



## AR3500

Recessed air curtain for commercial premises, with intelligent control

- Recommended installation height 3,5 m\*
- Recessed mounting
- Lengths: 1, 1,5 and 2 m
- ✿ Ambient, no heat
- ⚡ Electrical heat: 9–18 kW
- 💧 Water heat W, WLL

### Application

With its concealed location, AR3500 is very unobtrusive and with that particularly suitable for environments where the design is important.

The air curtain has many intelligent and energy saving features which provide fully automatic protection for the entrance, adaptable to each area of use.

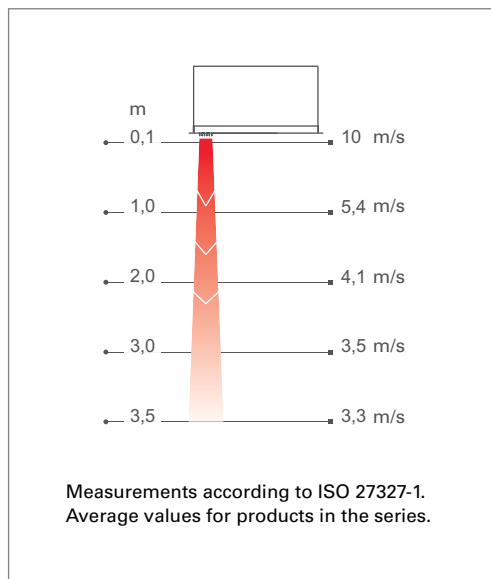
### Design

AR3500 is intended for recessed installation and the frame and hatch can be painted in colours that blend well with the premises.



Optimized airflow with Thermozone technology.

### Air velocity profile



### Product specifications

- Prepared for the SIRE control system whose pre-programmed default settings and many features make it easy to install and use the air curtain. Read more about the SIRE controls package in the "Controls" section.
- Possibility to integrate the air curtain with a BMS system.
- Corrosion proof housing made of hot zinc-plate and powder enamelled steel panels. Colour frame and hatch: white, RAL 9016, NCS S 0500-N. Colour grille: grey, RAL 7046. The frame and hatch can be painted in an optional colour.

\*) Recommended installation height varies depending on the relevant premises.

## Technical specifications

### ✪ Ambient, no heat - AR3500 A

Type	Output [kW]	Airflow* <sup>1</sup> [m <sup>3</sup> /h]	Sound level* <sup>2</sup> [dB(A)]	Voltage Amperage (control)	Length [mm]	Weight [kg]
AR3510A	0	1000/2100	39/58	230 V~/2,1 A	1057	38
AR3515A	0	1400/2900	40/59	230 V~/2,9 A	1567	51
AR3520A	0	2000/4200	41/61	230 V~/4,3 A	2073	70

### ⚡ Electrical heat - AR3500 E

Type	Output steps [kW]	Airflow* <sup>1</sup> [m <sup>3</sup> /h]	$\Delta t$ * <sup>3</sup> [°C]	Sound level* <sup>2</sup> [dB(A)]	Voltage Amperage (control)	Voltage Amperage (heat)	Length [mm]	Weight [kg]
AR3510E09	4,5/9	1000/2100	27/13	39/58	230 V~/2,1 A	400 V3~/13 A	1057	42
AR3515E14	7/13,5	1400/2900	29/14	40/59	230 V~/2,9 A	400 V3~/19,5 A	1567	58
AR3520E18	9/18	2000/4200	27/15	41/61	230 V~/4,3 A	400 V3~/26 A	2073	78

### 💧 Water heat - AR3500 W, coil for low water temperature ( $\leq 80$ °C)

Type	Output* <sup>4</sup> [kW]	Airflow* <sup>1</sup> [m <sup>3</sup> /h]	$\Delta t$ * <sup>3,4</sup> [°C]	Water volume [l]	Sound level* <sup>2</sup> [dB(A)]	Voltage [V]	Amperage [A]	Length [mm]	Weight [kg]
AR3510W	8,6	1000/2000	17/13	1,3	39/58	230V~	2,1	1057	42
AR3515W	12,6	1400/2800	17/13	2,1	40/58	230V~	2,9	1567	58
AR3520W	18,3	2000/4000	18/14	2,9	41/60	230V~	4,3	2073	78

