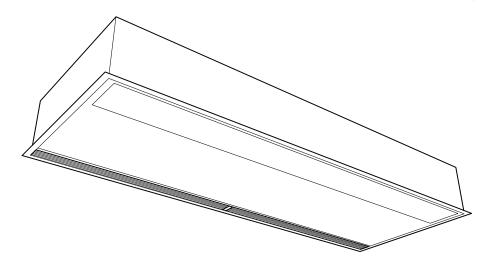
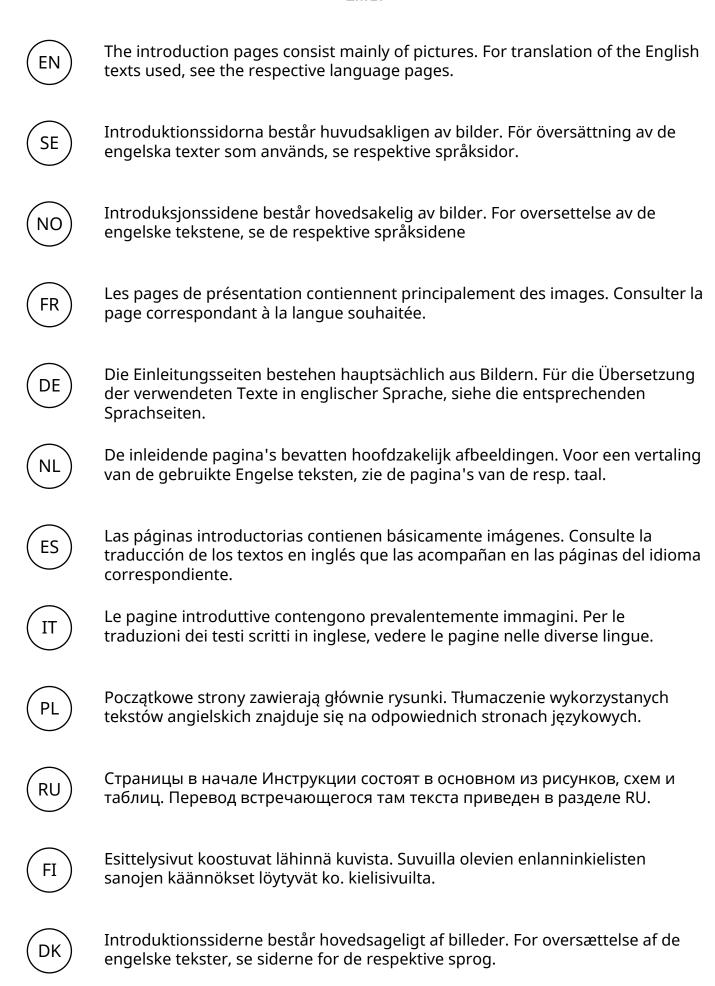
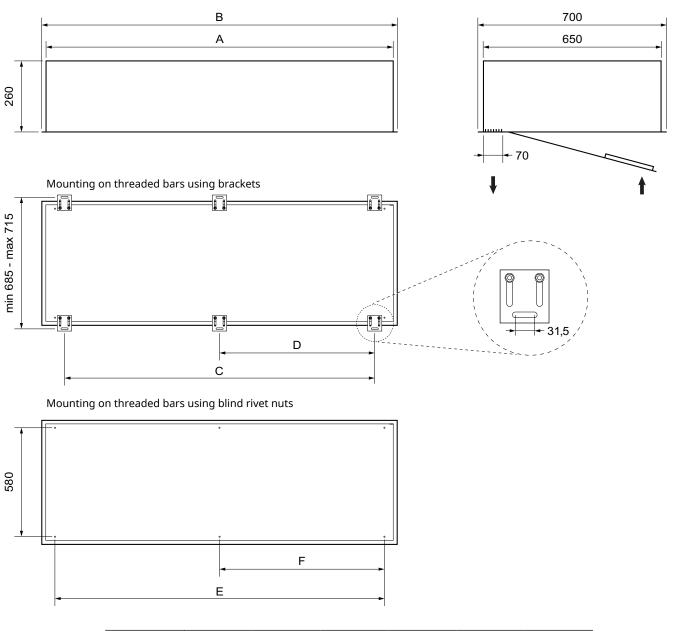


