

ZEPHYR  
**ZEPHYR COOL**

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# **ZEPHYR COOL EC**

RECIRCULATING AIR CURTAIN  
FOR SHIELDING COOL AND  
UNHEATED ROOMS

**INDIVIDUAL  
INNOVATIVE  
ENERGY-SAVING**

**ERP** | conform

# ZEPHYR COOL EC

RECIRCULATING AIR CURTAIN

**+ Self-supporting sheet steel housing**  
high-quality powder coated

**+ Attractive intake grille**  
with micro grille behind it

**+ Discharge fin**  
can be adjusted in 5 stages

**+ Inspection panel**  
with hidden screws

## Applications

Zephyr Cool EC is suitable for the climatic separation of a cooled and an uncooled room.

Zephyr Cool EC is used wherever it is not desirable for warm air to enter sales or storage rooms. For example: in cool rooms, flower shops, butchers' shops and hospitals. Not suitable for wet rooms or rooms with large temperature differences. Installation-ready unit for different installation variants.

## Special design

Connection-ready door air curtain unit for operation with recirculating air, without a heat exchanger. Zephyr Cool is an economical and effective solution for separating cold air and warm air. This results in considerable energy savings. The room temperature and humidity are also maintained at a relatively constant level, even if the door is open.

## The housing

Self-supporting, powder-coated sheet steel housing. Screws are not visible. Available in RAL 9016 as standard (traffic white).

Other colours are available. Inspection panel accessible from below, hidden behind the intake grille.

Intake grille in the same colours as the unit, consisting of a perforated plate with micro grille behind it (used as an intake filter) for easy maintenance. Discharge grille with steplessly adjustable discharge fin (natural anodised finish) for optimum airflow.

## Maintenance

The micro grille is easy to clean without opening the unit – simply vacuum clean the intake grille.

Discreet secured access panel hidden on the lower side of the unit (hinges on one side) – easy to open.

## Advantages at a glance

- + Made in Germany
- + ErP conform
- + Certified by TÜV-Süd
- + Robust, self-supporting sheet steel housing
- + Individual colours  
- standard RAL colours available
- + Unit lengths up to 2500 mm
- + Service-friendly  
thanks to intake grille with micro grille
- + Simple to install
- + Aerodynamically-optimised discharge fin



### EC fans

The efficiency of the EC fans used by TEKADOOR is > 90% under partial load operation. This is 30–35% higher than for conventional AC fans. This does not just increase the efficiency, but also reduces the operating costs. The individually-driven EC fans with integrated motor protection can intake air in both directions. They have vibration-free bearings and are controlled using a PWM signal (pulse width modulation). They do not just comply with Directive ErP, but actually exceed this standard.

### Mounting

Simple mounting thanks to the rivet nuts (M8) incorporated on the upper side of the unit and optionally-available assembly materials. In the standard version, the unit does not need to be opened for electrical connection. Connection terminals for the voltage supply, as well as the connectors for the control unit and parallel operation can be accessed from the outside.

### Control unit

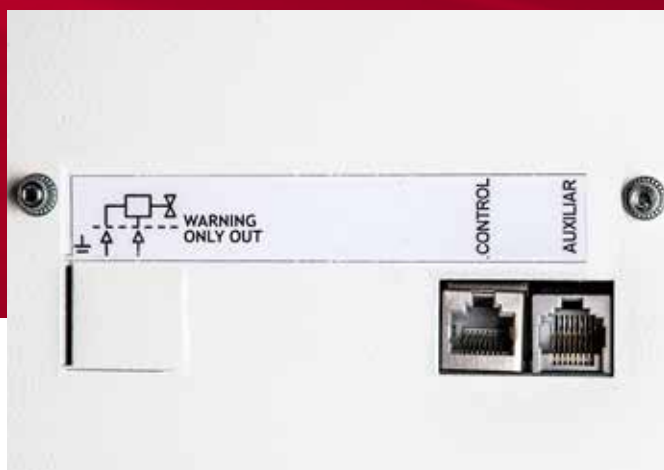
**Electronic TEKADOOR GTC EC control unit, multifunctional with touch display, including an optional ModBus interface**

As standard, the 5-stage GTC 1 EC control unit includes a manual to automatic mode switch and a potential-free contact for enabling via any on-site BMS or BEMS. A choice of 5-stage or stepless fan operation is offered as standard. A maximum of 10 units can be connected in parallel. 20 m of preassembled, shielded data cable is also included as standard.



