TEKADOOR®

WING-R EC & WING-G EC

DESIGN AIR CURTAIN FOR VERTICAL INSTALLATION

INDIVIDUAL
INNOVATIVE
ENERGY-SAVING

ERP conform

WING-R EC
DESIGN AIR CURTAIN

+ Jetflow discharge nozzle
patented, steplessly variable

+ Elegant steel-composite design
high-quality powder coated
or with stainless steel housing

+ Attractive intake grille
with micro grille behind it

WING-G EC
DESIGN AIR CURTAIN

Applications
WING-R EC with a curved design and WING-G EC with a straight design are particularly suitable for curved sliding doors, automatic linear sliding doors as well as for retrofitting to revolving doors. The timeless design and user-friendly technology will satisfy architects, planners, clients and operators in equal measure. WING-R EC and WING-G EC are the ideal solution wherever a door air curtain cannot be installed horizontally due to the particular characteristics of the building, or if vertical installation is preferred for aesthetic reasons. Also ideal for retrofitting.

Special design
The height of the unit should be selected individually, depending on the height of the entrance or door. As the Jetflow discharge nozzle runs along the entire length of the unit, the heated air is also blown directly over the floor, where the potential for cold air to enter is the greatest. The patented and multi-adjustable (without tools) Jetflow discharge nozzle – with its adaptive, asymmetrical nozzle cross-section – is characterised by a smooth air stream and a large throw distance.

The housing
Self-supporting steel/aluminium composite construction with a curved or straight design. Screws are not visible. Available with powder coating in a selection of RAL colours, or as a stainless steel version. Aluminium Jetflow discharge nozzle, powder coated to match the unit. Attractive intake grille with micro grille behind it (used as an intake filter) for filterless operation.

Heating media
Heat exchangers for different heating media
LPHW: For normal temperature LPHW 70/50 °C and low-temperature LPHW 60/40 °C, other temperatures available on request.
High-quality heat exchanger made from copper tubes, with pressed-on, extra-strong aluminium fins.
ELECTRO: 3-stage heat exchanger 400 V, spiral form, corrosion resistant, with thermal overheating protection and switch-off delay.

Advantages at a glance

- Made in Germany
- ErP conform / EC fans
- Patented, multi-adjustable Jetflow discharge nozzle with adaptive, asymmetrical nozzle cross-section
  (large throw distance, low noise, optimum shielding)
- Certified by TÜV-Süd
- Self-supporting steel/aluminium composite construction.
  Screws are not visible.
- Invisible energy supply
- Simple to install
- Individual RAL colours available or as stainless steel version
- Different heating media possible
- Individual unit lengths up to 3000 mm

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

Trouble-free mounting directly on the finished flooring, via holes in the floor plate (not visible once installation complete). The floor plate has appropriate recesses for invisible energy supply from below. Optional: Power supply is also possible from above.

Maintenance

Easy to clean (micro grille) without opening the unit by simply vacuuming the intake grille. Discreet inspection panel for maintenance work, hinged on one side – easy to access from the room side.

Control

Electronic TEKADOOR GTC EC control unit, multifunctional with touch display, including an optional ModBus interface
A GTC 1 EC control unit is used as standard for models with LPHW heating. A GTC E EC control unit is used for models with electrical heating. The units come with 20 m preassembled and shielded data cable. The GTC 1 EC 5-stage control unit includes the ability to switch from manual to automatic and from summer mode to winter mode as standard. A solenoid valve of up to 2.5 A can be connected as an option for the winter mode. With the standard GTC E EC control unit, the airflow can be selected manually in 5 stages and the heating capacity – depending on the fan level – can be selected manually in 3 stages. Each 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.

WING-R/G EC
DETAILS

Connections
Floor mounted vertical unit

Heating connections – flow and return – for easy connection to the on-site heating system.

- Connections: Either from below or above, invisible within the door air curtain.

Connection box

Simple electrical connection of the power supply 230 V/50 Hz thanks to the internal connection box.

Exception:
Electrical units with a heating capacity greater than 22.5 kW.

Data cable connection/interface

Standard connection options for the data cable and an optional solenoid valve or thermo-electric shut-off valve within the unit. Simple plug and play of the data cable.

Control:
Input for the data cable to the control unit.

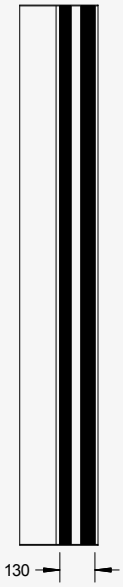
Auxiliary:
Output for parallel operation with other units.