Original instructions

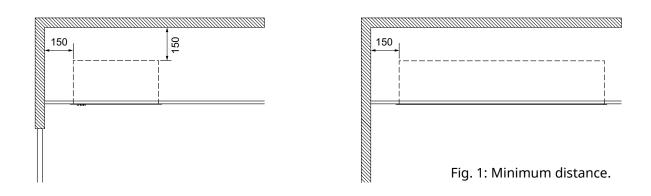
Ziller







	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]
ZILx10	950	1000	756	_	856	-
ZILx15	1450	1500	1256	-	1356	-
ZILx20	1950	2000	1756	878	1856	928
ZILx25	2450	2500	2256	1128	2356	1178
ZILx30	2950	3000	2756	1378	2856	1428



Product key

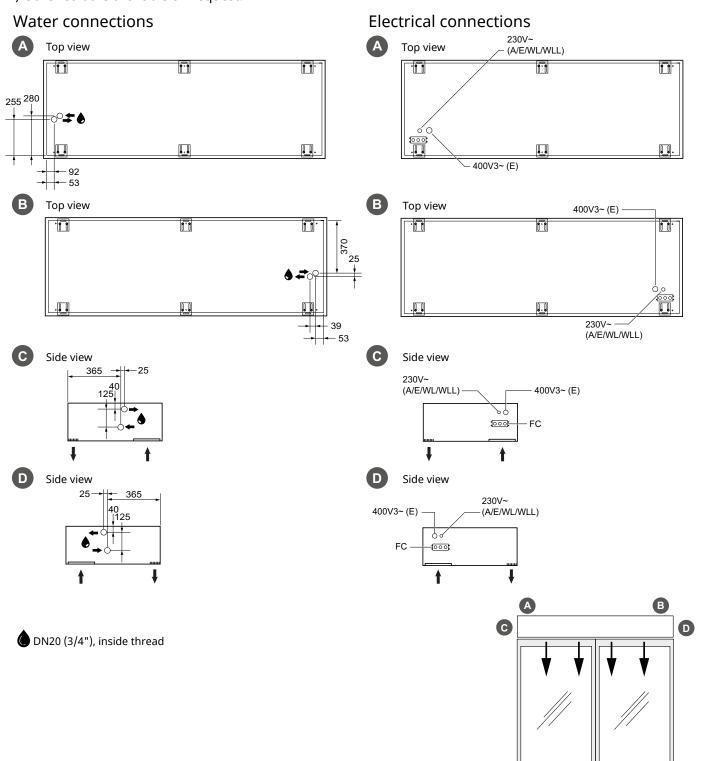
Bold = Standard. Included in standard cost.

Type*1	Perfor- mance*1	Length*1	Heat*1	Water connection*2	Electrical connection*2	Colour	-
ZIL	35	10	WL	Α	Α	RAL Classic*4	Other
	45	15	WLL	В	В		adaptations may
		20	Е	С	С		be possible upon
		25	Α	D	D		request, please
		30		X* 3			contact Frico.

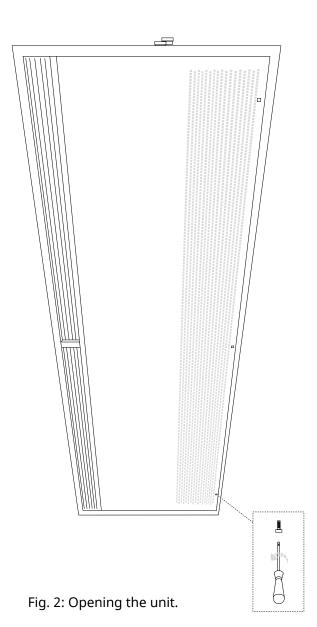
*1) See Technical specifications.

