Outgoing air temp. [°C]	Water flow [l/s]	Pressure drop [kPa]
PA4210WL	max	2700	22,7	40	0,55	101,6	19,6	42	0,47	77,7
	min	1280	13,4	46	0,33	39,3	11,6	47	0,28	30,2
PA4215WL	max	3700	33,0	41	0,80	86,0	28,5	43	0,69	65,7
	min	1760	19,3	47	0,47	32,3	16,7	48	0,41	24,7
PA4220WL	max	5300	46,7	41	1,13	73,8	40,3	43	0,98	56,4
	min	2520	27,4	47	0,66	27,9	23,7	48	0,57	21,4
PA4225WL	max	6350	57,7	42	1,40	129,1	49,9	43	1,21	98,9
	min	3020	33,7	48	0,82	48,2	29,1	49	0,71	37,1

PA4200 WL

Standard coil			Incoming / outgoing water temperature 60/40 °C							
Type	Fan position	Airflow [m³/h]	Incoming air temp. = +15 °C				Incoming air temp. = +20 °C			
			Output [kW]	Outgoing air temp. [°C]	Water flow [l/s]	Pressure drop [kPa]	Output [kW]	Outgoing air temp. [°C]	Water flow [l/s]	Pressure drop [kPa]
PA4210WL	max	2700	18,8	35	0,23	20,9	15,6	37	0,19	15,0
	min	1280	11,3	41	0,14	8,5	9,5	42	0,11	6,2
PA4215WL	max	3700	27,4	37	0,33	17,6	22,8	38	0,28	12,6
	min	1760	16,4	42	0,20	6,9	13,6	43	0,17	5,0
PA4220WL	max	5300	38,7	36	0,47	15,1	32,2	38	0,39	10,9
	min	2520	12,1	42	0,28	6,0	19,3	43	0,23	4,4
PA4225WL	max	6350	48,6	37	0,59	27,1	40,6	39	0,49	19,6
	min	3020	28,9	43	0,35	10,7	24,2	44	0,29	7,8

PA4200 WL

Standard coil			Incoming / outgoing water temperature 60/30 °C							
Type	Fan position	Airflow [m³/h]	Incoming air temp. = +15 °C				Incoming air temp. = +20 °C			
			Output [kW]	Outgoing air temp. [°C]	Water flow [l/s]	Pressure drop [kPa]	Output [kW]	Outgoing air temp. [°C]	Water flow [l/s]	Pressure drop [kPa]
PA4210WL	max	2700	14,0	30	0,11	6,2	10,5	32	0,08	3,7
	min	1280	8,6	35	0,07	2,6	6,4	35	0,05	1,6
PA4215WL	max	3700	20,5	31	0,17	5,1	15,4	32	0,12	3,1
	min	1760	12,4	36	0,10	2,1	9,2	36	0,07	1,3
PA4220WL	max	5300	28,9	31	0,23	4,4	21,6	32	0,17	2,7
	min	2520	17,5	35	0,14	1,8	13,0	35	0,10	1,1
PA4225WL	max	6350	37,3	32	0,30	8,3	28,5	33	0,23	5,2
	min	3020	22,5	37	0,18	3,4	17,2	37	0,14	2,1

Output charts water PA4200

PA4200 WHH*

Special coil			Incoming / outgoing water temperature 130/70 °C							
Type	Fan position	Airflow [m³/h]	Incoming air temp. = +15 °C				Incoming air temp. = +20 °C			
			Output [kW]	Outgoing air temp. [°C]	Water flow [l/s]	Pressure drop [kPa]	Output [kW]	Outgoing air temp. [°C]	Water flow [l/s]	Pressure drop [kPa]
PA4210WHH*	max	2700	22,4	39	0,09	8,6	20,7	43	0,09	7,5
	min	1280	14,2	47	0,06	3,8	13,1	50	0,05	3,3
PA4215WHH*	max	3700	31,7	40	0,13	2,5	29,2	43	0,12	2,2
	min	1760	20,1	48	0,08	1,1	18,5	51	0,08	1,0
PA4220WHH*	max	5300	46,2	40	0,19	6,0	42,7	44	0,18	5,2
	min	2520	29,3	49	0,12	2,6	27,0	52	0,11	2,3
PA4225WHH*	max	6350	54,3	40	0,22	1,4	50,0	43	0,21	1,2
	min	3020	34,3	48	0,14	0,6	31,5	51	0,13	0,5

*) Air curtain equipped with water coil WHH is available on request.