Jetflow discharge nozzle (WING-R)

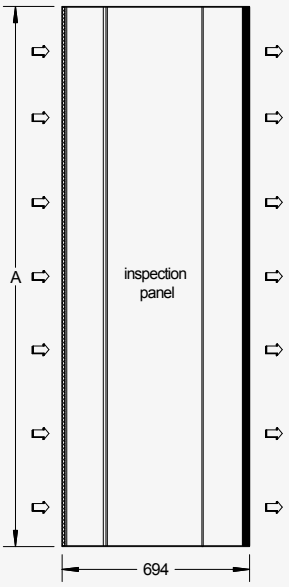
Jetflow discharge nozzle with adaptive, asymmetrical nozzle cross-section. The special design of this patented discharge nozzle permits stepless variation of the discharge angle combined with a longer guided, smooth air stream with optimum throw distance.

WING-R EC

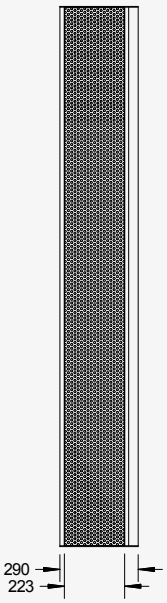
DISCHARGE SIDE



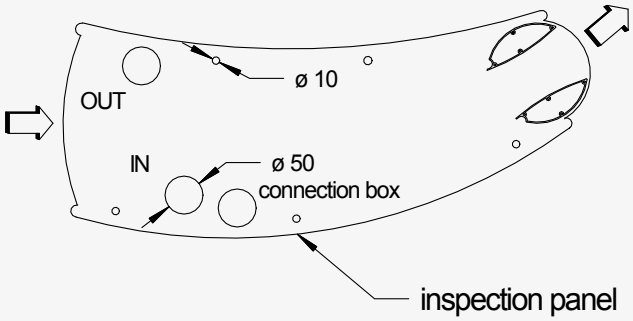
ACCESS SIDE



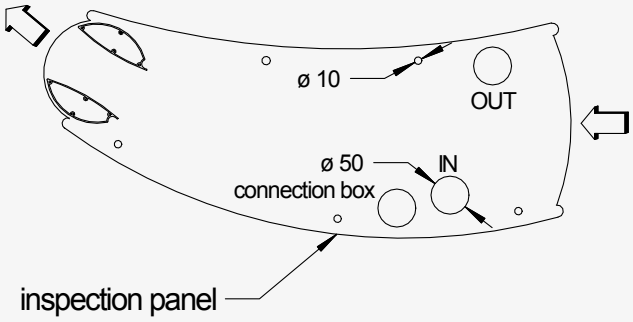
INTAKE SIDE



PLAN VIEW (STANDING LEFT)



PLAN VIEW (STANDING RIGHT)



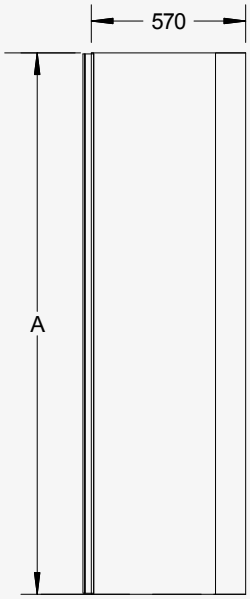
* WE RESERVE THE RIGHT TO MAKE TECHNICAL CHANGES

Connection-ready door air curtain for visible installation as a floor mounted vertical unit, with a curved design.
Ambient air intake is from the side, on the room side.

