TEDDINGTON
AIR CURTAIN SYSTEMS

E - SERIES

The green Solution for Shop & Business

DOORS MADE OF AIR

GREENtec®

TEDDINGTON
AIR CURTAIN SYSTEMS

Trendsetting energy efficiency.

Expensive, heated air escapes through open doors. This is unpleasant and wastes a great deal of energy.

Teddington air curtain systems counteract this effect. Heat energy is retained.

Good air conditioning.
Good for your wallet.
Good for the environment.

The **E-series** allows you to adapt the air curtain perfectly to suit your individual entrance situation.

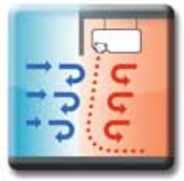
The energy required to heat the room is greatly reduced using the patented **CONVERGO®** pressure chamber nozzle technology from Teddington, permitting savings of over 80 % compared to entrances with no protection.

A 40 % reduction in heating energy is also possible compared to conventional air curtain devices with lamella technology.

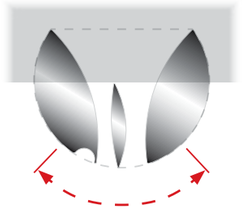
CONVERGO®
GREENtec®

LESS ENERGY
GREATER EFFICIENCY

A great deal of energy gets lost through unprotected doors. Enormous savings potential exists here.



An air curtain system counteracts incoming cold air using a counterflow – an invisible air door.



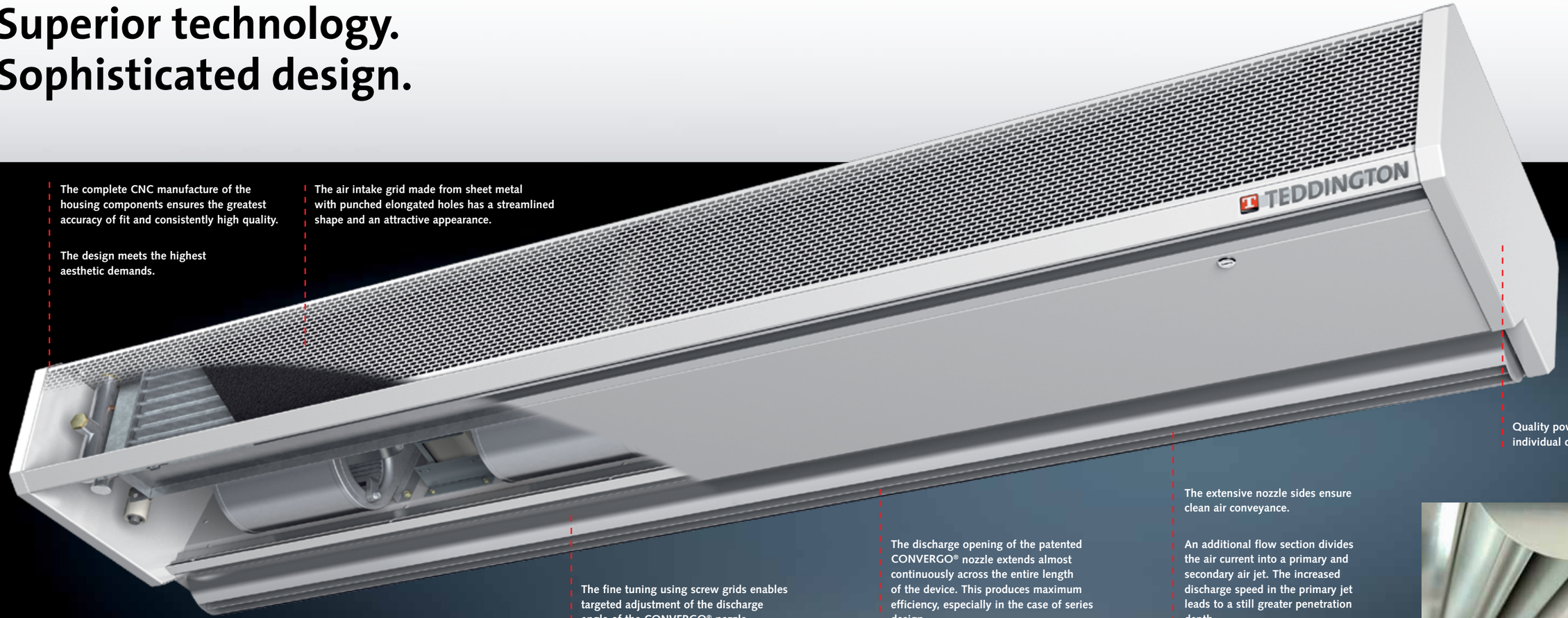
The air discharge angle of the nozzle can be finely adjusted by means of grids. This enables the air curtain to be individually adapted to suit local conditions.

- **Energy-saving**
- **Good air conditioning**
- **Improved sales psychology**
- **Environmental protection**

GREENtec®

TEDDINGTON
AIR CURTAIN SYSTEMS

Superior technology. Sophisticated design.



The complete CNC manufacture of the housing components ensures the greatest accuracy of fit and consistently high quality.

The design meets the highest aesthetic demands.

The air intake grid made from sheet metal with punched elongated holes has a streamlined shape and an attractive appearance.

Quality powder coating, individual colours possible.

The extensive nozzle sides ensure clean air conveyance.

An additional flow section divides the air current into a primary and secondary air jet. The increased discharge speed in the primary jet leads to a still greater penetration depth.

The discharge opening of the patented CONVERGO® nozzle extends almost continuously across the entire length of the device. This produces maximum efficiency, especially in the case of series design.

The fine tuning using screw grids enables targeted adjustment of the discharge angle of the CONVERGO® nozzle.

The **E-series** sets new benchmarks in efficacy, energy efficiency and functional performance.

Future-oriented technology, high quality and workmanship, the greatest flexibility and trendsetting design make the **E-series** a reliable all-rounder for all requirements and every situation.

Devices in the **E-series** are available with energy-saving EC fans with infinitely adjustable controller. This optimises use and increases savings.