PA4200 WH

Standard coil			Incoming / outgoing water temperature 110/80 °C							
Type	Fan position	Airflow [m³/h]	Incoming air temp. = +15 °C				Incoming air temp. = +20 °C			
			Output [kW]	Outgoing air temp. [°C]	Water flow [l/s]	Pressure drop [kPa]	Output [kW]	Outgoing air temp. [°C]	Water flow [l/s]	Pressure drop [kPa]
PA4210WH	max	2700	22,6	39	0,19	24,8	20,9	43	0,17	21,6
	min	1280	14,3	48	0,12	10,9	13,2	51	0,11	9,5
PA4215WH	max	3700	32,5	41	0,27	8,0	30,1	44	0,25	7,0
	min	1760	20,5	49	0,17	3,5	19,0	52	0,16	3,0
PA4220WH	max	5300	46,8	41	0,39	18,5	43,4	44	0,36	16,1
	min	2520	29,5	49	0,24	7,9	27,3	52	0,22	6,9
PA4225WH	max	6350	56,1	41	0,46	4,3	51,9	44	0,43	3,8
	min	3020	35,3	49	0,29	1,9	32,6	52	0,27	1,6

PA4200 WH

Standard coil			Incoming / outgoing water temperature 90/70 °C							
Type	Fan position	Airflow [m³/h]	Incoming air temp. = +15 °C				Incoming air temp. = +20 °C			
			Output [kW]	Outgoing air temp. [°C]	Water flow [l/s]	Pressure drop [kPa]	Output [kW]	Outgoing air temp. [°C]	Water flow [l/s]	Pressure drop [kPa]
PA4210WH	max	2700	18,5	35	0,23	37,1	16,9	39	0,21	31,4
	min	1280	11,7	42	0,14	16,2	10,7	45	0,13	13,7
PA4215WH	max	3700	26,7	36	0,33	12,0	24,3	40	0,30	10,1
	min	1760	16,8	43	0,21	5,2	15,3	46	0,19	4,3
PA4220WH	max	5300	38,3	36	0,47	27,6	35,0	40	0,43	23,3
	min	2520	24,1	43	0,30	11,8	22,0	46	0,27	10,0
PA4225WH	max	6350	46,0	36	0,56	6,5	41,9	40	0,51	5,5
	min	3020	28,9	43	0,35	2,8	26,3	46	0,32	2,4

PA4200 WH

Standard coil			Incoming / outgoing water temperature 80/60 °C							
Type	Fan position	Airflow [m³/h]	Incoming air temp. = +15 °C				Incoming air temp. = +20 °C			
			Output [kW]	Outgoing air temp. [°C]	Water flow [l/s]	Pressure drop [kPa]	Output [kW]	Outgoing air temp. [°C]	Water flow [l/s]	Pressure drop [kPa]
PA4210WH	max	2700	15,4	31	0,19	27,2	13,8	35	0,17	22,3
	min	1280	9,7	37	0,12	11,9	8,7	40	0,11	9,8
PA4215WH	max	3700	22,1	32	0,27	8,7	19,8	36	0,24	7,1
	min	1760	13,9	38	0,17	3,7	12,4	41	0,15	3,1
PA4220WH	max	5300	31,9	33	0,39	20,1	28,6	36	0,35	16,4
	min	2520	20,1	38	0,25	8,7	18,0	41	0,22	7,1
PA4225WH	max	6350	38,1	33	0,46	4,7	34,0	36	0,41	3,8
	min	3020	23,9	38	0,29	2,0	21,4	41	0,26	1,7

PA3500/4200

Technical specifications | Thermozone PA3500 A without heat ✱

Type	Output	Airflow* ¹	Sound level* ²	Output motor	Voltage motor	Amperage motor	Length Weight	
	[kW]	[m³/h]	[dB(A)]	[W]	[V]	[A]	[mm]	[kg]
PA3510A	0	860/1800	40/57	470	230V~	2,0	1039	36
PA3515A	0	1240/2600	40,5/58,5	650	230V~	2,8	1549	50
PA3520A	0	1530/3200	42/59,5	810	230V~	3,5	2039	65
PA3525A	0	2200/4600	42/60,5	1140	230V~	4,9	2549	79

Technical specifications | Thermozone PA3500 E with electrical heat ⚡

Type	Output steps	Airflow* ¹	Δt* ⁴	Sound level* ²	Output motor	Voltage motor	Amperage motor	Voltage [V] Amperage [A] heat	Length	Weight
	[kW]	[m³/h]	[°C]	[dB(A)]	[W]	[V]	[A]		[mm]	[kg]
PA3510E08	2,7/5,4/8,0	860/1800	35/13	40/57	470	230V~	2,0	400V3~/11,5	1039	44
PA3515E12	3,9/7,8/12,0	1240/2600	38/14	40,5/58,5	650	230V~	2,8	400V3~/17,3	1549	63
PA3520E16	5,4/10,8/16,0	1530/3200	35/13	42/59,5	810	230V~	3,5	400V3~/23,1	2039	80
PA3525E20	6,6/13,2/20,0	2200/4600	37/14	42/60,5	1140	230V~	4,9	400V3~/29,0	2549	104