# ZEPHYR COOL EC

## DETAILS



### Data cable connection/interface

Simple, standard plug and play connection of the data cable on the top of the unit.  
The connection can be offset on request.

#### Control:

Input for the data cable to the control unit.

#### Auxiliary:



### Connection box

Simple electrical connection via connection box (voltage supply 230 V/50 Hz on the top of the unit); there is also the option to locate the connection at the side.

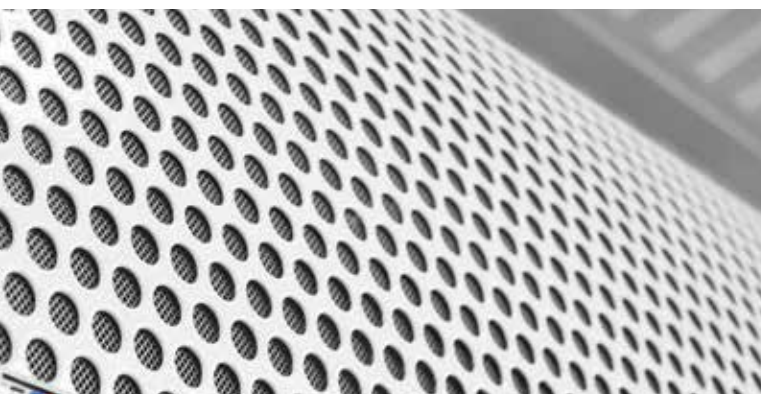


Output for parallel operation with other units.

## **Discharge fin**

The shielding performance of the door air curtain unit is optimised by adjusting the discharge fin.  
The fin can be adjusted in 5 stages.





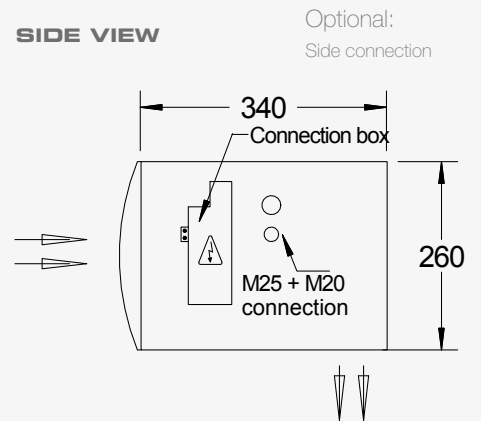
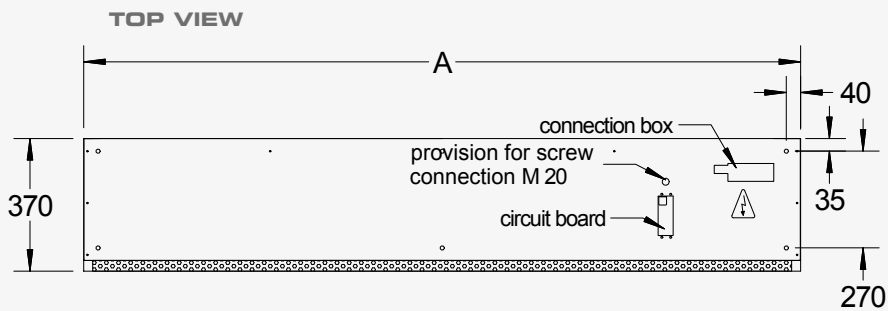
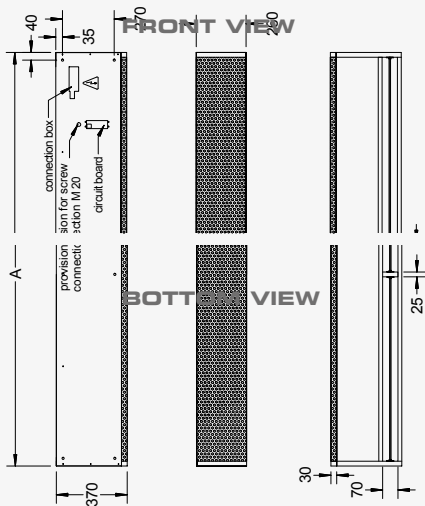
# ZEPHYR COOL EC