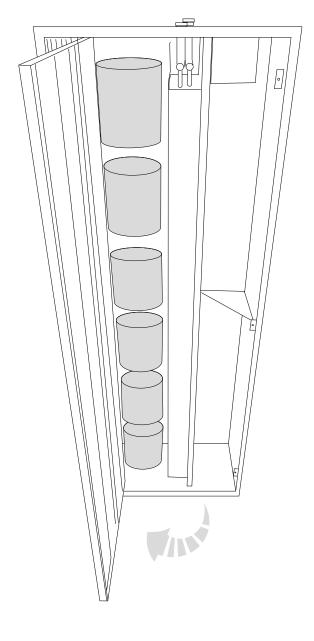
Ex: ZIL3515WL - B - A - RAL9016

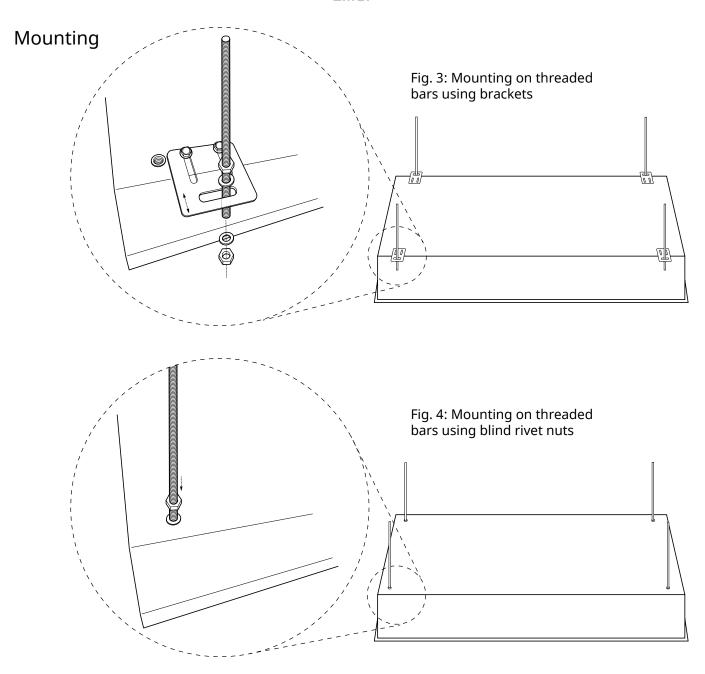
- *2) See drawings.
- *3) State X for units with Electrical heating or Ambient (without heat).
- *4) Other colours available on request.

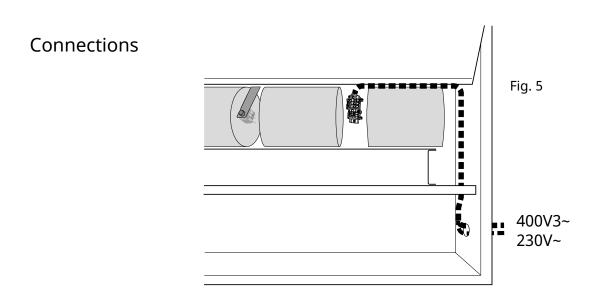


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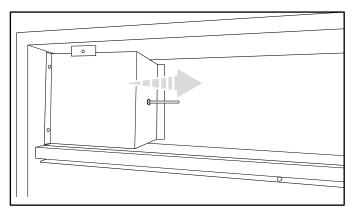








Connections



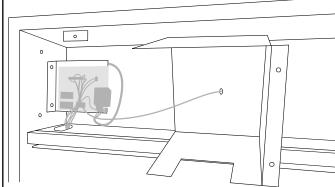


Fig. 6: PC board FC is integrated within the air curtain at delivery.

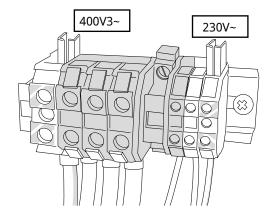


Fig. 7: Terminal blocks

Туре	Voltage	Max output	Minimal cross section Cable	Nominal cross section Terminal block
	[V]	[kW]	[mm²]	[mm²]
Controls	230V~	-	1,5	4
ZIL3510E09	400V3~	9	2,5	16
ZIL3515E12	400V3~	12	4	16
ZIL3520E18	400V3~	18	10	16
ZIL3525E18	400V3~	18	10	16
ZIL3530E30	400V3~	30	16	16
ZIL4510E15	400V3~	15	6	16
ZIL4515E23	400V3~	23	10	16
ZIL4520E30	400V3~	30	16	16
ZIL4525E32	400V3~	32	16	16
ZIL4530E32	400V3~	32	16	16