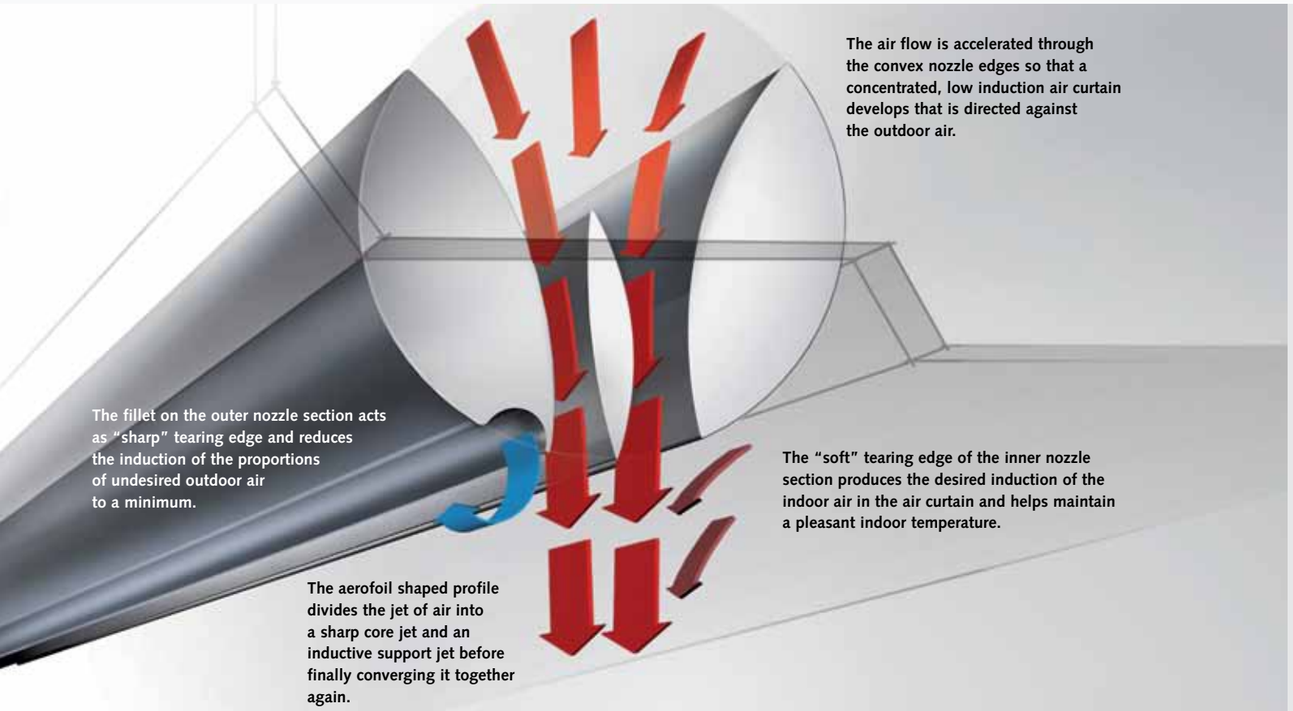
- Self-supporting, CNC-manufactured sheet steel housing
- With the patented **CONVERGO®** nozzle technology, energy savings of more than 80 % are possible compared to entrances with no protection
- In individual lengths of up to 3000 mm
- 3 performance categories and 5 models to choose from
- Concentrated, homogeneous air jet with high discharge range
- Air discharge angle can be individually adjusted
- A concentrated air curtain/air jet is created along the entire width of the device using the **CONVERGO®** pressure chamber nozzle system

Simple and safe filter change.

The filter can be changed in a few simple steps using a separate flap that can be opened without special tools (a coin is all that is needed). This technology ensures that unintentional contact with functional elements is ruled out from the start.

- **Energy efficiency**
- **Attractive design**
- **Quiet operation**
- **Low maintenance**
- **Infinitely adjustable control of the EC fans or simple operation using 5 or 3-stage controller**
- **Quality – Made in Germany**

CONVERGO® – Maximum efficiency.



With the patented **CONVERGO®** pressure chamber nozzle system, the air flow is compressed in the pressure chamber and distributed evenly by the nozzle across the entire discharge width.

An aerofoil shaped flow profile divides the homogeneous air flow into a primary and secondary air jet. As a result the front section of the air discharge area receives a greater volume flow rate than the rear section.

The primary jet thus accelerated is supported by the slowed down secondary jet. An air curtain is created with significantly greater penetration depth and stable flow direction.

Considerably less air and therefore less energy is required to achieve the same screening effect as a conventional system.

Due to the interaction of the Venturi principle, the air-conveying aerofoil section and the induction functions, the Teddington **CONVERGO®** nozzle is perfectly integrated in our air curtain systems.

It represents the ultimate in air curtain technology.

A plus for the environment.

The nozzle makes all the differnce.

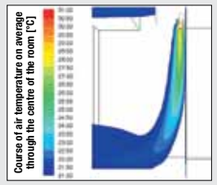
Traditional systems with conventional air conveyance guide the air flow through lamella. The resultant flow profile is relatively turbulent and the discharge direction only adjustable to a limited extent. A high air volume and considerable heating energy are required – especially in the case of large doors – to generate a sufficient screening effect.

The mode of operation of air curtain systems was scientifically examined in a test chamber in 2007 by the Institute for Technical Building Services in the Faculty of Process Engineering, Energy and Mechanical Systems at Cologne University of Applied Sciences as part of a diploma thesis.

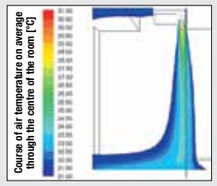
A direct system comparison was also made between a conventional device with lamella technology in the air discharge area and a device with an **EVOLVENT®** nozzle.

Teddington significantly boosted the effect once again when developing this system into the **CONVERGO®** nozzle. After years of work, this system was ready for patent registration (**Patent No. DE4415079C2**).

The displays of the respective temperature curves clearly demonstrate that the bottom area of the air roll is pushed inwards from outside by the draught:



By contrast the air roll of the nozzle device remains stable down to the ground.



In order to stabilise the air roll of the lamella device so that it could achieve the same screening effect as the nozzle, the device had to be operated at a much higher volume flow rate. This in turn led to increased heating energy requirements.

System comparison (equal screening performance)	 Conventional system*	 Pressure chamber nozzle system**
Air intake temperature	20 °C	20 °C
Air discharge temperature	37 °C	37 °C
Air volume	5400 m³/h	3000 m³/h
Heating energy requirement	31,4 kW	19,5 kW
Amortisation period	2,5 Years	2 Years

* Comparison model with conventional air conveyance by means of lamella (at installation height of 3.0 m, door width 2.0 m and 1.3 m/s screening effect).

** Comparison model E 2-200 (at installation height of 3.0 m, door width 2.0 m and 1.3 m/s screening effect at power setting 4 of 5).

To achieve the optimal result we repeatedly tested the **CONVERGO®** nozzle in a wind tunnel until the shape and position of the section were perfect.

PASSED & PATENTED

The energy saved using the **CONVERGO® pressure chamber nozzle system** compared to conventional systems ensures rapid amortisation.

The investment pays for itself quickly. The operating costs are reduced permanently.

It depends on the situation.

An important consideration when selecting the right design of air curtain system is knowing and assessing the building situation.

Two different types of installation are used, depending on whether there is excess pressure or constant pressure, and low or high exposure to wind. These are **IDW installation** where the air roll rotates inwards and **ADW installation** where it rotates outwards.

Various device variations exist within these two types of installation, offering the opportunity to achieve the optimum effect for the building situation concerned.

Ascertaining the individual design situation

- Establish which building situation applies (A, B or C).
- Check the discharge height at which the system will be installed.
- You can see the likely screening performance of the E-series 1, 2 or 3 for both **IDW installation** (air roll rotating inwards) and **ADW installation** (air roll rotating outwards) in the adjacent diagram.
- The necessary screening will depend on meteorological and building-related factors. Examples of these are direct and strong wind load, an entrance shielded by streets or across the general wind direction etc.