### 💧 Water heat - AR3500 WLL, coil for very low temperature water ( $\leq 60$ °C)

Type	Output* <sup>5</sup> [kW]	Airflow* <sup>1</sup> [m <sup>3</sup> /h]	$\Delta t$ * <sup>3,5</sup> [°C]	Water volume [l]	Sound level* <sup>2</sup> [dB(A)]	Voltage [V]	Amperage [A]	Length [mm]	Weight [kg]
AR3510WLL	8,0	950/1900	15/12	2,6	37/57	230V~	2,1	1057	45
AR3515WLL	11,7	1300/2600	16/13	4,2	38/57	230V~	2,9	1567	61
AR3520WLL	16,7	1900/3800	16/13	5,8	40/59	230V~	4,3	2073	83

\*<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 m<sup>2</sup>. At lowest/highest airflow.

\*<sup>3</sup>)  $\Delta t$  = temperature rise of passing air at maximum heat output and lowest/highest airflow.

\*<sup>4</sup>) Applicable at water temperature 60/40 °C, air temperature, in +18 °C.

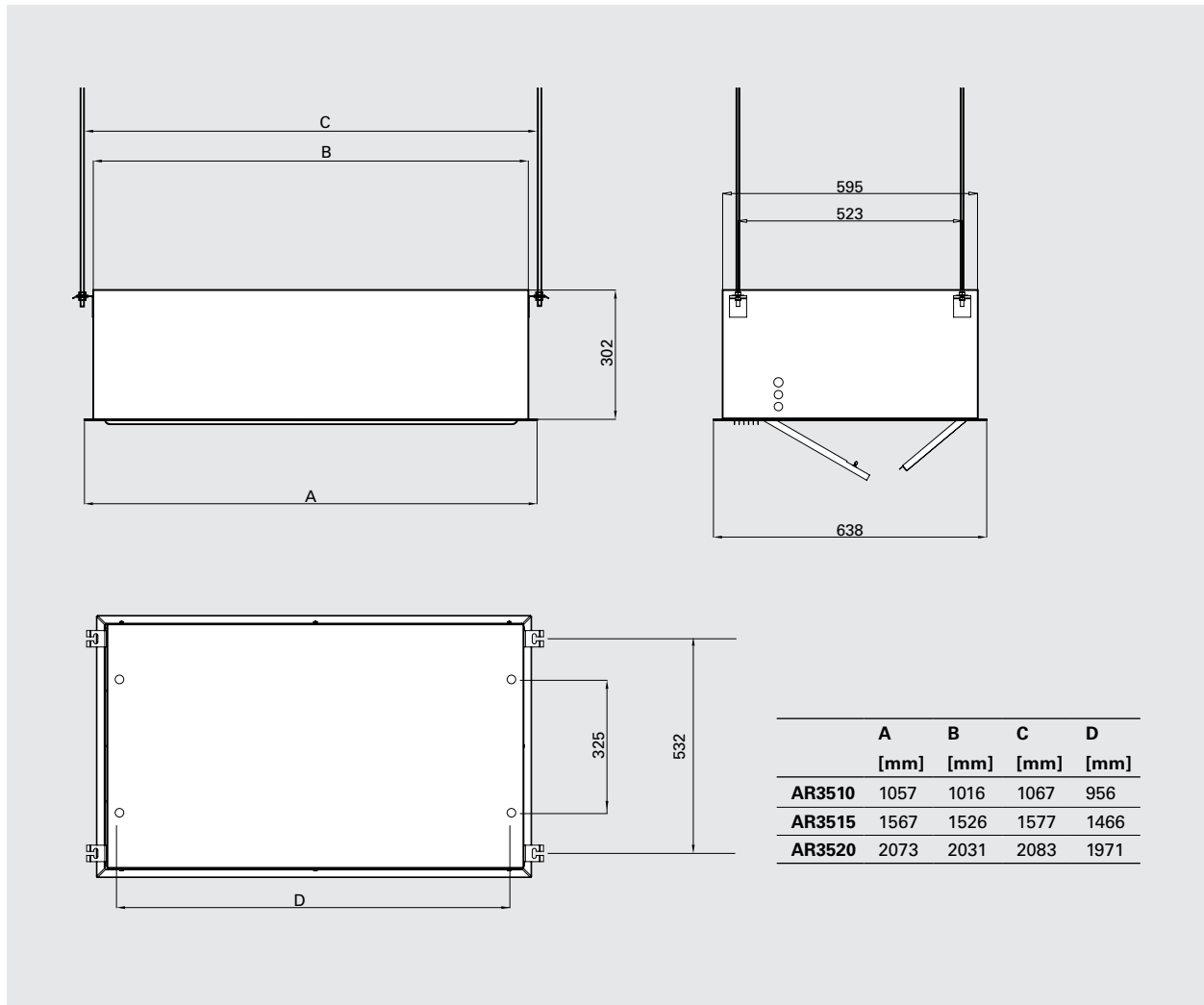
\*<sup>5</sup>) Applicable at water temperature 40/30 °C, air temperature, in +18 °C.