INSTALLATION VARIANTS



# ZEPHYR

## Free-hanging



**A = VARIABLE UNIT LENGTH**

\* WE RESERVE THE RIGHT TO MAKE TECHNICAL CHANGES

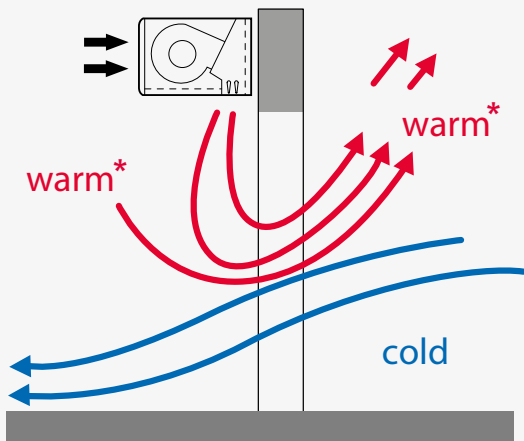
Connection-ready free-hanging door air curtain unit for visible installation directly above the door.  
Ambient air intake is at the front, on the room side.

# COOL EC

# ZEPHYR COOL EC

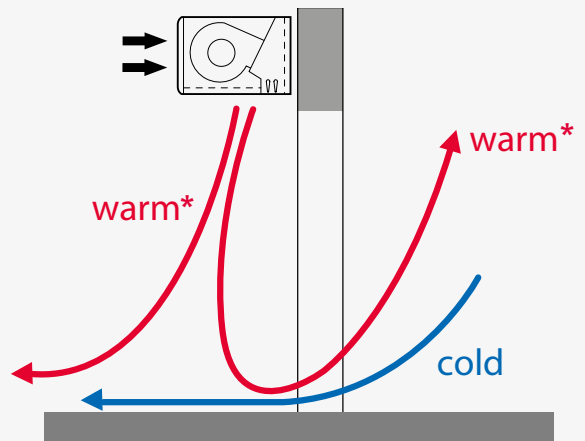
## INSTALLATION INFORMATION

### WRONG



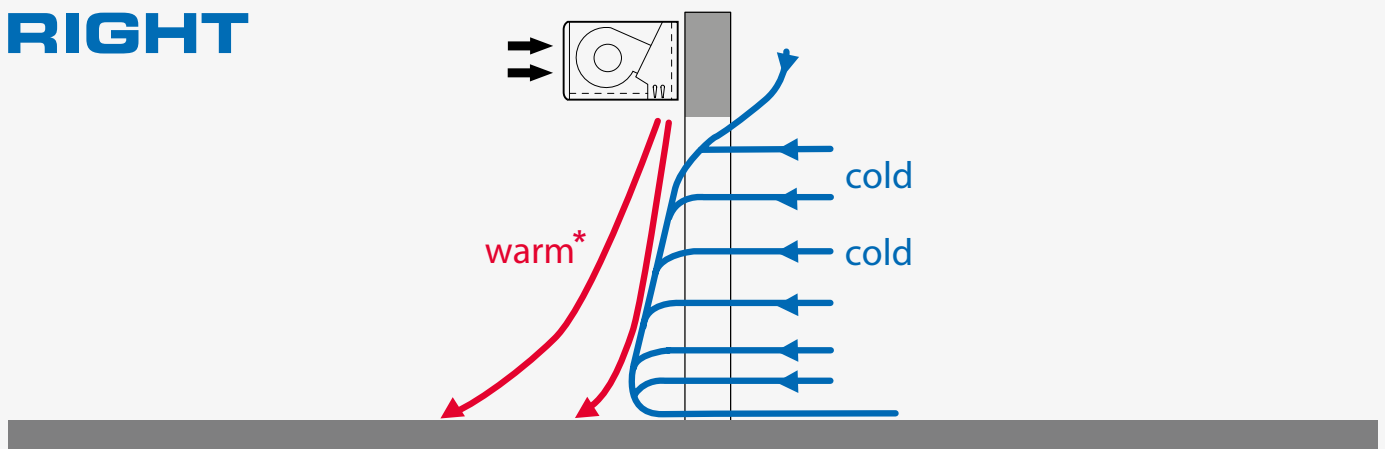
The air speed is too low.  
The airflow does not reach the floor.  
Cold air can escape below the airflow.  
The air speed must be increased.