Technical specifications | Thermozone PA3500 WL with water heat, coil for low temperature water < 80/60 °C 💧

Type	Output* ³	Airflow* ¹	Δt* ^{3,4}	Water-volume	Sound level* ²	Output motor	Voltage motor	Amperage motor	Length	Weight
	[kW]	[m³/h]	[°C]	[l]	[dB(A)]	[W]	[V]	[A]	[mm]	[kg]
PA3510WL	22	860/1800	44/35	1,51	40/57	470	230V~	2,0	1039	43
PA3515WL	33	1240/2600	46/37	2,38	40,5/58,5	650	230V~	2,8	1549	60
PA3520WL	42	1530/3200	47/38	3,33	42/59,5	810	230V~	3,5	2039	75
PA3525WL	59	2200/4600	46/37	4,18	42/60,5	1140	230V~	4,9	2549	95

Technical specifications | Thermozone PA3500 WH with water heat, coil for high temperature water ≥ 80/60 °C 💧

Type	Output* ³	Airflow* ¹	Δt* ^{3,4}	Water-volume	Sound level* ²	Output motor	Voltage motor	Amperage motor	Length	Weight
	[kW]	[m³/h]	[°C]	[l]	[dB(A)]	[W]	[V]	[A]	[mm]	[kg]
PA3510WH	11	860/1800	24/19	1,03	40/57	470	230V~	2,0	1039	42
PA3515WH	16	1240/2600	26/20	1,63	40,5/58,5	650	230V~	2,8	1549	58
PA3520WH	21	1530/3200	24/18	2,18	42/59,5	810	230V~	3,5	2039	73
PA3525WH	29	2200/4600	23/18	2,88	42/60,5	1140	230V~	4,9	2549	92

*¹) Lowest/highest airflow of totally 5 fan steps.

*²) Conditions: Distance to the unit 5 metres. Directional factor: 2. Equivalent absorption area: 200 m². At lowest/highest airflow.

*³) Applicable at water temperature 80/60 °C, air temperature, in +15 °C.

*⁴) Δt = temperature rise of passing air at maximum heat output and lowest/highest airflow.

Protection class for units with electrical heating: IP20.

Protection class for units without heating and units with water heating: IP21.

CE compliant.

Technical specifications | Thermozone PA4200 A without heat ✱

Type	Output	Airflow* ¹	Sound level* ²	Output motor	Voltage motor	Amperage motor	Length	Weight
	[kW]	[m³/h]	[dB(A)]	[W]	[V]	[A]	[mm]	[kg]
PA4210A	0	1280/2700	46/63,5	830	230V~	3,6	1039	43
PA4215A	0	1760/3700	46/64	1150	230V~	5,0	1549	56
PA4220A	0	2520/5300	47/64,5	1610	230V~	7,0	2039	75
PA4225A	0	3020/6350	48,5/67	1990	230V~	8,6	2549	91

Technical specifications | Thermozone PA4200 E with electrical heat ⚡

Type	Output steps	Airflow* ¹	Δt* ⁴	Sound level* ²	Output motor	Voltage motor	Amperage motor	Voltage [V] Amperage [A] heat	Length	Weight
	[kW]	[m³/h]	[°C]	[dB(A)]	[W]	[V]	[A]		[mm]	[kg]
PA4210E12	3,9/7,8/12,0	1280/2700	37/14	46/63,5	830	230V~	3,6	400V3~/17,3	1039	50
PA4215E18	6,0/12,0/18,0	1760/3700	40/15	46/64	1150	230V~	5,0	400V3~/26,0	1549	71
PA4220E24	7,8/15,6/24,0	2520/5300	37/14	47/64,5	1610	230V~	7,0	400V3~/34,6	2039	94
PA4225E30	9,9/19,8/30,0	3020/6350	38/15	48,5/67	1990	230V~	8,6	400V3~/43,0	2549	113

Technical specifications | Thermozone PA4200 WL with water heat, coil for low temperature water < 80/60 °C 💧

