

Economic B

- [] Water heater
- [] Electric heater
- [] Without heater
- [] Opening heights of up to 2.5m



Features

- Single capacity line, for opening heights of up to 2.5m
- 1.0 m, 1.5 m, and 2.0 m lengths
- Three types of electric heaters, water heater, or air-only version
- Mounting bracket included
- 24-month guarantee

Economic B air curtains are designed for the barrier free separation of two areas with differing climatic conditions.

These air curtains are particularly suitable for installation in shopping centres, banks, hotels, restaurants, administrative buildings and so on. The air curtain should be used in an environment free of rough dust, grease, chemical fumes and other impurities.

The Economic B is supplied in white RAL9010 gloss. Alternative RAL colours are available at an extra charge.

Primary Parameters

- The air curtain should be installed indoors in a dry area with ambient temperatures ranging from 0°C up to +40°C with a relative humidity up to 80%.
- The IP rating of the air curtain is IP20.
- All air curtains with electric heaters are fitted with a safety thermostat with automatic reset and an emergency thermostat with a manual reset.
- The warm-water exchangers are designed for a maximum operating temperature of +100°C and a maximum operating pressure of 1.6MPa.

All air curtain projects should be calculated by a HVAC designer.

Air curtain type	Door height* [m]	Air capacity [m3/h]	Noise** [dB(A)]	Heater power [kW]	Heater voltage / current [V/A]	Fan voltage / current [V/A]	Weight [kg]	
VCZ02-B-100-E-SM	2.5	1350	47.0	6.0	400/8.7	230/0.9	18.6	
VCZ02-B-150-E-SM		2000	48.0	9.0	400/13.0	230/0.9	22.7	
VCZ02-B-200-E-SM		2700	48.5	12.0	400/17.3	230/0.9	26.9	
VCZ02-B-100-F-SM		1300	46.0	9.0	400/13.0	230/0.9	19.7	
VCZ02-B-150-F-SM		1900	47.0	14.0	400/20.2	230/0.9	24.5	
VCZ02-B-200-F-SM		2550	47.5	18.0	400/26.0	230/0.9	29.3	
VCZ02-B-100-G-SM		1350	47.0	4.5	400/6.5	230/0.9	18.6	
VCZ02-B-150-G-SM		2000	48.0	6.8	400/9.7	230/0.9	22.7	
VCZ02-B-200-G-SM		2700	48.5	9.0	400/13.0	230/0.9	26.9	
VCZ02-B-100-V-SM		1100	44.0	8.7***	-	230/0.9	22.7	
VCZ02-B-150-V-SM		1650	44.5	14.0***	-	230/0.9	28.4	
VCZ02-B-200-V-SM		2200	46.0	19.2***	-	230/0.9	34.4	
VCZ02-B-100-S-SM		1500	49.0		Without heating	-	230/0.9	17.6
VCZ02-B-150-S-SM		2200	50.0		Without heating	-	230/0.9	20.9
VCZ02-B-200-S-SM		2950	50.5		Without heating	-	230/0.9	24.5

* Limited distance when air flow speed decreases to 2 m/s. Applies to the highest capacity type under optimum conditions.

** Sound pressure measured 3 m from the air curtain intake.

*** At the temperature gradient of 82/71 and temperature of intake air equal to +18 °C.



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Electric heater parameters

Air curtain type	Air capacity [m ³ /h]	Heater power [kW]		Temperature increase* Δt [°C]	
		1st level	2nd level	1st level	2nd level
VCZ02-B-100-E-SM	1350	-	6.0	-	13.1
VCZ02-B-150-E-SM	2000	-	9.0	-	13.3
VCZ02-B-200-E-SM	2700	-	12.0	-	13.1
VCZ02-B-100-F-SM	1300	4.5	9.0	10.2	20.4
VCZ02-B-150-F-SM	1900	7.0	14.0	10.9	21.7
VCZ02-B-200-F-SM	2550	9.0	18.0	10.4	20.8
VCZ02-B-100-G-SM	1350	-	4.5	-	9.8
VCZ02-B-150-G-SM	2000	-	6.75	-	9.9
VCZ02-B-200-G-SM	2700	-	9.0	-	9.8

- At the maximum air flow and maximum heater power

Water exchanger parameters for water temperature gradient of 82/71 °C

Air curtain type	Air capacity [m ³ /h]	Heater power* [kW]	Outlet temperature [°C]	Water flow [l/s]	Water pressure loss [kPa]
VCZ02-B-100-V-SM	1100	8.7	23.4	0.18	8
VCZ02-B-150-V-SM	1650	14.0	25.0	0.30	24
VCZ02-B-200-V-SM	2200	19.2	25.7	0.41	52