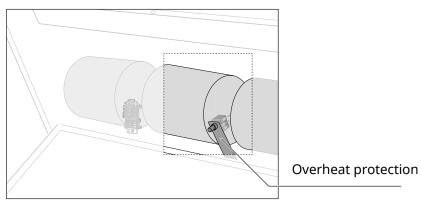
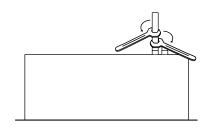
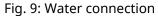


Fig. 8: Overheat protection

Water connection •







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

Accessories

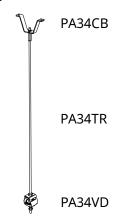


Fig. 10: PA34TR + PA34CB + PA34VD. See separate manual for PA34TR.



Fig. 11: PA34WS + PA34CB See separate manual for PA34WS.

Item number	Туре	Used for	Consists of	Length
18059	PA34CB15	ZILx10	4 pcs	
18060	PA34CB20	ZILx15 / ZILx20 / ZILx25 / ZILx30	6 pcs	
18062	PA34WS15	ZILx10	4 pcs	3 m
18063	PA34WS20	ZILx15 / ZILx20 / ZILx25 / ZILx30	6 pcs	3 m
18056	PA34TR15	ZILx10	4 pcs	1 m
18057	PA34TR20	ZILx15 / ZILx20 / ZILx25 / ZILx30	6 pcs	1 m
18065	PA34VD15	ZILx10	4 pcs	
18066	PA34VD20	ZILx15 / ZILx20 /ZILx25 / ZILx30	6 pcs	

Accessories •



DTV200S

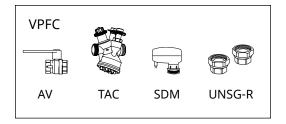
Item number	Туре	Length	
17597	DTV200S*		

^{*)} See separate manual.

Valve systems

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

See separate manual.



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

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





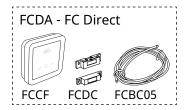
UNSG

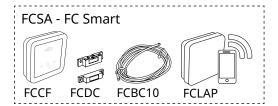


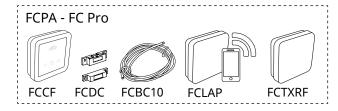
ANS

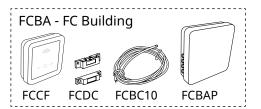
Control systems

The air curtain must be supplemented with a control system.



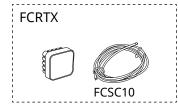


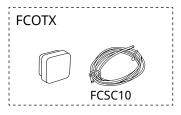


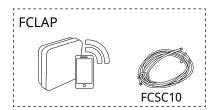


Item number	Туре	Name	Dimensions
74684	FCDA	FC Direct	89x89x26 mm (FCCF)
74685	FCSA	FC Smart	89x89x26 mm (FCCF)
74686	FCPA	FC Pro	89x89x26 mm (FCCF)
74687	FCBA	FC Building	89x89x26 mm (FCCF)

Accessories







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





FCWTA

FCDC





FCBC05/10/25 FCSC10/25

FCTXRF

See separate manual for FC.

Technical specifications Ziller 3500

Ambient, no heat - ZIL35 A (IP20)

Туре	Output	Airflow*1	Sound power*2	Sound pressure* ³	Length	Weight
	[kW]	[m³/h]	[dB(A)]	[dB(A)]	[mm]	[kg]
ZIL3510A	0	1150/1800	77	49/61	1000	49
ZIL3515A	0	1700/2700	79	51/63	1500	66
ZIL3520A	0	2300/3600	79	51/63	2000	83
ZIL3525A	0	2800/4550	81	53/65	2500	97
ZIL3530A	0	3800/6150	81	53/65	3000	112

Electrical heat - ZIL35 E (IP20)

Туре	Output steps	Airflow*1	∆ t *⁴	Sound power*2	Sound pressure*3	Voltage [V] Amperage [A]	Length	Weight
	[kW]	[m³/h]	[°C]	[dB(A)]	[dB(A)]	(heat)	[mm]	[kg]
ZIL3510E09	3/6/9	1100/1750	24/15	77	49/61	400V3~/13,0	1000	56
ZIL3515E12	4/8/12	1600/2600	22/14	79	51/63	400V3~/17,3	1500	74
ZIL3520E18	6/12/18	2150/3500	25/15	79	51/63	400V3~/26,0	2000	95
ZIL3525E18	6/12/18	2700/4400	20/12	81	53/65	400V3~/26,0	2500	115
ZIL3530E30	10/20/30	3750/6100	24/15	81	53/65	400V3~/43,3	3000	130