Reference values

- Flow arising solely through temperature differences between inside/outside during the heating period: 0.3 to 1 m/s, $\hat{=}$ 0.1 - 0.6 Pa wind pressure
- Where there is generally a low incoming flow, e.g. due to buildings in front on the pressure side of the building with incoming flow: between: 1 to 3 m/s, 0.6 Pa - 6 Pa wind pressure
- Where there is generally a strong incoming flow, e.g. position on corners or market squares with little shelter from buildings in front: between 1 to 6 m/s, 0.6 Pa - 23 Pa wind pressure
- In completely unprotected positions, in open country: significantly more

Note: air current should be measured at different wind pressures.

IDW installation

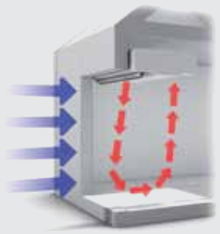
(air roll rotating inwards)

Air is sucked in from the direction of the building and discharged above the door. This creates an air roll whose direction of rotation is directed into the room. This IDW method for installing an air curtain system is in principle the most favourable method in terms of energy.

Preferred application area:

To equalise pressure or where there is excess pressure. For small and medium-sized buildings where no employees are permanently stationed in the door area.

IDW installation:
air roll rotating inwards.



ADW installation

(air roll rotating outwards)

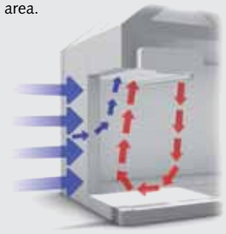
Air is sucked in above the door and the discharge nozzle is in the building. This creates an air roll whose direction of rotation is directed outside, counteracting the cold air flowing into the building. This achieves a marked increase in the screening performance.

There is less air movement in the entrance area. As a result of the lower temperatures in the suction area, the heat output is greater than with IDW installation. A frost protection thermostat should be provided with ADW installation.

Preferred application area:

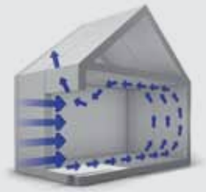
Where there is low pressure, high wind, multi-storey or large building, employees are working in the entrance area.

ADW installation:
air roll rotating outwards.



Thrust and thermals based on the example of different building situations

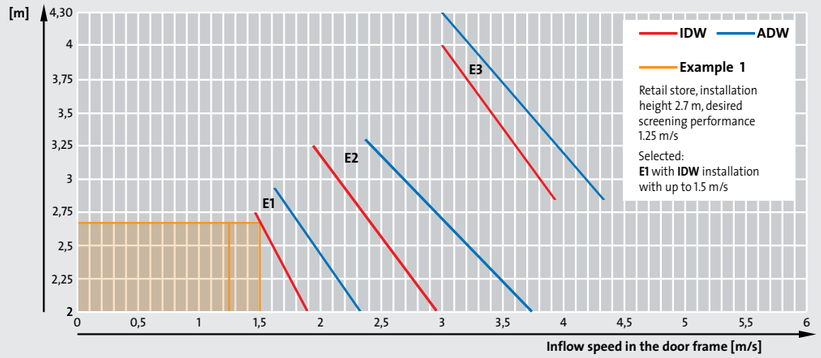
Building situation A



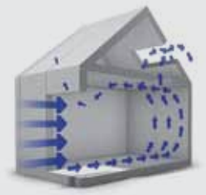
Door surfaces are on one side of the building.

No notable possibilities to discharge air through thermal or chimney effect.

Air discharge height at entrances which are the same height or lower



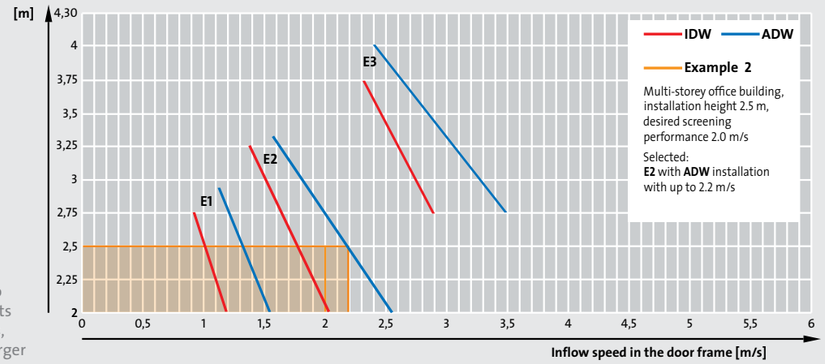
Building situation B



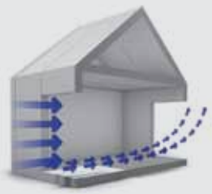
Door surfaces are on one side of the building.

Possibilities exist to discharge air to upper floors through thermal effects or outside through chimney effects, across surfaces whose size is not larger than half the door surface (altitude not taken into consideration).

Air discharge height at entrances which are the same height or lower



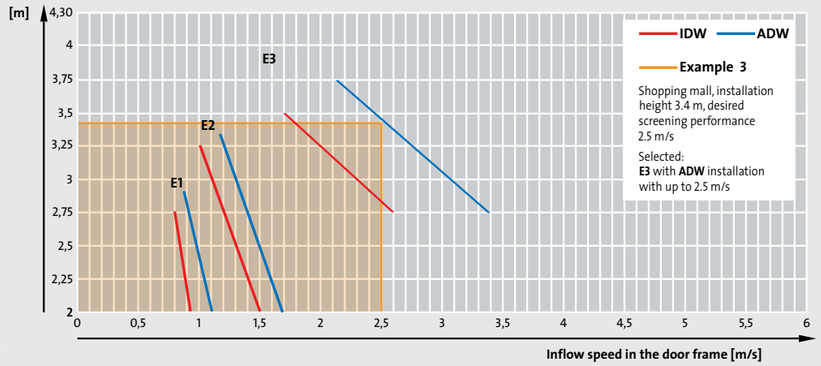
Building situation C



Unscreened door surfaces also lie on other sides of buildings, e.g. at the side or opposite.

The size of the surface which can be used for air discharge is identical to or larger than the size of the door surface to be screened.

Air discharge height at entrances which are the same height or lower



Installation type 1 – assembly directly on the door

For buildings without covered entrance the most common type of installation for air curtain systems is directly on the door. For smaller buildings or stores with moderate wind load, the air is sucked from the inside of the building to the back of the device (installation type 1.1).

With medium-sized and larger entrance areas with the ability to combine more than one device, installation type 1.2 is advisable; here the device directly captures the air roll again at the bottom for suction.

