

# Инструкция по эксплуатации

Водяная тепловая завеса FRICO PA3520WL

Цены на товар на сайте:

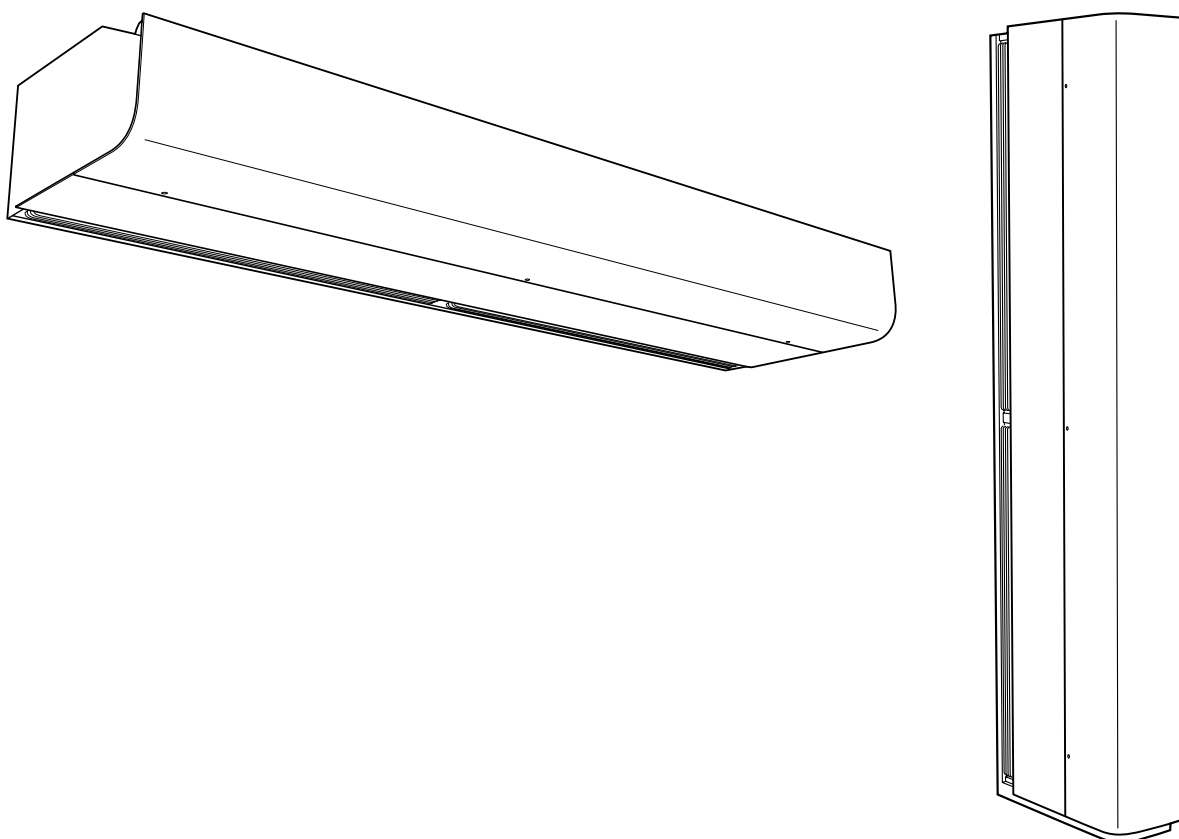
[http://www.vseinstrumenti.ru/klimat/teplovie\\_zavesi/vodyanie/frico/pa3520wl/](http://www.vseinstrumenti.ru/klimat/teplovie_zavesi/vodyanie/frico/pa3520wl/)

Отзывы и обсуждения товара на сайте:

[http://www.vseinstrumenti.ru/klimat/teplovie\\_zavesi/vodyanie/frico/pa3520wl/#tab-Responses](http://www.vseinstrumenti.ru/klimat/teplovie_zavesi/vodyanie/frico/pa3520wl/#tab-Responses)

Original instructions

## **Thermozone PA3500/4200**



SE ... 27

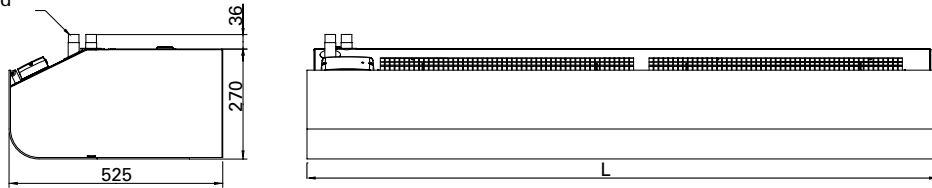
GB ... 31

## Dimensions

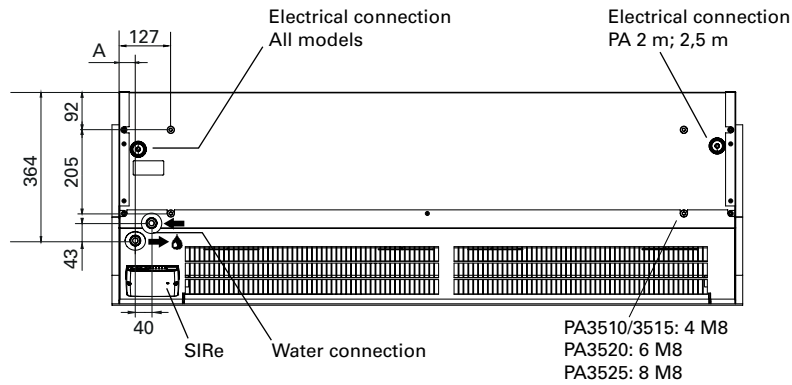
### PA3500

#### Horizontal mounting

DN20 (3/4"),  
outside thread

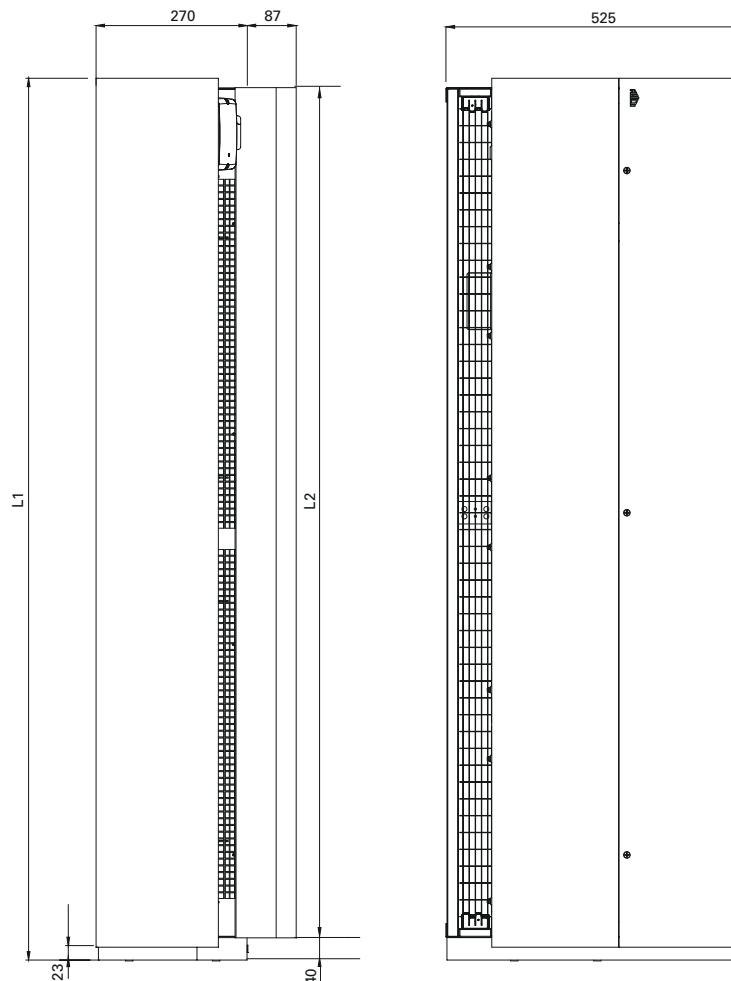


|        | L<br>[mm] | A<br>[mm] |
|--------|-----------|-----------|
| PA3510 | 1039      | 40        |
| PA3515 | 1549      | 40        |
| PA3520 | 2039      | 40        |
| PA3525 | 2549      | 39        |



#### 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<br>[mm] | L2<br>[mm] |
|---------|------------|------------|
| PA3515* | 1572       | 1515       |
| PA3520* | 2062       | 2005       |
| PA3525* | 2572       | 2515       |

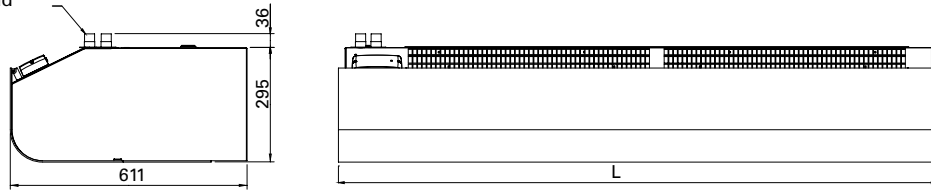
\*) with Vertical kit  
and Design kit for  
vertical mounting

