SHOP & BUSINESS

E-SERIES

Superior technology.
An ingenious design.
Pioneering efficiency.

EVOLVENT®
With the patented Teddington EVOLVENT ® nozzle technology.

ECready
AVAILABLE WITH ENERGY-SAVING MOTORS FEATURING EC TECHNOLOGY

TEDDINGTON

More than just hot air.

Responsible use of energy and future-oriented development of economical systems count among the greatest challenges of our time. Nowadays air curtain systems contribute substantially to this.

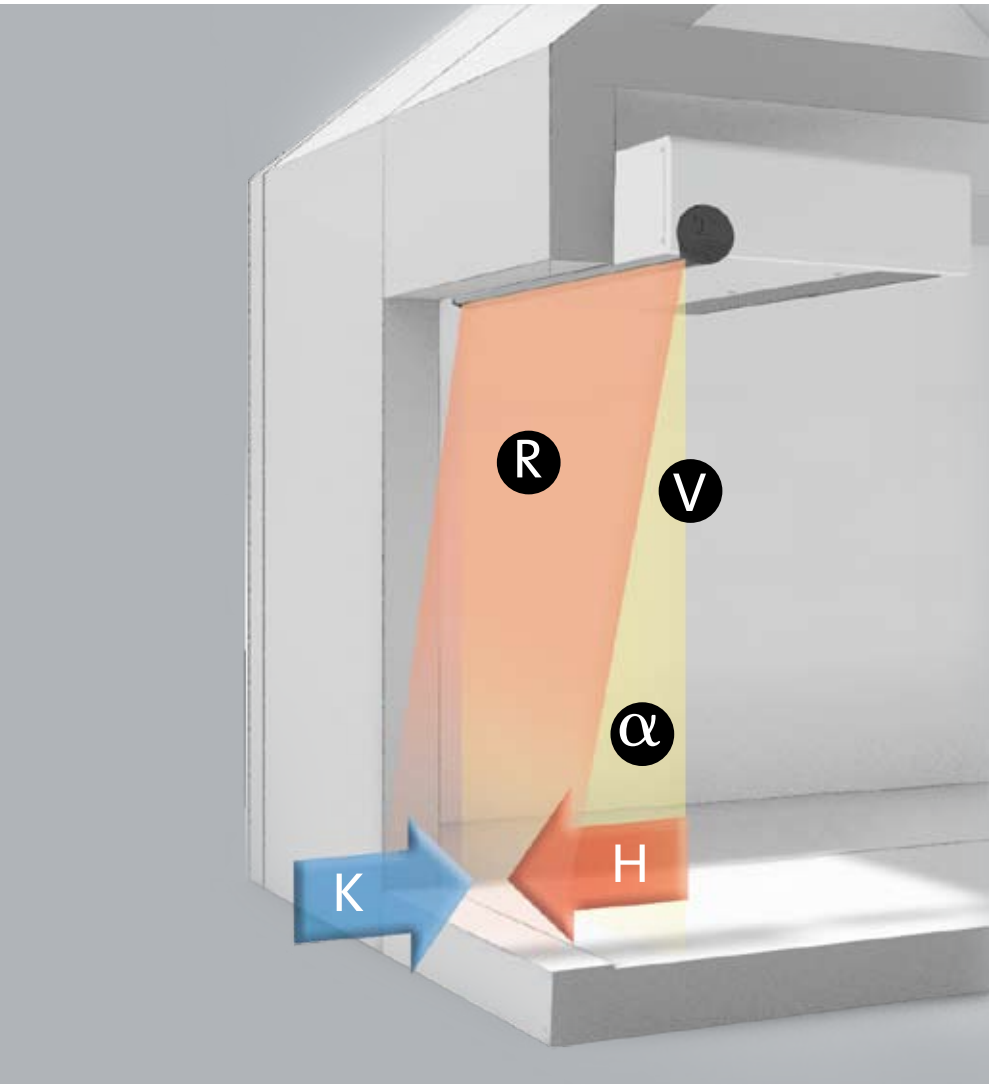
They are installed as 'shielding' in many places, where continually and frequently opened entrances can be found, where energy losses in the transitional zone between the cold air outside and warm air inside or vice versa must be avoided.

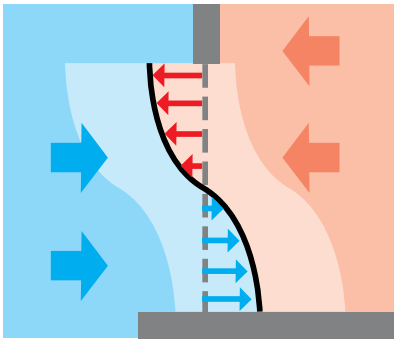
The same applies for industrial warehouses with vast doors, public buildings such as airports and railway stations and regularly-frequented entrances in the Shop & Business sector.

Teddington accepted this challenge and has been developing and producing air curtain systems with the aim of maximizing energy efficiency whilst retaining the highest level of comfort for many years now.

Depending on the building's usage, the most varied systems are integrated to solve individual problems. Teddington provides support with innovative concepts for technically-challenging solutions to architects and planners as early as the planning phase begins.

In today's world the entrance area is increasingly considered a building's business card. Hence equally high standards are set for the visual qualities of an air curtain system as well as for its reliability and energy efficiency.





Air layers of different conditions converge in entrance areas. The laws of physics act to balance the air mass.

The aim of an air curtain system is use counter flow (**H**) to combat invasion of unpleasant cold air (**K**) into the entrance area.

With a Teddington air curtain system, the blow-out angle α, volume flow (**R**) and air speed (**V**) may be controlled thus creating counter flow (**H**). This depends on a large number of variables, such as wind pressure, building thermals, room volume and door height.

A professional selection of the correct performance category and type and the possibility of an exact adjustment are key to an air curtain system's efficiency.

Teddington today distributes its products both directly and indirectly in more than 30 countries. The comprehensive range of units and controllers, the expertise gathered over the decades and uncompromising service have made Teddington a reference in the air curtain technology – all this Europe-wide.

Besides the standard door air curtain series, Teddington offers solutions for revolving and automatic doors, cylindrical housings for horizontal and vertical installation as well as industrial solutions in addition to cold air curtain systems for cold store and refrigerated areas.

All Teddington air curtain systems unify reliable product quality and innovative technology; both reaching new standards and providing a top-quality design.

Enjoy the security of being able to trust on a leading product with an air curtain system made by Teddington.

Integrated energy savings.
Teddington air curtain systems contribute substantially to energy cost savings. Even up to 80% with our patented EVOLVENT ® system.

Integrated sales psychology.
Customers are far more willing to stay and buy in a shop offering a comfortable air temperature without unpleasant drafts.

Integrated environmental protection.
By the end of the day, the user's energy saving is reflected in the lower energy generation. Good for the environment.

A well-integrated climate.
Put into practice by removing unpleasant odours or dust in industrial situations for example. In addition, employee absence because of sick leave is significantly reduced with an air curtain system, as the system provides a consistently good climate.

The nozzle makes the difference

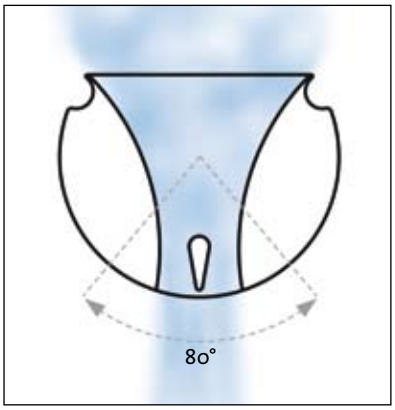
EVOLVENT®

Pressure chamber nozzle system

Patent no. DE4415079C2

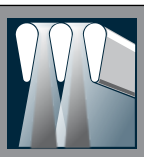
Conventional equipment with common air guiding systems guide the air flow via lamellas. The air curtain created this way is relatively turbulent and only adjustable within certain limits. A large air volume and much heat energy is required to form the curtain – especially at large doors.