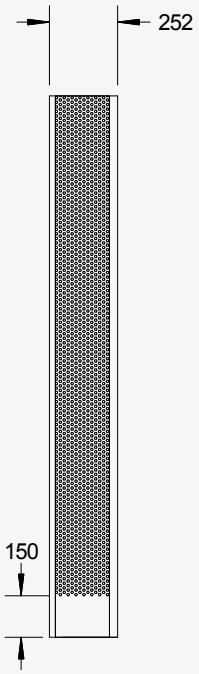
WING-G EC

TEKADOOR®

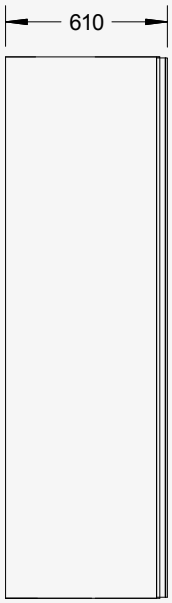
ACCESS SIDE



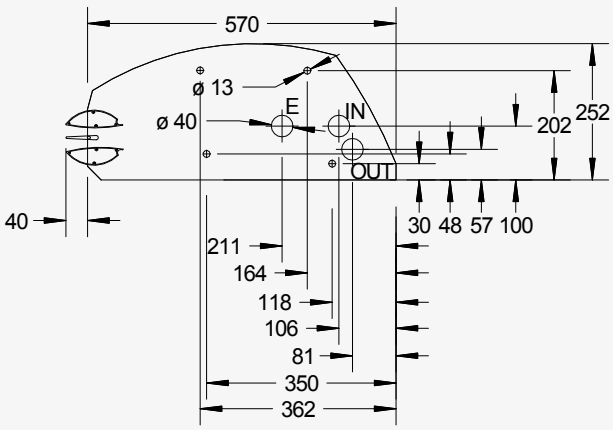
INTAKE SIDE



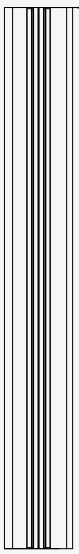
REAR



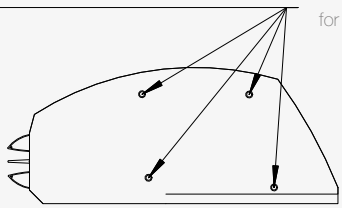
SECTION



DISCHARGE SIDE



TOP VIEW



4 M10 rivet nuts
for wall fixation on site

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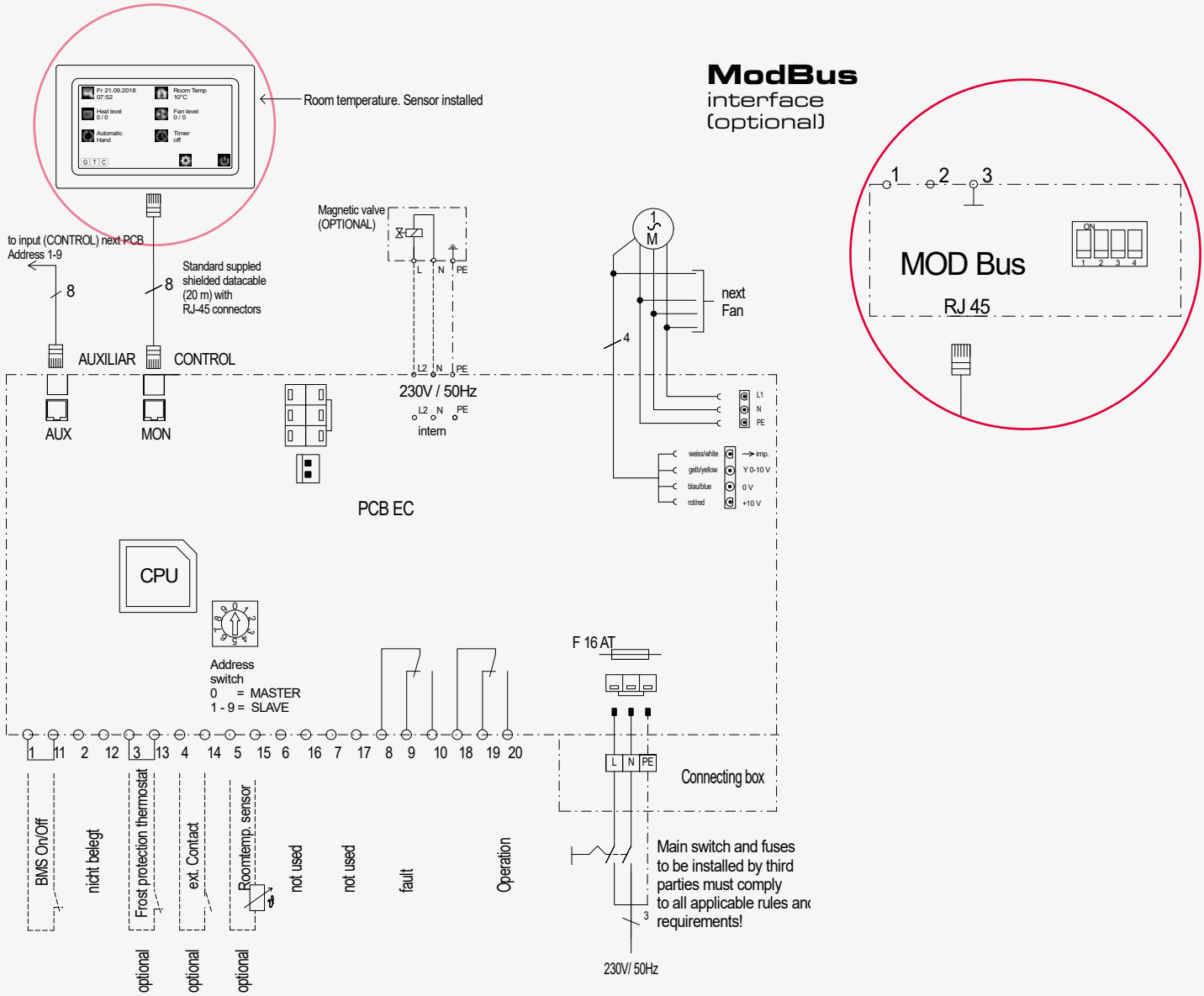
Connection-ready door air curtain for visible installation as a floor mounted vertical unit, with a straight design.
Ambient air intake is from the side, on the room side.