Protection class, recessed mounting above suspended ceilings: IP44, hanging on rods without suspended ceiling: IP20.

Approved by SEMKO and CE compliant.

# AR3500

## Dimensions

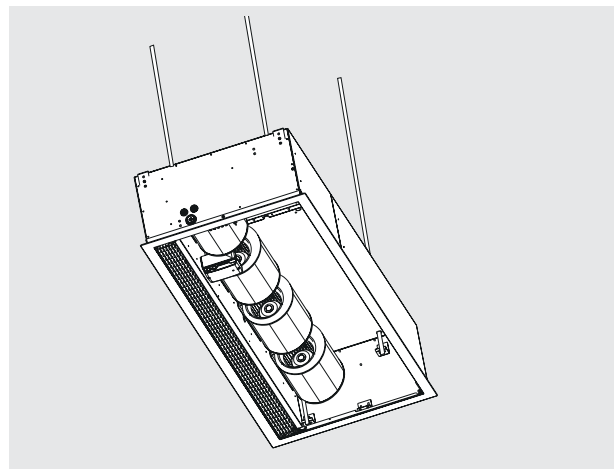


## Mounting

The air curtain is installed horizontally with the supply air grille facing downwards as close to the door as possible, concealed in the false ceiling. The only visible part of the unit is the underside which is level with the ceiling. The service hatch must be accessible, nothing should prevent it being fully opened.

The unit is ready for suspension with threaded rods on its outside. The threaded rods can also be fixed on the inside of the unit e.g. when mounted on a solid suspended ceiling.

For the protection of wider doorways, several units can be mounted next to each other. Minimum distance from outlet to floor for electrically heated units is 1800 mm.



Mounting with threaded bars inside the unit.

## Connection

The PC board SIRE is built into the air curtain on delivery and is equipped with modular connectors for easy connection of external components. Read more about the SIRE control system in the "Controls" section.

### *Unit without heating*

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

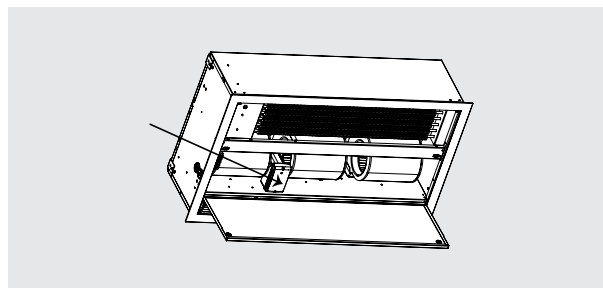
### *Unit with electrical heating*

The electrical connection is made on the side of the unit. Control (230V~) and power supply for heat (400V3~) should be connected to a terminal block in the terminal box. For units with electrical heating, power and control should be supplied separately.

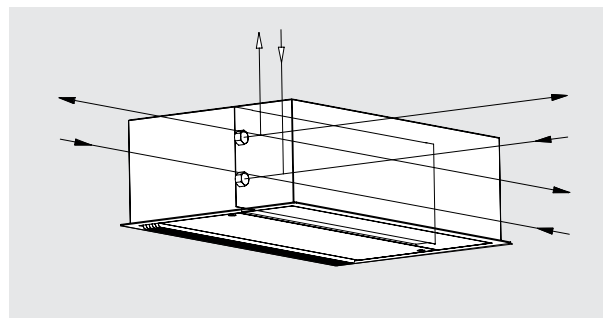
### *Unit with water heating*

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

Connection of water pipes to the water heating coil is of type DN20 (3/4"), inside thread, inside the unit. Cable glands can be made from the back, top or the sides of the unit. There are pre-marked holes for drilling at these locations.



PC board SIRE is built in to the air curtain.