## Dimensions

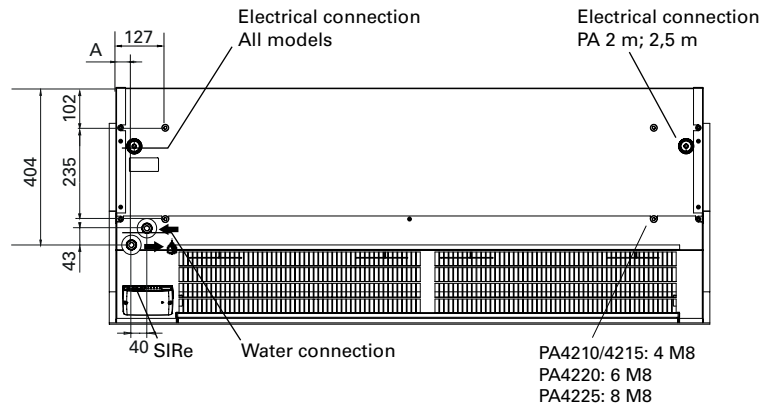
### PA4200

#### Horizontal mounting

DN20 (3/4"),  
outside thread



|               | L<br>[mm] | A<br>[mm] |
|---------------|-----------|-----------|
| <b>PA4210</b> | 1039      | 40        |
| <b>PA4215</b> | 1549      | 40        |
| <b>PA4220</b> | 2039      | 40        |
| <b>PA4225</b> | 2549      | 39        |

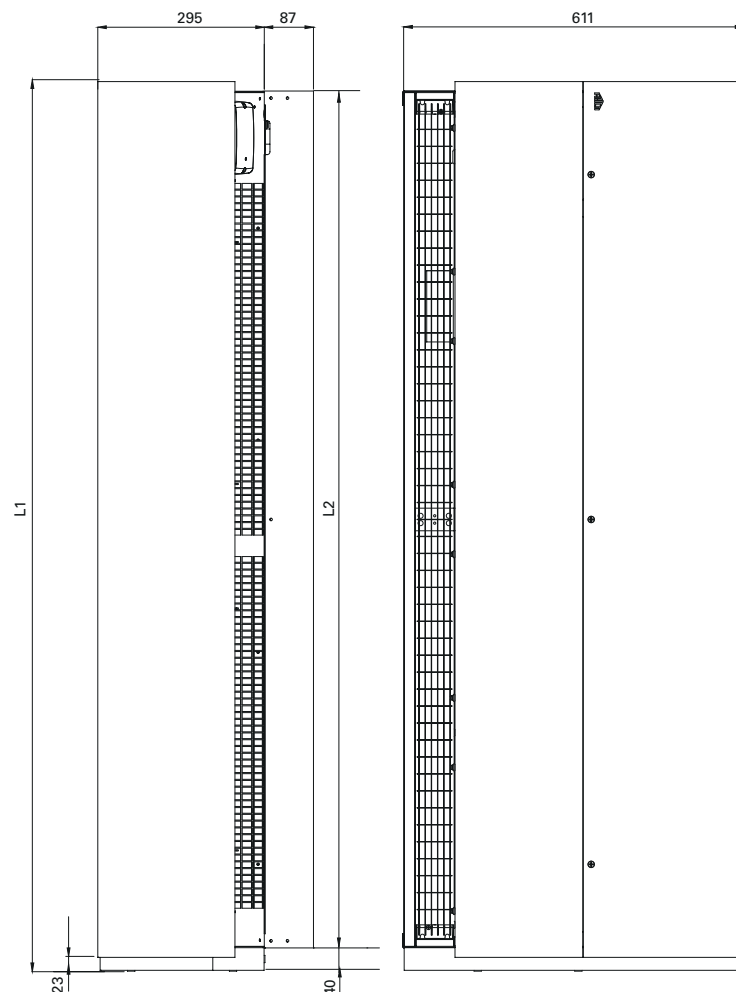


#### Vertical mounting with Vertical kit and Design kit for vertical mounting

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<br>[mm] | L2<br>[mm] |
|----------------|------------|------------|
| <b>PA4215*</b> | 1572       | 1515       |
| <b>PA4220*</b> | 2062       | 2005       |
| <b>PA4225*</b> | 2572       | 2515       |

\*) with Vertical kit  
and Design kit for  
vertical mounting



## Open the unit

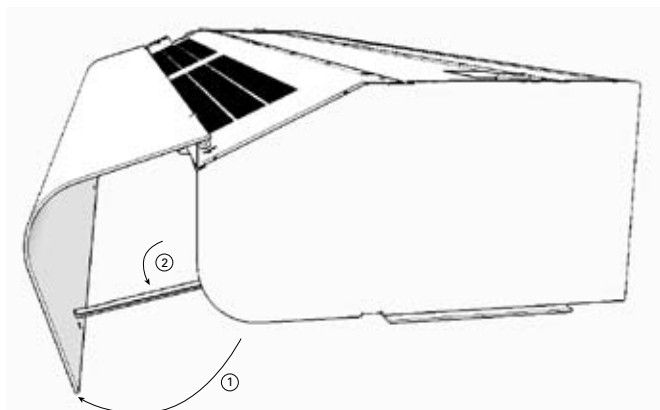


Fig. 1A: Open the unit by raising the front panel. The front is blocked in open position with the front hatch hook

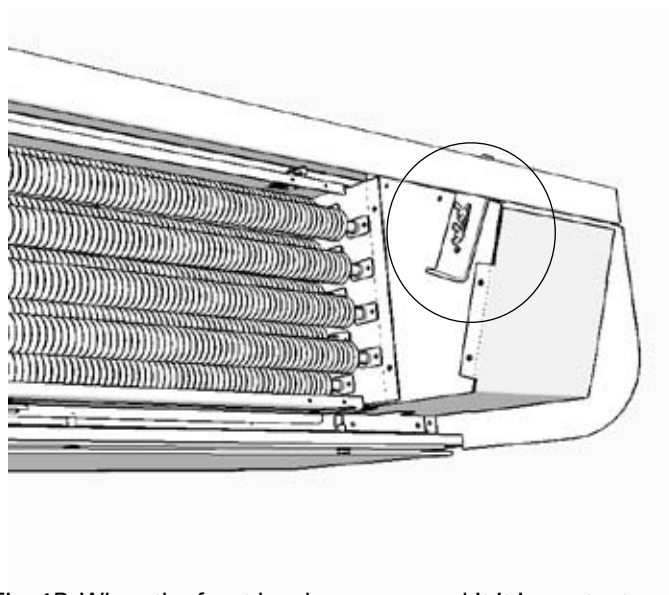


Fig. 1B: When the front has been removed it is important to be sure it is firmly seated in the front locks again.

## Integrated control system

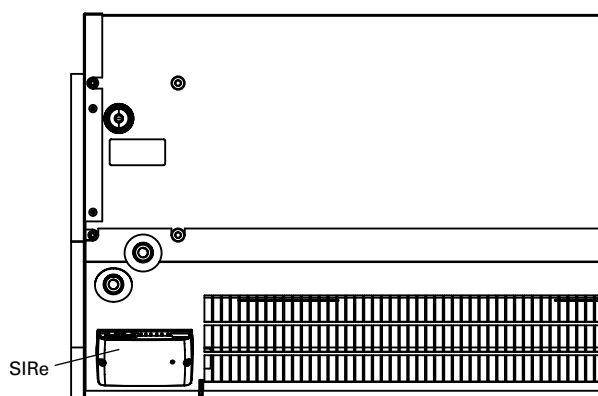


Fig. 2: Control card SIRe is integrated in the air curtain at delivery.

Mounting

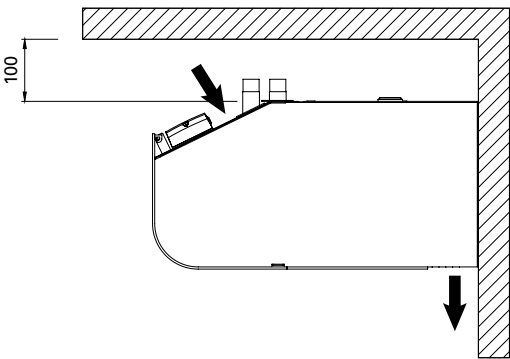
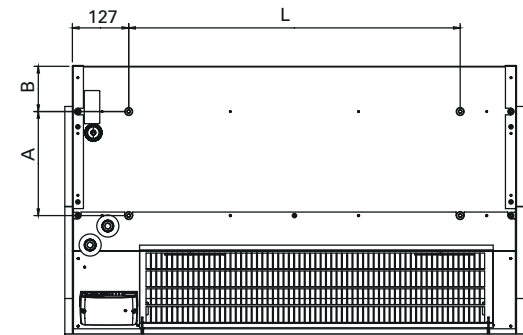


Fig. 3: Minimum distance.



|        | L<br>[mm] |
|--------|-----------|
| PA3510 | 750       |
| PA4210 | 750       |
| PA3515 | 1260      |
| PA4215 | 1260      |

|        | A   | B   |
|--------|-----|-----|
| PA3500 | 205 | 92  |
| PA4200 | 235 | 102 |

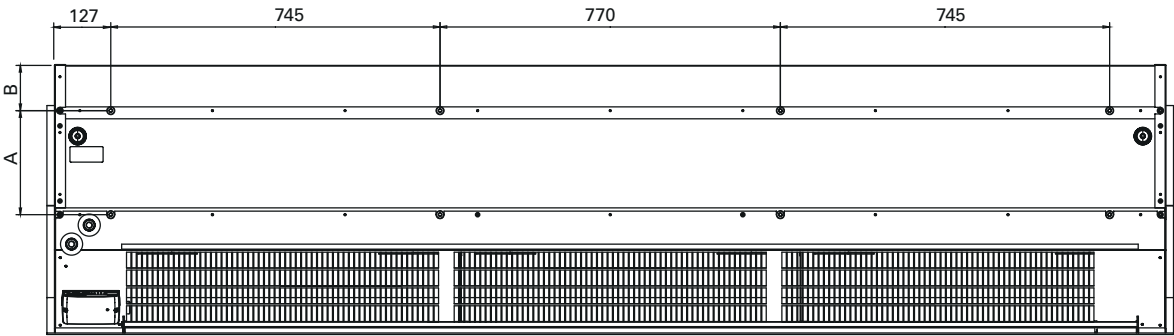
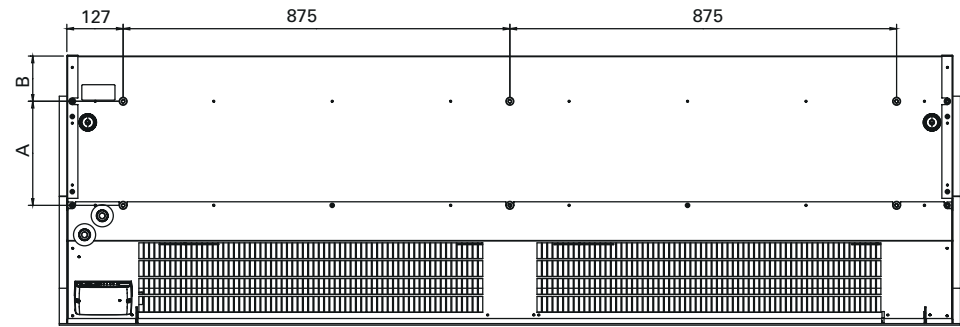


Fig. 4: M8-holes for mounting.