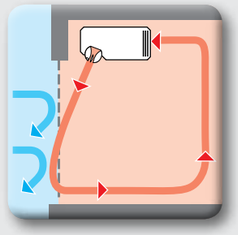
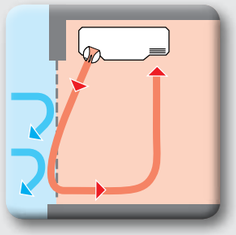
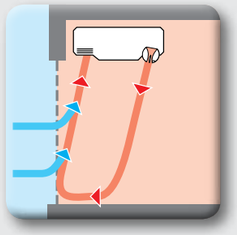
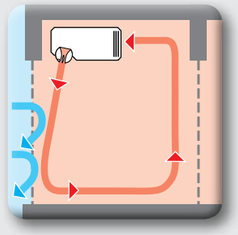
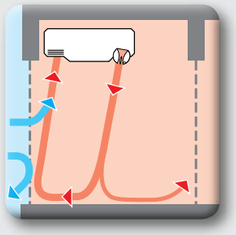
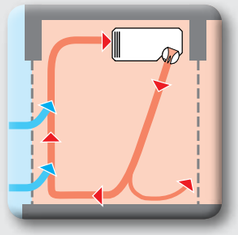
Outdoor air can be added for suction where greater screening performance is required and to equalise pressure differences; the air roll rotates outwards (installation type 1.3).

Installation type 2 – covered entrance assembly

The most versatile types of installation are possible for installation in combination with covered entrances. Depending on the depth and design of the covered entrance, this function can be lost as from a certain amount of customer throughput. A correctly installed air curtain system can counteract this. The type of installation with covered entrance will depend on the building situation, the type of use, the interior design and installation space.

Installation type – covered entrance assembly

The air roll circulates inside the covered entrance and maintains the temperature there. What is more, the operating noise of the air curtain is reduced in the covered entrance.

Installation type						
						
	Installation type 1.1	**Installation type 1.2**	**Installation type 1.3**	**Installation type 2.1**	**Installation type 2.2**	**Installation type 2.3**
	Air roll rotating inwards (IDW) – suction at the front inside the building The air roll develops a different depth of penetration into the room depending on the local conditions. This design is compact and requires the least energy because indoor air is used. **Type of use:** small and medium-sized systems	**Air roll rotating inwards (IDW) – suction underneath from inside the building** The penetration depth into the room is less, the device is supplemented by the air intake chambers. **Type of use:** Individual devices and group systems of any width and larger air volume	**Air roll rotating outwards (ADW), suction underneath** Almost no circulation forms inside the building. Mixing outdoor air and the associated reduction in pressure differences produces a distinctly higher screening performance, however energy requirements also increase. **Type of use:** Individual devices and group systems of any width and larger air volume	**Air roll rotating inwards (IDW) – assembly on the outer door, suction at the front** The covered entrance remains warm, the outside air is blocked at the first door, keeping energy requirements low.	**Air roll rotating outwards (ADW) – assembly on the outer door, suction underneath** The covered entrance remains warm, the outside air is blocked at the first door. Screening is reinforced, but there are increased energy requirements.	**Air roll rotating outwards (ADW) – assembly on the inner door, suction at the front** Mixing outdoor air and a reduction in pressure differences produces a distinctly higher screening performance with moderate energy requirements.
Application area	■ for pressure equalisation or excess pressure in the building ■ with moderate wind load ■ in closed arcades in a reasonably sheltered position or with a covered entrance	■ for moderate and medium wind load ■ also for slightly exposed positions	■ pressure equalisation and low pressure (e.g. several floors) ■ for common wind loads and unfavourable shop locations	■ single storey building without doors opposite ■ balanced pressure conditions ■ generally low requirements ■ no employees working in and behind the covered entrance	■ an air current flowing inwards is interrupted ■ single and multi-storey buildings, also with doors opposite ■ employees working in and behind the covered entrance	■ single and multi-storey buildings, also with doors opposite ■ employees working in and behind the covered entrance

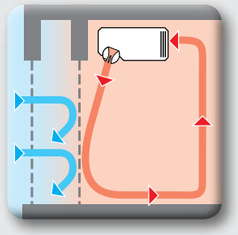
Installation type– assembly in the building with covered entrance in front

The covered entrance remains cold, the system contributes continuously to heating the room.

Installation type 3 – vertical assembly

Vertical devices primarily in conjunction with automatic sliding doors. Good screening results can be achieved with relatively low energy use by shifting the air discharge to the floor area.

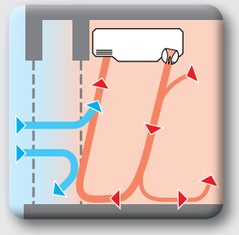
Installation type



Installation type 2.4

Air roll rotating inwards (IDW) – assembly on the inner door, suction at the front

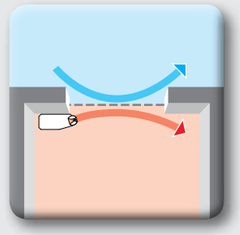
The air roll runs inwards into the building. It incorporates and warms a relatively large area in the air change. Energy requirements are kept low.



Installation type 2.5

Air roll rotating outwards (ADW) – assembly on the inner door, suction underneath

The air roll primarily rotates in the direction of the outer door and also penetrates the covered entrance. The screening effect is reinforced, however energy requirements also increase.

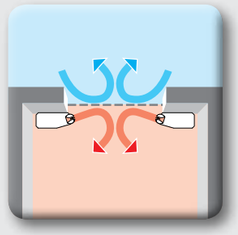


Installation type 3.1

Upright on one side

The air intake is from the inside of the room. The air is directed away from areas where people are working and other occupied areas.

A particularly well protected area results on the side of the air intake opening.

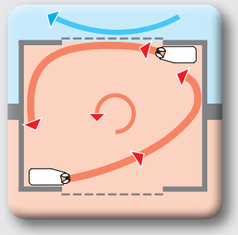


Installation type 3.2

Upright on both sides

The air intake is from the inside of the room. The air is directed towards the centre of the door.

Occupied areas and working areas lie only to the side of the door area or are at a distance to the door.

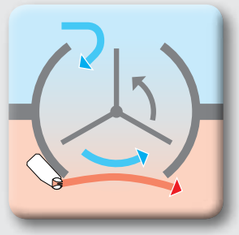


Installation type 3.3

Diagonal in the covered entrance

The air roll rotates as stable system inside the covered entrance.

Most of the air volume produced is captured by the system opposite. The air circulation takes place inside the covered entrance. The double air curtain that ensues simultaneously ensures a high screening effect.



Installation type 3.4

In conjunction with revolving doors

The air intake takes place from the inside of the room. The air is directed into the door opening by means of the nozzle system with approx. 20° door opening.

The cold air moved through the wings of the door cannot then flow unhindered into the room, but is largely held in the revolving door.