Type	Output* ³	Airflow* ¹	Δt* ^{3,4}	Water-volume	Sound level* ²	Output motor	Voltage motor	Amperage motor	Length	Weight
	[kW]	[m³/h]	[°C]	[l]	[dB(A)]	[W]	[V]	[A]	[mm]	[kg]
PA4210WL	31	1280/2700	42/33	1,87	46/63,5	830	230V~	3,6	1039	50
PA4215WL	45	1760/3700	44/36	2,96	46/64	1150	230V~	5,0	1549	67
PA4220WL	64	2520/5300	44/35	4,14	47/64,5	1610	230V~	7,0	2039	90
PA4225WL	79	3020/6350	45/36	5,21	48,5/67	1990	230V~	8,6	2549	109

Technical specifications | Thermozone PA4200 WH with water heat, coil for high temperature water ≥ 80/60 °C 💧

Type	Output* ³	Airflow* ¹	Δt* ^{3,4}	Water-volume	Sound level* ²	Output motor	Voltage motor	Amperage motor	Length	Weight
	[kW]	[m³/h]	[°C]	[l]	[dB(A)]	[W]	[V]	[A]	[mm]	[kg]
PA4210WH	15	1280/2700	22/16	1,27	46/63,5	830	230V~	3,6	1039	49
PA4215WH	22	1760/3700	23/17	2,03	46/64	1150	230V~	5,0	1549	65
PA4220WH	32	2520/5300	23/17	2,72	47/64,5	1610	230V~	7,0	2039	87
PA4225WH	38	3020/6350	23/18	3,80	48,5/67	1990	230V~	8,6	2549	105

*¹) Lowest/highest airflow of totally 5 fan steps.

*²) Conditions: Distance to the unit 5 metres. Directional factor: 2. Equivalent absorption area: 200 m². At lowest/highest airflow.

*³) Applicable at water temperature 80/60 °C, air temperature, in +15 °C.

*⁴) Δt = temperature rise of passing air at maximum heat output and lowest/highest airflow.

Protection class for units with electrical heating: IP20.

Protection class for units without heating and units with water heating: IP21.

CE compliant.

Montage- och bruksanvisning

Allmänna anvisningar

Läs noggrant igenom denna bruksanvisning före installation och användning. Spara manualen för framtida bruk.

Produkten får endast användas till det som framgår av denna montage- och bruksanvisning. Garantin gäller endast om anvisningen har följts och produkten använts såsom är beskrivet.

Användningsområde

Luftridåaggregatet Thermozone PA3500/4200 levereras utan värme, med elvärme- eller varmvattenbatteri.

PA3500 är avsedd som skydd för entrédörrar och mindre portar upp till 3,5 meters höjd.

PA4200 passar större portar upp till 4,2 meters höjd

Kapslingklass för aggregat med elvärme: IP20.
Kapslingklass för aggregat utan värme och aggregat med vattenburen värme: IP21.

Funktion

Luften sugas in från apparatens ovansida/baksida och blåses ut nedåt/framåt, så att den skärmar av portöppningen och minimerar värmeläckage. För bästa ridåverkan ska aggregatet täcka hela öppningens höjd/bredd.

Gallret som riktar luften är justerbart och vrids normalt något utåt så att luftstrålen hindrar den inkommande kalla luften.

Luftridåns effektivitet beror på hur stor belastningen är på den aktuella porten.

Observera att undertryck i lokalen försämrar luftridåns effektivitet väsentligt. Ventilationen bör därför vara balanserad.

Montering

I luftridåserien finns möjlighet till horisontellt montage och vertikalt montage. Aggregaten kan även monteras infällda i undertak.

Horisontellt montage

Aggregatet monteras horisontellt med utblåsöppningen nedåt så nära porten som möjligt. Minsta avstånd från utlopp till golv för aggregat med elvärme är 1800 mm. För övriga minimimått se fig. 3.

Vid breda öppningar kan flera aggregat monteras ihop med varandra med en skarvsats (fig. 8).

Ett designpaket för snygg installation som döljer kablar, rör och upphängning finns för både vägg- och takmontage, se tillbehörsidor.

Horisontellt montage på vägg PA34WB (fig. 5)

1. Ta av plastlock på väggkonsoler. (Fig. 5A)
2. Montera konsolerna på väggen enligt mått i fig. 5B.
3. Skruva i hammarskruvar på aggregatet i avsedda hål M8. (Fig. 4 och 5C)
4. Lås mutter så att hammarskruvarna sitter på 20 mm höjd. Observera riktningen på skruvhuvudet. (Fig. 5C)
5. Skjut in aggregatet på konsolerna. (Fig. 5D)
6. Lås muttern mot konsolen och sätt tillbaka plastlock. (Fig. 5E)

Horisontellt montage från tak

Gängstänger, vajrar samt takfästen för montering i tak finns som tillbehör, se fig. 6 och 7 samt separata manualer.