## Horizontal mounting

### Horizontal mounting - wall bracket PA34WB

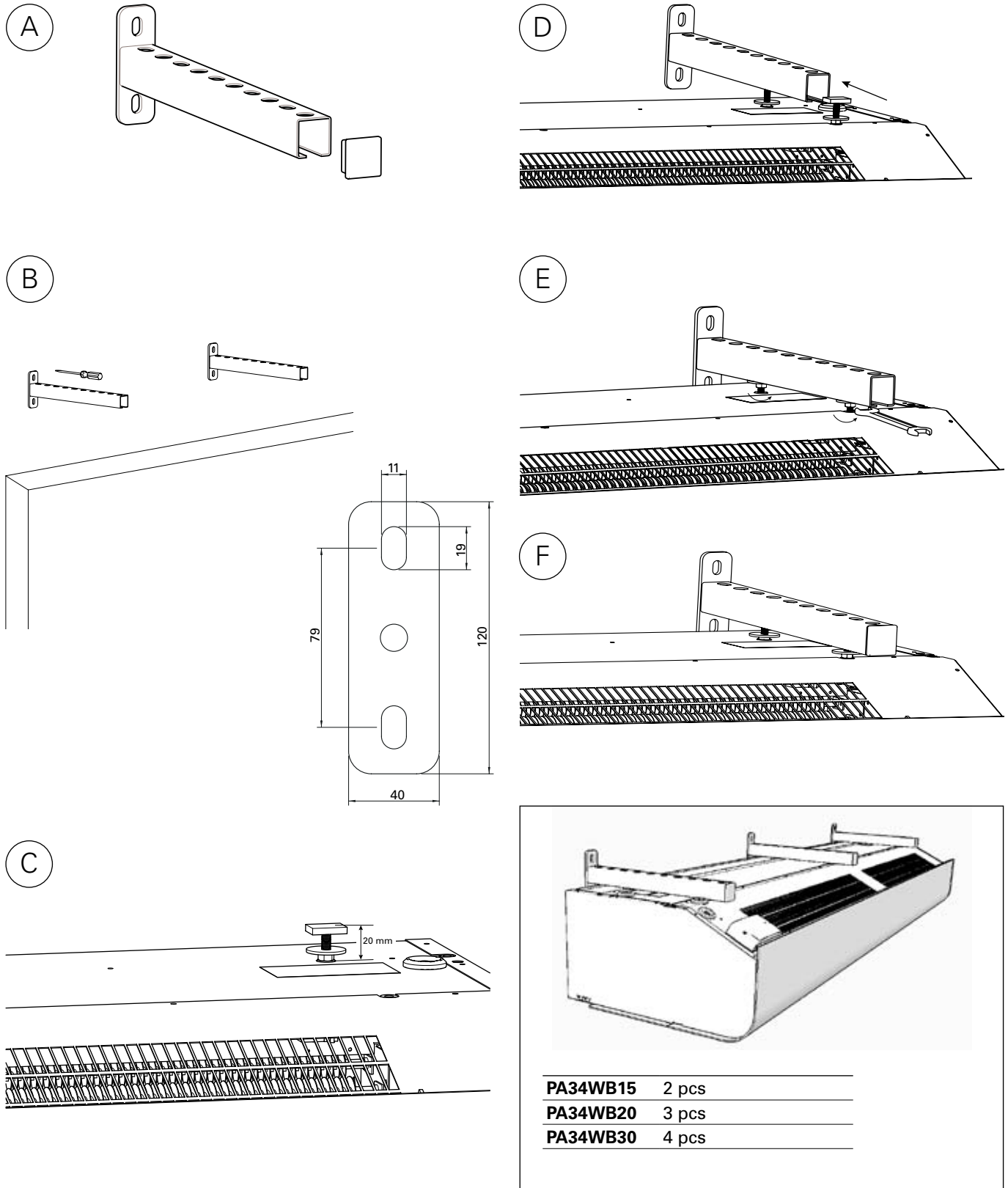


Fig. 5: Mounting with wall brackets (PA34WB), see also separate manual for PA34WB.

## Horizontal mounting

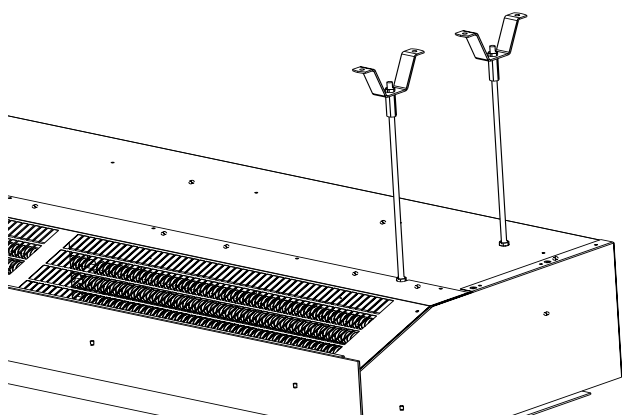
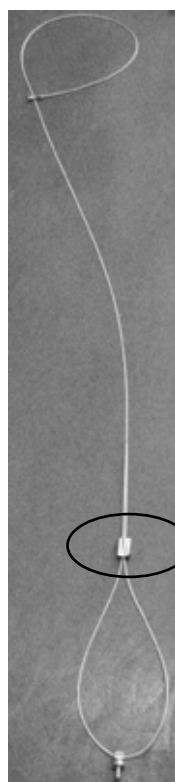


Fig. 6: Mounting with threaded bars (PA34TR) and ceiling brackets (PA34CB). Supplemented with vibration dampers (PA34VD) for reduced vibration. See separate manual for PA34TR.



Wire lock

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

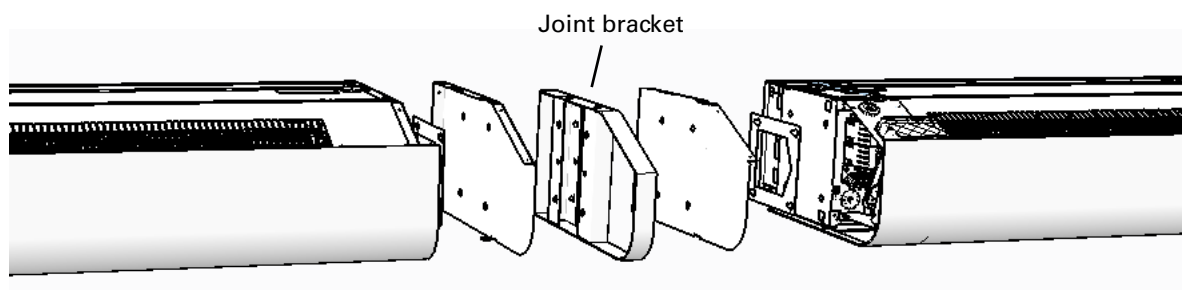


Fig. 8: Joining kit PA3JK to join horizontal units together. See separate manual for PA34JK - joining kit for horizontal units.

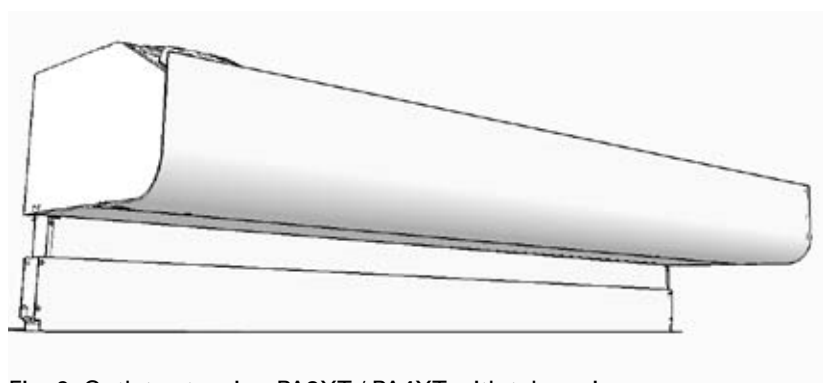


Fig. 9: Outlet extension PA3XT / PA4XT with telescopic function used for recessed mounting in false ceilings. See separate manual for PA3XT / PA4XT.