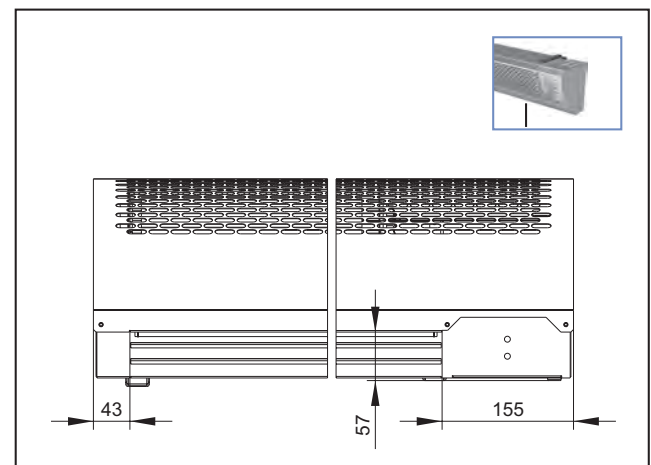
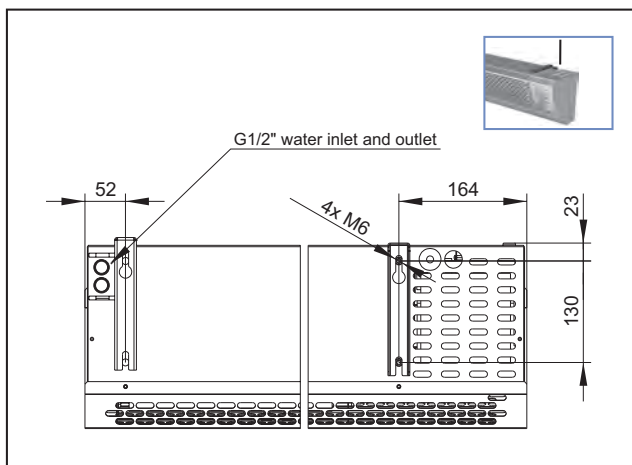
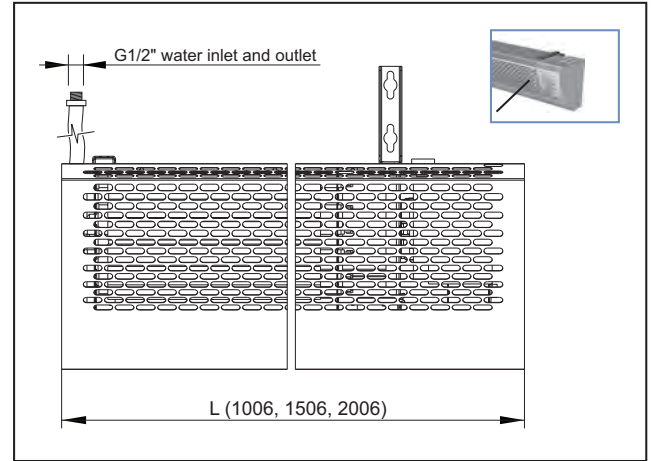
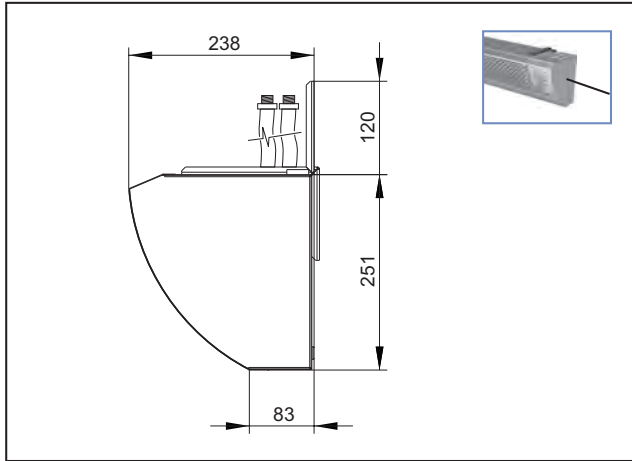
- Temperature of intake air: +18 °C

Water exchanger parameters for water temperature gradient of 80/60 °C

Air curtain type	Air capacity [m ³ /h]	Heater power* [kW]	Outlet temperature [°C]	Water flow [l/s]	Water pressure loss [kPa]
VCZ02-B-100-V-SM	1100	8,97	42,0	0,11	2,9
VCZ02-B-150-V-SM	1650	14,60	44,0	0,17	8,8
VCZ02-B-200-V-SM	2200	20,10	44,9	0,24	19,1