Application area

- single and multi-storey buildings
- no employees working directly behind the covered entrance

- single and multi-storey buildings
- employees working directly behind the covered entrance

- Office buildings
- Hospitals
- Hotels with reception in the foyer
- Buildings with limited installation possibilities

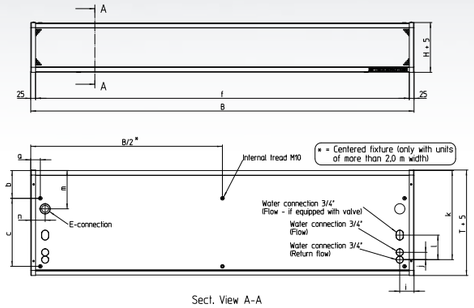
- Shopping malls
- Office buildings
- Hospitals
- Hotels with large entrances
- Entrance areas with open connection to lower floors
- Buildings with limited installation possibilities

- covered entrances in single and multi-storey buildings with special air-related and visual demands
- employees working directly behind the covered entrance
- entrance situations, e.g. in hospitals, hotels, shopping malls…

- Shopping malls
- Office buildings
- Hospitals
- Hotels with revolving doors and reception in the foyer.

S model

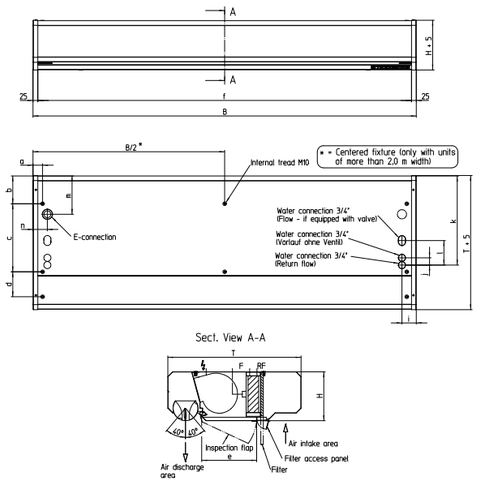
With visible wall or ceiling mounting. Air intake area at the front.



	Dimensions			Mounting			Inspection flap		Pipe connection				Electrics	
	Width B	Height H	Depth T	a	b	c	e	f	i	j	k	l	m	n
1-S	1000 to 3000	255	545	50	145	355	~ 288	B-53	75	38	465	128	200	75
2-S		300	620	50	135	440	~ 360	B-53	75	50	534	140	200	75
3-S		430	850	50	165	640	~ 550	B-53	75	50	764	140	225	75

U model

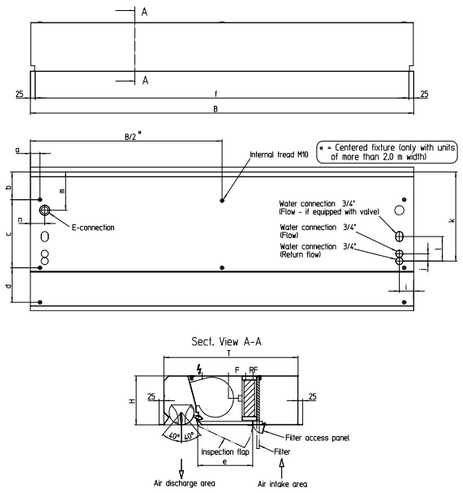
For exposed or recessed mounting, underside of the device is visible. Air intake area at the bottom. Available with optional ceiling installation frame.



	Dimensions			Mounting				Inspection flap		Pipe connection				Electrics	
	Width B	Height H	Depth T	a	b	c	d	e	f	i	j	k	l	m	n
1-U	1000 to 3000	255	695	50	145	355	–	~ 288	B-53	75	38	465	128	200	75
2-U		300	820	50	135	440	–	~ 360	B-53	75	50	534	140	200	75
3-U		430	1130	50	165	640	275	~ 550	B-53	75	50	764	140	225	75

UDB model

For flush-mounted installation in a suspended ceiling. Air intake underneath. Entire underneath of the device is visible.

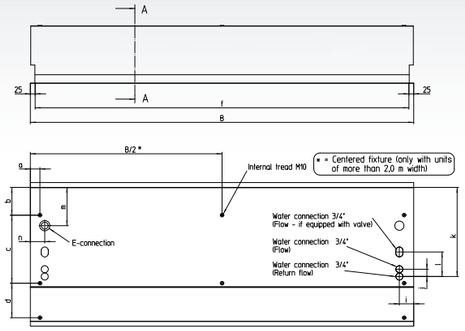


	Dimensions			Mounting				Inspection flap		Pipe connection				Electrics	
	Width B	Height H	Depth T	a	b	c	d	e	f	i	j	k	l	m	n
1-UDB	1000 to 3000	255	700	50	145	355	–	~ 288	B-53	75	38	465	128	200	75
2-UDB		300	825	50	135	440	–	~ 360	B-53	75	50	534	140	200	75
3-UDB		430	1130	50	165	640	275	~ 550	B-53	75	50	764	140	225	75

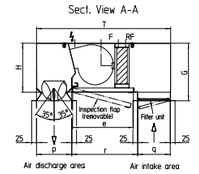
All measurements in mm. Subject to technical change.

Z model

Suspended ceiling installation. Air intake area underneath. Only air intake and discharge opening visible.

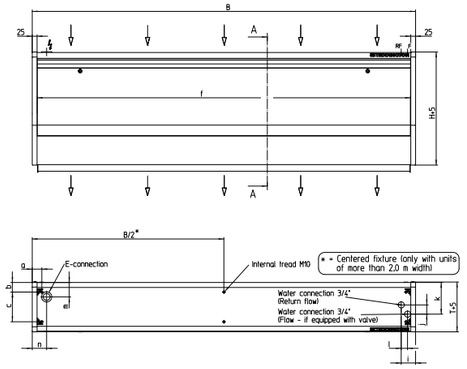


	Dimensions				Mounting				Inspection flap		Pipe connection				Electrics		Air intake/air discharge supports		
	Width B	Height H	Total G	Depth T	a	b	c	d	e	f	i	j	k	l	m	n	p	q	r
1-Z	1000 to 3000	255	300	700	50	145	355	–	~ 320	B-53	75	38	465	128	200	75	184	172	340
2-Z		300	345	825	50	135	440	–	~ 395	B-53	75	50	534	140	200	75	184	220	415
3-Z		430	475	1130	50	150	655	275	~ 580	B-53	75	50	764	140	225	75	226	295	600

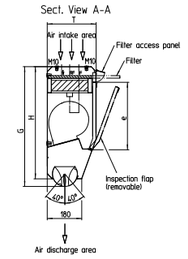


R model

Slim design for visible horizontal or vertical installation. Air intake area at the back.