### WRONG



The air speed is too high.  
The airflow splits when it hits the floor.  
Warm air enters the cooled or unheated room.  
The air speed must be reduced.

### RIGHT



The air speed and the discharge angle are ideal. The airflow is located in front of the door opening.  
The cold air cannot escape. Warm air cannot penetrate the cold or unheated room.

\* warm = recirculated air from the anteroom

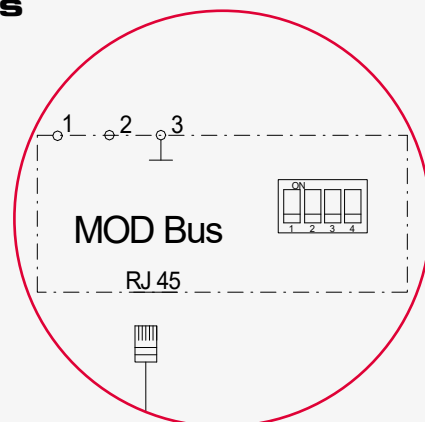
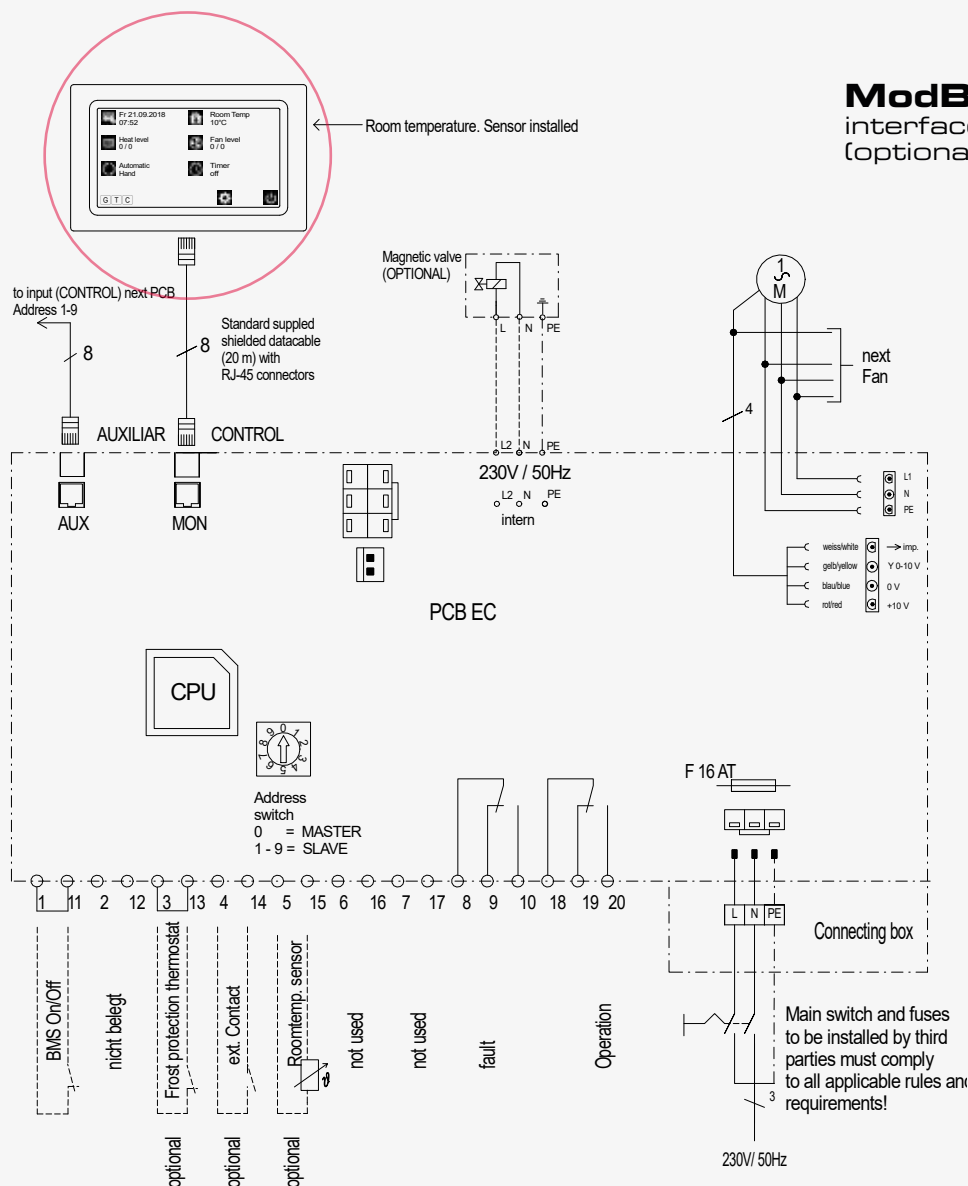