At Teddington equipment with the patented EVOLVENT ® pressure-chamber-nozzle-system the air flow is compressed in the presure chamber and distributed by the nozzle evenly over the total blow out width. The air flow is accelerated by the concave nozzle shape in such a way that a concentrated, low induction curtain is formed against the outside air. Significantly less air and accordingly less energy is required to create an effect equivalent to the one conventional systems provide.



The secret of EVOLVENT ®.The air flow is compressed, concentrated and accelerated in the nozzle. A turbulence-free, uniform air curtain is created with a high shielding capacity.

The system comparison (identical shielding capacity)

	 Conventional system *	 Pressure-chamber-nozzle-system **
Air intake temperature	20 °C / 68 °F	20 °C / 68 °F
Blow-out air temperature	37 °C / 98.6 °F	37 °C / 98.6 °F
Air volume	5400 m³/h	3200 m³/h
Heat requirement	31.4 kW	19.5 kW
Pay-back period	2.5 years	2 years

* Comparison model with conventional air guiding system via droplet lamellas. Type A 3-200 (installed at a height of 3.0 m for a door width of 2.0 m with a shielding effect of 1.3 m/s).

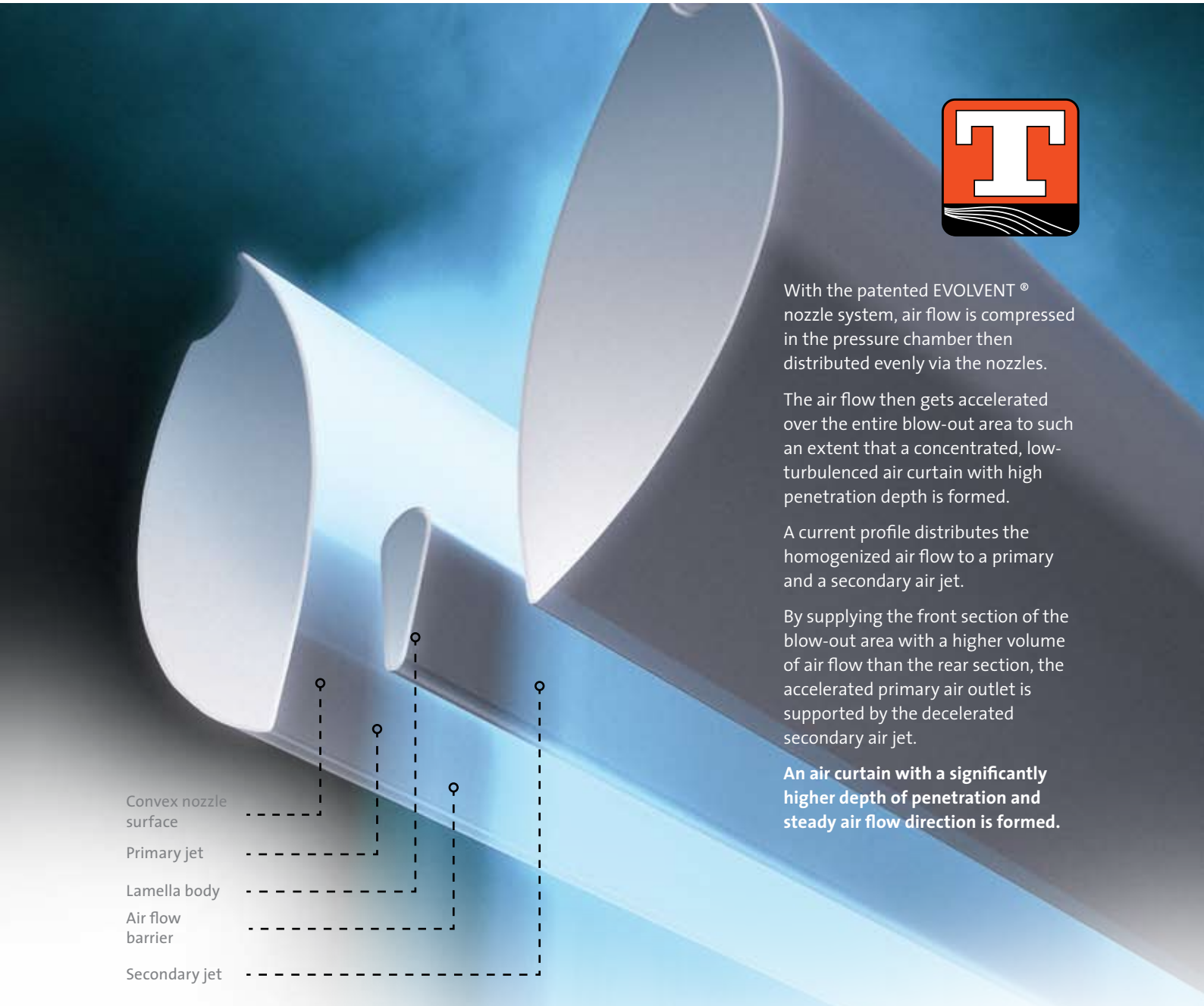
** Comparison model E 2-200 (installed at a height of 3.0 m for a door width of 2.0 m and shielding effect of 1.3 m/s at performance level 4 of 5).

The energy savings in comparison to conventional units made possible by the EVOLVENT ® pressure-chamber-nozzle-system guarantee an extremely rapid amortization.

Any investment made pays off very quickly. Operation costs are reduced permanently.

EVOLVENT ® – Advantages at a glance

- **Bundled, homogenized air stream with a high penetration depth**
- **High shielding capacity**
- **Continuous, precisely adjustable blow-out angle**
- **Low-noise operation**
- **Significantly less energy requirement**



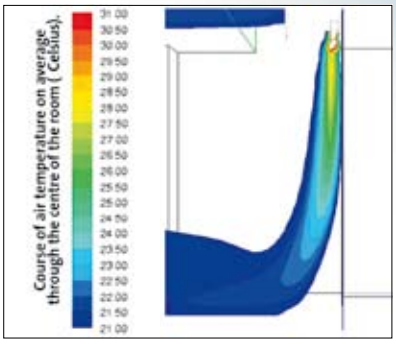
With the patented EVOLVENT ® nozzle system, air flow is compressed in the pressure chamber then distributed evenly via the nozzles.

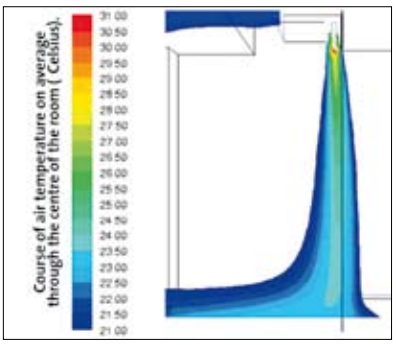
The air flow then gets accelerated over the entire blow-out area to such an extent that a concentrated, low-turbulenced air curtain with high penetration depth is formed.

A current profile distributes the homogenized air flow to a primary and a secondary air jet.

By supplying the front section of the blow-out area with a higher volume of air flow than the rear section, the accelerated primary air outlet is supported by the decelerated secondary air jet.

An air curtain with a significantly higher depth of penetration and steady air flow direction is formed.





The operating principle of air curtain systems underwent scientific studies in a test chamber within the scope of a university thesis completed at the Institute for Technical Building Infrastructure of the Faculty of Process Engineering, Energy and Mechanical Systems at Cologne University of Applied Sciences.

During the experimental series of the study, a direct system comparison was made between a conventional unit with lamella technology in the blow-out area and a unit equipped with an EVOLVENT ® nozzles.

The images of the respective temperature flow clearly show that the air circulation of the unit equipped with lamella is forced into the lower area through the flow of air from the outside to the inside (top image).

In contrast, the air circulation of the unit equipped with the nozzle remains constant (bottom image).

In order to stabilize the air circulation of the unit fitted with lamellas, the unit has to be operated at a significantly higher volume flow to create an identical shielding effect in comparison to the one created with the EVOLVENT ® nozzle.

No trick, just physics.

The building's situation is the key to select the perfectly suitable air curtain system.

Depending on whether positive or negative pressure conditions exist within the building, two different types of air curtain installation methods are used: IDW or ADW installation.

Within these two types of installation a variety of different versions of the unit provide the possibility of obtaining an optimal effect for each building situation.