## Mounting - vertical

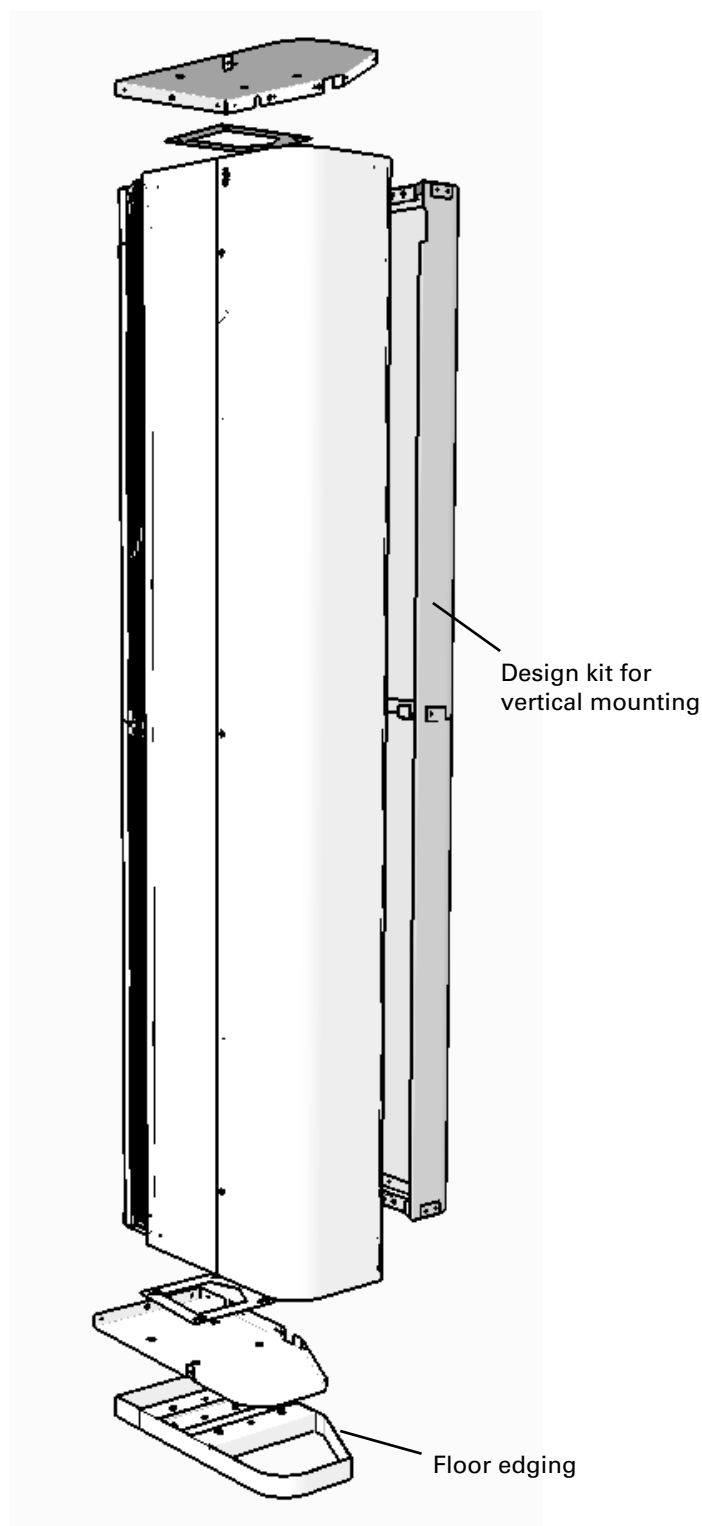


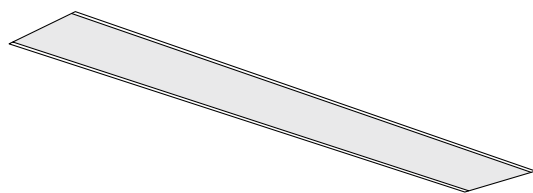
Fig. 10: Vertical kit PA3JK to adapt horizontal unit for vertical installation. Used together with design kit for vertical installation for a neater installation. See separate manual for PA3JK - Vertical installation.

## Accessories

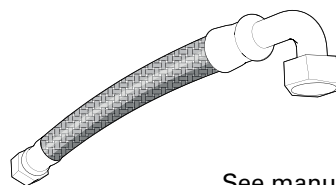
### For horizontally mounted units

### 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.



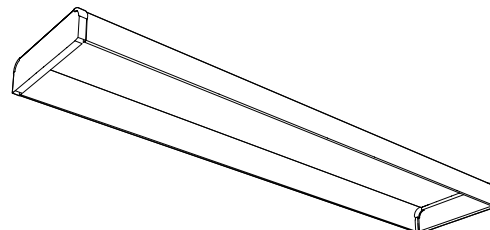
See manual for FHDN20.

## Accessories

### For horizontally mounted units

#### Design kit for wall mounting

| Type    | Description                         | HxDxW<br>[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<br>included |
|-----------|----------------------------|--------------------|
| PA3DCN15S | Start part for PA3510/3515 | 2 pcs              |
| PA3DCN20S | Start part for PA3520      | 3 pcs              |
| PA3DCN30S | Start part for PA3525      | 4 pcs              |

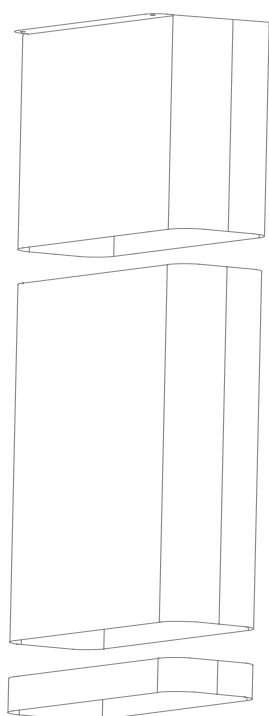
##### Intermediate parts

| Type     | Description                              | Number<br>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<br>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

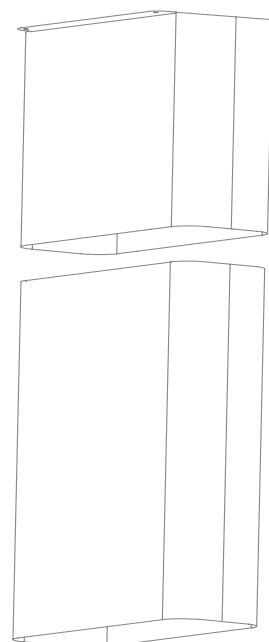
| Type            | Description                              | Number included |
|-----------------|------------------------------------------|-----------------|
| <b>PA4DC15S</b> | Intermediate part 300 mm for PA4210/4215 | 2 pcs           |
| <b>PA4DC20S</b> | Intermediate part 300 mm for PA4220  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

##### Telescopic parts

| Type            | Description                     | Number included |
|-----------------|---------------------------------|-----------------|
| <b>PA4DC15T</b> | Telescopic part for PA4210/4215 | 2 pcs           |
| <b>PA4DC20T</b> | Telescopic part for PA4220      | 3 pcs           |
| <b>PA4DC30T</b> | Telescopic part for PA4225      | 4 pcs           |

Telescopic part

Intermediate part



See manual for PA4DC.

### For recessed mounting in false ceiling

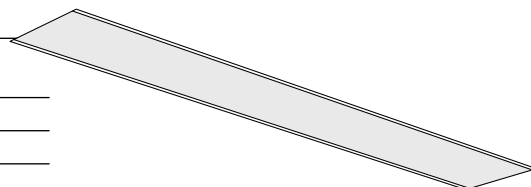
| Type           | Description                             |        |
|----------------|-----------------------------------------|--------|
| <b>PA3XT10</b> | Outlet extension for PA3510, 130-200 mm | Fig. 8 |
| <b>PA3XT15</b> | Outlet extension for PA3515, 130-200 mm | Fig. 8 |
| <b>PA3XT20</b> | Outlet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

## Accessories

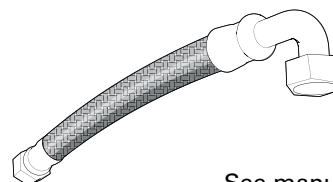
### For vertically mounted units

#### 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<br>[mm] | L<br>[m] |
|------------------|-----------|-------------------------------------|---------------|----------|
| <b>SIReB</b>     |           | Control system Basic                |               |          |
| <b>SIReAC</b>    |           | Control system Competent            |               |          |
| <b>SIReAA</b>    |           | Control system Advanced             |               |          |
| <b>SIReRTX</b>   | 673 09 22 | External room temperature sensor    | 70x33x23      |          |
| <b>SIReUR</b>    | 673 09 21 | Kit for recessed installation       | 114x70x50     |          |
| <b>SIReWTA</b>   |           | Clamp-on sensor                     |               |          |
| <b>SIReCJ4</b>   |           | Joint piece for two pcs. RJ11 (4/4) |               |          |
| <b>SIReCJ6</b>   |           | Joint piece for two pcs. RJ12 (6/6) |               |          |
| <b>SIReCC603</b> | 673 09 23 | Modular cable RJ12                  |               | 3        |
| <b>SIReCC605</b> | 673 09 24 | Modular cable RJ12                  |               | 5        |
| <b>SIReCC610</b> | 673 09 25 | Modular cable RJ12                  |               | 10       |
| <b>SIReCC615</b> | 673 09 26 | Modular cable RJ12                  |               | 15       |
| <b>SIReCC403</b> | 673 09 27 | Modular cable RJ11                  |               | 30       |
| <b>SIReCC405</b> | 673 09 28 | Modular cable RJ11                  |               | 50       |
| <b>SIReCC410</b> | 673 09 29 | Modular cable RJ11                  |               | 10       |
| <b>SIReCC415</b> | 673 09 30 | Modular cable RJ11                  |               | 15       |