	Dimensions				Mounting			Inspection flap		Pipe connection				Electrics	
	Width B	Height H	Total G	Depth T	a	b	c	e	f	i	j	k	l	m	n
1-R	1000 to 3000	585	625	255	50	50	155	~ 360	B-53	75	48	165	33	75	75
2-R		675	715	300	50	50	200	~ 445	B-53	75	48	188	33	75	75
3-R		900	950	430	50	50	330	~ 585	B-53	75	48	253	33	75	75



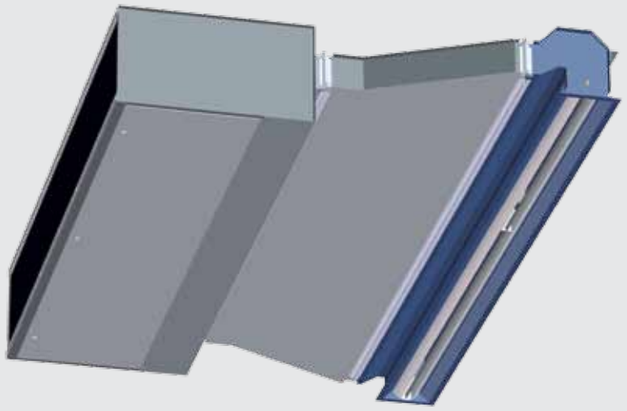
All measurements in mm. Subject to technical change.

In addition to the standard models S, U, UDB, Z and R, devices in the E-series can also be adapted flexibly to suit the individual requirements of the respective application area; these special models are also available with an additional 3 performance categories.

Whether in terms of performance, model or individual installation length adjustments – we construct your device so that it meets your needs and generates maximum efficiency. Almost anything is possible here.

Whatever your requirements are, together with you we plan the design of your system and, where necessary, construct a device that is precisely tailored to your situation.

Special model E 3-KA



Problem: due to beams and low ceiling height, it was not possible to place a device immediately in the door opening.

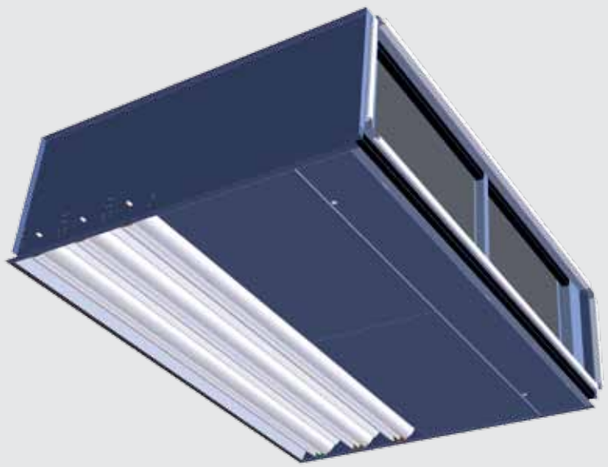
Solution: Teddington consulted with the architect and planner, and developed customised housing dimensions and channel shapes to integrate the devices in this specific structural situation.

Special model E 5-ZS-DW

Problem: multi-storey department store with very high air-related requirements in terms of comfort in the entrance area.

Solution: development of a powerful double nozzle system with ECM motors for infinitely adjustable, electronic activation, and device installed in a suspended ceiling.

Special model E 6-UDB-TW



Problem: extreme requirements due to the chimney effect in the building and an exposed position, combined with especially high customer throughput.

Solution: development of a particularly efficient and pressure-resistant system that connects to a ground suction unit. The triple nozzle system offers the ideal solution that balances screening efficiency and customer comfort.

TECHNICAL DATA

Range		E1					E2					E3				
Overall width	[cm]	100	150	200	250	300	100	150	200	250	300	100	150	200	250	300
Max. installation height up to	[m]			2,9					3,3					4,3		
Max. air discharge speed	[m/s]			10,8					12,5					15,5		
Nominal flow rate	[m³/h]	2.100	3.150	4.200	5.250	6.300	2.100	4.200	5.250	6.300	7.450	3.800	5.800	8.500	11.600	14.500
Actual flow rate	[m³/h]	1.400	2.160	2.880	3.600	4.320	1.500	2.800	3.750	4.500	5.250	2.800	4.500	6.000	8.000	9.500
Noise level at a distance of 3 m to the side	[dB(A)]	54	56	58	60	61	54	56	58	60	62	57	59	60	61	62
Weight S model	[kg]	45	68	80	95	110	50	75	100	120	145	100	135	170	200	230
Weight U/UDB model	[kg]	50	72	86	102	130	56	84	110	130	158	125	160	200	230	250
Weight Z model	[kg]	52	75	90	108	135	60	90	115	150	176	132	167	208	238	260
Weight R model	[kg]	48	70	83	98	120	53	80	105	115	152	117	148	185	215	240
Electrical data																
AC technology																
Voltage	[V]			230					230					230		
Performance	[kW]	0,42	0,63	0,84	1,05	1,26	0,42	0,84	1,05	1,26	1,47	0,90	1,81	2,70	3,60	4,50
Power consumption	[A]	1,70	2,60	3,40	4,30	5,10	1,80	3,40	4,30	5,00	5,90	3,40	5,90	9,00	11,00	13,10
EC technology																
Voltage	[V]			230					230					230		
Performance	[kW]	0,34	0,51	0,68	0,85	1,01	0,34	0,68	0,85	1,01	1,18	0,68	1,36	2,04	2,72	3,40
Power consumption	[A]	2,40	3,60	4,80	6,00	7,20	2,40	4,80	6,00	7,20	8,40	3,10	6,20	9,30	12,40	15,50
Technical data heater battery																
LTHW 70/50 at air intake temperature of 20°C and air discharge temperature 37°C (installation form air roll rotating inwards)																
Heat output	[kW]	8,7	13,4	17,9	22,4	26,9	9,3	17,4	23,3	28,0	32,6	17,4	28,0	37,3	49,7	59,1
Flow rate	[m³/h]	0,37	0,58	0,77	0,96	1,15	0,40	0,75	1,00	1,20	1,40	0,75	1,20	1,60	2,14	2,54
Water resistance	[kPa]	1,7	2,0	2,2	2,2	2,3	4,6	6,8	5,0	5,2	5,4	3,7	5,2	4,7	4,8	5,3
LTHW 70/50 at air intake temperature of 20°C and max. air discharge temperature (installation form air roll rotating inwards)																
Heat output	[kW]	9,1	15,0	20,8	26,5	32,2	14,0	26,2	35,4	43,7	51,9	22,6	38,1	51,9	68,6	82,8
Air discharge temperature	[°C]	39,40	40,70	41,48	41,90	42,15	47,96	47,80	48,00	48,90	49,40	44,00	45,19	45,70	45,53	45,94
Flow rate	[m³/h]	0,40	0,70	0,90	1,20	1,40	0,60	1,10	1,60	1,90	2,30	1,00	1,70	2,30	3,00	3,60
Water resistance	[kPa]	1,7	2,0	2,2	2,2	2,3	4,6	6,8	5,0	5,2	5,4	3,7	5,2	4,7	4,8	5,3
LTHW 70/50 at air intake temperature 15°C and air discharge temperature 37°C (installation form air roll rotating outwards)																
Heat output	[kW]	11,3	17,4	23,2	29,0	34,8	12,1	22,5	30,2	36,2	42,2	22,5	36,2	48,3	64,4	76,4
Flow rate	[m³/h]	0,48	0,75	1,00	1,25	1,49	0,52	0,97	1,30	1,56	1,82	0,97	1,56	2,08	2,77	3,29
Water resistance	[kPa]	2,2	2,6	2,8	2,9	2,9	5,9	8,6	6,4	6,6	6,8	4,7	6,6	6,0	6,1	6,7
LTHW 70/50 at air intake temperature 5°C and air discharge temperature 32°C (installation form air roll rotating outwards)																
Heat output	[kW]	13,8	21,3	28,4	35,5	42,6	14,8	27,6	37,0	44,4	51,8	27,6	44,4	59,2	79,0	93,8
Flow rate	[m³/h]	0,59	0,92	1,22	1,53	1,83	0,64	1,19	1,59	1,91	2,23	1,19	1,91	2,55	3,40	4,03
Water resistance	[kPa]	3,4	4,0	4,2	4,3	4,4	8,8	12,8	9,5	9,9	10,1	7,0	9,8	8,9	9,1	9,9
LTHW 60/40 at air intake temperature 20°C and air discharge temperature 35°C (installation form air roll rotating inwards)																
Heat output	[kW]	7,7	11,8	15,8	19,7	23,7	8,2	15,4	20,6	24,7	28,8	15,4	24,7	32,9	43,9	52,1
Flow rate	[m³/h]	0,33	0,51	0,68	0,85	1,02	0,35	0,66	0,88	1,06	1,24	0,66	1,06	1,41	1,89	2,24
Water resistance	[kPa]	0,8	1,0	1,1	1,2	1,2	2,6	3,9	2,9	3,0	3,1	2,0	2,9	2,7	2,7	3,0
LTHW 60/40 at air intake temperature 15°C and air discharge temperature 33°C (installation form air roll rotating outwards)																
Heat output	[kW]	9,2	14,2	19,0	23,7	28,4	9,9	18,4	24,7	29,6	34,6	18,4	29,6	39,5	52,7	62,5
Flow rate	[m³/h]	0,40	0,61	0,81	1,02	1,22	0,42	0,79	1,06	1,27	1,49	0,79	1,27	1,70	2,26	2,69
Water resistance	[kPa]	1,2	1,5	1,6	1,7	1,7	3,6	5,4	4,0	4,2	4,3	2,8	4,1	3,7	3,8	4,2
Pipe connections																
Flow/return flow	[inches]	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾
Electrical heater battery (three-stage, 400 V, 3 Ph, 50 Hz)																
Stage 1/2/3	[kW]	3/6/9	4,5/9/13,5	6/12/18	6/18/24	9/18/27	3/9/12	6/12/18	6/18/24	12/18/30	12/24/36	6/12/18	9/18/27	12/24/36	12/24/36	12/24/36
dt max.	[K]	18	17	17	19	17	22	18	18	19	19	18	17	17	13	11