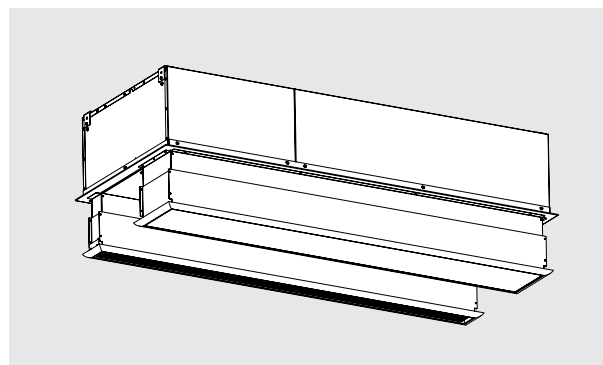
Water connection

## Accessories

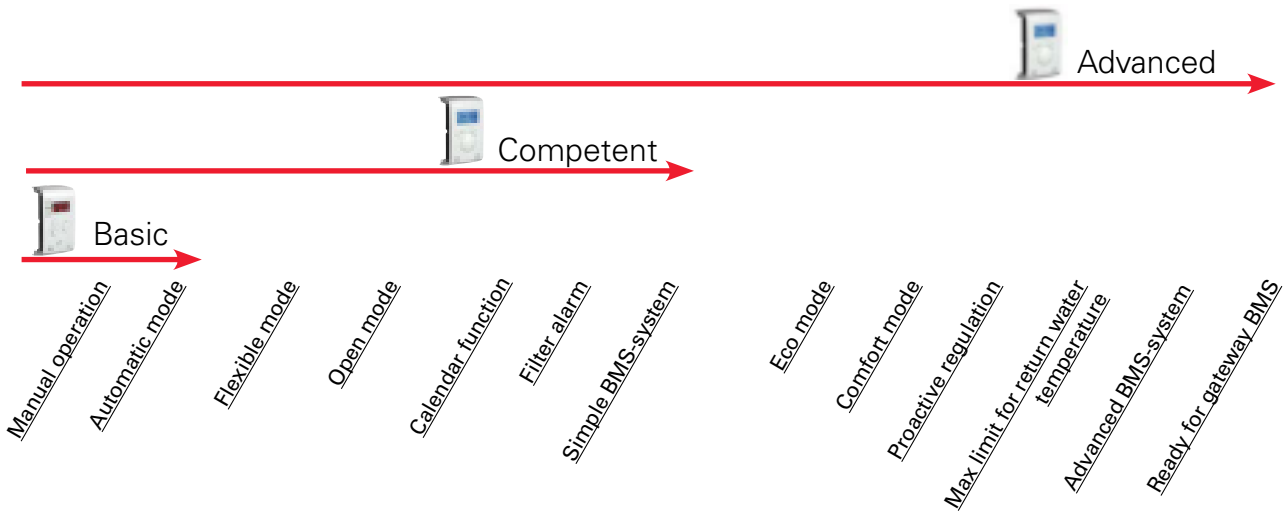
### AR35XTT, extension

Outlet/inlet extension for a discreet installation with only the outlet and inlet visible in the ceiling.

Type	Description	L [mm]
AR35XTT10	Outlet/inlet extension AR3510	130-210
AR35XTT15	Outlet/inlet extension AR3515	130-210
AR35XTT20	Outlet/inlet extension AR3520	130-210



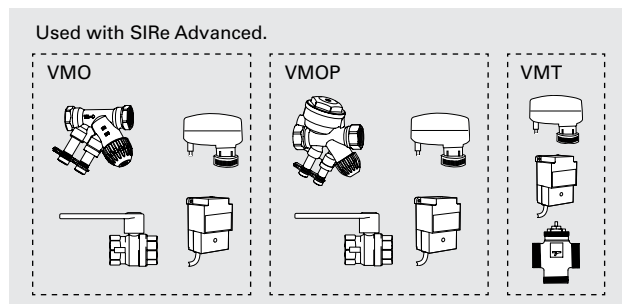
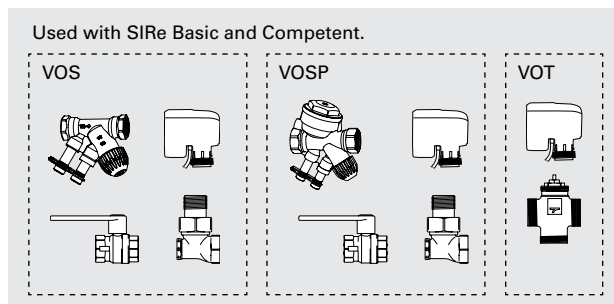
Controls



This air curtain is supplied with an integrated PC board SIRe. There are three different levels with different functionality to choose from, Basic, Competent or Advanced. Read more about the SIRe control system in the "Controls" section.