Installation of IDW units

(Inward-circulating air roll)

Air intake from the room and blow-out through the door. Air circulates into the room. In principle, installation of an IDW air curtain system is the most energy-efficient.

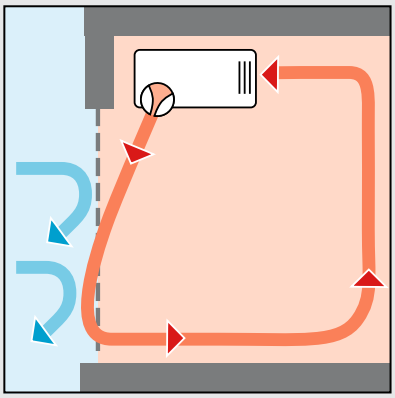
Preferred field of application:
In buildings with balanced or positive pressure. For small and medium-sized building situations, where no permanent work spaces are located near the door.

Installation of ADW units

(Outward-circulating air roll)

Air intake through the door and blow-out via nozzles facing into the room.
Air circulates out of the room, against the cold air coming in, thereby creating a significantly higher shielding capacity. Air flow in the entrance area is hardly noticeable. The heat output is higher than with IDW units due to the lower temperatures in the air intake area. A frost protection thermostat is provided with ADW units.

Preferred field of application:
In buildings with negative pressure.



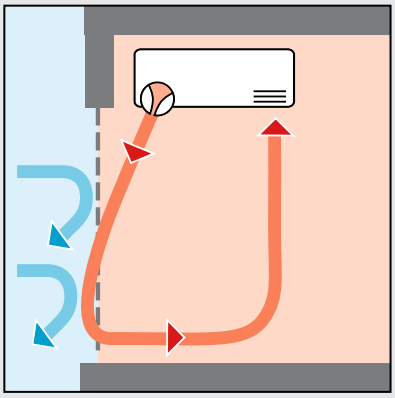
Type 1

Inward-circulating air roll (IDW), air intake at the front from the inner room

Depending on the setting, the air circulation develops a different sized penetration depth in the room. This type is compact and has the lowest energy requirement, as the room air is used.

Applications:
Small and medium-sized units

Fields of application:
- In buildings with balanced or positive pressure
- Moderate wind
- In enclosed shopping arcades affording a wind-sheltered location or porch



Type 2

Inward-circulating air roll (IDW), air intake on the underside from the inner room

The penetration depth into the room is lower, the unit additionally features an air intake chamber.

Application:
Individual units and group systems in popular widths and for large volumes of air

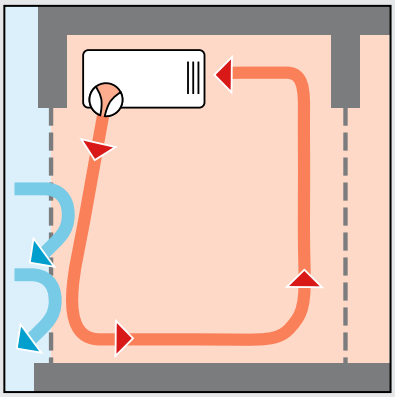
Fields of application:
- Moderate to medium-strong wind conditions
- Also for slightly exposed locations

Type 3 – Porch installation

The most versatile designs arise from installation in combination with a porch. Depending on the porch's depth with a certain transition frequency, the porch loses its basic protective function. The porch installation method depends on the building's situation, usage type, interior layout and installation freedom.

Installation Type 3.1. – Installation in the porch

The air circulates within the porch and is thereby brought to the correct temperature.
In addition, air curtain operating noises are dampened in the porch.



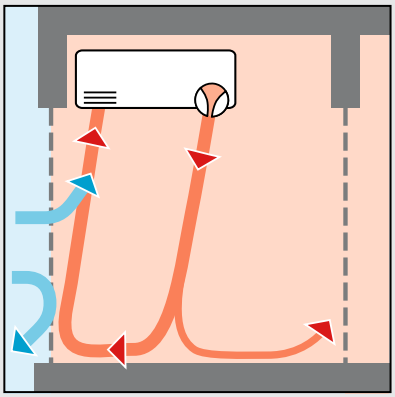
Type 3.1.1.

Inward-circulating air roll (IDW), installation on an outer door, air intake at the front

The porch remains warm, external air is blocked at the first door. Energy requirements are kept at a minimum.

Fields of application:

- Enclosed buildings without facing doors
- Balanced pressure conditions
- Overall low requirements
- No workstations in or behind the porch



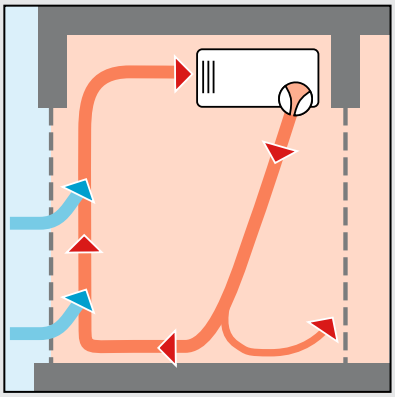
Type 3.1.2.

Outward-circulating air roll (ADW), installation on an outer door, air intake on the underside

The porch remains warm, external air is blocked at the first door. Although the shielding effect is increased, energy requirements also rise.

Fields of application:

- Air flow towards the interior is prevented
- Single and multi-storey buildings, also with facing doors
- Workstations in and behind the porch



Type 3.1.3.

Outward-circulating air roll (ADW), installation on an inner door, air intake at the front

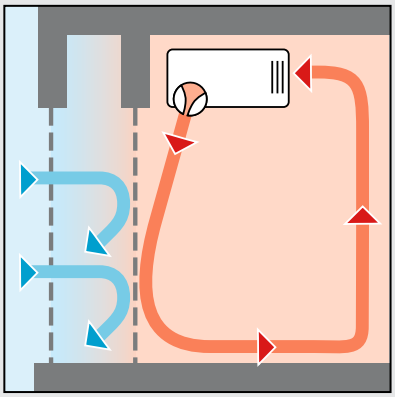
Significantly better shielding effect by admixing of outside air and reduction in pressure difference, with moderate energy requirements.

Fields of application:

- Single and multi-story buildings, also with facing doors
- Workstations behind the porch

Installation Type 3.2. – Installation within a building with a front porch

The porch remains cold; the system contributes continuously to the room heating.



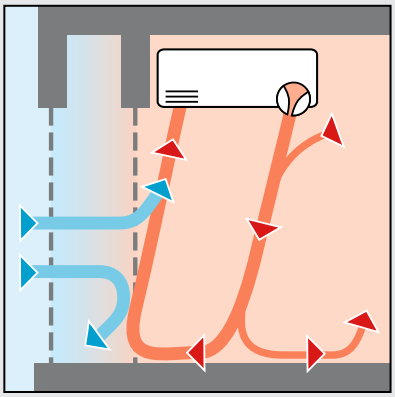
Installation Type 3.2.1.

Inward-circulating air roll (IDW), installation on an inner door, air intake at the front

The air circulates in the inner direction of the building. Incorporates a relatively large area into the air exchange and warms it up. Energy requirements are kept at a minimum.

Fields of application:

- Single and multi-storey buildings
- No unprotected workstations directly behind the porch



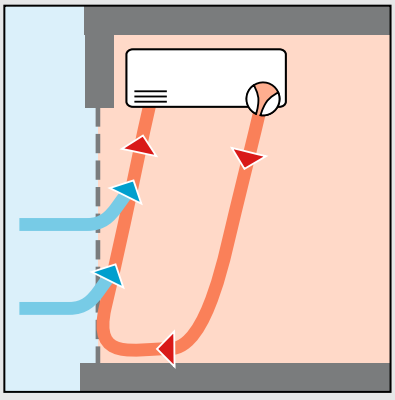
Installation Type 3.2.2.

Outward-circulating air roll (ADW), installation on an inner door, air intake on the underside

The air primarily circulates in the direction of the outer door and also penetrates the porch. The shielding effect is increased, but energy requirements also rise.

