TEKADOOR®

ELLIPSE EC

DESIGN AIR CURTAIN

INDIVIDUAL
INNOVATIVE
ENERGY-SAVING

ERP conform

ELLIPSE EC

DESIGN AIR CURTAIN

Applications

Ellipse EC is recommended when not only the function is important in the configuration of the entry area, but the appearance as well. The free-hanging, installation-ready unit with a modern, elliptical shape fits with the respective design of the door area thanks to a choice of powder-coated steel or stainless steel housings.

Special design

Discharge is via the patented, multi-adjustable Jetflow discharge nozzle (adjustable without tools), with an adaptive, asymmetrical nozzle cross-section. This guides the air stream smoothly with a large throw distance. Versions are available with a standard air roll (intake on the room side) or with a reversed air roll (intake on the door side).

The housing

Self-supporting steel/aluminium composite construction. Screws are not visible. Available with powder-coating in a selection of RAL colours, or alternatively as a stainless steel version. Aluminium Jetflow discharge nozzle, powder-coated to match the unit. Attractive intake grille with fine hole pattern for service-friendly, 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.
DX: DX register soldered under nitrogen for operation with heat pumps (only heating modus possible). High-quality heat exchanger made from copper tubes,
with pressed-on, extra-strong aluminium fins.
ELECTRO: 3-stage heat exchanger 400V, spiral form, corrosion resistant, with thermal overheating protection and switch-off delay.

Advantages at a glance

+ Jetflow discharge nozzle
Patented, steplessly variable

- + Made in Germany
- + ErP conform / EC fans
- + Certified by TÜV-Süd
- + Robust self-supporting steel/aluminium composite construction
- + A selection of individual RAL colours available or, alternatively, a stainless steel version
- + Individual unit lengths up to 3000 mm
- + Service-friendly thanks to filterless micro-intake grille
- + Patented, multi-adjustable Jetflow discharge nozzle with adaptive, asymmetrical nozzle cross-section
  (large throw distance, low noise, optimum shielding)
- + Different heating media possible
- + Simple to install

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) – and with 0-10 V for the DX. 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.

Maintenance

Easy to clean – micro grille – without opening the unit by simply vacuuming the intake grille.
Screwed and secured inspection panel on the underside of the unit (hinges on one side) – easy to open.

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.

ELLIPSE EC
DETAILS

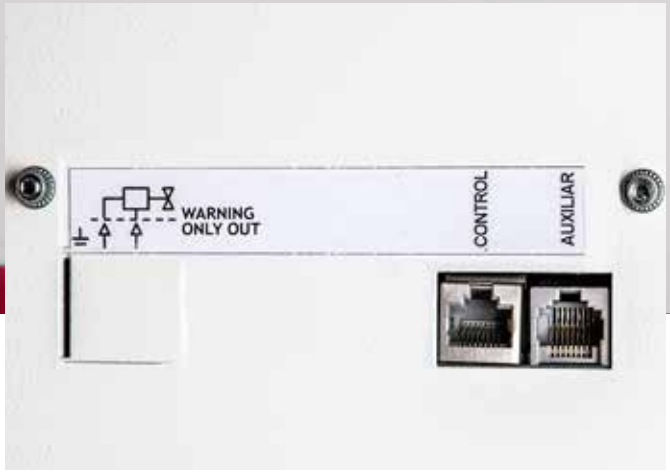
Connections

Heating connections – flow and return – on top of the unit as standard for easy connection to the on-site heating system. (Internal thread dimensions depend on the model)
Optionally, the connections can also be located at the side.

Connection box (LPHW)

Simple electrical connection via connection box (voltage supply 230 V/50Hz on the top of the unit); connection can optionally also be located at the side.