- Temperature of intake air: +18 °C

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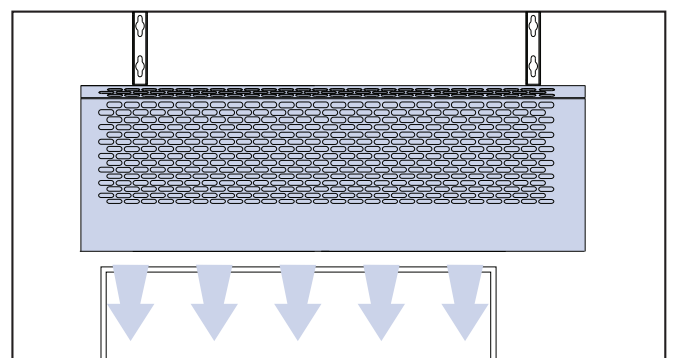
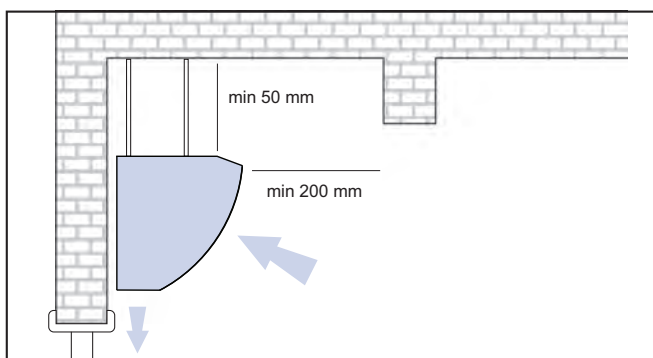


Installation and assembly

- The air curtain shall be installed in a horizontal position only.
- The air curtain shall be located as close to the top edge of the doorway as possible, see figure.
- To ensure a correct function it is recommended that the air curtain overlaps the doorway by 100 mm on both sides.
- Correct operation of the air curtain requires that specified distances from the surrounding objects are observed, see figure.











- Position of the heating water and power supply connections shall be taken into consideration during installation.
- The air curtain shall be installed using supplied brackets

The power cable designed for connecting the SM remote controller (230 V control voltage) is not included and should be provided by the company performing installation of the air curtain.



Overview of functions and sensor connection



	Control type	Manual
	Air capacity control	3 speeds
	Electric heater control	YES *
	Door contact connection	NO
	Thermostat connection	NO
	Timer connection	NO
	Electric heater aftercooling	YES
	Air curtain chaining	NO
	Light indication of selected function	YES (on air curtain housing)
	Controller-air curtain connection	Power cable (230 V)

*Electric heater control depends on the air curtain type (E, G version = ON/OFF, F version = 50% / 100% /OFF).

Water heater control

Control system of the water heater is not integrated in the air curtain and needs to be designed separately.

We recommend the following control methods:

1) Basic by throttling

TV1-1/1 thermostatic valve. The valve controls smoothly the warm water supply into the air curtain depending on the temperature of air leaving the air curtain. One valve is required for each air curtain.

2) Economical by splitting (open/closed)

ZV-3 three-way zone valve with a servo drive and TER-K channel thermostat or TER-P room thermostat. The valve switches the warm water supply into the air curtain and back towards the heat source depending on the temperature of air leaving the air curtain or depending on the room temperature. One valve is required for each air curtain.



Installation bar

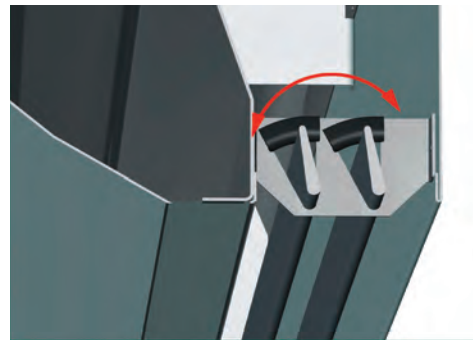
3) Precise by mixing

SMU mixing point, OSMU-01-6A mixing point controller, P12L1000 channel sensor or P10L1000 room sensor. The mixing system controls smoothly the ratio of supply and return heating water flowing into the air curtain depending on the temperature of air leaving the air curtain and/or depending on the room temperature. One mixing point may be used for multiple air curtains provided that they have identical length and that the exchangers are connected in a parallel arrangement.