Subject to technical change.

Design

CNC manufactured sheet steel housing in a modern design, powder coated in RAL 9010 (pure white) or in a chosen colour.

Effective air conveyance by means of the **CONVERGO®** pressure chamber nozzle system, which generates a concentrated, low induction air flow across the entire air discharge width.

Energy savings of more than 40 % are possible compared to conventional lamella devices and even more than 80 % compared to entrances with no protection.

The screening efficiency is significantly boosted by the ability to move the nozzle and therefore the air discharge direction. Manufactured in accordance with DIN EN ISO 9001:2008.

Servicing

Inspection flap on the underside of the device, with hinges on one side, opened with quick release fasteners. Grade G2 filter cassettes with aluminium frame, easily removable via a separate flap, ensure a constantly high level of heat transfer and durability of the device.

Fans

Vibration-free mounted, double-sided air intake radial flow fans with 230 V / 50 Hz AC motors, directly driven, multiple blades, quiet operation with high outlet pressure. Full motor protection via external thermal contacts. Actuation using an 8-stage transformer installed in the device as standard.

Optionally available with extremely efficient EC fans for maximum air output and minimum energy consumption.

Mounting

Simple mounting of the device by means of M 10 internal thread on the top of the housing and optional mounting material.

Water-heated model

Heat exchanger made of Cu/AL for hot water pumps, steel accumulator, connections with internal thread ¾“, secured to prevent twisting.

Electrically heated model

Electrical heater battery with resistant heating elements, corrosion-resistant with spiral lamella and thermal overheating protection.

Controller

A range of 5 different electronic controllers and extensive accessories for heat control are available to facilitate individual control comfort.

Order key

E = article
- **1** = Range (power setting)
- **2** = Range (power setting)
- **3** = Range (power setting)
  - **S** = Visible device
  - **U** = Visible device or Flush-mounted ceiling device
  - **UDB** = Flush-mounted ceiling device
  - **Z** = Flush-mounted ceiling device
  - **R** = Visible device with air intake at the backside
    - **100, 150, 200, 250, 300** = overall width in cm
      - **N** = Hot water pump 70/50 °C
      - **NT** = Hot water pump 60/40 °C
      - **E** = Electrical heater battery
        - 9010 = in RAL 9010. Other colours possible

E	**1**	**-S**	**-100**	**N**	**9010 = Example**

Subject to technical change.

TLC 700 The intelligent controller for complex systems

With the TLC 700 controller you can precisely adapt your Teddington air curtain system to suit the most diverse requirements.

You can see your system with actual status in real time on the touch display and have all functions and parameters clearly in view.

This makes the programming and setting of the wide-ranging functions and options extremely simple and intuitive.

An installation assistant guides you through the menu and supports you with commissioning. An information button is available for every function so that you can access all information quickly.

Sophisticated technology and user-friendly intelligence

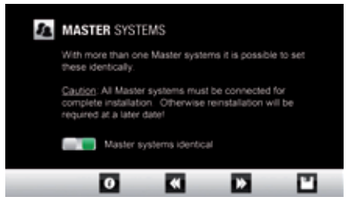
Subject to technical change.

The TLC 700 is freely programmable as electronic remote control for 5-stage or infinitely adjustable acti-vation of Teddington air curtain systems.

Multifunctional

With its multi-device capability, the TLC 700 as central controller can regulate up to 9 units in parallel or individually.

All using a single control unit with touchscreen. This avoids the need to procure and install several control units, saving time and money.



Every Master unit can be differently and individually programmed using the controller. Setting can also be assumed for all Master units. This means a multitude of configurations can be realised, which can be precisely adapted to building requirements.

Simple to program

The devices can be adjusted quickly and safely using the touchscreen with intuitive user guidance.

High process reliability

The climate in buildings is subject to dynamic processes. Several factors, from the outdoor temperature or wind pressure, through to the impact of heat emitted by lighting and technical equipment, have an influence on the temperatures inside buildings. The TLC 700 controller regularly polls a system of sensors and automatically regulates the air curtain systems accordingly.

Perfect integration

The new TLC 700 controller can be integrated in all building management systems via coupling modules. It is therefore possible to incorporate the air curtain devices in the overall concept for the heating and air conditioning technology and the fire protection and safety technology.