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



Data cable connection/interface

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

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

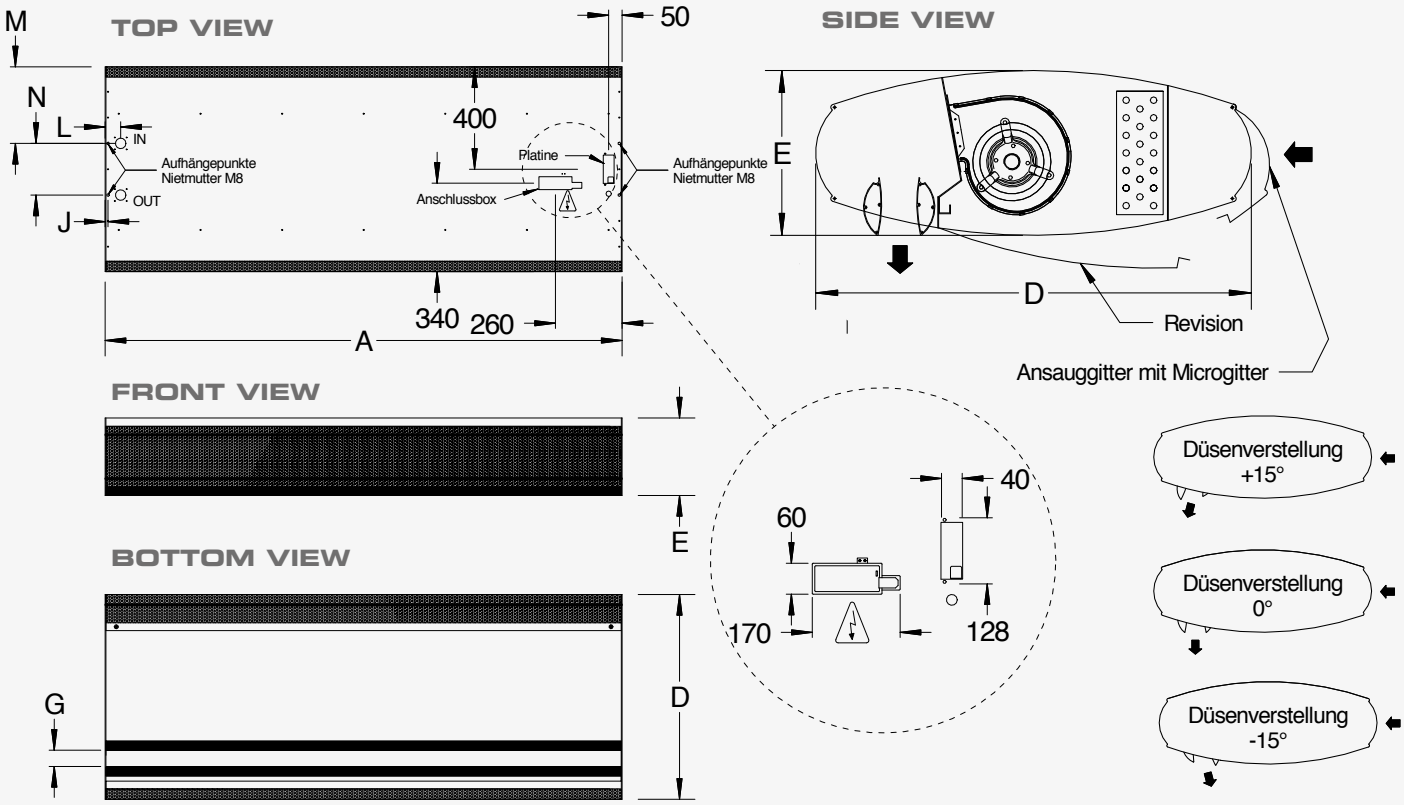
Auxiliary:
Output for parallel operation with other units.

Jetflow discharge nozzle

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.

