



Saphir

Slim design Air Curtain for revolving doors for visible vertical installation

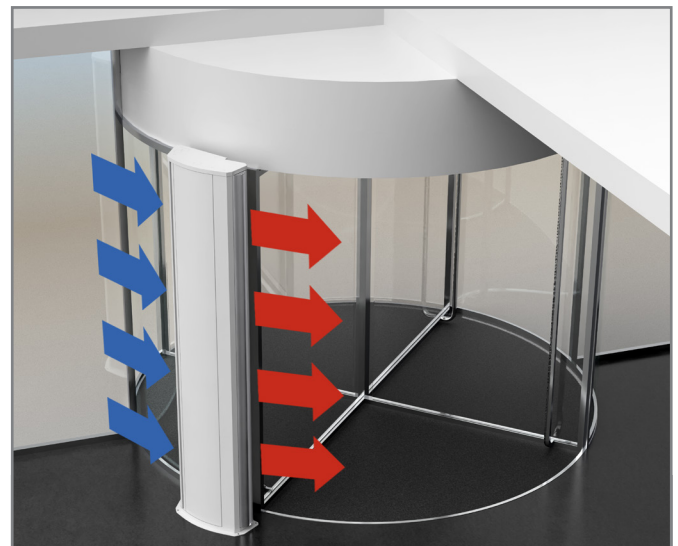
The slim SAPHIR column Air Curtains are specially designed for lateral placement on revolving and swing doors. The elegant housing of the units is adapted to the shape of the round door so that the SAPHIR Air Curtains fit discreetly and space-savingly into the door system. For round doors with a 90° opening angle, we recommend positioning the units on the left and right side of the round door to achieve the best possible shielding.

Application

The slim, vertical SAPHIR Air Curtain is designed for sideways positioning on revolving and swing doors. The air is drawn in from the room and creates an effective separation of indoor and outdoor air.

Teddington works

Crucial for the successful shielding of doors and gates is the interplay between air discharge speed and air volume. The CONVERGO® pressure chamber nozzle system developed and patented by Teddington has been optimized for this purpose and ensures maximum shielding across the entire door.



Saphir

Visible vertical installation,
air intake at the rear.



VARIOUS OPTIONS

Individual device colour



Teddington Air Curtain units are powder-coated to a high standard. You can choose between 6 popular, timeless RAL Classic colours. But we can also offer you the right colour for any other colour request and make your Air Curtain an eye-catcher. Talk to us about your desired colour.

Also available in an elegant stainless-steel design on request



Our SAPHIR Air Curtains are made of galvanized sheet steel as standard, which is powder-coated for a high-quality finish. On request, the housing of your Air Curtain unit can be made from high-quality stainless steel.

Heating modes



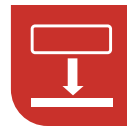
The Teddington SAPHIR is available as an ambient unit without heating and can be heated in the versions LTHW (water) and electric.

3 power levels



The Teddington SAPHIR is available in three power levels. This means that your Air Curtain is configured precisely for the respective requirement in order to guarantee optimum shielding and the lowest possible energy consumption.

Shielding up to 6.0 m door diameter



Our powerful and fast-starting SAPHIR fans, in conjunction with our patented CONVERGO® pressure chamber nozzle system allow a maximum door diameter of up to 6.0 metres.

AC or EC fans



A distinction is made between two fan technologies: AC and EC. Teddington is one of the few Air Curtain manufacturers to offer both technologies. This allows us to respond flexibly to project requirements and offer the optimal unit.

AC: The fast-starting AC fans are particularly suitable for doors and gates that open and close quickly or are only open for a short time.

EC: The energy-saving and infinitely variable EC fans are particularly suitable for doors and gates that are open for long periods (e.g. open glass front of a shop).

TCX - Our most innovative control system

With the TCX controller generation, you can now control your Teddington Air Curtain system even more easily and clearly. Just a few steps are all it takes for reliable configuration according to your requirements. Whether for a single Air Curtain system or a complex system grouping. TCX – the perfect controller for your Air Curtain system.