♦ Water heat - ZIL35 WL (IP20)

Туре	Output*5	Airflow*1	∆ t *4,5	Water volume	Sound power*2	Sound pressure*3	Length	Weight
	[kW]	[m³/h]	[°C]	[1]	[dB(A)]	[dB(A)]	[mm]	[kg]
ZIL3510WL	11	1100/1750	21/18	1,4	77	48/61	1000	57
ZIL3515WL	13	1600/2600	17/15	2,1	79	50/63	1500	77
ZIL3520WL	19	2150/3500	19/16	4,2	79	50/63	2000	97
ZIL3525WL	25	2700/4400	20/17	5,3	81	52/65	2500	117
ZIL3530WL	36	3750/6100	20/17	4,3	81	52/65	3000	137

♦ Water heat -ZIL35 WLL (IP20)

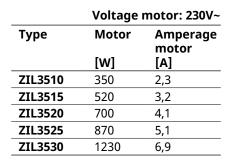
Туре	Output*6	Airflow* ¹ [m³/h]	∆t* ^{4,6} [°C]	Water volume [l]	Sound power* ² [dB(A)]	Sound pressure* ³ [dB(A)]	Length	Weight
							[mm]	[kg]
ZIL3510WLL	8	1100/1750	20/13	2,6	77	48/61	1000	59
ZIL3515WLL	14	1600/2600	19/15	4,0	79	50/63	1500	80
ZIL3520WLL	19	2150/3500	19/16	5,5	79	50/63	2000	101
ZIL3525WLL	23	2700/4400	19/15	7,0	81	52/65	2500	123
ZIL3530WLL	31	3750/6100	19/15	8,4	81	52/65	3000	143

*1) Low/high airflow (2/10V).

*²) Sound power (L_{WA}) measurements according to ISO 27327-2: 2014, Installation type E. *³) Sound pressure (L_{pA}). Conditions: Distance to the unit 5 metres. Directional factor: 2. Equivalent absorption area: 200 m^2 . At low/high airflow (2/10V).

- *4) $\Delta t = \text{temperature rise of passing air at maximum heat output and low/high airflow (2/10V)}.$
- *5) Applicable at water temperature 60/40 °C, air temperature, in +18 °C.
- *6) Applicable at water temperature 40/30 °C, air temperature, in +18 °C.
- *5,6) See www.frico.net for additional calculations.

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





Technical specifications Ziller 4500

Ambient, no heat - ZIL45 A (IP20)

Туре	Output	Airflow*1	Sound power*2	Sound pressure* ³	Length	Weight
	[kW]	[m³/h]	[dB(A)]	[dB(A)]	[mm]	[kg]
ZIL4510A	0	1600/2550	79	51/63	1000	53
ZIL4515A	0	2200/3450	81	53/65	1500	70
ZIL4520A	0	3150/5050	81	53/65	2000	87
ZIL4525A	0	4100/6600	83	55/67	2500	101
ZIL4530A	0	3700/5950	83	55/67	3000	126

Electrical heat - ZIL45 E (IP20)

Туре	Output steps	Airflow*1	∆ t *⁴	Sound power*2	Sound pressure*3	Voltage [V] Amperage	Length	Weight
	[kW]	[m³/h]	[°C]	[dB(A)]	[dB(A)]	[A](heat)	[mm]	[kg]
ZIL4510E15	5/10/15	1500/2500	30/18	79	51/63	400V3~/21,7	1000	60
ZIL4515E23	7,5/15/23	2000/3300	34/21	81	53/65	400V3~/32,5	1500	78
ZIL4520E30	10/20/30	2950/4900	30/18	81	53/65	400V3~/43,3	2000	99
ZIL4525E32	11/21/32	3550/5800	27/16	83	55/67	400V3~/46,2	2500	119
ZIL4530E32	11/21/32	4050/6600	23/14	83	55/67	400V3~/46,2	3000	134