ELLIPSE EC

FREE-HANGING INSTALLATION



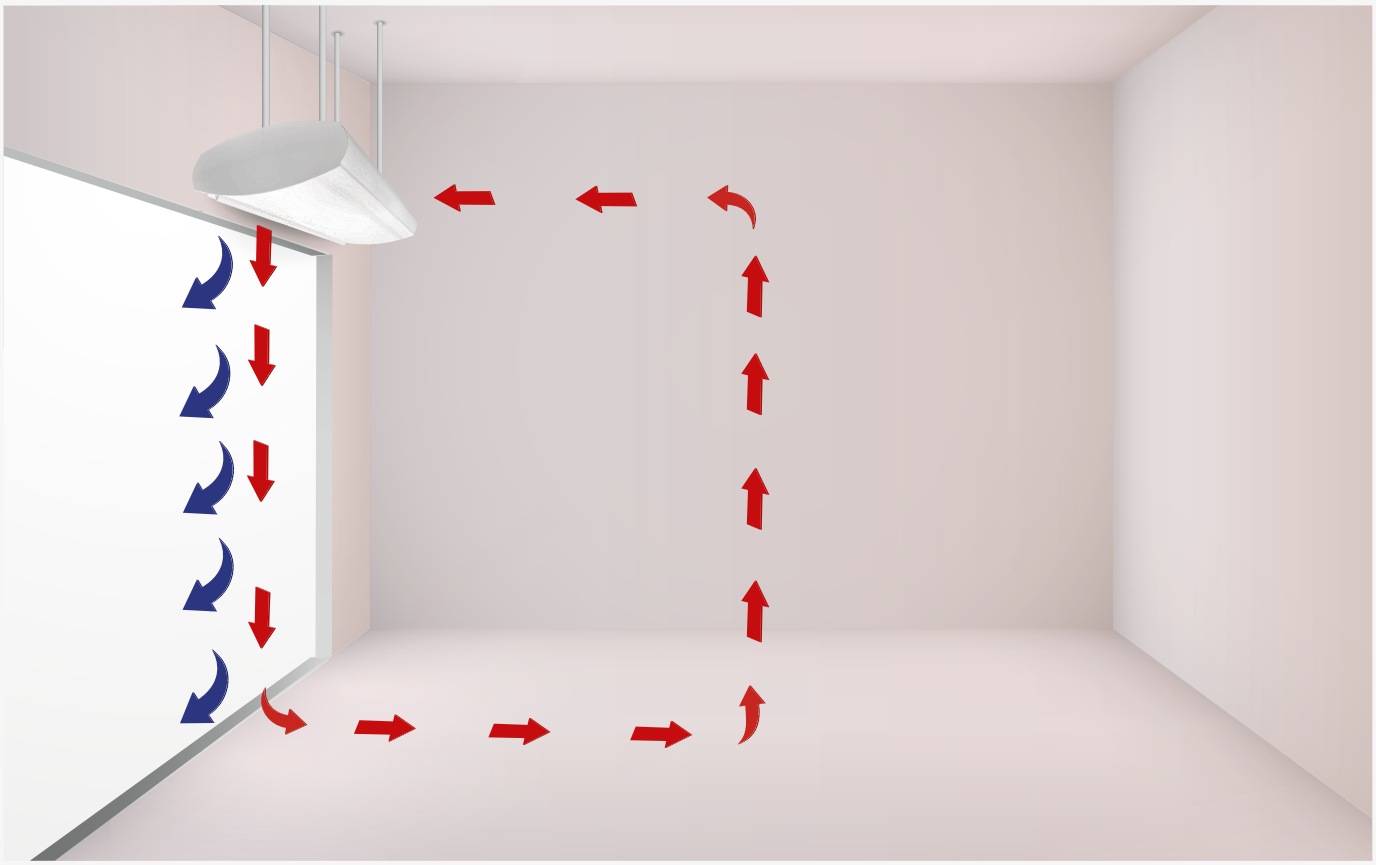
Ellipse	A	D	E	G	J	L	M	N
2000	Length dimension variable	800	300	60	10	55	300	200
3000		800	300	60	10	55	300	200

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. For the SLW version, the ambient air intake is at the front, on the room side. For the ULW version it is from the door side.