Type	Description
<b>SIReB</b>	Control system SIRe Basic
<b>SIReAC</b>	Control system SIRe Competent
<b>SIReAA</b>	Control system SIRe Advanced

Water control



Valve kit VOS(P), VOT, VMO(P) or VMT is used to control the water flow. For more information see the "Controls" section.

Type	Description
<b>VOS15LF</b>	Valve kit on/off, low flow, DN15
<b>VOS15NF</b>	Valve kit on/off, DN15
<b>VOS20</b>	Valve kit on/off, DN20
<b>VOS25</b>	Valve kit on/off, DN25
<b>VOSP15LF</b>	Pressure independent valve kit, low flow, DN15
<b>VOSP15NF</b>	Pressure independent valve kit, DN15
<b>VOSP20</b>	Pressure independent valve kit, DN20
<b>VOSP25</b>	Pressure independent valve kit, DN25
<b>VOT15</b>	Three way control valve and actuator on/off, DN15
<b>VOT20</b>	Three way control valve and actuator on/off, DN20
<b>VOT25</b>	Three way control valve and actuator on/off, DN25

Type	Description
<b>VMO15LF</b>	Modulating valve kit, low flow, DN15
<b>VMO15NF</b>	Modulating valve kit, DN15
<b>VMO20</b>	Modulating valve kit, DN20
<b>VMO25</b>	Modulating valve kit, DN25
<b>VMOP15LF</b>	Pressure independent and modulating valve kit, low flow, DN15
<b>VMOP15NF</b>	Pressure independent and modulating valve kit, DN15
<b>VMOP20</b>	Pressure independent and modulating valve kit, DN20
<b>VMOP25</b>	Pressure independent and modulating valve kit, DN25
<b>VMT15</b>	Three way control valve and modulating actuator, DN15
<b>VMT20</b>	Three way control valve and modulating actuator, DN20
<b>VMT25</b>	Three way control valve and modulating actuator, DN25

## Output charts water

## AR3500W

			Supply water temperature:80 °C Room temperature: +18 °C Outlet air temperature: +35 °C*1				Water temperature: 80/60 °C Room temperature: +18 °C			
Type	Fan position	Airflow [m³/h]	Output [kW]	Return water temp. [°C]	Water flow [l/s]	Pressure drop [kPa]	Output *2 [kW]	Outlet air temp. [°C]	Water flow [l/s]	Pressure drop [kPa]
AR3510W	max	2000	11,5	44,5	0,08	2,0	14,9	40,1	0,18	11,0
	min	1000	5,7	33,6	0,03	0,6	9,6	46,4	0,12	5,0
AR3515W	max	2800	16,0	42,2	0,10	2,0	21,9	41,2	0,27	9,0
	min	1400	8,0	32,4	0,04	0,4	14,0	47,5	0,17	4,0
AR3520W	max	4000	23,0	41,0	0,14	4,0	31,4	41,3	0,37	19,0
	min	2000	11,5	31,0	0,06	1,0	20,0	47,7	0,24	9,0

			Supply water temperature:70 °C Room temperature: +18 °C Outlet air temperature: +35 °C*1				Water temperature: 70/50 °C Room temperature: +18 °C			
Type	Fan position	Airflow [m³/h]	Output [kW]	Return water temp. [°C]	Water flow [l/s]	Pressure drop [kPa]	Output *2 [kW]	Outlet air temp. [°C]	Water flow [l/s]	Pressure drop [kPa]
AR3510W	max	2000	11,5	48,7	0,13	6,0	11,5	35,4	0,14	7,0
	min	1000	5,7	37,0	0,04	1,0	7,6	40,5	0,09	3,0
AR3515W	max	2800	16,0	46,2	0,16	4,0	17,3	36,3	0,21	6,0
	min	1400	8,0	35,5	0,06	1,0	11,1	41,4	0,13	3,0
AR3520W	max	4000	23,0	45,5	0,22	8,0	24,9	36,5	0,29	14,0
	min	2000	11,5	34,4	0,08	1,0	15,9	41,6	0,19	6,0