### Water regulation

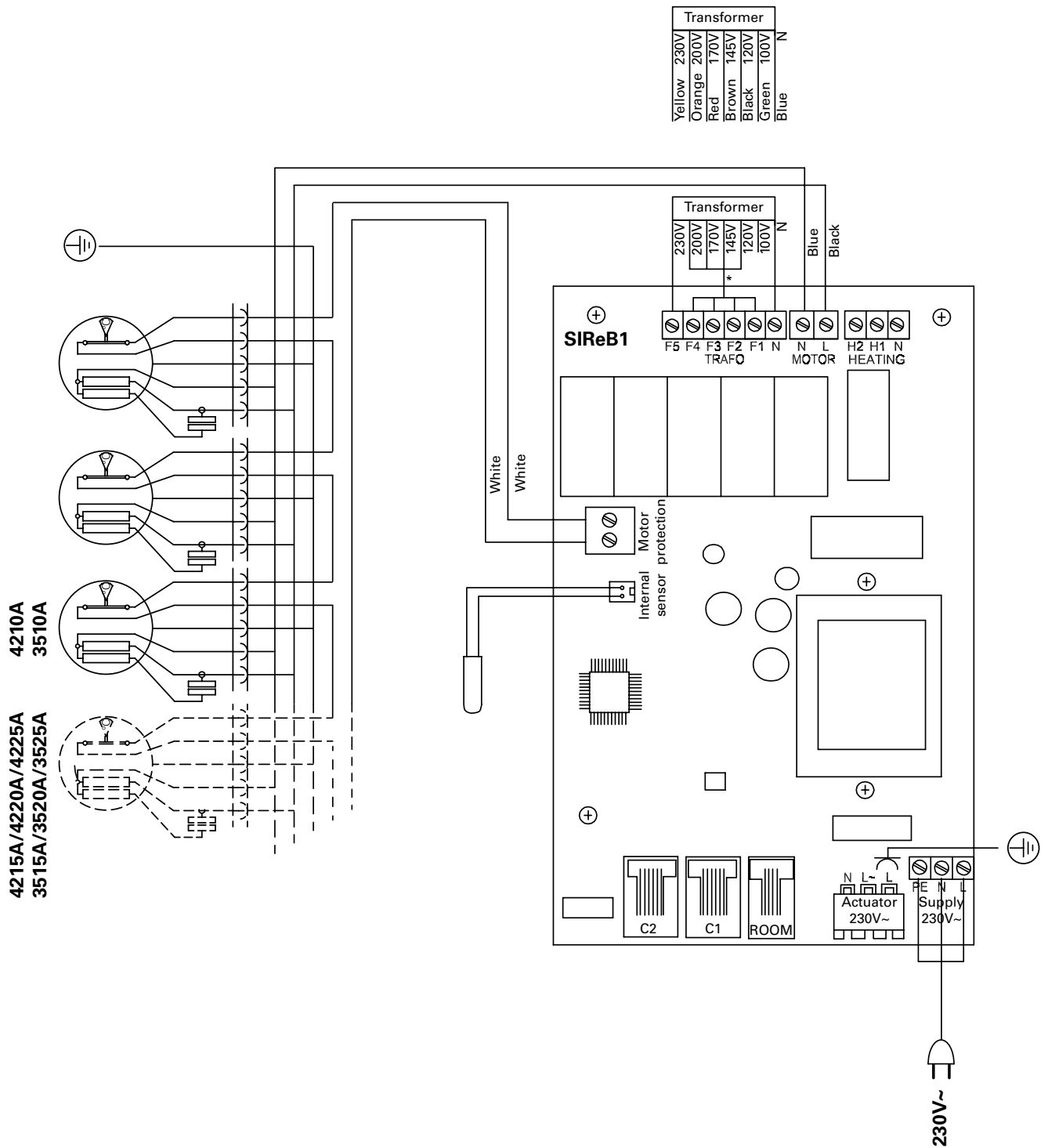
| Type             | RSK-nr    | Description                                   | Flow        | Connection |
|------------------|-----------|-----------------------------------------------|-------------|------------|
| <b>VMO15LF</b>   | 673 09 47 | Modulating valve kit                          | Low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