SLW suspension

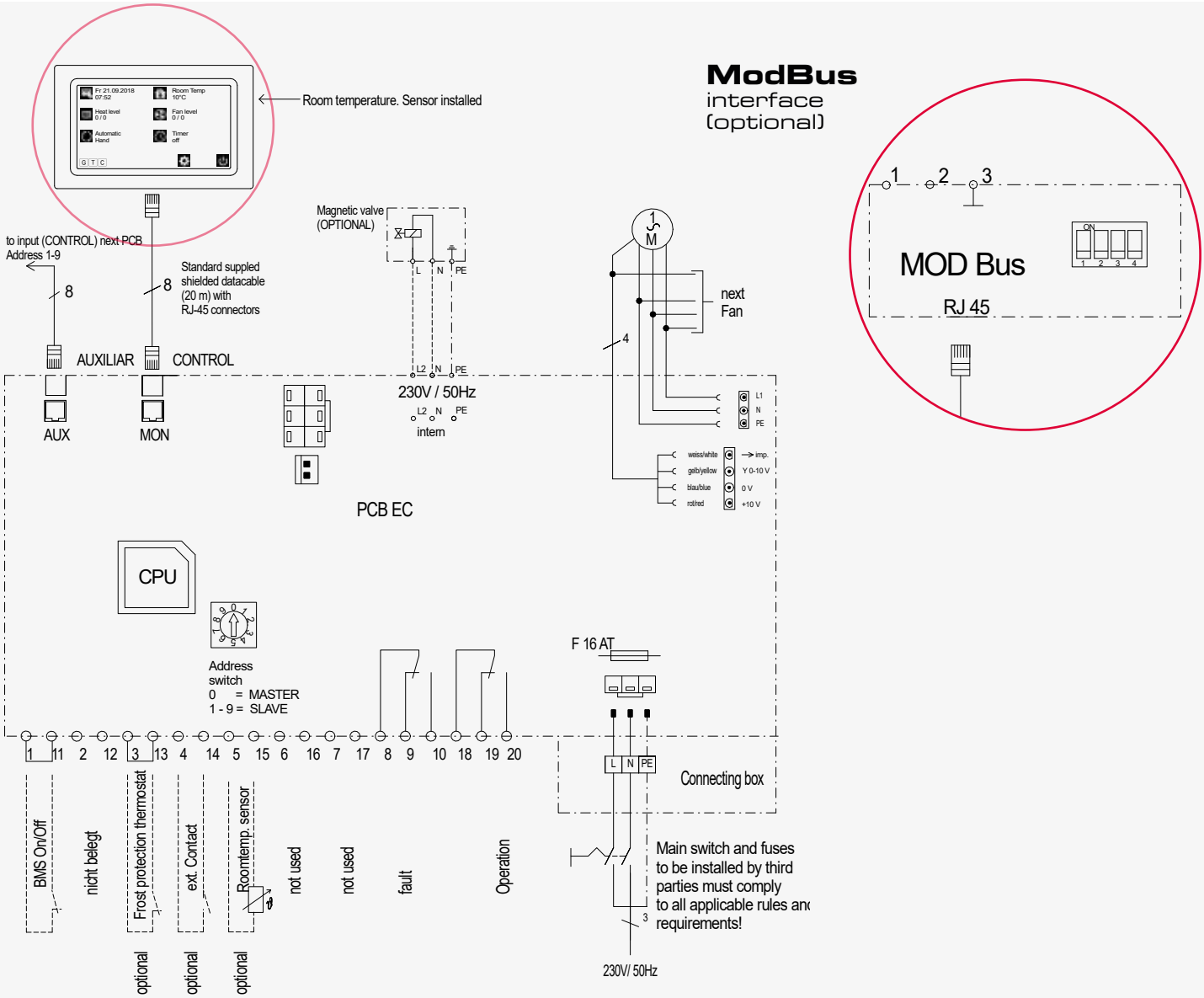


Connection-ready, free-hanging door air curtain unit for visible installation with standard air roll (SLW). The ambient air intake is on the room side and the air discharge directly at the door. Different-sized air rolls are installed depending on the size of the room.
The standard air roll is selected for small to medium door widths and shops at street level with a balanced pressure ratio.