WING-R/G EC

STANDARD CIRCUIT DIAGRAM FOR LPHW



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CONTROL UNIT GTC 1 EC

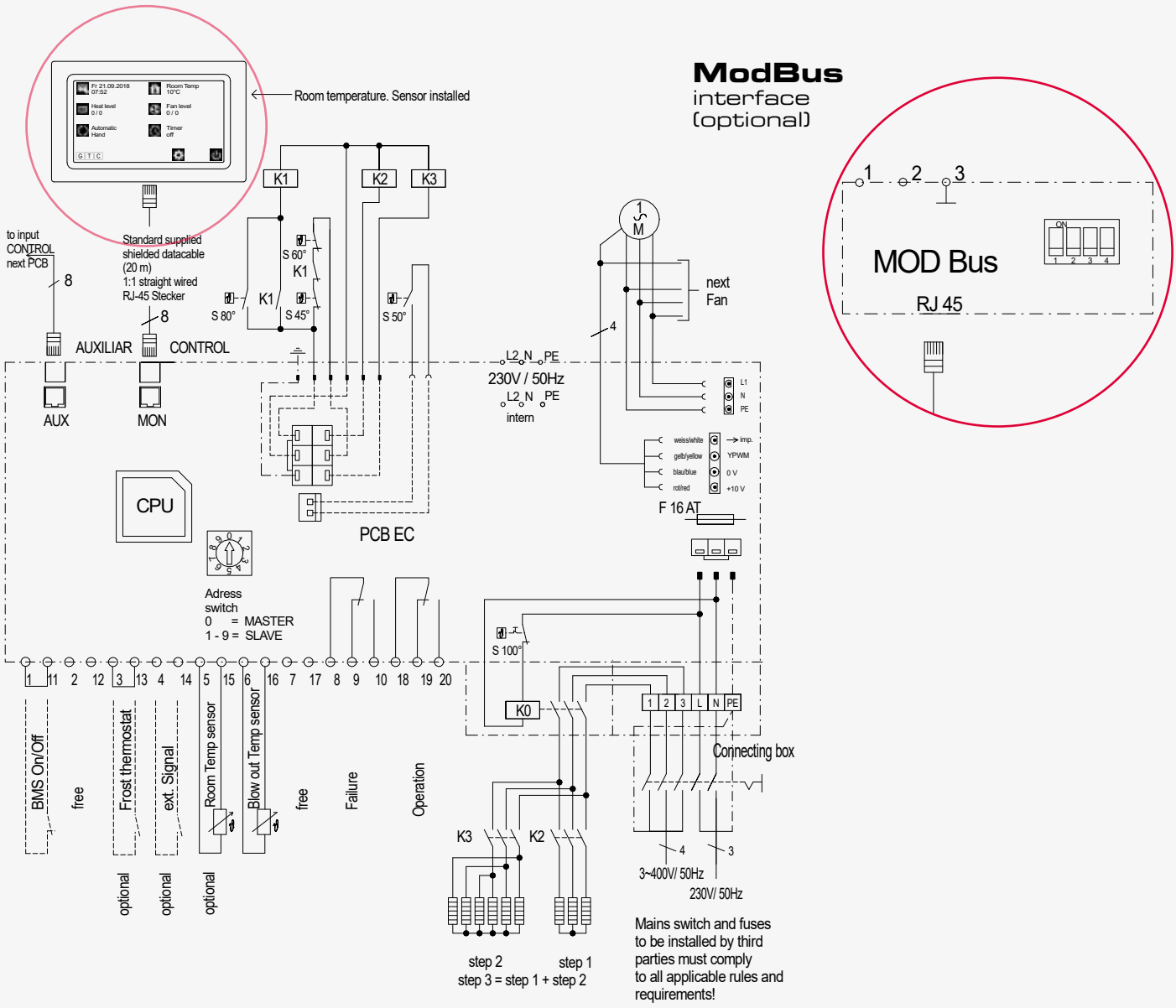
Multilingual, menu-driven electronic control unit for TEKADOOR air curtains with LPHW heating and energy-saving EC fans. A standard feature of the control unit with touch display is a choice between 5-stage or stageless fan control, which can be selected individually by the operator. The relevant operating 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.