Horisontellt montage infällt i undertak

Utblåsstos finns som tillbehör, se fig. 9 samt separat manual.

Vertikalt montage PA3JK

Luftridåer som är 1,5 meter eller längre kan användas vertikalt. Vid vertikalt montage kompletteras varje aggregat med ett vertikalkpaket som innehåller allt som behövs för en praktisk montering av aggregaten golvstående.

Aggregatet kan vändas och placeras på valfri sida om dörren. Anslutningar och styrkort SIRE hamnar nere nära golvet när luftridån står till vänster och uppe nära taket då den står till höger om dörren (sett inifrån lokalen).

Golvsargen som medföljer fästs i golvet med, för underlaget, lämpliga fästelement.

Två aggregat kan monteras direkt ovanpå varandra, då används golvsargen som skarvkonsole.

Luftridån ska förankras i vägg eller tak.

Ett designpaket för snygg installation som döljer kablar och rör finns som tillbehör, se tillbehörsidor.

Se fig. 10 och separat manual.

Elinstallation

Installationen, som ska föregås av en allpolig brytare med ett brytavstånd om minst 3 mm, ska utföras av behörig installatör och i enlighet med denna bruksanvisning samt gällande föreskrifter.

Styrsystemet är förinstallerat i luftridån med ett integrerat styrkort (se fig. 2).

SIRE levereras förprogrammerad och är försedd med snabbkopplingar.

Modularkablar kopplas in på styrkortet. Se manual för SIRE.

Aggregat utan värme:

Ansluts via det inbyggda styrkortet SIRE med 2 m sladd och stickpropp.

Aggregat med vattenburen värme:

Ansluts via det inbyggda styrkortet SIRE med 2 m sladd och stickpropp.

Aggregat med elvärme:

Installation görs på aggregatets ovansida (horisontella) respektive baksida (vertikala).

Manöver matas med 230V~ och kabel finns utdragen från det inbyggda styrkortet SIRE.

Kraftmatning för värme (400V3~) ansluts på kopplingsplint i kopplingsrum. Största kabeldiameter för anslutningsplinten är 16 mm². Använda kabelgenomföringar måste säkerställa kravet på kapslingsklass. I gruppcentralen ska anges att "Luftridåerna matas från mer än en gruppledning".

Se kopplingsscheman.

Typ	Effekt [kW]	Spänning [V]	Minimiarea ^{*2} [mm ²]
Alla manöver	0	230V~	1,5
PA3510E08	8	400V3~	2,5
PA3515E12	12	400V3~	4
PA4210E12	12	400V3~	4
PA4215E18	18	400V3~	10
PA3520E16^{*1}	8	400V3~	2,5
	8	400V3~	2,5
PA3525E20^{*1}	8	400V3~	2,5
	12	400V3~	4
PA4220E24^{*1}	12	400V3~	4
	12	400V3~	4
PA4225E30^{*1}	12	400V3~	4
	18	400V3~	10

^{*1}) 2 m och 2,5 m-aggregat ansluts med två kraftmatningar, se s. 2. 2,5 meters aggregat har elbatterier med två olika effekter och elbatteriet till vänster, på ett horisontellt aggregat, sett inifrån lokalen, har högst effekt.

^{*2}) Dimensionering av externt kablage ska följa gällande föreskrifter och lokala avvikelser kan därför förekomma.

Uppstart (E)

OBS! Vid första användningstillfället eller vid uppstart efter ett längre uppehåll, kan en mindre rök- och luktutveckling tillfälligt förekomma, vilket är helt normalt.

Anslutning av vattenbatteri (W)

Installationen skall utföras av behörig installatör.

Vattenbatteriet består av kopparrör med flänsar av aluminium och är avsett att användas i ett slutet system. Batteriet får inte anslutas till färskt eller syresatt vatten.

Observera att aggregatet ska föregås av en reglerande ventil, se Frico ventilpaket.

Anslutning av vattenbatteri sker på aggregatets ovansida (horisontellt montage) respektive baksida (vertikalt montage) via anslutningar DN20 (3/4"), utvändiga gänga. Flexibla slangar finns som tillbehör, se tillbehörsidor.

Anslutningarna till batteriet ska förses med avstängningsventiler (ingår i Fricos ventilpaket) för att möjliggöra problemfri demontering.

Luftningsventil ska anslutas på högpunkt utanför aggregatet. Luftningsventil ingår inte. Vid vertikalt montage och vattenanslutning i botten finns inte möjlighet till luftning av batteriet, se till att vattenbatteriet är fyllt

med vatten och ingen luft finns kvar, innan idrifttagning.