ULW suspension

Connection-ready, free-hanging door air curtain unit for visible installation with reversed air roll (ULW). The mixed air intake is by the door and the air discharge on the room side. A frost protection thermostat is absolutely essential for the ULW version.
This unit is used for unfavourable store locations and difficult entry situations (multi-level, large entry area).
The reversed air roll counteracts the cold external air. The air movement in the entry area is reduced and the shielding performance increased.

ELLIPSE EC



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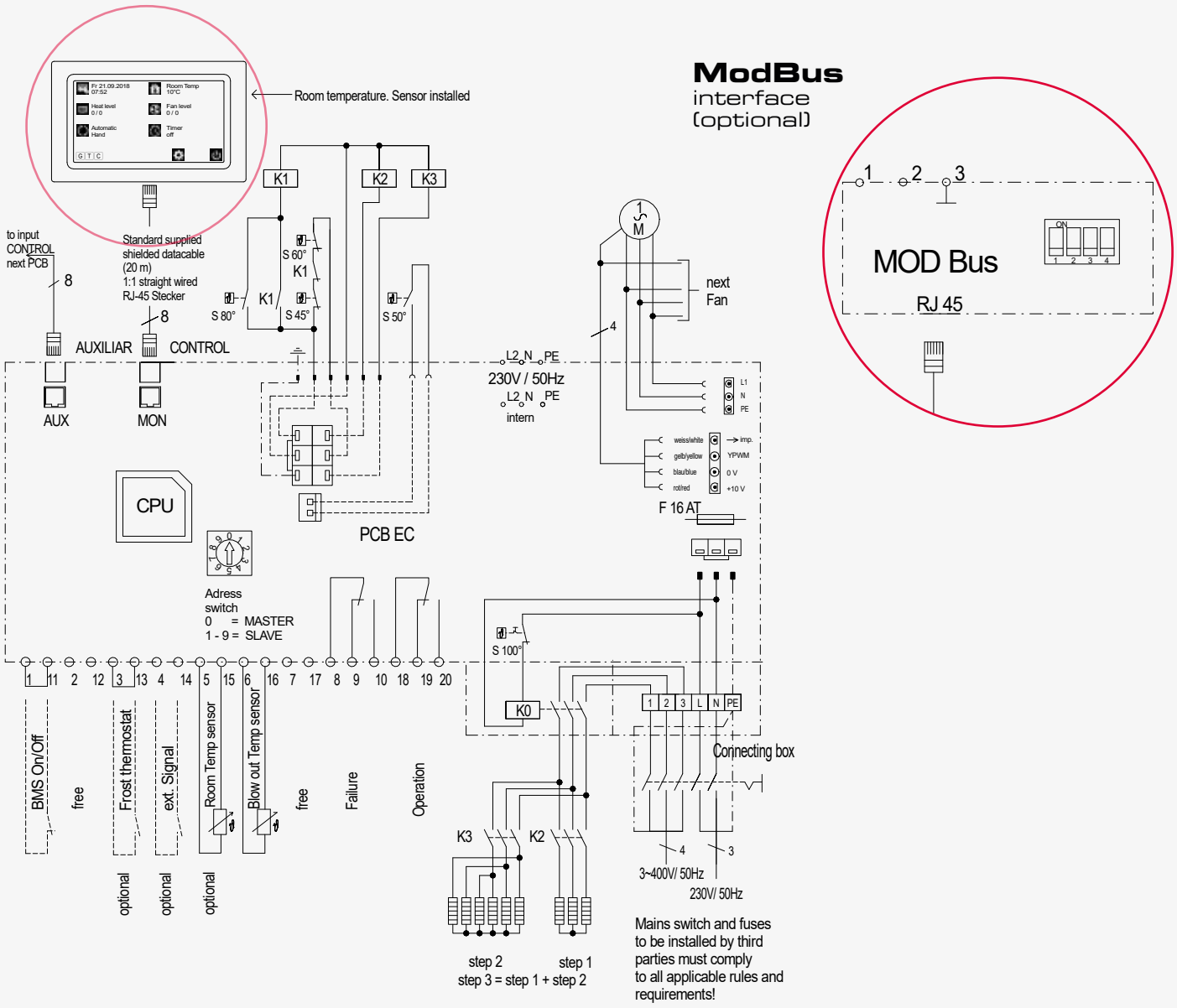
CONTROL UNIT GTC 1 EC

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.