Fields of application:

- Single and multi-storey buildings
- Workstations directly behind the porch



Installation type 4

Outward-circulating air roll (ADW), air intake on the underside

Hardly any circulation occurs in the inner room. By the admixing of outside air and the related reduction in pressure differences, a significantly greater shielding effect is formed, however energy requirements also increase.

Application:

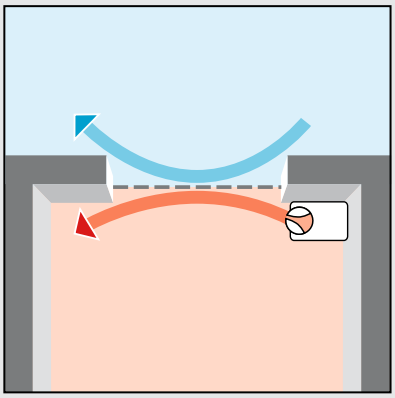
Individual units and group systems in popular widths and for large volumes of air.

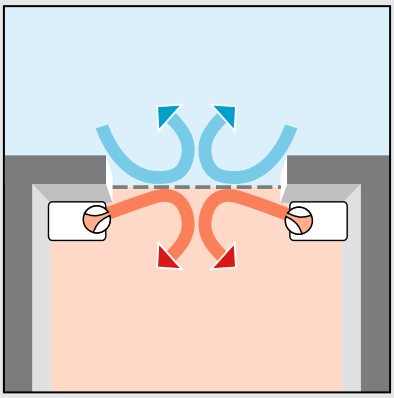
Fields of application:

- Balanced and negative pressure (e. g.: several storeys)
- Common wind conditions and unfavourable business situations

Installation Type 5 – Vertical Installation

Unit(s) with ambient air intake positioned on one or both sides of the door blow out over the entire door area. Removal of the air outlet in the floor area allows for good shielding effects to be achieved with relatively low energy consumption. This special layout generally leads to heightened design needs, adjustability of the air outlet direction and assessment of air flow in the building.



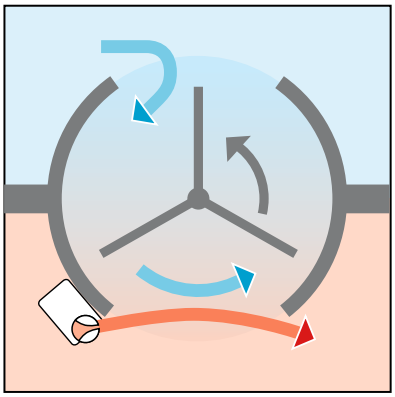


Fields of application:
Automatic sliding doors, revolving doors and buildings with

- enhanced design standards
- limited installation options
- special air flow requirements

Vertical air curtain systems are particularly designed to suit large entrance areas with automatic sliding doors.
The units fit harmoniously into the entrance design and effectively shield the entire door area with relatively little energy usage.

This installation type is also extremely effective with revolving doors. The revolving doors' wings act as paddles that draw unconditioned air from outside into the building. The outcome is an unpleasant "sea of cold". A vertically installed system beside the revolving door can counteract this effect.



Simply ingenious – ingeniously simple.

Pioneering energy efficiency.

Vast energy savings may be realized with the patented EVOLVENT ® pressure-chamber-nozzle-technology by Teddington. Units with EVOLVENT ® nozzle technology reduce the energy requirements of rooms with a permanently open door by up to 80%. Up to 40% in heat energy can be saved in comparison to conventional air curtain systems with lamella technology in the blow-out.

Furthermore, the E-Series units are available with energy-saving motors that use EC technology, which allow for variable control. This optimizes the benefit and allows additional savings to be generated.

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Problem-free, safe filter change

Filter maintenance may easily be undertaken via a separate flap, which can be opened without tools (slit latch can be opened with a coin for example). Full protection from control element, moving parts and burns from hot components

Order key

E = Article						
	1 = Series (performance level)					
	2 = Series (performance level)					
	3 = Series (performance level)					
		S = Visible unit				
		U = Visible unit or built-in ceiling unit				
		UDB = Built-in ceiling unit				
		Z = Integrated ceiling unit				
		R = Visible unit with air intake at the back				
			100, 150, 200, 250, 300 = width in cm			
				W = Hot water pump 90/70°C - 80/60°C		
				N = Hot water pump 70/50°C		
				NT = Hot water pump 60/40°C		
				E = Electric heat register		
					9010 = in RAL 9010. Other colours available.	
E	**1**	**S**	**100**	**N**	**9010**	**= example**

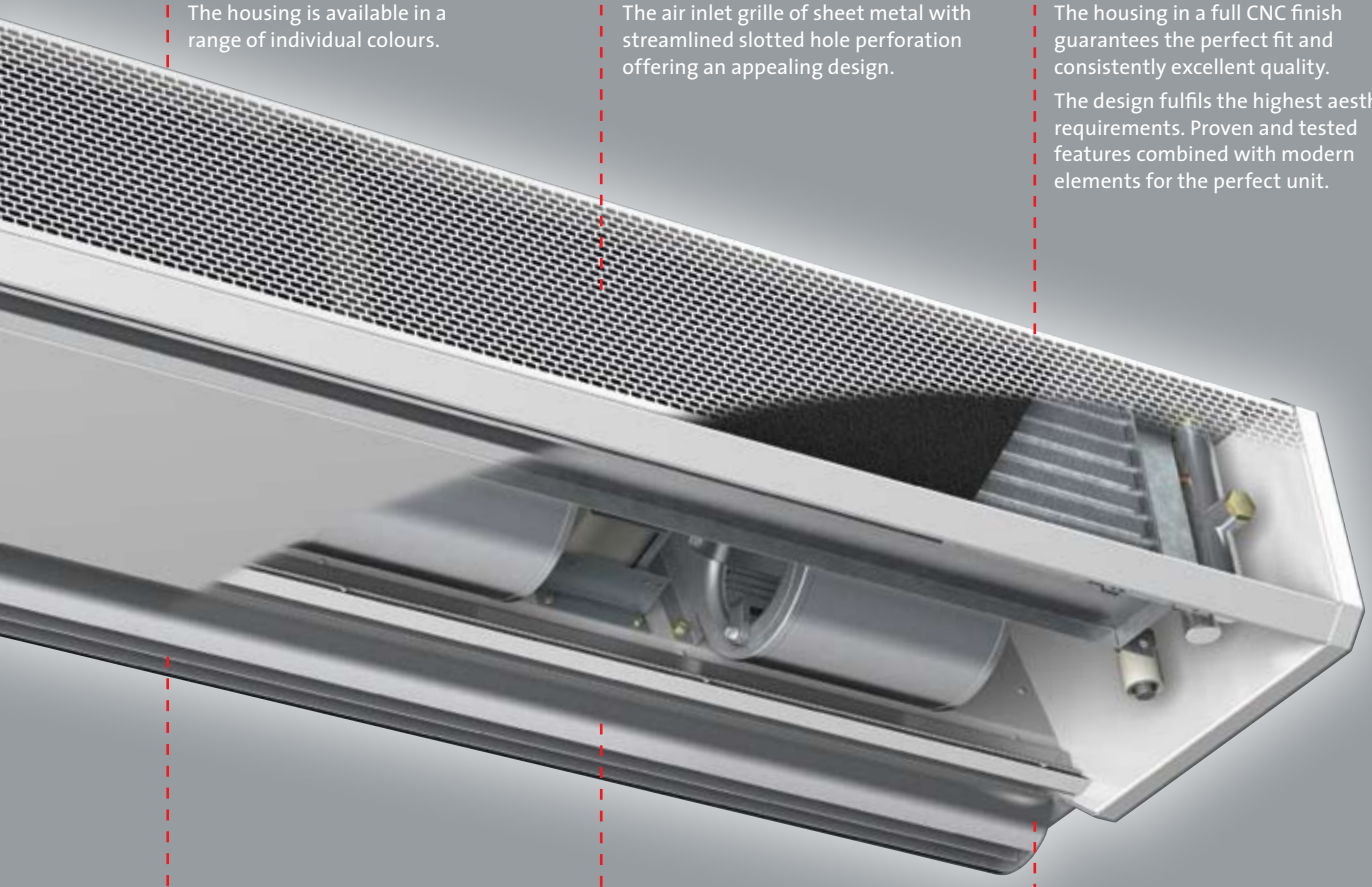
The All-Rounder for every Situation.