			Supply water temperature: 60 °C Room temperature: +18 °C Outlet air temperature: +35 °C*1				Water temperature: 60/40 °C Room temperature: +18 °C			
Type	Fan position	Airflow [m³/h]	Output [kW]	Return water temp. [°C]	Water flow [l/s]	Pressure drop [kPa]	Output *2 [kW]	Outlet air temp. [°C]	Water flow [l/s]	Pressure drop [kPa]
AR3510W	max	2000	11,5	53,7	0,44	53,0	8,6	30,7	0,10	4,0
	min	1000	5,7	41,2	0,08	2,0	5,6	34,5	0,07	2,0
AR3515W	max	2800	16,0	51,0	0,43	20,0	12,6	31,3	0,15	3,0
	min	1400	8,0	39,6	0,09	1,0	8,1	35,2	0,10	1,0
AR3520W	max	4000	23,0	51,2	0,63	46,0	18,3	31,6	0,22	8,0
	min	2000	11,5	38,8	0,13	3,0	11,8	35,5	0,14	4,0

			Supply water temperature: 55 °C Room temperature: +18 °C Outlet air temperature: +35 °C*1				Water temperature: 55/35 °C Room temperature: +18 °C			
Type	Fan position	Airflow [m³/h]	Output [kW]	Return water temp. [°C]	Water flow [l/s]	Pressure drop [kPa]	Output *2 [kW]	Outlet air temp. [°C]	Water flow [l/s]	Pressure drop [kPa]
AR3510W	max	2000	-	-	-	-	6,9	28,3	0,08	3,0
	min	1000	5,7	44,0	0,13	6,0	4,5	31,4	0,06	1,0
AR3515W	max	2800	-	-	-	-	10,2	28,8	0,12	2,0
	min	1400	8,0	42,2	0,15	3,0	6,6	32,0	0,08	1,0
AR3520W	max	4000	-	-	-	-	15,0	29,1	0,18	6,0
	min	2000	11,5	41,7	0,21	7,0	9,7	32,4	0,12	3,0

- = at the current water temperatures and airflows, the air outlet temperature will be less than 35 °C.

\*1) Recommended outlet air temperature for good comfort and optimized output.

\*2) Nominal output at given supply and return water temperature.

See [www.frico.se](http://www.frico.se) for additional calculations.

# AR3500

## Output charts water

### AR3500WLL

			Supply water temperature:55 °C Room temperature: +18 °C Outlet air temperature: +32 °C				Water temperature: 55/35 °C Room temperature: +18 °C			
Type	Fan position	Airflow [m³/h]	Output [kW]	Return water temp. [°C]	Water flow [l/s]	Pressure drop [kPa]	Output * [kW]	Outlet air temp. [°C]	Water flow [l/s]	Pressure drop [kPa]
AR3510WLL	max	1900	9,0	26,8	0,08	1,0	12,5	37,5	0,15	3,0
	min	950	4,5	23,4	0,03	0,3	7,6	41,6	0,09	1,0
AR3515WLL	max	2600	12,3	25,1	0,10	1,0	18,4	39,0	0,22	4,0
	min	1300	6,1	22,1	0,04	0,3	11,0	43,0	0,13	2,0
AR3520WLL	max	3800	18,0	25,5	0,15	1,0	26,4	38,6	0,32	4,0
	min	1900	9,0	22,3	0,07	0,4	15,8	42,6	0,19	2,0

			Supply water temperature:50 °C Room temperature: +18 °C Outlet air temperature: +32 °C				Water temperature: 50/30 °C Room temperature: +18 °C			
Type	Fan position	Airflow [m³/h]	Output [kW]	Return water temp. [°C]	Water flow [l/s]	Pressure drop [kPa]	Output * [kW]	Outlet air temp. [°C]	Water flow [l/s]	Pressure drop [kPa]
AR3510WLL	max	1900	9,0	28,3	0,10	1,0	9,7	33,1	0,12	2,0
	min	950	4,5	24,5	0,04	0,4	5,9	36,5	0,07	1,0
AR3515WLL	max	2600	12,3	26,6	0,13	1,0	14,4	34,4	0,17	3,0
	min	1300	6,1	23,2	0,06	0,4	8,7	37,8	0,11	1,0
AR3520WLL	max	3800	18,0	27,0	0,19	2,0	20,6	34,1	0,25	3,0
	min	1900	9,0	22,3	0,07	0,4	12,5	37,5	0,15	1,0