ELLIPSE EC



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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.

ELLIPSE 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

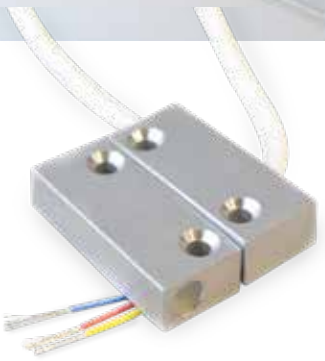
Opens or closes the warm water circuit in the summer/winter setting of the control unit, in order to close the heating water circuit and save energy during summer operation or when the air curtain is not working (normally closed).
Caution: If solenoid valves are used, it is expressly recommended to install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

ELLIPSE 2000 SLW

TECHNICAL DATA
FREE-HANGING

Design based on:

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

ELLIPSE 2000 SLW			2001	2001.5	2002	2002.5	2003
Total air quantity		m^3/h	1800	2700	3600	4500	6300
Heating capacity rated[1]	LPHW 70 / 50 °C	kW	8.5	12.7	17.0	21.2	29.7
	LPHW 60 / 40 °C	kW	8.5	12.7	17.0	21.2	29.7
Flow rate	LPHW 70 / 50 °C	m^3/h	0.37	0.56	0.75	0.93	1.30
	LPHW 60 / 40 °C	m^3/h	0.37	0.55	0.74	0.92	1.29
Water resistance	LPHW 70 / 50 °C	kPa	0.5	5.7	2.4	3.2	5.6
	LPHW 60 / 40 °C	kPa	3.8	7.0	4.5	3.2	5.6
Nominal connection sizes	Internal thread	Inches	2 x 3/4"	2 x 3/4"	2 x 3/4"	2 x 3/4"	2 x 3/4"
	Flow/return	DN	20	20	20	20	20
EC fans	Voltage	V	230 / 1 / N / PE				
	Frequency	Hz	50				
	Current consumption	A	2.1	3.1	4.1	5.1	7.2
	Motor power	kW	0.3	0.5	0.6	0.8	0.9
Electric heater 3-stage	Voltage	V	400 / 3 / N / PE				
	Frequency	Hz	50				
	Heating capacity	kW	3/6/9	4/8/12	6/12/18	6/12/18	10/20/30
Sound pressure level [2]	Highest setting	dB (A)	58	59	60	61	62
Drawing dimension	Unit width (A)	mm	1000	1500	2000	2500	3000
	Unit height (E)	mm	300	300	300	300	300
	Unit depth (D)	mm	800	800	800	800	800
Weight		kg	50	70	90	100	125

* 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.

ELLIPSE 2000 ULW

TECHNICAL DATA
FREE-HANGING

TEKADOOR®

Design based on:

recommended operating point
intake temperature tLE = +10 °C
discharge temperature tLA = +34 °C
discharge height = up to 2.70 m