The housing is available in a range of individual colours.

The air inlet grille of sheet metal with streamlined slotted hole perforation offering an appealing design.

The housing in a full CNC finish guarantees the perfect fit and consistently excellent quality.

The design fulfils the highest aesthetic requirements. Proven and tested features combined with modern elements for the perfect unit.



The large nozzle guarantees an efficient air flow.

An additional air flow profile divides the air to primary and secondary air jets. The increased exit speed in the primary jet leads to even greater penetration depth.

Fine tuning with vents allows for targeted adjustment of the blow-out angle of the EVOLVENT ® nozzle.

The blow-out width of the patented EVOLVENT ® nozzle cover almost the entire length of the unit. In particular with wide doorgates where several units have to be installed one beside another this provides a maximum efficiency.

The new benchmark in air curtain technology.

The new E-Series with the patented EVOLVENT ® nozzle technology is the result of more than 35 years of Teddington know-how.

The E-Series sets new standards in effectiveness, energy-efficiency and functionality.

Future-oriented technology, exceptional quality and workmanship, extreme flexibility and trendsetting designs make the E-Series a reliable all-rounder serving all needs and every situation.

Invest in the future.

Fields of application

Versatile, ready-to-install unit in 3 performance categories (additional 3 performance categories are available in customized units) and 5 types. Individual customized lengths are possible, which take technical conditions into account. This allows for optimal fitting of the unit to your individual situation.

Types S, U and R for free-hanging installation in range of vision with air intake at the front, under or upper side, or types U, UDB and Z for integrated ceiling installation.

For use in all areas in which top performance is demanded in combination with low energy requirements and reliability.

Design

CNC manufactured steel housing in a modern design, powder-coated in the colour RAL 9010 (pure white) or in a colour of choice.

Effective air flow via the EVOLVENT® pressure-chamber-nozzle-system, which produces a concentrated, low-induction air stream over the entire blow-out area. How you benefit: energy savings of up to 40% in comparison to conventional units featuring lamellas and of up to 80% in contrast to unprotected entrances!

Shielding efficiency is significantly increased due to the adjustable nozzle and due to its possibility of the precise adjustment of the air outlet direction. Manufactured according to DIN EN ISO 9001-2000.

Installation

Simple unit suspension via female thread M 10 on the upper side of the housing; optional installation fittings available.

Maintenance

Single-sided hinged revision flap with quick-release situated on the bottom surface of the unit. Via a separate flap easily removable filter cassettes (class G2) with aluminium frame ensure a constantly high heat transfer and a long life time of the device.

Hot water design

Heat exchanger made of Cu/AL for hot water pumps, steel collector, locked. Connectors with $^{3}/_{4}$" female thread.

Electric design

Electrical heating register with heat-resistant elements, corrosion-resistance, spiral lamellas and thermal overheating protection.

Fans

Vibration-free, double-sided air intake via radial ventilators with 230 V/50Hz AC motors, directly driven, featuring multiple blades, running on silent high output pressure. Full motor protection through built-in thermal contacts. Driven by a serial built-in 8-stage transformer.

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Optionally also available equipped with adjustable energy-saving **EC technology**.

Controllers

For individual control comfort, choose from a range of 7 intelligent electronic control devices and a comprehensive selection of accessories to control the heating.

Advantages of the E-Series: An Overview

- **Self-supporting steel housing in a CNC finish**
- **Patented EVOLVENT ® nozzle technology with up to 80% in energy savings in comparison to unprotected entrances**
- **Optional variable motors featuring EC technology**
- **Available in individual lengths up to 3000 mm**
- **3 performance categories and 5 design types to choose from**
- **Streamlined air inlet grille with slotted holes**
- **Bundled, homogenous air stream with high penetration range**
- **Precision adjustment of blow-out angle**
- **Maintenance-friendly unit via separate filter flap**
- **High-grade powder coating, individual colours available**

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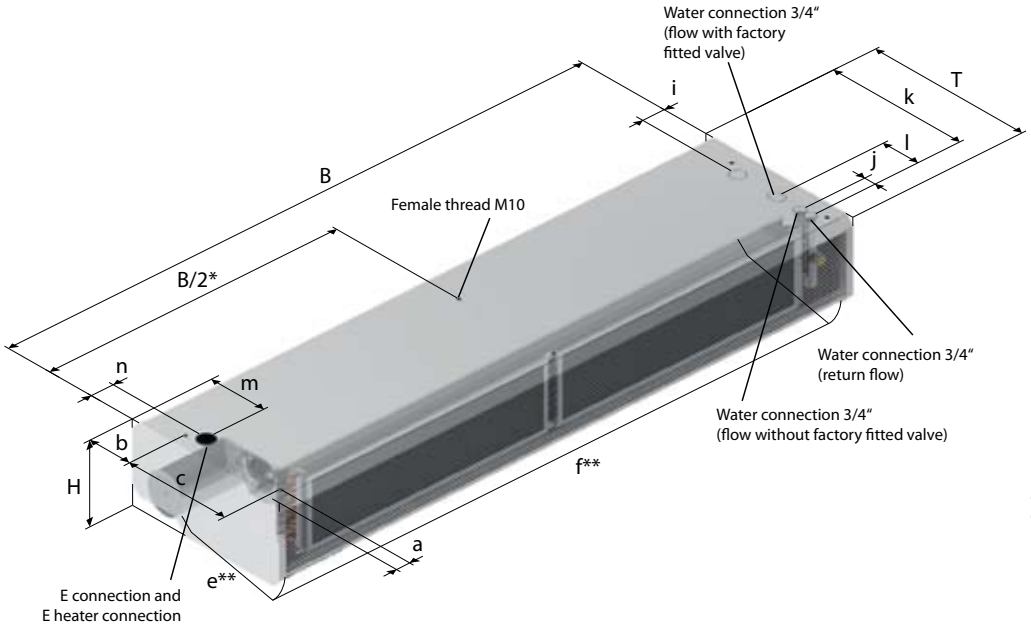
It's your choice!

Dimensions, Type S

	Dimensions			Fittings			Revision flap		Pipe connection				Electro	
	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	Approx. 295	(B-53)	75	38	465	128	200	75
2-S		300	620	50	135	440	Approx. 370	(B-53)	75	50	534	140	200	75
3-S		430	850	50	165	640	Approx. 565	(B-53)	75	50	764	140	225	75

All measurements in mm. Subject to technical alterations.



* Centre mounting, from 2.5 m unit width
** Dimensions of the revision cover

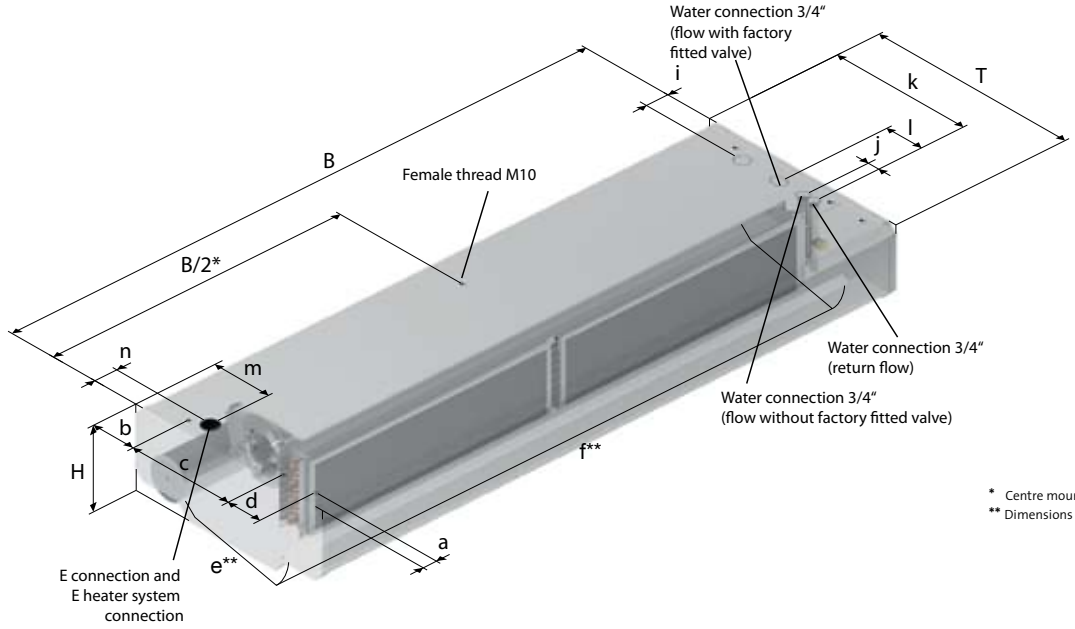
Type S

Wall or ceiling installation in range of vision.
Air intake at the front.