Injustering av luftnidån och luftström

Luftstrålens riktning och hastighet ska justeras med hänsyn till belastningen på porten. Tryckkrafter påverkar luftströmmen så att den böjer av inåt i lokalen (vid uppvärmd lokal och kall uteluft).

Luftströmmen bör därför riktas utåt för att stå emot belastningen. Generellt kan sägas att ju större belastning desto större vinkel krävs.

Grundinställning varvtal

Fläkthastigheten då porten är öppen ställs in med hjälp av varvtalsregleringen. Observera att utblåsriktning och varvtal kan behöva finjusteras beroende på portens belastning.

Filter (W)

Vattenbatteriets luftsida skyddas mot nedsmutsning och igensättning av ett filter som täcker batteriets frontyta. I miljöer där filtret ofta behöver rengöras är det lämpligt med ett externt insugfilter (se tillbehörsidor), som ger ett enklare underhåll, eftersom aggregatet inte behöver öppnas.

Service, reparation och skötsel

Vid all service, reparation och underhåll gör först enligt följande:

1. Bryt strömmen.
2. Lossa skruvar och fäll upp frontplåten. Fronten ska spärras i öppet läge med frontluckehaken, se fig. 1A eller tas av helt, se fig. 1B. Serviceluckan tas bort genom att lossa skruvar.
3. Efter service, reparation och skötsel skruva fast serviceluckan och frontplåten. När frontplåten tagits bort helt är det viktigt att se till att den sitter ordentligt fast i frontlåset igen, se fig. 1B.

Skötsel

Aggregat med vattenburen värme:

Apparatens filter bör rengöras regelbundet för att säkerställa ridåverkan och värmeavgivning från apparaten. Hur ofta beror på de lokala omständigheterna. Ett igensatt filter innebär inte någon risk, men apparatens funktion

uteblir.

1. Bryt strömmen,
2. Lossa skruvar och fäll upp frontplåten. Fronten ska spärras i öppet läge med frontluckehaken, se fig. 1A.
3. Ta ut filtret och dammsug eller tvätta det. Om filtret är mycket igensatt eller skadat kan det behövas bytas.

Alla aggregat:

Eftersom fläktarnas motorer och övriga komponenter är underhållsfria krävs inget annat underhåll än regelbunden rengöring, hur ofta beror på de lokala omständigheterna dock minst två gånger per år. Insugs- och utblåsgaller, fläkthjul och element kan dammsugas eller torkas av med torr trasa. Vid dammsugning använd borste för att inte skada ömtåliga delar. Undvik starkt basiska eller syrahaltiga rengöringsmedel.

Överhettning

Luftnidåaggregat med elvärme är försett med temperaturbegränsare. Överhettningsskyddet återställs genom att strömbrytaren nollställs och aggregatet svalnar. Om det har löst ut pga överhettning, återställs den på följande sätt:

1. Bryt strömmen med den allpoliga brytaren.
2. Låt elbatteriet svalna.
3. Fastställ orsaken och åtgärda felet som orsakade överhettningen.
4. Koppla in luftnidåaggregatet igen.

Motorerna, i alla luftnidåaggregaten, har en inbyggd termokontakt till skydd mot överhettning. Återställningen av denna sker automatiskt då motorn har svalnat.

Temperaturreglering

Temperaturreglering i SIRE avser att begränsa utblåsningstemperaturen till 40 °C. Om temperaturen ändå skulle öka avgävs överhettningsskärmar. Läs mer i manualen för SIRE.

Fläktbyte

1. Undersök vilken av fläktarna som inte fungerar.
2. Lossa kablarna till fläkten.
3. Lossa fläktens fästskruvar och lyft ut

fläkten.

4. Montera den nya fläkten enligt ovanstående i omvänd ordning.

Byte av elbatteri (E)

1. Märk och lossa kablarna till elementpaketet.
2. Lossa fästskruvarna som låser elementpaketet i aggregatet och lyft ut paketet.
3. Byt ut trasiga element.
4. Montera fast elementpaketet enligt ovanstående i omvänd ordning.

Byte av vattenbatteri (W)

1. Stäng av vattentillförseln till aggregatet.
2. Lossa anslutningarna till vattenbatteriet.
3. Lossa fästskruvarna som låser batteriet i aggregatet och lyft ut batteriet.
4. Montera det nya batteriet enligt ovanstående i omvänd ordning.

Tömning av vattenbatteriet (W)

Tömningsventiler sitter undertill på batteriet på anslutningssidan. Den nås via serviceluckan.

Felsökning

Om fläktarna inte går eller inte blåser tillräckligt, kontrollera följande:

- Att insugsgallret/filtret inte är smutsigt.
- Kontrollera funktioner och inställningar i styrsystem SIRE, se manual för SIRE.