ELLIPSE 2000 ULW			2001	2001.5	2002	2002.5	2003
Total air quantity		m^3/h	1800	2700	3600	4500	6300
Heating capacity rated[1]	LPHW 70 / 50 °C	kW	14.5	21.8	29.1	36.4	50.9
	LPHW 60 / 40 °C	kW	14.5	21.8	29.1	36.4	50.9
Flow rate	LPHW 70 / 50 °C	m^3/h	0.64	0.96	1.27	1.59	2.23
	LPHW 60 / 40 °C	m^3/h	0.63	0.95	1.27	1.58	2.22
Water resistance	LPHW 70 / 50 °C	kPa	1.3	4.5	6.5	8.9	8.7
	LPHW 60 / 40 °C	kPa	10.4	5.8	8.2	8.9	11.3
Nominal connection sizes	Internal thread	Inches	2 x 3/4"	2 x 3/4"	2 x 3/4"	2 x 3/4"	2 x 3/4"
	Flow/return	DN	20	20	20	20	20
EC fans	Voltage	V	230 / 1 / N / PE				
	Frequency	Hz	50				
	Current consumption	A	2.1	3.1	4.1	5.1	7.2
	Motor power	kW	0.3	0.5	0.6	0.8	0.9
Sound pressure level [2]	Highest setting	dB (A)	58	59	60	61	62
Drawing dimension	Unit width (A)	mm	1000	1500	2000	2500	3000
	Unit height (E)	mm	300	300	300	300	300
	Unit depth (D)	mm	800	800	800	800	800
Weight		kg	50	70	90	100	125

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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.

ELLIPSE 3000 SLW

TECHNICAL DATA
FREE-HANGING

Design based on:

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

ELLIPSE 3000 SLW			3001	3001.5	3002	3002.5	3003
Total air quantity		m^3/h	2700	3600	5400	6300	7200
Heating capacity rated[1]	LPHW 70 / 50 °C	kW	12.7	17.0	25.5	29.7	34.0
	LPHW 60 / 40 °C	kW	12.7	17.0	25.5	29.7	34.0
Flow rate	LPHW 70 / 50 °C	m^3/h	0.56	0.75	1.11	1.31	1.49
	LPHW 60 / 40 °C	m^3/h	0.55	0.74	1.11	1.29	1.48
Water resistance	LPHW 70 / 50 °C	kPa	0.8	2.8	3.7	5.2	7.2
	LPHW 60 / 40 °C	kPa	1.7	3.7	4.2	6.1	7.2
Nominal connection sizes	Internal thread	Inches	2 x 3/4"	2 x 3/4"	2 x 3/4"	2 x 3/4"	2 x 3/4"
	Flow/return	DN	20	20	20	20	20
EC fans	Voltage	V	230 / 1 / N / PE				
	Frequency	Hz	50				
	Current consumption	A	3.1	4.1	6.2	7.2	8.2
	Motor power	kW	0.5	0.6	0.9	1.1	1.2
Electric heater 3-stage	Voltage	V	400 / 3 / N / PE				
	Frequency	Hz	50				
	Heating capacity	kW	5/10/15	7.5/15/22.5	10/20/30	10.7/21.4/32	10.7/21.4/32
Sound pressure level [2]	Highest setting	dB (A)	60	61	62	63	64
Drawing dimension	Unit width (A)	mm	1000	1500	2000	2500	3000
	Unit height (E)	mm	300	300	300	300	300
	Unit depth (D)	mm	800	800	800	800	800
Weight		kg	62	77	103	135	162

* 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.

ELLIPSE 3000 ULW

TECHNICAL DATA
FREE-HANGING

TEKADOOR®

Design based on:

recommended operating point
intake temperature tLE = +10 °C
discharge temperature tLA = +34 °C
discharge height = up to 3.00 m

ELLIPSE 3000 ULW			3001	3001.5	3002	3002.5	3003
Total air quantity		m^3/h	2700	3600	5400	6300	7200
Heating capacity rated[1]	LPHW 70 / 50 °C	kW	21.8	29.1	43.6	50.9	58.2
	LPHW 60 / 40 °C	kW	21.8	29.1	43.6	50.9	58.2
Flow rate	LPHW 70 / 50 °C	m^3/h	0.96	1.27	1.91	2.23	2.55
	LPHW 60 / 40 °C	m^3/h	0.95	1.27	1.90	2.22	2.54
Water resistance	LPHW 70 / 50 °C	kPa	2.3	7.7	10.4	7.9	11.2
	LPHW 60 / 40 °C	kPa	4.5	9.9	11.7	10.0	14.4
Nominal connection sizes	Internal thread	Inches	2 x 3/4"	2 x 3/4"	2 x 3/4"	2 x 3/4"	2 x 3/4"
	Flow/return	DN	20	20	20	20	20
EC fans	Voltage	V	230 / 1 / N / PE				
	Frequency	Hz	50				
	Current consumption	A	3.1	4.1	6.2	7.2	8.2
	Motor power	kW	0.5	0.6	0.9	1.1	1.2
Sound pressure level [2]	Highest setting	dB (A)	60	61	62	63	64
Drawing dimension	Unit width (A)	mm	1000	1500	2000	2500	3000
	Unit height (E)	mm	300	300	300	300	300
	Unit depth (D)	mm	800	800	800	800	800
Weight		kg	62	77	103	135	162

* 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.