# ZEPHYR COOL EC

## STANDARD CIRCUIT DIAGRAM



### ModBus interface (optional)



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### CONTROL UNIT GTC 1 EC

Multilingual, menu-driven electronic control unit for TEKADOOR air curtains with LPHW heating and energy-saving EC fans. A standard feature of the control unit with touch display is a choice between 5-stage or stageless fan control, which can be selected individually by the operator. The relevant operating modes and symbols are arranged clearly on the colour display. The date, time and room temperature are shown as standard. The room temperature is monitored via an internal temperature sensor in the control unit as standard.

An easy-to-navigate menu offers a selection of different operating modes:

- Hand – manual operation
- Auto AS – automatic operation via cool down protection
- Auto RT – automatic operation via room temperature
- Auto TK – automatic operation via door contact
- Auto Kombi – option to combine all individual automatic modes

An enabling contact and potential-free operation and malfunction signals are provided for control via an on-site BMS or BEMS. Errors and faults are displayed with a red „warning“ sign. By coding the control boards differently, up to 10 door air curtains can also be operated in parallel with 1 control unit, using the Master/Slave principle. The control board is preinstalled in the door air curtain unit and 20 m of preassembled data cable (connection between the door air curtain and control unit) are included as standard.



# ZEPHYR COOL EC

## OPTIONAL ACCESSORIES



### Ceiling attachment set

For trouble-free, vibration-free ceiling attachment: consisting of M8 threaded rods up to 1000 mm in length, vibration dampers, turn-buckles and counter nuts.



### Door contact solenoid switch

In automatic mode switches on the door air curtain in the preselected stages – in conjunction with GTC EC.

Caution: The door contact must be located so that the contact is activated as soon as the door begins to open. Not suitable for high-speed doors!

# ZEPHYR COOL M/L EC

TECHNICAL DATA  
FREE-HANGING



**recommended discharge height = up to 2.70 m**

Model			M 1	M 1.5	M 2	M 2.5
Air quantity max:		m³/h	1800	2700	3600	4500
EC fans	Voltage	V	230 / 1 / N / PE			
	Frequency	Hz	50			
	Max. current consumption	A	2.1	3.1	4.1	5.1
	Max. motor power	kW	0.3	0.5	0.6	0.8
Sound pressure level <sup>1</sup>	Highest setting	dB (A)	58	59	60	61
Drawing dimension	Unit length ( A )	mm	1000	1500	2000	2500
	Unit height	mm	260	260	260	260
	Unit depth	mm	370	370	370	370
Weight		kg	45	60	75	80

\* WE RESERVE THE RIGHT TO MAKE TECHNICAL CHANGES

**recommended discharge height = up to 3.00 m**

Model			L 1	L 1.5	L 2	L 2.5
Air quantity max:		m³/h	2700	3600	5400	6300
EC fans	Voltage	V	230 / 1 / N / PE			
	Frequency	Hz	50			
	Max. current consumption	A	3.1	4.1	6.2	7.2
	Max. motor power	kW	0.5	0.6	0.9	1.1
Sound pressure level <sup>1</sup>	Highest setting	dB (A)	60	61	62	63
Drawing dimension	Unit length ( A )	mm	1000	1500	2000	2500
	Unit height	mm	260	260	260	260
	Unit depth	mm	370	370	370	370
Weight		kg	50	60	80	105

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1. Measured at a lateral distance of 3 m. Sound pressure level may vary depending on surrounding conditions.

A well-balanced pressure ratio is one of the prerequisites for perfect function.



[www.TEKADOOR.de](http://www.TEKADOOR.de)



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