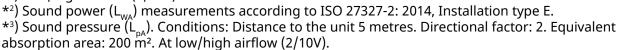
♦ Water heat - ZIL45 WL (IP20)

Туре	Output*5	Airflow*1	∆ t *4,5	Water volume	Sound power*2	Sound pressure*3	Length	Weight
	[kW]	[m³/h]	[°C]	[1]	[dB(A)]	[dB(A)]	[mm]	[kg]
ZIL4510WL	13	1500/2500	18/16	2,0	79	50/63	1000	61
ZIL4515WL	20	2000/3300	20/18	2,1	81	52/65	1500	81
ZIL4520WL	30	2950/4900	21/18	2,8	81	52/65	2000	101
ZIL4525WL	37	3550/5800	21/19	3,6	83	54/67	2500	121
ZIL4530WL	44	4050/6600	22/20	4,3	83	54/67	3000	141

♦ Water heat - ZIL45 WLL (IP20)

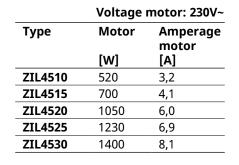
Туре	Output*6	Airflow*1	∆ t *4,6	Water volume	Sound power*2	Sound pressure*3	Length	Weight
	[kW]	[m³/h]	[°C]	[1]	[dB(A)]	[dB(A)]	[mm]	[kg]
ZIL4510WLL	12	1500/2500	20/14	2,6	79	50/63	1000	63
ZIL4515WLL	17	2000/3300	19/15	4,0	81	52/65	1500	84
ZIL4520WLL	24	2950/4900	17/18	5,5	81	52/65	2000	105
ZIL4525WLL	29	3550/5800	19/15	7,0	83	54/67	2500	127
ZIL4530WLL	33	4050/6600	19/15	8,4	83	54/67	3000	147

 $*^1$) Low/high airflow (2/10V).



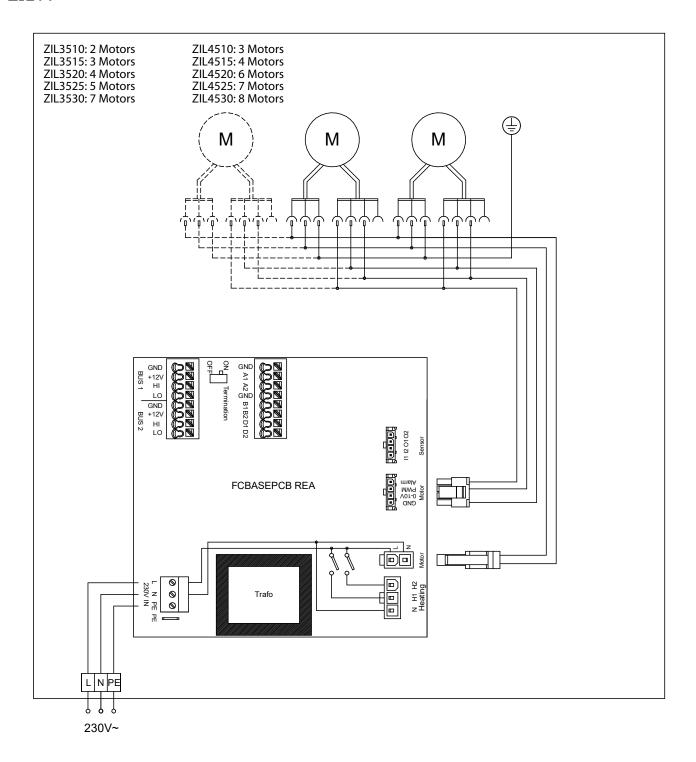
- *4) $\Delta t = \text{temperature rise of passing air at maximum heat output and low/high airflow (2/10V)}.$
- *5) Applicable at water temperature 60/40 °C, air temperature, in +18 °C.
- *6) Applicable at water temperature 40/30 °C, air temperature, in +18 °C.
- *5,6) See www.frico.net for additional calculations.