TECHNICAL DATA



Power level	Saphir 1			Saphir 2			Saphir 3		
Length of the unit (cm)	220	250	300	220	250	300	220	250	300

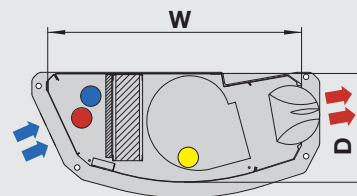
Performance data

Max. recommended door diameter (revolving door)	[m]	3.60			4.80			6.00		
Max. nominal flow rate	[m³/h]	3100	4200	5250	4200	5250	6300	5250	6300	7450
Max. effective flow rate*	[m³/h]	2250	3000	3750	3200	4000	4800	3800	4550	5300
Average air discharge speed*	[m/s]	9.0			14.2			15.6		

Sound pressure level at a distance of 3 metres to the sound source (anechoic chamber)

Max. operating level	[dB(A)]	57.0	58.0	60.0	58.0	60.0	62.0	60.0	61.0	62.0
Average operating level	[dB(A)]	46.6	47.6	49.6	47.6	49.6	51.6	50.7	51.7	52.7
Minimum operating level	[dB(A)]	36.6	37.6	39.6	37.6	39.6	41.6	40.7	41.7	42.7

*Data are based on measurements in accordance with ISO 27327 conducted by the Institute of Air Handling and Refrigeration (ILK) in Dresden



- Power connection
- Flow
- Return flow

The drawing shows a LTHW unit (water) with connections at the top (bottom connections are also possible as an option).

Note: The Air Curtain must be secured against tipping on site.




Power level	Saphir 1			Saphir 2			Saphir 3		
Length of the unit (cm)	220	250	300	220	250	300	220	250	300


Measurements

Height (with base plate + 8 mm, adjustable feet + 20 mm)	H	[mm]	2200	2500	3000	2200	2500	3000	2200	2500	3000
Depth (without base plate)	D	[mm]	240	240	240	240	240	240	240	240	240
Width (without base plate)	W	[mm]	600	600	600	600	600	600	600	600	600
Dimensions of the base plate		[mm]	H = 8 mm, D = 277 mm, W = 635 mm			H = 8 mm, D = 277 mm, W = 635 mm			H = 8 mm, D = 277 mm, W = 635 mm		
Weight without heater battery		[kg]	62	69	97	72	79	107	82	89	117
Weight with heater battery		[kg]	70	80	110	80	90	120	90	100	130




TECHNICAL DATA

	Power level	Saphir 1			Saphir 2			Saphir 3		
	Length of the unit (cm)	220	250	300	220	250	300	220	250	300
Technical data of fans (230 V)										
AC technology										
Output	[kW]	0.56	0.74	0.93	0.74	0.93	1.11	0.93	1.11	1.30
Power consumption	[A]	2.55	3.40	4.25	3.40	4.25	5.10	4.25	5.10	5.95
EC technology										
Output	[kW]	0.51	0.68	0.85	0.68	0.85	1.01	0.85	1.01	1.16
Power consumption	[A]	4.05	5.40	6.75	5.40	6.75	8.10	6.75	8.10	9.45