## Wiring diagrams

### Internal wiring diagram

PA3500 A

PA4200 A

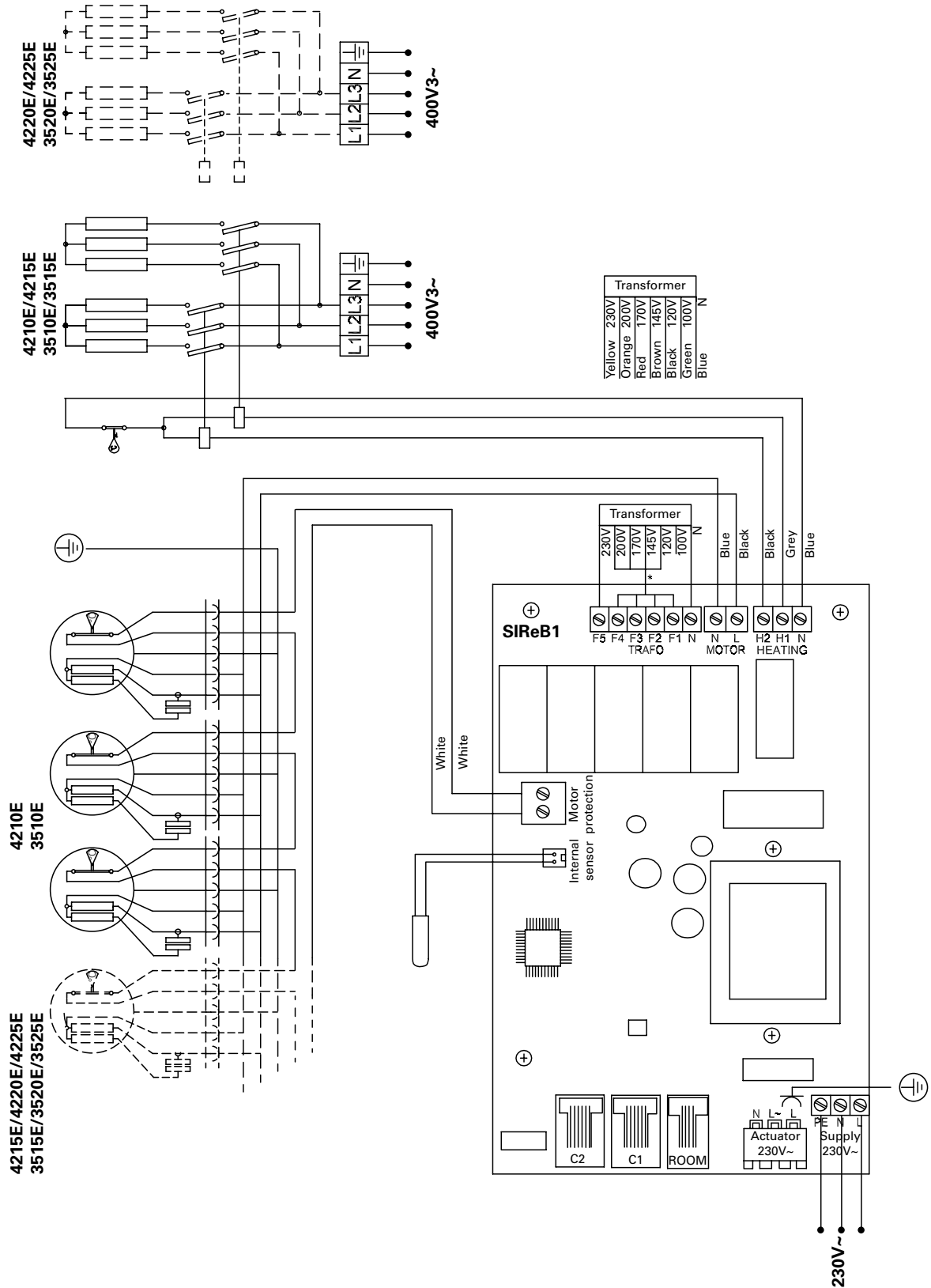


# Wiring diagrams

## Internal wiring diagram

PA3500 E

PA4200 E

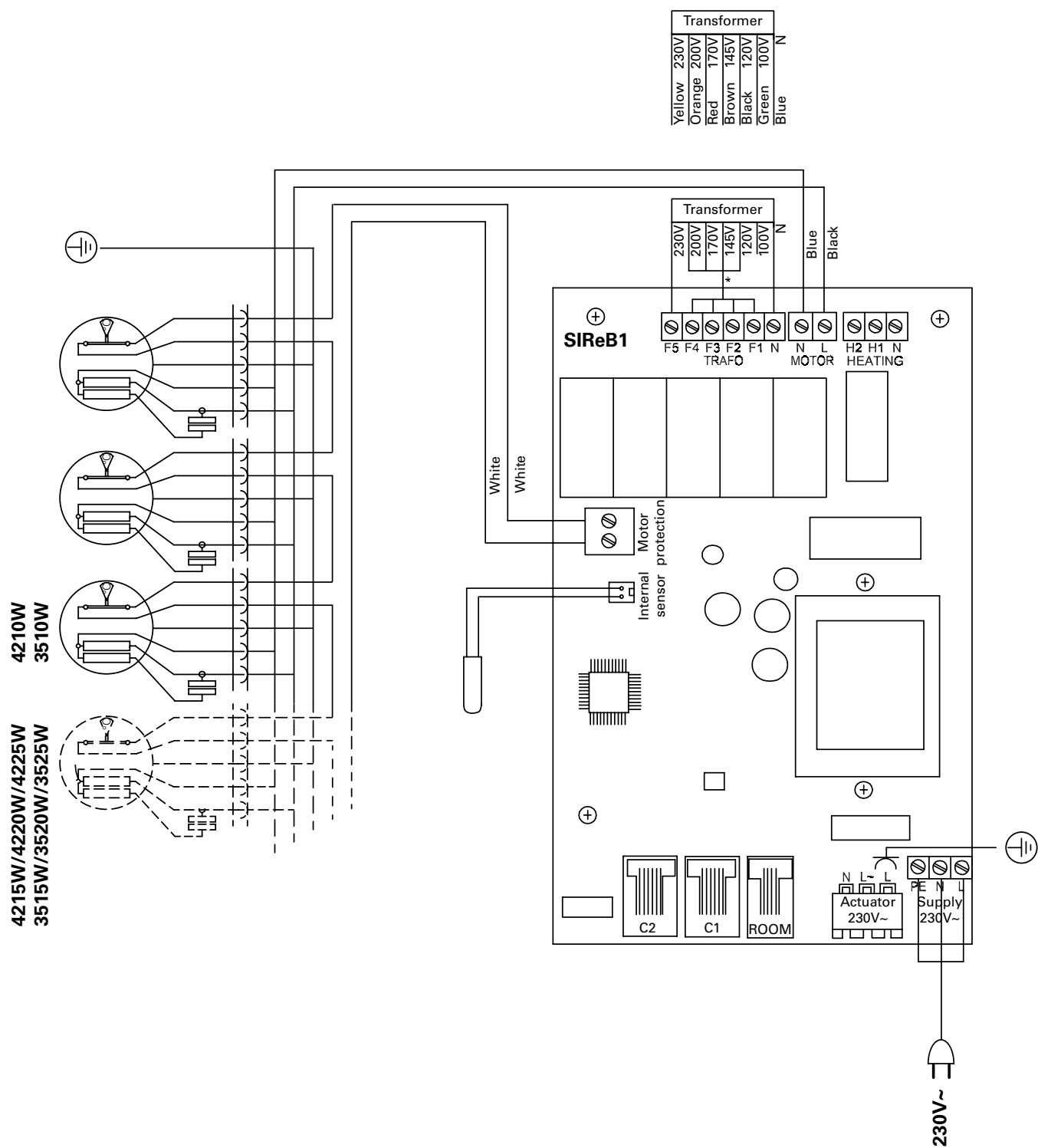


# Wiring diagrams

## Internal wiring diagram

PA3500 W

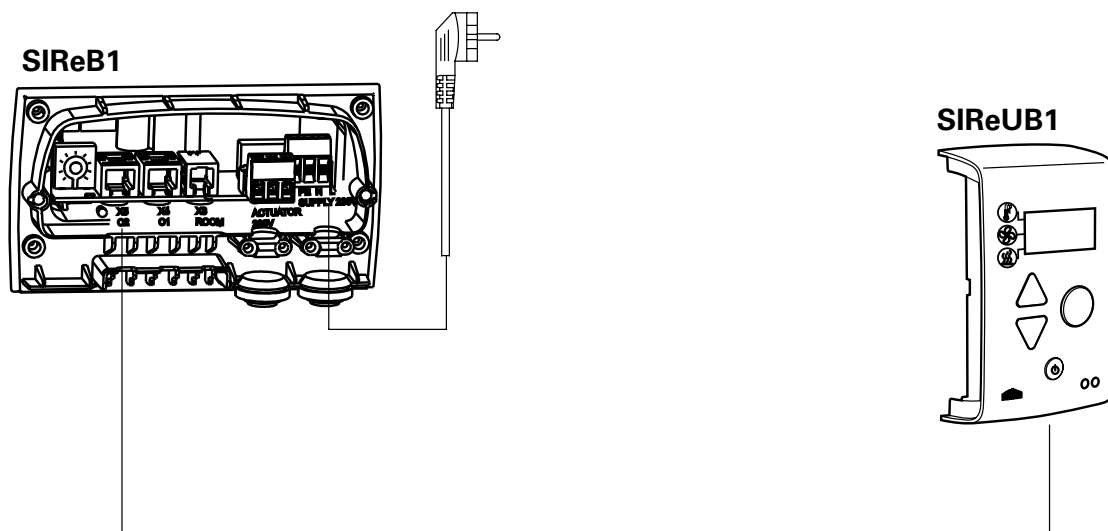
PA4200 W



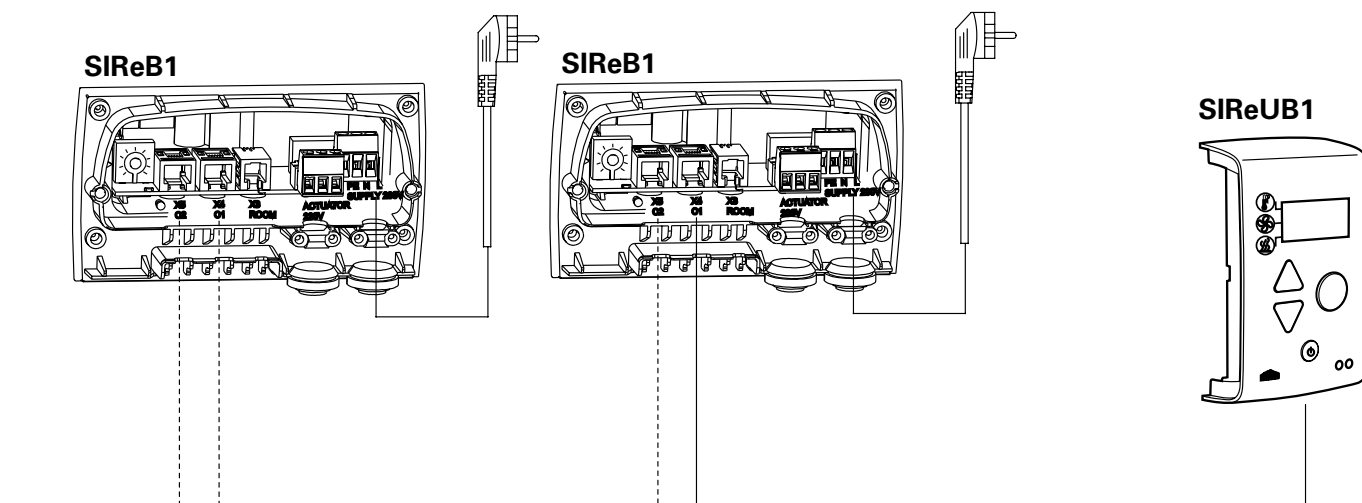
## Wiring diagrams

### Control options for units without heat

## SIReB