Required accessories

Connection cable

Controller for air curtains with the SM control is connected using common wiring cable (230 V control voltage), see "Wiring diagrams" below. A suitable cross-section of the cable shall be determined based on the particular installation conditions. This cable should be delivered by a company performing the air curtain electrical wiring. ~



Adjustable lamellas



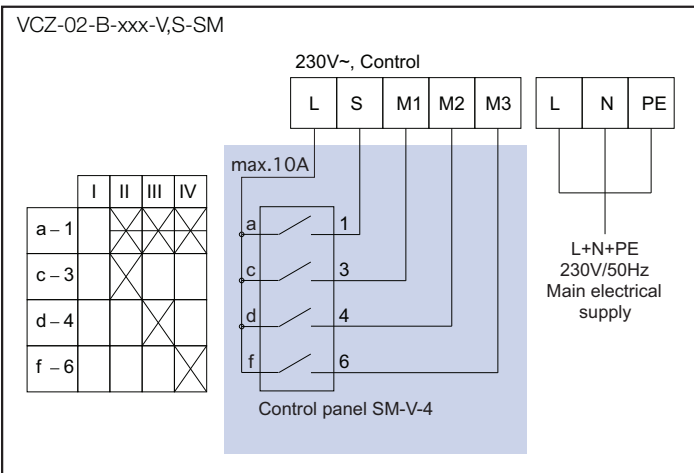
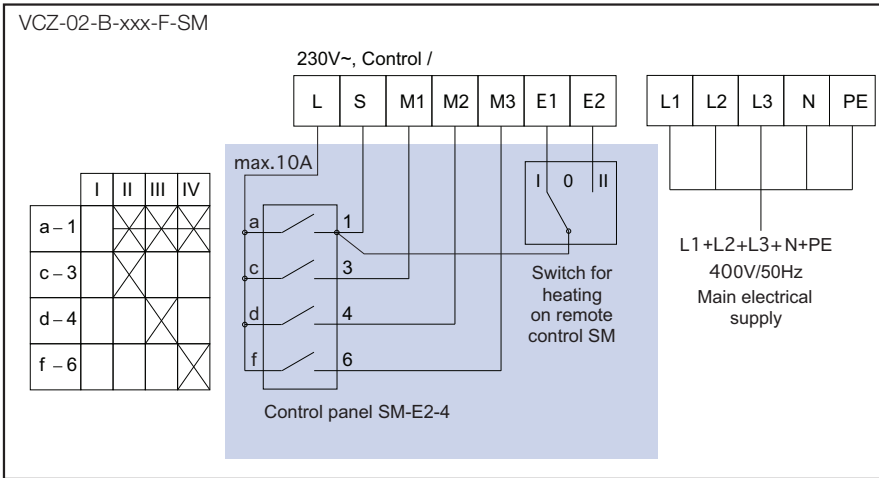
Installation console

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Wiring diagrams

The recommended cross-section of the main power supply cables is stated in the Instruction manual.

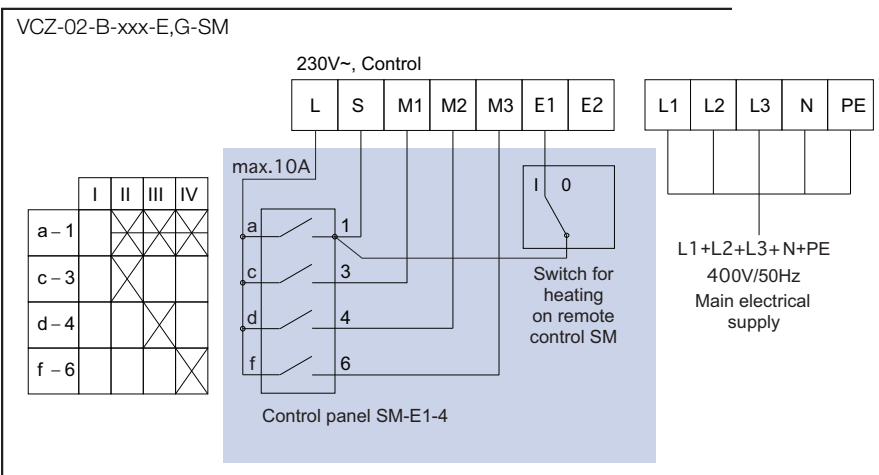
All wiring diagrams provided in the technical catalogue are indicative only. When assembling the product, observe strictly the nameplate ratings as well as directions and diagrams affixed directly to the product or enclosed to the product.



KEY TO CODING

VCZ-02 - B - 150 - E - SM

- SM - standard with remote control
- S - air-only
- G - electric heater with reduced power
- E - electric heater
- F - electric heater with increased power
- V - water heater
- 100 - nominal width 1000 mm
- 150 - nominal width 1500 mm
- 200 - nominal width 2000 mm
- B - output series
- VCZ-02 - air curtains ECONOMIC - B



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JS has a policy of continually improving products and performance. Actual specifications might vary from those shown.

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