Om det inte blåser varmt, kontrollera följande:

- Kontrollera funktioner och inställningar i styrsystem SIRE, se manual för SIRE.

För aggregat med elvärme kontrollera även följande:

- Att spänning finns fram till elvärmebatteriet; kontrollera säkringar och eventuell arbetsbrytare.
- Att överhettningsskyddet inte har löst ut.

För aggregat med vattenbatteri kontrollera även följande:

- Att vattenbatteriet är avluftat.
- Att vattenflödet är tillräckligt.
- Att inkommande vatten är tillräckligt

varmt.

Om felet inte kan avhjälpas, tag kontakt med behörig servicetekniker.

Jordfelsbrytare (E)

När installationen är skyddad av jordfelsbrytare och denna löser ut vid inkopplingen kan detta bero på fukt i värmeelementen. När ett aggregat som innehåller värmeelement inte använts under en längre tid eller lagrats i fuktig miljö kan fukt tränga in. Detta är inte att betrakta som ett fel utan åtgärdas enklast genom att aggregatet kopplas in via ett uttag utan jordfelsbrytare varvid elementen torkar. Torktiden kan variera från någon timma till ett par dygn. I förebyggande syfte är det lämpligt att anläggningen tas i drift kortare stunder under längre användningsuppehåll.

Säkerhet

- *Vid alla installationer av elvärmda produkter bör jordfelsbrytare 300 mA för brandskydd användas.*
- *Säkerställ att området kring apparatens insugs- och utblåsgaller hålls fritt från material som kan hindra luftströmmen genom apparaten!*
- *Apparaten kan vid drift ha heta ytor!*
- *Apparaten får ej övertäckas helt eller delvis med kläder eller dylikt material, då överhettning av apparaten kan medföra brandfara! (E)*
- *Denna produkt är inte avsedd att användas av barn eller personer med nedsatt fysisk eller mental förmåga eller brist på erfarenhet och kunskap, om inte anvisningar angående produktens användning har getts av person med ansvar för deras säkerhet eller att denna person övervakar handhavandet. Barn skall hållas under uppsikt så att de inte kan leka med produkten.*

Tekniska data finns på s. 25–26.

Assembly and operating instructions

General Instructions

Read these instructions carefully before 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 if the product is used in the manner intended and in accordance with the instructions.

Application area

The Thermozone AR3500 air curtain unit is supplied without heating, with electrical heating or hot water heating

PA3500 is intended for entrances and smaller doors up to 3.5 metres in height.

PA4200 is intended for larger door ways and industrial door up to 4,2 metres in height.

Protection class for units with electrical heating: IP20.

Protection class for units without heating and units with water heating: IP21.

Operation

Air is drawn in at the top/rear of the unit and blown out downwards/outwards so that it shields the door opening and minimizes heat loss. To achieve the optimum curtain effect the unit must extend the full height/width of the door opening.

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

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

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 includes possibilities for horizontal installation and for vertical installation and the units can also be installed recessed into suspended ceilings.

Horizontal mounting

The air curtain unit is installed horizontally with the supply 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 (fig. 8).

A design kit for a neat installation that conceals cables, pipes and mountings is available for both wall and ceiling installations, see accessories pages.

Mounting with wall brackets PA34WB (fig. 5)

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

Horizontal mounting on the ceiling

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

Horizontal recessed mounting in false ceilings

Outlet extension used for recessed installation is available as accessory, see fig. 9 and separate manual.

Vertical mounting PA3JK

Units from 1,5 metres and longer may be used vertically. For vertical mounting, all units must be supplemented with a vertical kit containing everything needed for a practical installation of floor standing units.

The unit can be reversed and placed on either side of the door. Connections and PC Board SIRE 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).

The accompanying floor edging is attached to the floor with fasteners appropriate to the surface.

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

The air curtain must be secured to wall or ceiling.

A design kit which gives a neater installation that conceals cables and pipes is available as accessory, see accessories pages.

See fig. 10 and separate manual.

Electrical installation

The installation, which should be preceded by an omnipolar 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 control system is pre-installed in the aircurtain with an integrated control card, (see fig 2).

SIRE is supplied pre-programmed with quick-release connections.

Modular cables are connected to the control board. See manual for SIRE.

Unit without heating:

Connected via the built-in SIRE control board with 2 m cord and plug.

Unit with water heating::

Connected via the built-in SIRE control board with 2 m cord and plug.

Unit with electrical heating:

The installation is made on the top of the

unit (horizontal) or on the reverse (vertical).

Control supply is 230V~ and cable is routed from the built-in SIRE control board.