ELLIPSE 2000 DX-H

TECHNICAL DATA
FREE HANGING / STANDARD AIR ROLL
ONLY HEATING MODE POSSIBLE

Design based on:

recommended operating point
Intake temperature tLE = +20 °C
discharge temperature tLA = +34 °C
discharge height 2000 DX-H = up to 2.70 m
heating gas temperature = 70 °C
condensation temperature = 50 °C
condensate exit temp. = 45 °C
operating pressure = max. 45 bar

ELLIPSE 2000 DX-H SLW			2001	2001.5	2002	2002.5	2003
Total air quantity		m^3/h	1800	2700	3600	4500	6300
Power rated[1]	DX heating capacity	kW	8.6	12.9	17.3	21.3	29.9
Delivery and intake line	Connections	mm	10/16	10/18	10/22	10/22	10/22
EC fans [3]	Voltage	V	230 / 1 / N / PE				
	Frequency	Hz	50				
	Max. current consumption	A	2.4	3.6	4.7	5.9	8.2
	Max. motor power	kW	0.3	0.5	0.7	0.8	1.2
Sound pressure level [2]	Highest setting	dB (A)	58	59	60	61	62
Drawing dimension	Unit length (A)	mm	1000	1500	2000	2500	3000
	Unit height (E)	mm	300	300	300	300	300
	Unit depth (D)	mm	800	800	800	800	800
Weight		kg	52	73	94	105	131

* WE RESERVE THE RIGHT TO MAKE TECHNICAL CHANGES

1. Rated operation based on operating point (see above).
2. Measured at a lateral distance of 3 m. Sound pressure level may very depending on surrounding conditions.
3. Control voltage 0-10 V

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

ELLIPSE 3000 DX-H

TECHNICAL DATA
FREE HANGING / STANDARD AIR ROLL
ONLY HEATING MODE POSSIBLE

TEKADOOR®

Design based on:

recommended operating point
intake temperature tLE = +20 °C
discharge temperature tLA = +34 °C
discharge height 3000 DX-H = up to 3.00 m
heating gas temperature = 70 °C
condensation temperature = 50 °C
condensate exit temp. = 45 °C
operating pressure = max. 45 bar

ELLIPSE 3000 DX-H SLW			3001	3001.5	3002	3002.5	3003
Total air quantity		m^3/h	2700	3600	5400	6300	7200
Power rated[1]	DX heating capacity	kW	12.7	17.0	25.7	29.6	34.0
Delivery and intake line	Connections	mm	10/16	10/18	10/22	10/22	10/22
EC fans [3]	Voltage	V	230 / 1 / N / PE				
	Frequency	Hz	50				
	Max. current consumption	A	3.5	4.7	7.1	8.2	9.4
	Max. motor power	kW	0.3	0.7	1.0	1.2	1.4
Sound pressure level [2]	Highest setting	dB (A)	60	61	62	63	64
Drawing dimension	Unit length (A)	mm	1000	1500	2000	2500	3000
	Unit height (E)	mm	300	300	300	300	300
	Unit depth (D)	mm	800	800	800	800	800
Weight		kg	64	80	107	140	168

* WE RESERVE THE RIGHT TO MAKE TECHNICAL CHANGES

1. Rated operation based on operating point (see above).
2. Measured at a lateral distance of 3 m. Sound pressure level may very depending on surrounding conditions.
3. Control voltage 0-10 V

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

TEKADOOR®

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