Basic



## SIReB Basic - Parallel connection

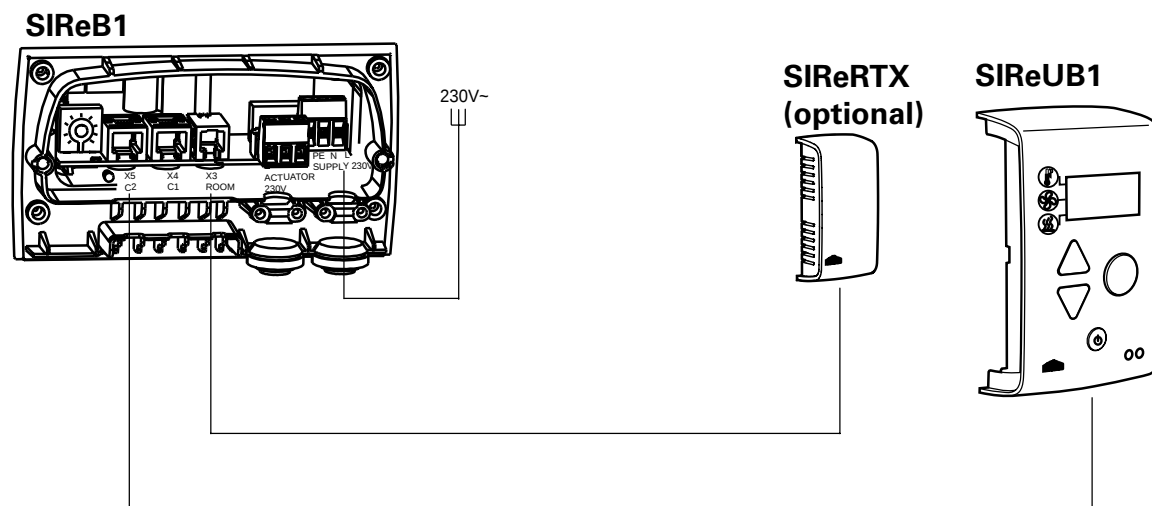


**Wiring diagrams for SReAC Competent, see manual for SRe.**

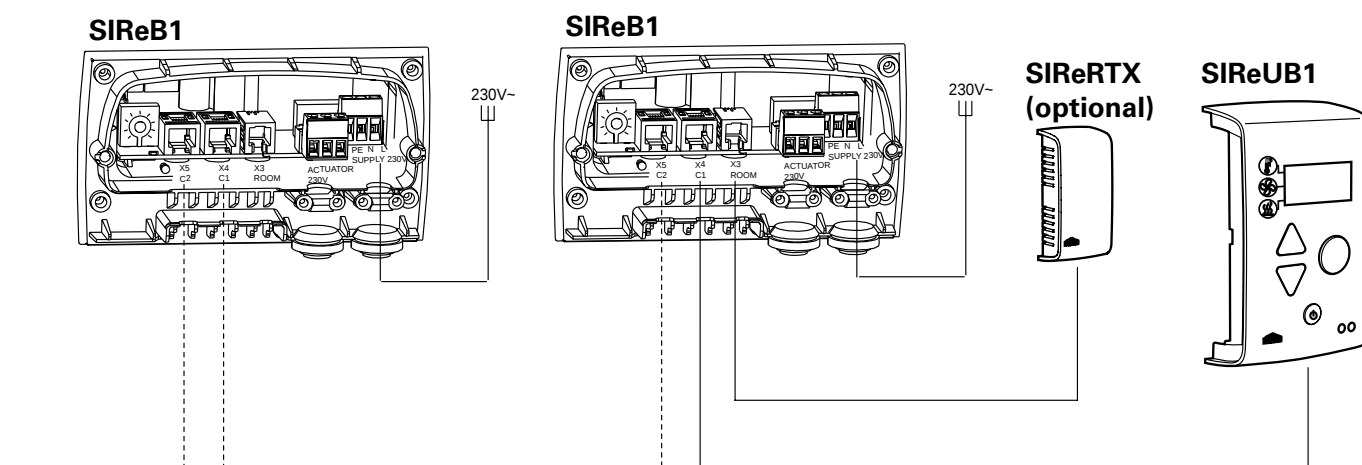
## Wiring diagrams

### Control options for electrically heated units

#### SIReB Basic



#### SIReB Basic - Parallel connection

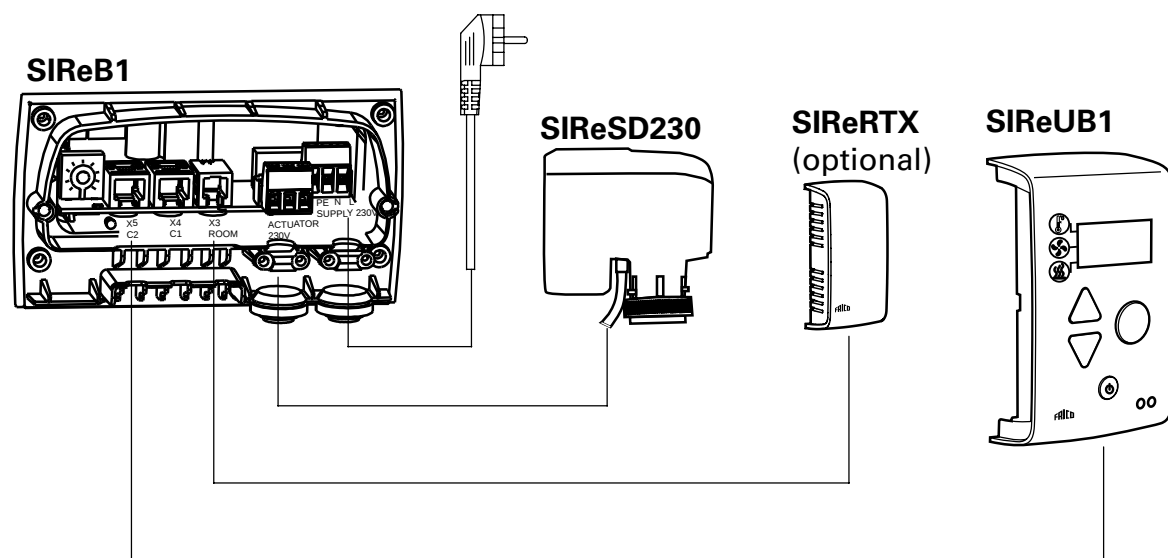


Wiring diagrams for SIReAC Competent and SIReAA Advanced, see manuals for SIRe.