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



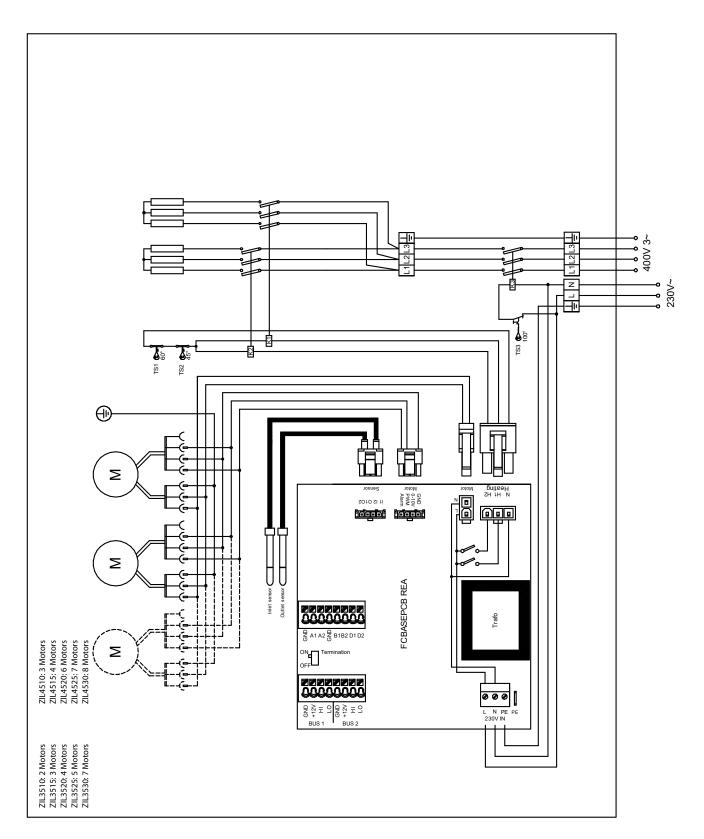


ZIL A



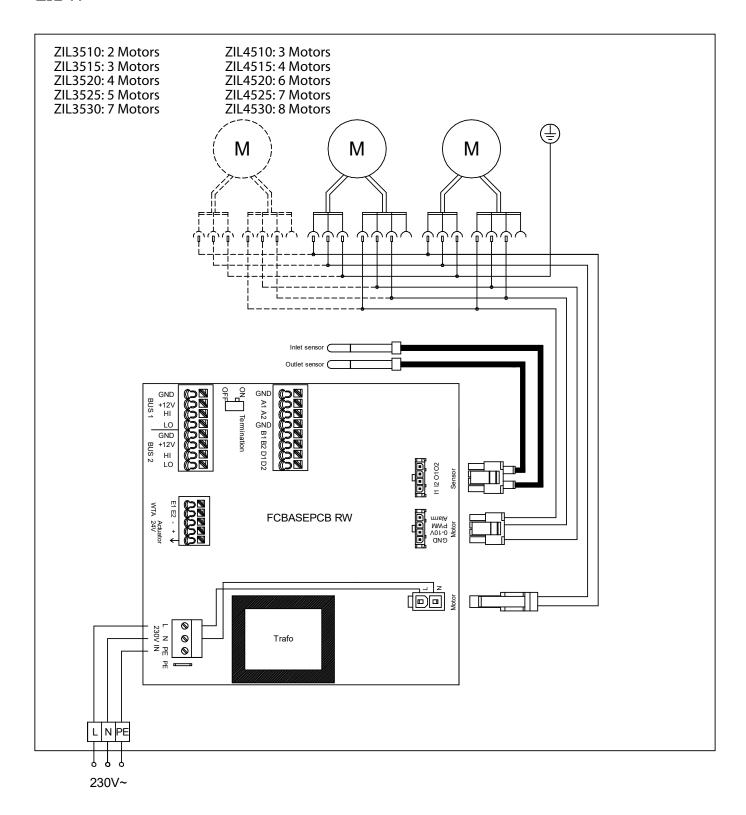
Wiring diagrams for control system in the FC manual.

ZIL E



Wiring diagrams for control system in the FC manual.

ZIL W



Wiring diagrams for control system in the FC manual.



Installation and operating instructions

General Instructions

Read these instructions carefully prior to installation and use. Keep this manual for future reference.

The product may only be used as set out in the assembly and operating instructions. The guarantee is only valid should the product be used in the manner intended and in accordance with the instructions.