WING-R/G EC

CIRCUIT DIAGRAM ELECT. HEAT EXCHANGER



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CONTROL UNIT GTC E EC

Multilingual, menu-driven electronic control unit for TEKADOOR air curtains with LPHW heating and energy-saving EC fans. 5-stage fan operation or stageless fan control – easy to adjust on the control unit using the touch display. The electric heater can be activated in 3 stages.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 AT – automatic operation via constant discharge temperature
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. A constant discharge temperature can be set via an optional cable temperature sensor. This enables optimisation of the shielding performance. A week timer is incorporated as standard, enabling up to 12 different switching times to be programmed per week. 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.

WING-R/G EC
OPTIONAL ACCESSORIES

Thermostatic straight-way valve

(Setting range + 20 °C to + 35 °C) limits the discharge temperature (constant supply air temperature limitation). Also available as a 3-way valve.

Solenoid valve

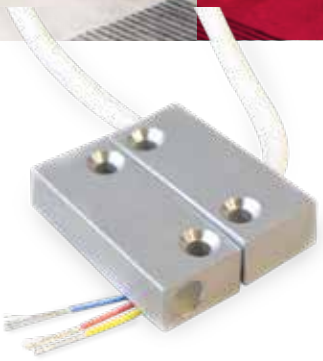
Opens or closes the warm water circuit in the summer/winter setting of the control unit, in order to close the heating water circuit and save energy during summer operation or when the air curtain is not working (normally closed). **Caution:** If solenoid valves are used, it is expressly recommended to install a frost protection thermostat (automatically actuated) and a strainer.

Thermo-electric shut-off valve

230 V / 50 Hz, normally closed. On-site installation in the heating flow. Actuated by the summer/ winter circuit. Summer function – closed. Winter function – opened.

Ceiling attachment set

For problem-free, vibration free ceiling attachment, consisting of M8 or M10 threaded rods, up to 1000 mm length, vibration dampers, turnbuckles and counter nuts.



Frost protection thermostat

For monitoring LPHW heat exchangers exposed to the risk of frost. As soon as the temperature falls below +7 °C, the fans are switched off and an optional solenoid valve is opened.

Control unit GTC 2 EC

Possibility of combination of various automatic operations. A constant discharge temperature can be set via an optional electronic control valve, and a week timer is incorporated as standard, enabling up to 12 different switching times to be programmed per week.

Electronic control valve

Electronic valve with 0-10V impulse and blow-out temperature sensor completely installed and wired. In combination with the GTC 2 control, a preselected blow-out temperature is kept constant.

Door contact solenoid switch

In automatic mode switches on the door air curtain in the preselected stage

WING-R/G EC

TECHNICAL DATA

WING-R EC 2000

TECHNICAL DATA

Design based on:

recommended operating point
intake temperature tLE = +20 °C
discharge temperature tLA = +34 °C
throw distance = up to 2.50 m