## Wiring diagrams

### Control options for water heated units

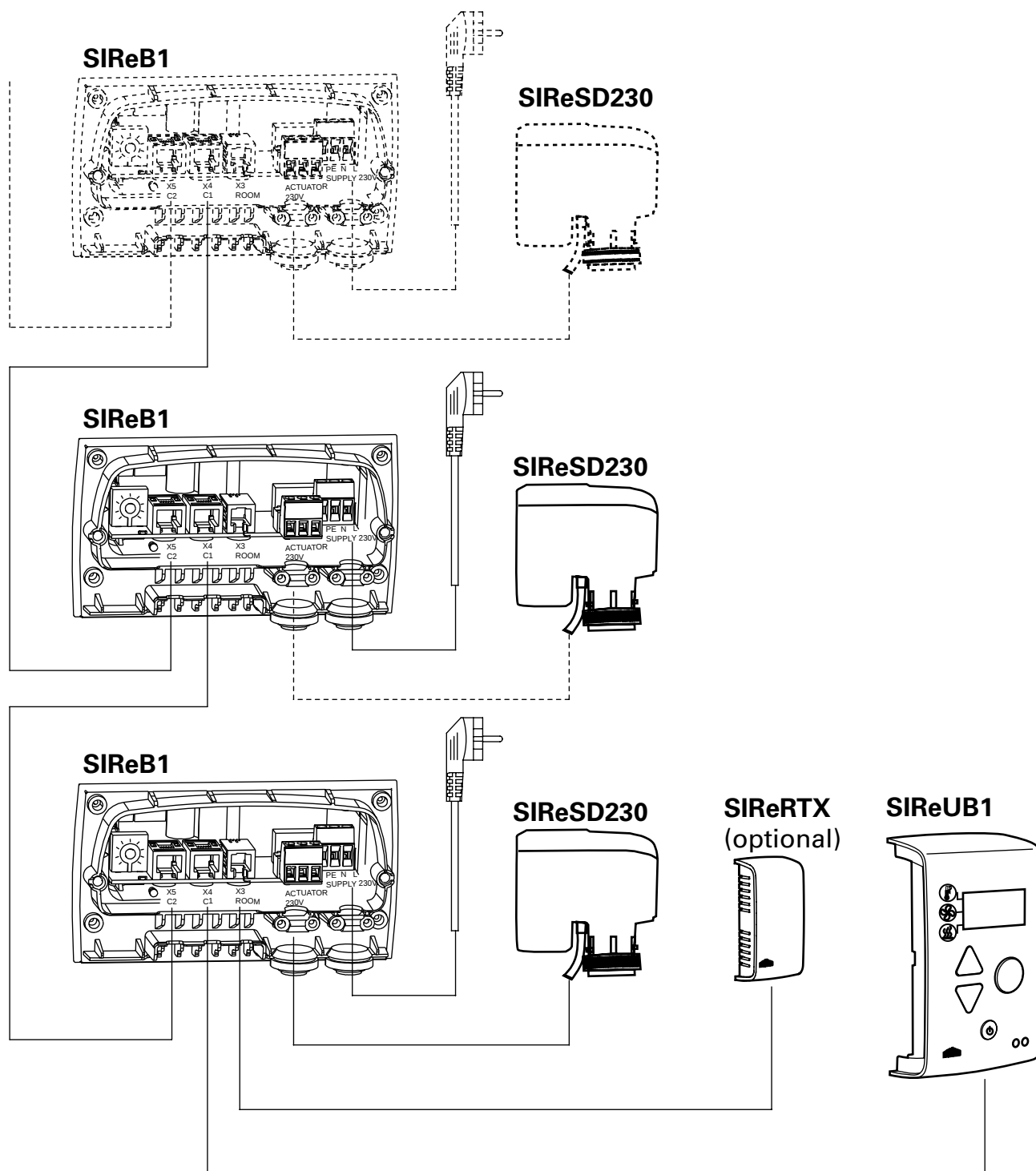
#### SiReB Basic



## 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<br>[m³/h] | Incoming air temp. = +15 °C                    |                               |                        |                           | Incoming air temp. = +20 °C |                               |                        |                           |
|               |              |                   | Output<br>[kW]                                 | Outgoing<br>air temp.<br>[°C] | Water<br>flow<br>[l/s] | Pressure<br>drop<br>[kPa] | Output<br>[kW]              | Outgoing<br>air temp.<br>[°C] | Water<br>flow<br>[l/s] | Pressure<br>drop<br>[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<br>[m³/h] | Incoming air temp. = +15 °C                    |                               |                        |                           | Incoming air temp. = +20 °C |                               |                        |                           |
|               |              |                   | Output<br>[kW]                                 | Outgoing<br>air temp.<br>[°C] | Water<br>flow<br>[l/s] | Pressure<br>drop<br>[kPa] | Output<br>[kW]              | Outgoing<br>air temp.<br>[°C] | Water<br>flow<br>[l/s] | Pressure<br>drop<br>[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<br>[m³/h] | Incoming air temp. = +15 °C                    |                               |                        |                           | Incoming air temp. = +20 °C |                               |                        |                           |
|               |              |                   | Output<br>[kW]                                 | Outgoing<br>air temp.<br>[°C] | Water<br>flow<br>[l/s] | Pressure<br>drop<br>[kPa] | Output<br>[kW]              | Outgoing<br>air temp.<br>[°C] | Water<br>flow<br>[l/s] | Pressure<br>drop<br>[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<br>[m³/h] | Incoming air temp. = +15 °C                    |                               |                        |                           | Incoming air temp. = +20 °C |                               |                        |                           |
|               |              |                   | Output<br>[kW]                                 | Outgoing<br>air temp.<br>[°C] | Water<br>flow<br>[l/s] | Pressure<br>drop<br>[kPa] | Output<br>[kW]              | Outgoing<br>air temp.<br>[°C] | Water<br>flow<br>[l/s] | Pressure<br>drop<br>[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<br>[m³/h] | Incoming air temp. = +15 °C                     |                               |                        |                           | Incoming air temp. = +20 °C |                               |                        |                           |
|              |              |                   | Output<br>[kW]                                  | Outgoing<br>air temp.<br>[°C] | Water<br>flow<br>[l/s] | Pressure<br>drop<br>[kPa] | Output<br>[kW]              | Outgoing<br>air temp.<br>[°C] | Water<br>flow<br>[l/s] | Pressure<br>drop<br>[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<br>[m³/h] | Incoming air temp. = +15 °C                     |                               |                        |                           | Incoming air temp. = +20 °C |                               |                        |                           |
|               |              |                   | Output<br>[kW]                                  | Outgoing<br>air temp.<br>[°C] | Water<br>flow<br>[l/s] | Pressure<br>drop<br>[kPa] | Output<br>[kW]              | Outgoing<br>air temp.<br>[°C] | Water<br>flow<br>[l/s] | Pressure<br>drop<br>[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<br>[m³/h] | Incoming air temp. = +15 °C                    |                               |                        |                           | Incoming air temp. = +20 °C |                               |                        |                           |
|               |              |                   | Output<br>[kW]                                 | Outgoing<br>air temp.<br>[°C] | Water<br>flow<br>[l/s] | Pressure<br>drop<br>[kPa] | Output<br>[kW]              | Outgoing<br>air temp.<br>[°C] | Water<br>flow<br>[l/s] | Pressure<br>drop<br>[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<br>[m³/h] | Incoming air temp. = +15 °C                    |                               |                        |                           | Incoming air temp. = +20 °C |                               |                        |                           |
|               |              |                   | Output<br>[kW]                                 | Outgoing<br>air temp.<br>[°C] | Water<br>flow<br>[l/s] | Pressure<br>drop<br>[kPa] | Output<br>[kW]              | Outgoing<br>air temp.<br>[°C] | Water<br>flow<br>[l/s] | Pressure<br>drop<br>[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<br>[m³/h] | Incoming air temp. = +15 °C                    |                               |                        |                           | Incoming air temp. = +20 °C |                               |                        |                           |
|               |              |                   | Output<br>[kW]                                 | Outgoing<br>air temp.<br>[°C] | Water<br>flow<br>[l/s] | Pressure<br>drop<br>[kPa] | Output<br>[kW]              | Outgoing<br>air temp.<br>[°C] | Water<br>flow<br>[l/s] | Pressure<br>drop<br>[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<br>[m³/h] | Incoming air temp. = +15 °C                    |                               |                        |                           | Incoming air temp. = +20 °C |                               |                        |                           |
|               |              |                   | Output<br>[kW]                                 | Outgoing<br>air temp.<br>[°C] | Water<br>flow<br>[l/s] | Pressure<br>drop<br>[kPa] | Output<br>[kW]              | Outgoing<br>air temp.<br>[°C] | Water<br>flow<br>[l/s] | Pressure<br>drop<br>[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<br>[m³/h] | Incoming air temp. = +15 °C                    |                               |                        |                           | Incoming air temp. = +20 °C |                               |                        |                           |
|               |              |                   | Output<br>[kW]                                 | Outgoing<br>air temp.<br>[°C] | Water<br>flow<br>[l/s] | Pressure<br>drop<br>[kPa] | Output<br>[kW]              | Outgoing<br>air temp.<br>[°C] | Water<br>flow<br>[l/s] | Pressure<br>drop<br>[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<br>[m³/h] | Incoming air temp. = +15 °C                    |                               |                        |                           | Incoming air temp. = +20 °C |                               |                        |                           |
|               |              |                   | Output<br>[kW]                                 | Outgoing<br>air temp.<br>[°C] | Water<br>flow<br>[l/s] | Pressure<br>drop<br>[kPa] | Output<br>[kW]              | Outgoing<br>air temp.<br>[°C] | Water<br>flow<br>[l/s] | Pressure<br>drop<br>[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<br>[m³/h] | Incoming air temp. = +15 °C                     |                               |                        |                           | Incoming air temp. = +20 °C |                               |                        |                           |
|              |              |                   | Output<br>[kW]                                  | Outgoing<br>air temp.<br>[°C] | Water<br>flow<br>[l/s] | Pressure<br>drop<br>[kPa] | Output<br>[kW]              | Outgoing<br>air temp.<br>[°C] | Water<br>flow<br>[l/s] | Pressure<br>drop<br>[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<br>[m³/h] | Incoming air temp. = +15 °C                     |                               |                        |                           | Incoming air temp. = +20 °C |                               |                        |                           |
|               |              |                   | Output<br>[kW]                                  | Outgoing<br>air temp.<br>[°C] | Water<br>flow<br>[l/s] | Pressure<br>drop<br>[kPa] | Output<br>[kW]              | Outgoing<br>air temp.<br>[°C] | Water<br>flow<br>[l/s] | Pressure<br>drop<br>[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<br>[m³/h] | Incoming air temp. = +15 °C                    |                               |                        |                           | Incoming air temp. = +20 °C |                               |                        |                           |
|               |              |                   | Output<br>[kW]                                 | Outgoing<br>air temp.<br>[°C] | Water<br>flow<br>[l/s] | Pressure<br>drop<br>[kPa] | Output<br>[kW]              | Outgoing<br>air temp.<br>[°C] | Water<br>flow<br>[l/s] | Pressure<br>drop<br>[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<br>[m³/h] | Incoming air temp. = +15 °C                    |                               |                        |                           | Incoming air temp. = +20 °C |                               |                        |                           |
|               |              |                   | Output<br>[kW]                                 | Outgoing<br>air temp.<br>[°C] | Water<br>flow<br>[l/s] | Pressure<br>drop<br>[kPa] | Output<br>[kW]              | Outgoing<br>air temp.<br>[°C] | Water<br>flow<br>[l/s] | Pressure<br>drop<br>[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<br>[kW] | Airflow* <sup>1</sup><br>[m³/h] | Sound<br>level* <sup>2</sup><br>[dB(A)] | Output<br>motor<br>[W] | Voltage<br>motor<br>[V] | Amperage<br>motor<br>[A] | Length<br>[mm] | Weight<br>[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<br>steps<br>[kW] | Airflow* <sup>1</sup><br>[m³/h] | $\Delta t^{*4}$<br>[°C] | Sound<br>level* <sup>2</sup><br>[dB(A)] | Output<br>motor<br>[W] | Voltage<br>motor<br>[V] | Amperage<br>motor<br>[A] | Voltage [V]<br>Amperage [A]<br>heat | Length<br>[mm] | Weight<br>[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* <sup>3</sup><br>[kW] | Airflow* <sup>1</sup><br>[m³/h] | $\Delta t^{*3,4}$<br>[°C] | Water-<br>volume<br>[l] | Sound<br>level* <sup>2</sup><br>[dB(A)] | Output<br>motor<br>[W] | Voltage<br>motor<br>[V] | Amperage<br>motor<br>[A] | Length<br>[mm] | Weight<br>[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* <sup>3</sup><br>[kW] | Airflow* <sup>1</sup><br>[m³/h] | $\Delta t^{*3,4}$<br>[°C] | Water-<br>volume<br>[l] | Sound<br>level* <sup>2</sup><br>[dB(A)] | Output<br>motor<br>[W] | Voltage<br>motor<br>[V] | Amperage<br>motor<br>[A] | Length<br>[mm] | Weight<br>[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             |

\*<sup>1</sup>) Lowest/highest airflow of totally 5 fan steps.

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

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

\*<sup>4</sup>)  $\Delta t$  = 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* <sup>1</sup> | Sound level* <sup>2</sup> | 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* <sup>1</sup> | Δt* <sup>4</sup> | Sound level* <sup>2</sup> | Output motor | Voltage motor | Amperage motor | Voltage [V]<br>Amperage [A]<br>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* <sup>3</sup> | Airflow* <sup>1</sup> | Δt* <sup>3,4</sup> | Water-volume | Sound level* <sup>2</sup> | 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* <sup>3</sup> | Airflow* <sup>1</sup> | Δt* <sup>3,4</sup> | Water-volume | Sound level* <sup>2</sup> | 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    |

\*<sup>1</sup>) Lowest/highest airflow of totally 5 fan steps.

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

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

\*<sup>4</sup>) 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 mm<sup>2</sup>. 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 <sup>*2</sup> [mm <sup>2</sup> ] |
|-------------------------------|-------------|--------------|---------------------------------------------|
| <b>Alla manöver</b>           | 0           | 230V~        | 1,5                                         |
| <b>PA3510E08</b>              | 8           | 400V3~       | 2,5                                         |
| <b>PA3515E12</b>              | 12          | 400V3~       | 4                                           |
| <b>PA4210E12</b>              | 12          | 400V3~       | 4                                           |
| <b>PA4215E18</b>              | 18          | 400V3~       | 10                                          |
| <b>PA3520E16<sup>*1</sup></b> | 8           | 400V3~       | 2,5                                         |
|                               | 8           | 400V3~       | 2,5                                         |
| <b>PA3525E20<sup>*1</sup></b> | 8           | 400V3~       | 2,5                                         |
|                               | 12          | 400V3~       | 4                                           |
| <b>PA4220E24<sup>*1</sup></b> | 12          | 400V3~       | 4                                           |
|                               | 12          | 400V3~       | 4                                           |
| <b>PA4225E30<sup>*1</sup></b> | 12          | 400V3~       | 4                                           |
|                               | 18          | 400V3~       | 10                                          |

<sup>\*1</sup>) 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.

<sup>\*2</sup>) 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 luftridån 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**

Luftridåaggregat 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 luftridåaggregatet igen.

Motorerna, i alla luftridåaggregaten, 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 avges överhettningsskylt. 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.

- Montera den nya fläkten enligt ovanstående i omvänd ordning.

### Byte av elbatteri (E)

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

### Byte av vattenbatteri (W)

- Stäng av vattentillförseln till aggregatet.
- Lossa anslutningarna till vattenbatteriet.
- Lossa fästskruvarna som låser batteriet i aggregatet och lyft ut batteriet.
- 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 mm<sup>2</sup>. 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* <sup>2</sup> [mm <sup>2</sup> ] |
|-------------------------------|-------------|-------------|-----------------------------------------------|
| <b>Control</b>                | 0           | 230V~       | 1,5                                           |
| <b>PA3510E08</b>              | 8           | 400V3~      | 2,5                                           |
| <b>PA3515E12</b>              | 12          | 400V3~      | 4                                             |
| <b>PA4210E12</b>              | 12          | 400V3~      | 4                                             |
| <b>PA4215E18</b>              | 18          | 400V3~      | 10                                            |
| <b>PA3520E16*<sup>1</sup></b> | 8           | 400V3~      | 2,5                                           |
|                               | 8           | 400V3~      | 2,5                                           |
| <b>PA3525E20*<sup>1</sup></b> | 8           | 400V3~      | 2,5                                           |
|                               | 12          | 400V3~      | 4                                             |
| <b>PA4220E24*<sup>1</sup></b> | 12          | 400V3~      | 4                                             |
|                               | 12          | 400V3~      | 4                                             |
| <b>PA4225E30*<sup>1</sup></b> | 12          | 400V3~      | 4                                             |
|                               | 18          | 400V3~      | 10                                            |

\*<sup>1</sup>) 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.

\*<sup>2</sup>) 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)**

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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**

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- *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.

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