Each function – perfectly thought through

Integrated room temperature sensor to control the heating function and display the current room temperature.

Integrated filter monitoring which can easily be adapted on site to suit operating conditions.

Retrieval of error messages by means of an error memory with battery back-up for remote diagnosis.

Integrated clock with freely selectable programming of switching times for enabling or automatic mode and date display.

Key lock with adjustable code can be activated.

Summer/winter function, activation of solenoid valve and/or pump. Automatic summer/winter changeover by means of outside temperature sensor and electronic air discharge temperature control.

Subject to technical change.

Thermostats

FTE frost protection thermostat

To safeguard hot water heater batteries, with capillary tube sensor, capillary tube length 3 m, intrinsically safe, pre-installed in the device as single-pole potential-free toggle, protection class IP 30.

FTM electronic frost protection thermostat

Only in combination with our electronic controllers.
With capillary tube sensor, capillary tube length 0.9 m, protection class IP 30, pre-assembled in the device, only suitable for low voltage (open contacts).

ERT electromechanical room air thermostat

5 - 30°C with bimetal, pure white (similar to RAL 9010), switching capacity 230 V AC, 50...60 HZ, toggle (changeover) 10 (4 = inductive load) A, differential gap 0.5 K, protection class IP 30, air humidity 0…95 % non-condensing, operating temperature 0…40°C, thermal feedback, dimensions 75 x 75 x 25 mm.

Repair switches

REP-S repair switch

For switching the system off using the software.
Only in combination with our electronic controllers.
Switch pre-assembled in the device behind the inspection cover.

REP-L repair switch

3-pole repair switch in surface-mounted housing, loose in accessory pack, for customer installation in the device supply line.

Door contacts

TK model door contact

Protection class IP 65, jump feed with H-jumpers and full contact up to the changeover point, touch-proof connecting terminals in accordance with VDE 0106 Part 100 (VBG 4), cable entry 2 x PG 13.5, at the bottom and the side, switching voltage 230 V AC, 24 V DC, switching current 6 A AC, 4 A DC.

TKB model door contact

Contactless door contact in protection class IP 00, consisting of reed contact and permanent magnet for working current circuits (contact open when magnet is applied), switching voltage 100 V DC, switching current 250 mA DC.

Control/shut-off and solenoid valves

Model KR 2-E DN 20 built-in thermostatic control valve

Thermostatic control valve (angle valve) KR-2 with thermostatic head, for regulation of a constant air discharge temperature, completely installed. Special valve to control especially high volumes of water. kvs value 7.7, length of capillary tube sensor 2 m, connection DN 20.

Model KR 2-L DN 20 thermostatic control valve

Thermostatic control valve (straight way valve) KR-2 with thermostatic head, for regulation of a constant air discharge temperature, loose in accessory pack. Special valve to control especially high volumes of water. kvs value 5.0, length of capillary tube sensor 2 m, connection DN 20.

Model KR 3-L DN 20/25/32 thermostatic control valve

Thermostatic control valve (three way valve) KR 3-L with thermostatic head, for regulation of a constant air discharge temperature, loose in accessory pack. Special valve to control especially high volumes of water. Length of capillary tube sensor 2 m, DN 20 kvs 4.5, DN 25 kvs 6.5, DN 32 kvs 9.5.

Model TAV thermoelectric shut-off valve

230 V, normally closed, loose in accessory pack, for shutting off water via summer/winter switch or to regulate water flow rate volumes with customer actuator. Special valve to control especially high volumes of water. kvs value 5.0. Connection DN 20.

Model MR 2-E DN 20 built-in control valve

Control valve (angle valve) MR 2, with electric actuator to adjust a constant air discharge temperature, including air discharge temperature sensor, completely installed and wired. The type MR-2 control valves are special valves to regulate especially high volumes of water; kvs value 7.5. Connection DN 20.

MV solenoid valve

230 V, normally closed, gentle closing, for shutting off water via the summer / winter switch, loose in accessory pack. DN 20 kvs 11; DN 25 kvs 13; DN 32 kvs 30.

Brackets

DH ceiling bracket

Mounting bracket, vibration damper, 1 m threaded rods, locknut and counter nut, anchor bolt, minimum space requirement 0.1 m, suspension length 1 m (number of units depends on device length and model)

DHD deluxe ceiling bracket

Mounting bracket, vibration damper 17 dB, turnbuckle, right-left grub screw, 1 m threaded rods, locknut and counter nut, drive-in dowel, minimum space requirement 0.2 m, suspension length 1.1 m (number of units depends on device length and model).

We will be happy to advise you if you have any questions about our extensive range of accessories.


AUF BIS 20 UHR
AUF BIS 20 UHR


GALERIA


NKD

TEDDINGTON
AIR CURTAIN SYSTEMS

Devices
for all applications.

Always the right system.

You will always find the right solution in our range of devices – from the smart entry model through to the high-end model to satisfy the most demanding requirements.

If you need something that is specific to your particular needs, we can develop a customised solution with you – TEDDINGTON MANUFACTURING.

SHOP & BUSINESS

With a wide range of device models specially designed for operation in buildings with high demands on comfort.

DESIGN

For the greatest visual demands and precisely adapted to suit various door situations.

INDUSTRIES

With maximum output, fast reaction and adapted to suit specific requirements.

Shop & Business

Design

Industries

We have perfected the principle of "air doors" and in doing so have developed a wide range of applications.

Energy-saving air curtain systems can be used in the following areas:

- **Shops & stores**
- **Public buildings**
- **Shopping malls**
- **Industrial buildings & logistics centres**
- **Banks & office buildings**

We are especially proud of having set new benchmarks through our innovations in air curtain technology. This enables us to offer our customers not only convenient solutions but also first and foremost the opportunity to save a great deal of energy and money.

Moreover Teddington air curtain systems make an important contribution to the protection of our valuable environment.

GREENtec® The green technology for energy efficiency with EC technology and the **CONVERGO®** pressure chamber nozzle technology CONVERGO® GREENtec®	**E-Series** **C-Series**	**Ellipse** **Charisma** **Delta** **Saphir** **Topas** **Sintra** **Silent**	**Ratiovent** **Induvent** **Friguvent**
SMARTtec® The smart devices with the **CORRIGO®** air discharge system CORRIGO® SMARTtec®	**A-Series** **P-Series** **L-Series**		**Ratiovent**
VRFtec® **V**ariable **R**efrigerant **F**low. The efficient devices for refrigerant operation.	**E-Series** **C-Series** **A-Series**		

TEDDINGTON
AIR CURTAIN SYSTEMS

Our innovations have set new benchmarks in air curtain technology and offer our customers not only convenient solutions but also first and foremost the opportunity to save a great deal of energy and money.

Moreover through their use we make an important contribution to environmental protection.

GREENtec®

- Nozzle technology
- High efficiency fans
- Low temperature heat exchangers
- Intelligent control systems

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