Dimensions, Type U

	Dimensions			Fittings				Revision flap		Pipe connection				Electro	
	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	–	Approx. 295	(B-53)	75	38	465	128	200	75
2-U		300	820	50	135	440	–	Approx. 370	(B-53)	75	50	534	140	200	75
3-U		430	1130	50	165	640	275	Approx. 565	(B-53)	75	50	764	140	225	75

All measurements in mm. Subject to technical alterations.



* Centre mounting, from 2.5 m unit width
** Dimensions of the revision cover

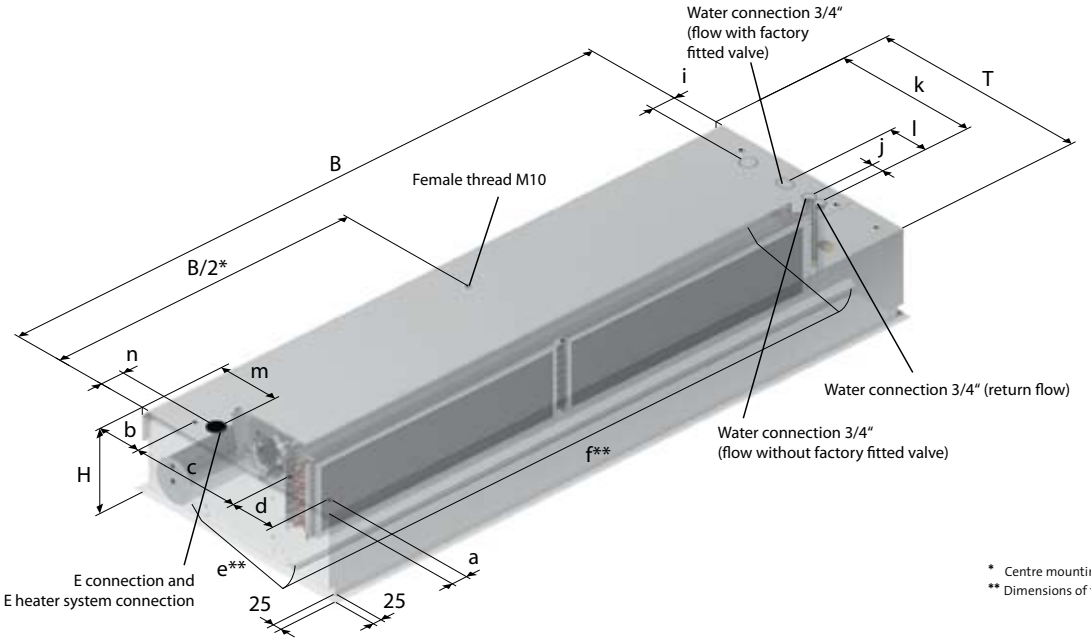
Type U

For exposed or recessed installation, with visible underside. Air intake on the underside. Optionally available with ceiling installation frame.

Dimensions, Type UDB

	Dimensions			Fittings				Revision flap		Pipe connection				Electro	
	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	–	Approx. 295	(B-53)	75	38	465	128	200	75
2-UDB		300	825	50	135	440	–	Approx. 370	(B-53)	75	50	534	140	200	75
3-UDB		430	1130	50	165	640	275	Approx. 565	(B-53)	75	50	764	140	225	75

All measurements in mm. Subject to technical alterations.



* Centre mounting, from 2.5 m unit width
** Dimensions of the revision cover

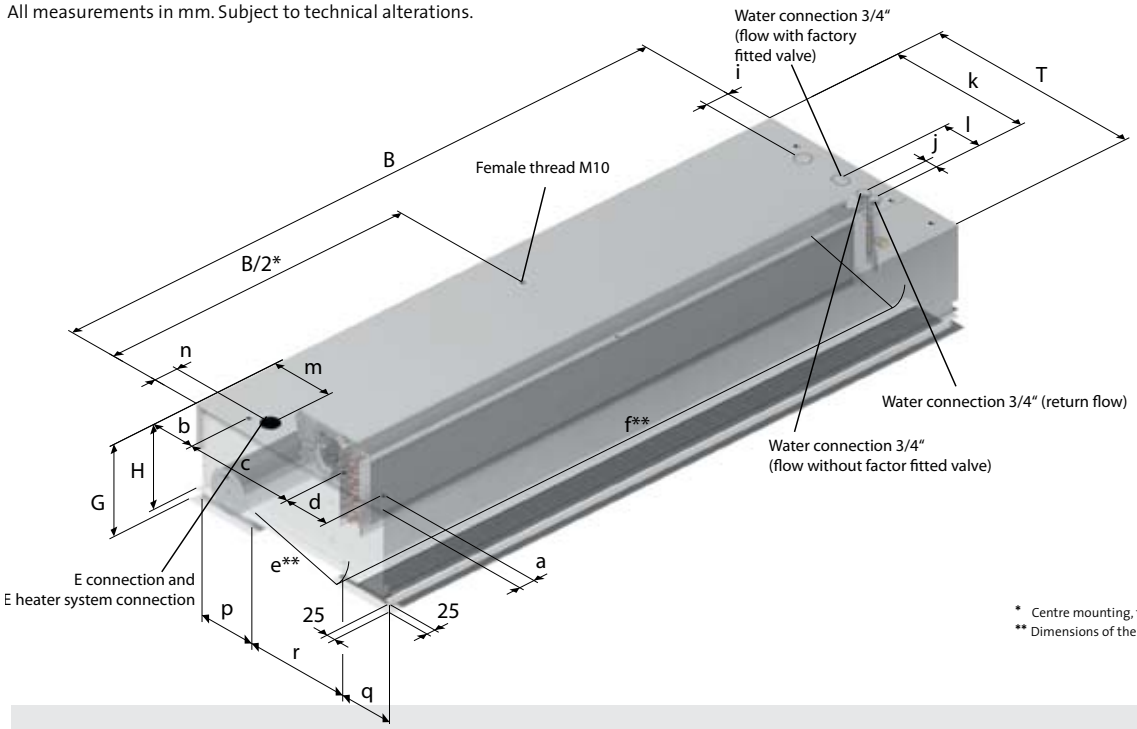
Type UDB

Suspended installation, flush with the ceiling.
Air intake on the underside.
Entire bottomside of unit in range of vision.

Dimensions, Type Z

	Dimensions				Fittings				Revision flap		Pipe connection				Electro		Air intake/ blow-out vents		
	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	–	Approx. 325	(B-53)	75	38	465	128	200	75	188	172	340
2-Z		300	345	825	50	135	440	–	Approx. 400	(B-53)	75	50	534	140	200	75	188	222	415
3-Z		430	475	1130	50	150	655	275	Approx. 590	(B-53)	75	50	764	140	225	75	230	297	603

All measurements in mm. Subject to technical alterations.