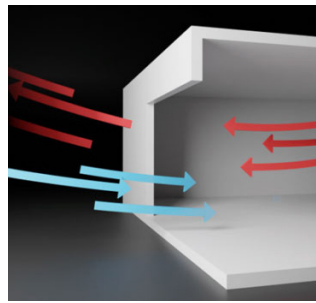
	Power level	Saphir 1			Saphir 2			Saphir 3		
	Length of the unit (cm)	220	250	300	220	250	300	220	250	300
Technical data of LTHW heater battery										
Pipe connections										
Flow / Return flow	[Zoll]	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
LTHW 70/50 at an air intake temperature of 20°C and air discharge temperature of 32°C										
Heat output	[kW]	9.1	12.7	16.3	13.2	16.2	19.7	15.7	19.5	21.6
Flow rate	[m³/h]	0.40	0.60	0.70	0.60	0.70	0.90	0.70	0.90	0.90
Water resistance	[kPa]	2.10	2.45	2.80	3.90	3.80	3.90	5.30	5.25	4.50
LTHW 70/50 at an air intake temperature of 10°C and air discharge temperature of 32°C										
Heat output	[kW]	16.9	22.4	27.8	23.8	29.9	36.3	28.8	33.6	40.0
Flow rate	[m³/h]	0.70	1.00	1.20	1.00	1.30	1.60	1.30	1.50	1.80
Water resistance	[kPa]	6.00	6.70	7.10	11.00	11.10	11.30	15.40	13.60	13.48
LTHW 50/35 at an air intake temperature of 20°C and max. air discharge temperature										
Heat output	[kW]	8.7	10.5	14.5	10.9	12.4	16.9	12.0	13.3	17.9
Air discharge temperature	[°C]	31.6	30.4	31.6	30.2	29.3	30.5	29.5	28.8	30.1
Flow rate	[m³/h]	0.50	0.60	0.80	0.60	0.70	1.00	0.70	0.80	1.00
Water resistance	[kPa]	3.33	4.60	3.96	4.90	6.20	5.20	5.90	7.00	5.77

Ask our experts for data on your individual media temperatures.

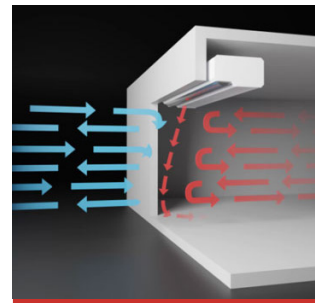
	Power level	Saphir 1			Saphir 2			Saphir 3		
	Length of the unit (cm)	220	250	300	220	250	300	220	250	300
Technical data electrical heater battery										
Electrical heater battery (three-stage, 400V, 3 Ph, 50 Hz)										
Level 1	[kW]	6.0	6.0	9.0	6.0	9.0	9.0	9.0	9.0	9.0
Level 2	[kW]	9.0	12.0	15.0	12.0	15.0	15.0	15.0	15.0	15.0
Level 3	[kW]	15.0	18.0	24.0	18.0	24.0	24.0	24.0	24.0	24.0
Max dt.	[K]	18.6	16.7	17.9	15.7	16.7	14.0	17.6	14.7	12.6



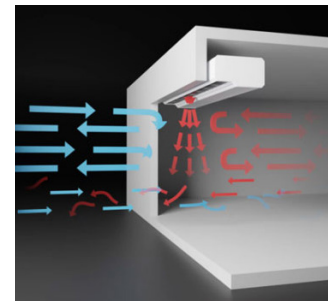
**Example:
Comparison
of energy
consumption**



**Door without
Air Curtain system**



**Door with
Teddington
Air Curtain system**



**Door with
conventional
Air Curtain system**

Energy consumption winter*: ~ 41.100 kWh

Energy consumption summer**: ~ 18.300 kWh

~ 16.800 kWh

~ 4.800 kWh

~ 23.400 kWh

~ 6.900 kWh

Energy savings with Teddington Air Curtain system compared to a door without Air Curtain system

Savings	Door without Air Curtain system	Door with Teddington Air Curtain system
Energy consumption winter*: 59%	~ 41.100 kWh	~ 16.800 kWh
Energy consumption summer**: 74%	~ 18.300 kWh	~ 4.800 kWh

Energy savings with Teddington Air Curtain system compared to a door with conventional Air Curtain system

Savings	Door with conventional Air Curtain system	Door with Teddington Air Curtain system
Energy consumption winter*: 28%	~ 23.400 kWh	~ 16.800 kWh
Energy consumption summer**: 30%	~ 6.900 kWh	~ 4.800 kWh

* heated inside

** cooled down inside

Assumptions on which the calculation is based:

- Door dimensions 2.5 x 2.5 m, installation height 2.5 m, door opening time 3 h per day.
- The system is in operation for 4 months in summer at a temperature difference (inside/outside) of 10 K.
- The system is in operation for 6 months in winter at a temperature difference (inside/outside) of 15 K.
- The system is out of operation for 2 months as the temperature difference between inside and outside is equalised.
- During operation in winter, a heat exchanger is used in the Air Curtain unit to heat the discharged air.



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