			Supply water temperature: 45 °C Room temperature: +18 °C Outlet air temperature: +32 °C				Water temperature: 45/35 °C Room temperature: +18 °C			
Type	Fan position	Airflow [m³/h]	Output [kW]	Return water temp. [°C]	Water flow [l/s]	Pressure drop [kPa]	Output * [kW]	Outlet air temp. [°C]	Water flow [l/s]	Pressure drop [kPa]
AR3510WLL	max	1900	8,9	30,2	0,14	3,0	10,6	34,6	0,26	7,0
	min	950	4,5	26,0	0,06	0,3	6,3	37,6	0,15	3,0
AR3515WLL	max	2600	12,3	28,5	0,18	3,0	15,4	35,5	0,37	9,0
	min	1300	6,1	24,7	0,07	1,0	9,0	38,4	0,22	4,0
AR3520WLL	max	3800	18,0	29,0	0,27	4,0	22,1	35,2	0,53	9,0
	min	1900	9,0	25,0	0,11	1,0	12,9	38,2	0,31	5,0

			Supply water temperature: 40 °C Room temperature: +18 °C Outlet air temperature: +32 °C				Water temperature: 40/30 °C Room temperature: +18 °C			
Type	Fan position	Airflow [m³/h]	Output [kW]	Return water temp. [°C]	Water flow [l/s]	Pressure drop [kPa]	Output * [kW]	Outlet air temp. [°C]	Water flow [l/s]	Pressure drop [kPa]
AR3510WLL	max	1900	9,0	33,0	0,31	10,0	8,0	30,4	0,19	5,0
	min	950	4,5	28,4	0,09	1,0	4,8	32,9	0,11	2,0
AR3515WLL	max	2600	12,3	31,4	0,34	8,0	11,7	31,3	0,28	6,0
	min	1300	6,1	27,0	0,11	1,0	6,9	33,7	0,17	2,0
AR3520WLL	max	3800	18,0	31,9	0,53	9,0	16,7	31,1	0,40	6,0
	min	1900	9,0	27,4	0,17	2,0	9,9	33,5	0,24	3,0

\*) Nominal output at given supply and return water temperature.

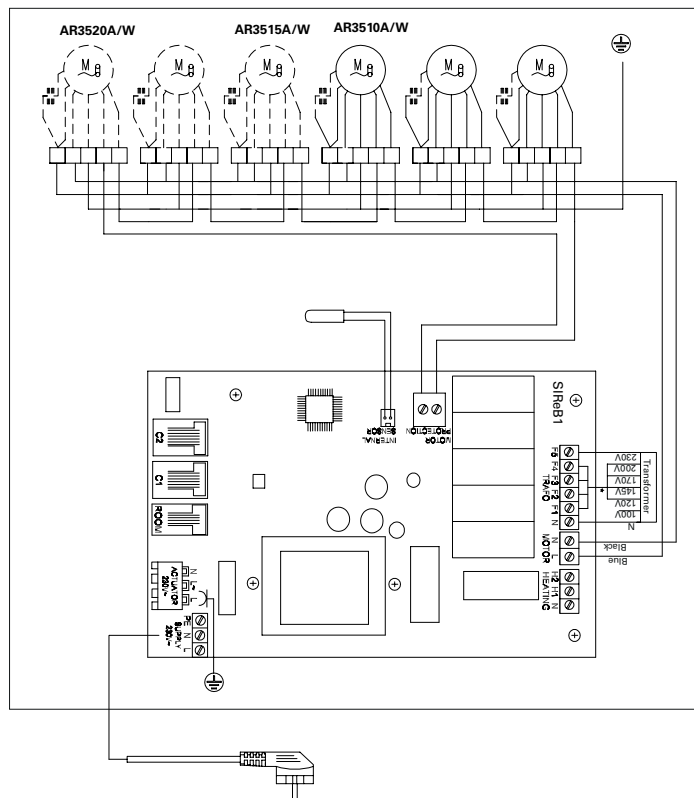
See [www.frico.se](http://www.frico.se) for additional calculations.

Wiring diagrams

Internal wiring diagram

*Unit without heating*

*Unit with water heating*



*Unit with electrical heating*