Power supply for heating (400V3 ~) is connected to terminal block in the internal connection boxes. 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".

See wiring diagrams.

Type	Output [kW]	Voltage [V]	Minimum area* ² [mm ²]
Control	0	230V~	1,5
PA3510E08	8	400V3~	2,5
PA3515E12	12	400V3~	4
PA4210E12	12	400V3~	4
PA4215E18	18	400V3~	10
PA3520E16*¹	8	400V3~	2,5
	8	400V3~	2,5
PA3525E20*¹	8	400V3~	2,5
	12	400V3~	4
PA4220E24*¹	12	400V3~	4
	12	400V3~	4
PA4225E30*¹	12	400V3~	4
	18	400V3~	10

*¹) 2 m and 2.5 m-units are connected with two power supplies, see p. 2. 2.5 meter units have electric batteries with two different effects, and the electric battery on the left, on a horizontal unit, seen from inside the room, has the highest effect.

*²) Dimensioning of external wiring shall comply with applicable regulations and local deviations may occur.

Start-up (E)

Note! When using for the first time or when starting up after a long period of disuse, a small amount of smoke and a slight odour may occur temporarily, which is completely normal.

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 water coil is connected on top of the unit (horizontal mounting) or on the reverse (vertical mounting) via connections DN20 (3/4"), external thread. Flexible hoses available as an accessory, see accessories pages.

The connections to the heating coil must be equipped with shut off valves (included in Frico valve kits) to allow problem free removal.

A vent valve should be connected at a high point in the pipe system. Air valves are not included. When units are vertically mounted with water connection at the bottom venting of the battery is not possible, make sure the water heater is filled with water and no air remains, prior to startup.

Adjustment of the air curtain and air flow

The direction and speed of the air flow should be adjusted considering the load on the opening. Pressure forces affect the air stream and make it bend inwards into the premises (when the premises are heated and the outdoor air is cold).

The air stream should therefore be directed outwards to withstand the load. Generally speaking, the higher the load, the greater the angle that is needed.

Basic setting fan speed

The fan speed when the door is open is set using the speed control. Note that the air flow direction and 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. Loosen the screws and raise the front panel. The front is blocked in 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 has been removed it is important to be sure it is firmly seated in the front locks again, see fig. 1B.

Maintenance

Unit with water heating:

The appliance filter should be cleaned regularly to ensure the air curtain effect and the 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.
2. Loosen the screws and raise the front panel. The front is blocked 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.

Overheating

The air curtain unit with electric heater is equipped with an overheat protector. The overheat protection is reset by turning off the switch and the unit cools. If it is deployed due to overheating, reset as follows:

1. Disconnect the electricity with the fully isolated switch.
2. Allow the electrical coil to cool.
3. Determine the cause of overheating and rectify the fault.
4. Connect the air curtain again.

All motors are equipped with an integral thermal safety cut-out. This will operate, stopping the air curtain should the motor temperature rise too high. The cut-out will automatically reset when the motor temperature has returned to within the motor's operating limits.

Temperature control

Temperature control of SIRE maintains the exhaust temperature at +40 °C. If the temperature should exceed anyway there is an over heating alarm. For more information see the manual for SIRE.

Fan replacement

1. Determine which of the fans is not functioning.
2. Disconnect the cables to 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 a electric coil (E)

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

Draining the water coil (W)

The drain valves is on the underside of the coil on the connector side. It can be accessed via the service hatch.

Trouble shooting

If the fans are not working or do not blow properly, check the following:

- That the intake grille/filter is not dirty.
- Check the functions and settings of the control system SIRE, see manual for SIRE.

If there is no heat, check the following:

- Check the functions and settings of the control system SIRE, see manual for SIRE.

For units with electrical heating, check also the following:

- Power supply to electric heater coil; check fuses and circuit-breaker (if any).
- That the overheat protection for the motors has not been deployed.

For units with water coil, check also the following:

- That the water coil is air free.
- That there is enough water flow.
- That incoming water is heated enough.

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 mains 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.

Safety

- *For all installations of electrically heated products should a residual current circuit breaker 300 mA for fire protection be used.*
- *Keep the areas around the air intake and exhaust grilles free from possible obstructions!*
- *During operation the surfaces of the unit can be hot!*
- *The unit must not be fully or partially covered with clothing, or similar materials, as overheating can result in a fire risk! (E)*
- *This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.*

Technical data is on p. 25–26.

Main office

Frico AB
Box 102
SE-433 22 Partille
Sweden

Tel: +46 31 336 86 00
Fax: +46 31 26 28 25
mailbox@frico.se
www.frico.se

**For latest updated information and information
about your local contact: www.frico.se**