WING-R EC 2000			2002	2002.5	2003
Air quantity max.		m^3/h	2700	3600	4500
Heating capacity rated[1]	LPHW 70 / 50 °C	kW	12.7	17.0	21.2
	LPHW 60 / 40 °C	kW	12.7	17.0	21.2
Flow rate	LPHW 70 / 50 °C	m^3/h	0.56	0.75	0.93
	LPHW 60 / 40 °C	m^3/h	0.55	0.74	0.92
Water resistance	LPHW 70 / 50 °C	kPa	5.7	2.4	3.2
	LPHW 60 / 40 °C	kPa	7.0	4.5	3.2
Nominal connection sizes	Internal thread	Inches	2 x 3/4"	2 x 3/4"	2 x 3/4"
	Flow/return	DN	20	20	20
EC fans	Voltage	V		230 / 1 / N / PE	
	Frequency	Hz		50	
	Current consumption	A	3.1	4.1	5.1
	Motor power	kW	0.5	0.6	0.8
Electric heater 3-stage	Voltage	V		400 / 3 / N / PE	
	Frequency	Hz		50	
	Heating capacity	kW	4/8/12	6/12/18	6/12/18
Sound pressure level[2]	Highest setting	dB(A)	59	60	61
Drawing dimension	Unit height (A)	mm	2000	2500	3000
	Unit depth	mm	290	290	290
	Unit width	mm	670	670	670
Weight		kg	70	90	100

* WE RESERVE THE RIGHT TO MAKE TECHNICAL CHANGES

1. Rated operation based on operating point (see above), discharge temperature control recommended.
2. Measured at a lateral distance of 3 m. Sound pressure level may very depending on surrounding conditions.

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

WING-G EC 2000

TECHNICAL DATA

Design based on:

recommended operating point
intake temperature tLE = +20 °C
discharge temperature tLA = +34 °C
throw distance = up to 2.70 m

WING-G EC 2000			2002	2002.5	2003
Air quantity max.		m^3/h	3600	4500	5400
Heating capacity rated[1]	LPHW 70 / 50 °C	kW	17.0	21.2	25.5
	LPHW 60 / 40 °C	kW	17.0	21.2	25.5
Flow rate	LPHW 70 / 50 °C	m^3/h	0.75	0.93	1.30
	LPHW 60 / 40 °C	m^3/h	0.74	0.92	1.29
Water resistance	LPHW 70 / 50 °C	kPa	2.4	3.2	4.1
	LPHW 60 / 40 °C	kPa	4.5	3.2	4.2
Nominal connection sizes	Internal thread	Inches	2 x 3/4"	2 x 3/4"	2 x 3/4"
	Flow/return	DN	20	20	20
EC fans	Voltage	V		230 / 1 / N / PE	
	Frequency	Hz		50	
	Current consumption	A	4.1	5.1	7.2
	Motor power	kW	0.6	0.8	0.9
Electric heater 3-stage	Voltage	V		400 / 3 / N / PE	
	Frequency	Hz		50	
	Heating capacity	kW	6/12/18	6/12/18	10/20/30
Sound pressure level[2]	Highest setting	dB(A)	60	61	62
Drawing dimension	Unit height (A)	mm	2000	2500	3000
	Unit depth	mm	252	252	252
	Unit width	mm	610	610	610
Weight		kg	90	100	134

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1. Rated operation based on operating point (see above), discharge temperature control recommended.
2. Measured at a lateral distance of 3 m. Sound pressure level may very depending on surrounding conditions.

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

WING-G EC 3000

TECHNICAL DATA

Design based on:

recommended operating point
intake temperature tLE = +20 °C
discharge temperature tLA = +34 °C
throw distance = up to 3.00 m

WING-G EC 3000			3002	3002.5	3003
Air quantity max.		m^3/h	5400	6300	7200
Heating capacity rated[1]	LPHW 70 / 50 °C	kW	25.5	29.7	34.0
	LPHW 60 / 40 °C	kW	25.5	29.7	34.0
Flow rate	LPHW 70 / 50 °C	m^3/h	1.11	1.31	1.49
	LPHW 60 / 40 °C	m^3/h	1.11	1.31	1.49
Water resistance	LPHW 70 / 50 °C	kPa	3.7	5.2	7.2
	LPHW 60 / 40 °C	kPa	4.2	6.1	7.2
Nominal connection sizes	Internal thread	Inches	2 x 3/4"	2 x 3/4"	2 x 3/4"
	Flow/return	DN	20	20	20
EC fans	Voltage	V		230 / 1 / N / PE	
	Frequency	Hz		50	
	Current consumption	A	6.2	7.2	8.2
	Motor power	kW	0.9	1.1	1.2
Electric heater 3-stage	Voltage	V		400 / 3 / N / PE	
	Frequency	Hz		50	
	Heating capacity	kW	10/20/30	10.7/21.4/32	10.7/21.4/32
Sound pressure level[2]	Highest setting	dB(A)	62	63	64
Drawing dimension	Unit height (A)	mm	2000	2500	3000
	Unit depth	mm	252	252	252
	Unit width	mm	610	610	610
Weight		kg	103	135	145

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

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

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