Application

Ziller is an air curtain for recessed mounting. The air curtain is ordered by using the product key and manufactured accordingly. The recommended installation height of Ziller 3500 is 3,5 m and the recommended installation height of Ziller 4500 is 4,5 m. The air curtains are available in several versions: without heat (A), with electrical heating (E), or with water heating (WL/WLL). Protection class: IP20.

Operation

Air is drawn in from underneath and blown downwards shielding the door opening and minimizing heat loss. To achieve the optimum curtain effect the unit must extend the full width of the opening.

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

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

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

Mounting

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

The air curtain is installed horizontally with the outlet air grille facing downwards as close to the door as possible. Minimum distance from outlet to floor for electrically heated units is 1800 mm. For other minimum distances, see Fig. 1.



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

For the protection of wider doorways, several units can be mounted in series alongside each other.

Mounting on threaded bars using brackets

- 1. The mounting brackets are fixed to the unit during transport. Remove the brackets and turn them around, securely fasten them onto the unit as depicted in Fig. 3
- 2. Hang up the unit on threaded bars (M8).

 Threaded bars available as accessory. See Fig. 10.
- 3. Adjust the height so that the frame is level with the ceiling.
- 4. Ensure that the fasteners do not come loose by securing them properly, for example, using lock nuts or thread-locking fluid.
- 5. Alternatively, mount the threaded bars using the blind rivet nut according to Fig. 4

Mounting with wire suspension Wire suspension kits are available as accessory. See Fig. 11.

Opening the unit

- 1. Disconnect the power supply.
- 2. Loosen the screws fixing the service hatch and swing it opened. See Fig. 2.
- 3. To close the unit, close and fasten the service hatch with the screws.

Electrical installation

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

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

The PC board is mounted on the inside the unit, and covered by a removable metal enclosure. See Fig. 6. Communication and



sensor cables are connected to the PC board via glands located on the top or the side of the unit according to your order, see the product key.

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

Control is supplied by 230V~ to terminal blocks (Fig. 7) placed inside the unit, accessible via a gland placed according to your order, see the product key. For units with electrical heating, the power supply (400V3~) is connected to terminal blocks in the same area. All cables to the terminal blocks are to be routed via the motor compartment. See Fig. 5.

Start-up (E)

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

Connecting the water coil (W)

The installation must be carried out by an authorised installer.

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

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

The water coil is connected via connections DN20 (3/4"), inside thread. The connections are placed on the air curtain according to your order, see the product key. Flexible hoses are available as accessories.

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

The connections to the heating coil must be equipped with shut off valves to allow trouble-free removal.

The water coil is equipped with a drain valve. Air valves are not included. An air valve should be connected at a high point in the pipe system.

Adjustment of the air curtain and airflow

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

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

Basic setting fan speed

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

Filter (W)

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

Maintenance

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

Temperature control

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

Overheating

The air curtain unit with electrical heating is equipped with an overheat protection. If it is deployed due to overheating, reset as follows:

- 1. Disconnect the power supply with the isolator switch.
- 2. Allow the electrical coil to cool.
- 3. Determine the cause of overheating and rectify the fault.



- Check if the manual overheating protection inside the unit has deployed. If this is the case, reset it by pushing the button. See Fig. 8.
- 5. Reconnect the unit.

Replacing the electrical coil (E)

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

Replacing the water coil (W)

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

Safety cut-out

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

Fan replacement

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

Replacing the PC board

- 1. Remove the metal enclosure that covers the PC board. See Fig. 6.
- 2. Mark and disconnect the cables to the PC board.
- 3. Unhatch the board from its PCB snap-in spacers and lift out.
- 4. Install the new PC board as above in reverse order.

Troubleshooting

If the fans are not running or do not perform properly, check the following:

- The power supply.
- That the intake grille/filter is not dirty.
- That the motor's safety cut-out has not been deployed.
- Functions and settings of the FC control system, see the FC manual.

If there is no heat, check the following:

 Functions and settings of the FC control system, see the FC manual.

For units with electrical heating, also check the following:

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

For units with a water coil, also check the following:

- · That the water coil is vented
- That there is sufficient water flow and pressure.
- That the incoming water is heated adequately.
- That the valves and the actuators are correctly installed and working.

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

Residual current circuit breaker (E)

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

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



Packaging

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

Handling of product at end of working

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

Safety

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

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

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