* Centre mounting, from 2.5 m unit width
** Dimensions of the revision cover

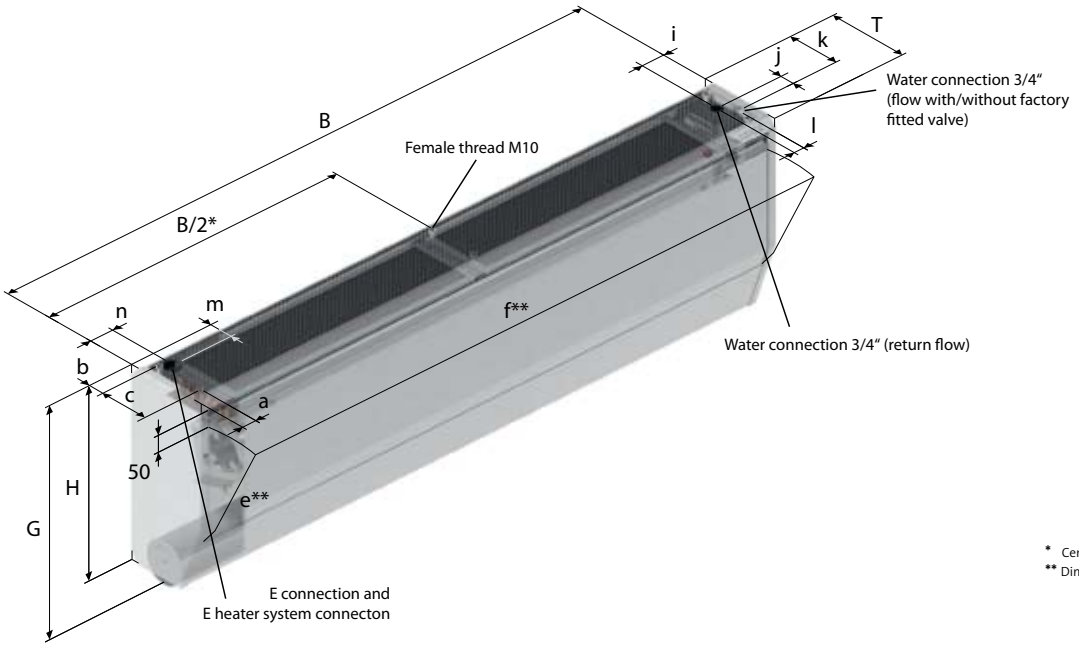
Type Z

Suspended installation. Air intake on the underside.
Only air intake and blow-out openings in range of vision.

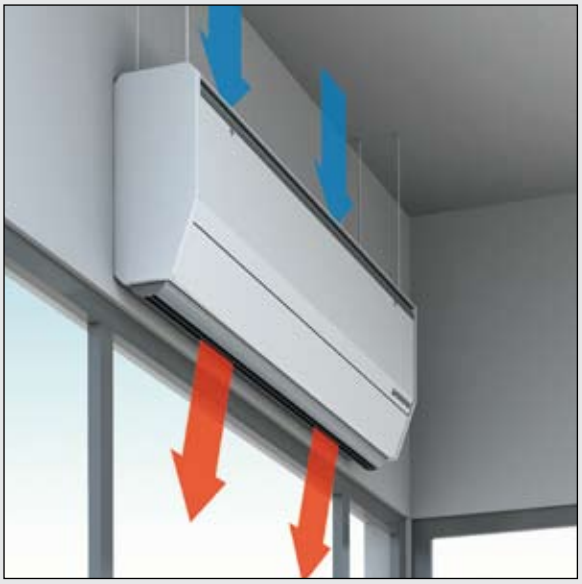
Dimensions, Type R

	Dimensions				Fittings			Revision flap		Pipe connection				Electro	
	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	Approx. 360	(B-53)	75	48	165	33	75	75
2-R		675	715	300	50	50	200	Approx. 455	(B-53)	75	48	188	33	75	75
3-R		900	950	430	50	50	330	Approx. 595	(B-53)	75	48	253	33	75	75

All measurements in mm. Subject to technical alterations.



* Centre mounting, from 2.5 m unit width
** Dimensions of the revision cover



Type R

Slim-line design for horizontal or vertical installation in range of vision.
Air intake on the top (with vertical installation at the back).

Technical Details

Type	E1					E2					E3				
Max. installation height [m]	2.75					3.25					4.0				
Width [cm]	100	150	200	250	300	100	150	200	250	300	100	150	200	250	300
Min. blow-out speed [m/s]	3	3	3	3	3	3.5	3.5	3.5	3.5	3.5	4	4	4	4	4
Max. blow-out speed [m/s]	10.5	10.5	10.5	10.5	10.5	10.8	11.3	11.3	11.3	11.3	14.5	14.7	15.3	15.3	15.3
Air volume															
Nominal volume flow [m³/h]	2100	3150	4200	5250	6300	2100	4200	5250	6300	7450	3800	5400	7600	9700	11400
Active volume flow [m³/h]	1500	2250	3000	3800	4500	1900	3000	4000	5000	6000	3000	4700	6400	8100	9500
Noise level															
Min. noise level [dB(A)]	40	41	41	41	42	41	43	44	45	46	50	51	52	52	53
Max. noise level [dB(A)]	54	56	58	60	61	54	56	58	60	62	57	59	60	61	62
Electrical data															
Voltage [V]	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230
Power output [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
Current [A]	1.7	2.6	3.4	4.3	5.1	1.8	3.4	4.3	5.0	5.9	3.4	5.9	9.0	11.0	13.1
Approximate weight															
Type S [kg]	45	68	80	95	110	50	75	100	120	145	100	135	170	200	230
Type U / UDB [kg]	50	72	86	102	130	56	84	110	130	158	125	160	200	230	250
Type Z [kg]	52	75	90	108	135	60	90	115	150	176	132	167	208	238	260
Heater battery technical data															
PWW 70/50 at air intake temperature of 20 °C and blow-out temperature of 37 °C (installation type IDW)															
Heater power [kW]	8.6	12.9	17.2	21.7	25.8	10.9	17.1	22.9	28.6	34.4	17.2	26.8	36.6	46.2	54.2
Through flow rate [m³/h]	0.38	0.56	0.75	0.95	1.13	0.48	0.75	1.00	1.26	1.51	0.75	1.18	1.60	2.03	2.38
Water resistance [kPa]	1.82	1.79	2.25	2.37	2.38	6.22	6.44	5.45	5.99	6.38	3.97	4.74	5.09	4.88	5.23
PWW 70/50 at air intake temperature of 20 °C and maximum blow-out temperature (installation type IDW)															
Heater power [kW]	9.5	14.7	21.4	27.4	33.0	16.6	26.5	37.1	47.1	57.2	23.7	37.8	54.3	69.2	82.5
Blow-out temperature [°C]	38.9	39.5	41.2	41.5	41.8	46.1	46.3	47.6	48.1	48.4	43.5	43.9	45.2	45.4	46.0
Through flow rate [m³/h]	0.42	0.65	0.94	1.20	1.45	0.73	1.16	1.63	2.07	2.51	1.04	1.66	2.38	3.04	3.63
Water resistance [kPa]	1.82	1.79	2.25	2.37	2.38	6.22	6.44	5.45	5.99	6.38	4.10	4.74	5.09	4.88	5.23
PWW 70/50 at air intake temperature of 5 °C and maximum blow-out temperature (installation type ADW)															
Heater power [kW]	14.1	21.8	31.3	40.1	48.3	24.1	38.2	53.3	67.7	82.0	34.3	54.5	78.0	99.5	118.3
Blow-out temperature [°C]	31.6	32.3	34.4	34.8	35.3	40.7	40.9	42.6	43.2	43.6	37.3	37.7	39.4	39.7	40.4
Through flow rate [m³/h]	0.62	0.95	1.37	1.76	2.12	1.05	1.67	2.34	2.97	3.59	1.50	2.39	3.42	4.36	5.21
Water resistance [kPa]	3.64	3.57	4.41	4.62	4.65	11.85	12.25	10.33	11.32	12.03	7.61	9.03	9.63	9.24	9.87
PWW 80/60 at air intake temperature of 20 °C and maximum blow-out temperature (installation type IDW)															
Heater power [kW]	12.6	19.4	27.9	35.8	43.1	21.4	34.0	47.5	60.2	73.0	30.6	48.6	69.5	88.7	105.5
Blow-out temperature [°C]	45.0	45.7	47.7	48.0	48.5	53.5	53.7	55.3	55.9	56.2	50.4	50.8	52.3	52.6	53.2
Through flow rate [m³/h]	0.56	0.86	1.23	1.58	1.90	0.94	1.50	2.09	2.65	3.21	1.35	2.14	3.06	3.90	4.66
Water resistance [kPa]	2.89	2.84	3.50	3.67	3.69	9.37	9.69	8.15	8.94	9.50	6.04	7.16	7.63	7.32	7.82
PWW 60/40 at air intake temperature of 20 °C and maximum blow-out temperature (installation type IDW)															
Heater power [kW]	6.3	9.7	14.5	18.7	22.6	11.7	18.7	26.3	33.6	40.9	16.5	26.5	38.5	49.1	58.8
Blow-out temperature [°C]	32.5	32.9	34.4	34.7	35.0	38.4	38.6	39.6	40.0	40.3	36.4	36.8	37.9	38.1	38.5
Through flow rate [m³/h]	0.27	0.43	0.63	0.82	0.99	0.51	0.82	1.15	1.47	1.79	0.72	1.16	1.68	2.15	2.58
Water resistance [kPa]	0.91	0.91	1.18	1.25	1.27	3.48	3.63	3.09	3.42	3.66	2.18	2.64	2.88	2.76	2.98
PWW 55/45 at air intake temperature of 20 °C and maximum blow-out temperature (installation type IDW)															
Heater power [kW]	7.6	11.7	16.7	21.5	25.8	12.8	20.3	28.4	36.0	43.6	18.3	29.1	41.6	53.0	63.3
Blow-out temperature [°C]	35.0	35.4	36.6	36.8	37.0	40.0	40.2	41.1	41.4	41.6	38.2	38.1	39.3	39.5	39.8
Through flow rate [m³/h]	0.66	1.02	1.46	1.88	2.25	1.12	1.77	2.48	3.14	3.81	1.60	2.54	3.63	4.63	5.53
Water resistance [kPa]	4.26	4.18	5.15	5.39	5.42	13.71	14.18	11.91	13.05	13.87	8.86	10.5	11.17	10.72	11.51
Pipe connections															
Upstream [inches]	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Downstream [inches]	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Electrical heater (three-step, 400 V, 3 Ph, 50 Hz)															
Step 1 [kW]	3.0	4.5	6.0	6.0	9.0	3.0	6.0	6.0	12.0	12.0	6.0	9.0	12.0	12.0	12.0
Step 2 [kW]	6.0	9.0	12.0	18.0	18.0	9.0	12.0	18.0	18.0	24.0	12.0	18.0	24.0	24.0	24.0
Step 3 [kW]	9.0	13.5	18.0	24.0	27.0	12.0	18.0	24.0	30.0	36.0	18.0	27.0	36.0	36.0	36.0
dt max. [K]	17.0	17.0	17.0	18.0	17.0	18.0	17.0	17.0	17.0	17.0	17.0	16.0	16.0	12.0	11.0

Subject to technical alterations.

With its range of performance categories and versatile designs, the E-Series is universally applicable in almost every situation. Please see below for a selection of examples and references.

In locations where special conditions and requirements prevent installation of a standard model, we will construct an individual, customized unit to suit your needs.

Unit type: E 3-UDB-750-N-ADW

Far left:
Unit type: E 3-S-400-N

Left:
Unit type: E 3-U-600-N-ADW

Below:
Unit type: E 2-R-250-NT

Above:
Unit type: E 3-S-400-E

Right:
Unit type: E-Series in a customized design with a glass duct and special triple-nozzle-system.

In addition to the standard S, U, UDB, Z and R type units, the E-Series units are extremely flexible. They can be tailored to the individual needs of their respective location.

Not only with regard to the performance but also the type, we construct your unit so that it optimally meets your requirements and achieves maximum efficiency. Almost everything is possible.

Example 1 · E 3-KA

Problem: Beams and low ceilings do not allow for a unit to be positioned directly at the door.

Solution: In co-operation with the architect and planner, Teddington developed housings and ducts in specially-agreed dimensions to integrate the units into this special environment.

Example 2 · E 5-ZS-DW

Problem: Multi-storey department store with particularly high ventilation comfort requirements in the entrance area.

Solution: Development of an efficient dual-nozzle-system with ECM motors for constant electronic control, unit installed in the false ceiling.

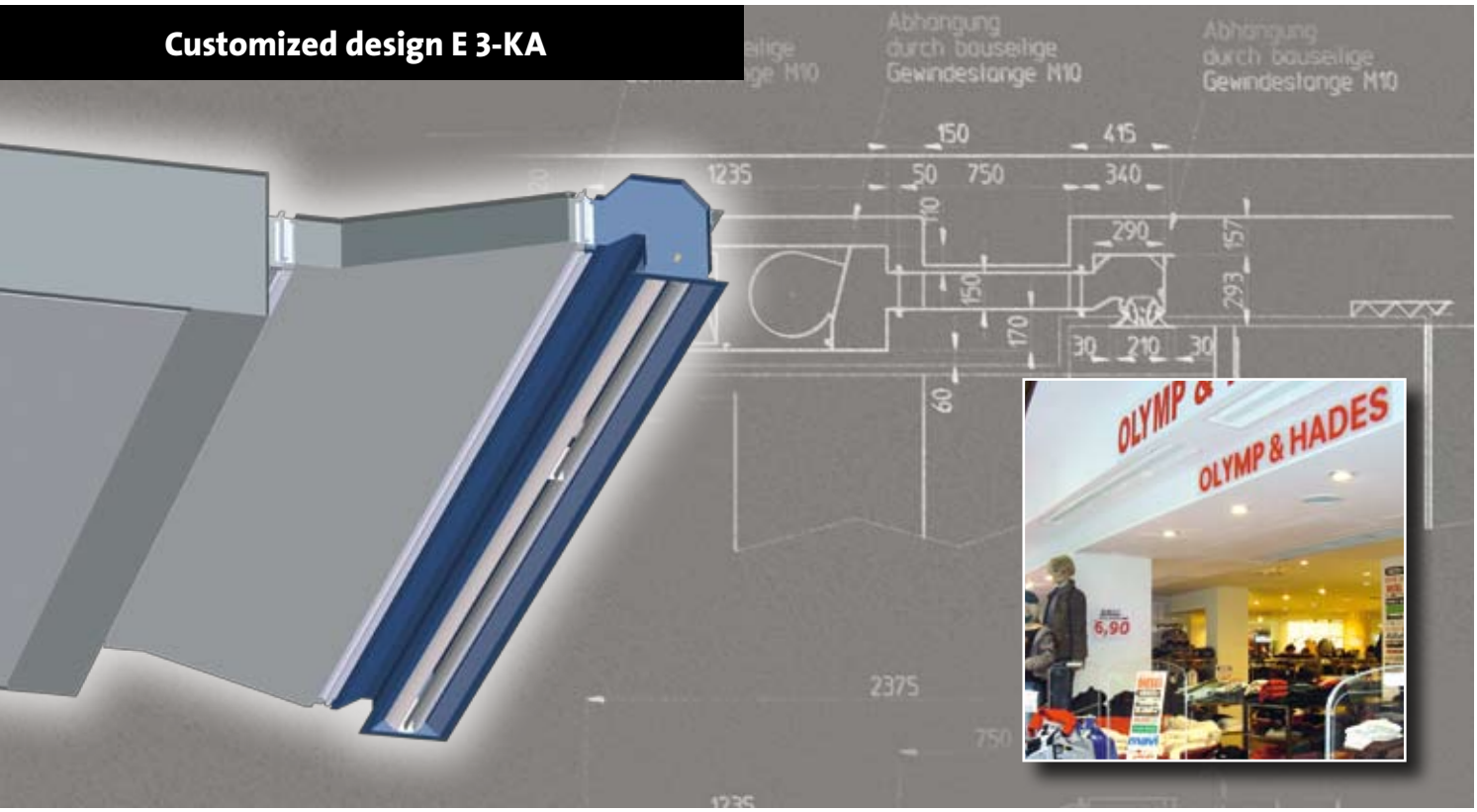
Example 3 · E 6-UDB-TW

Problem: Extreme requirements due to chimney effect in the building, exposed location paired with particularly high customer frequency.

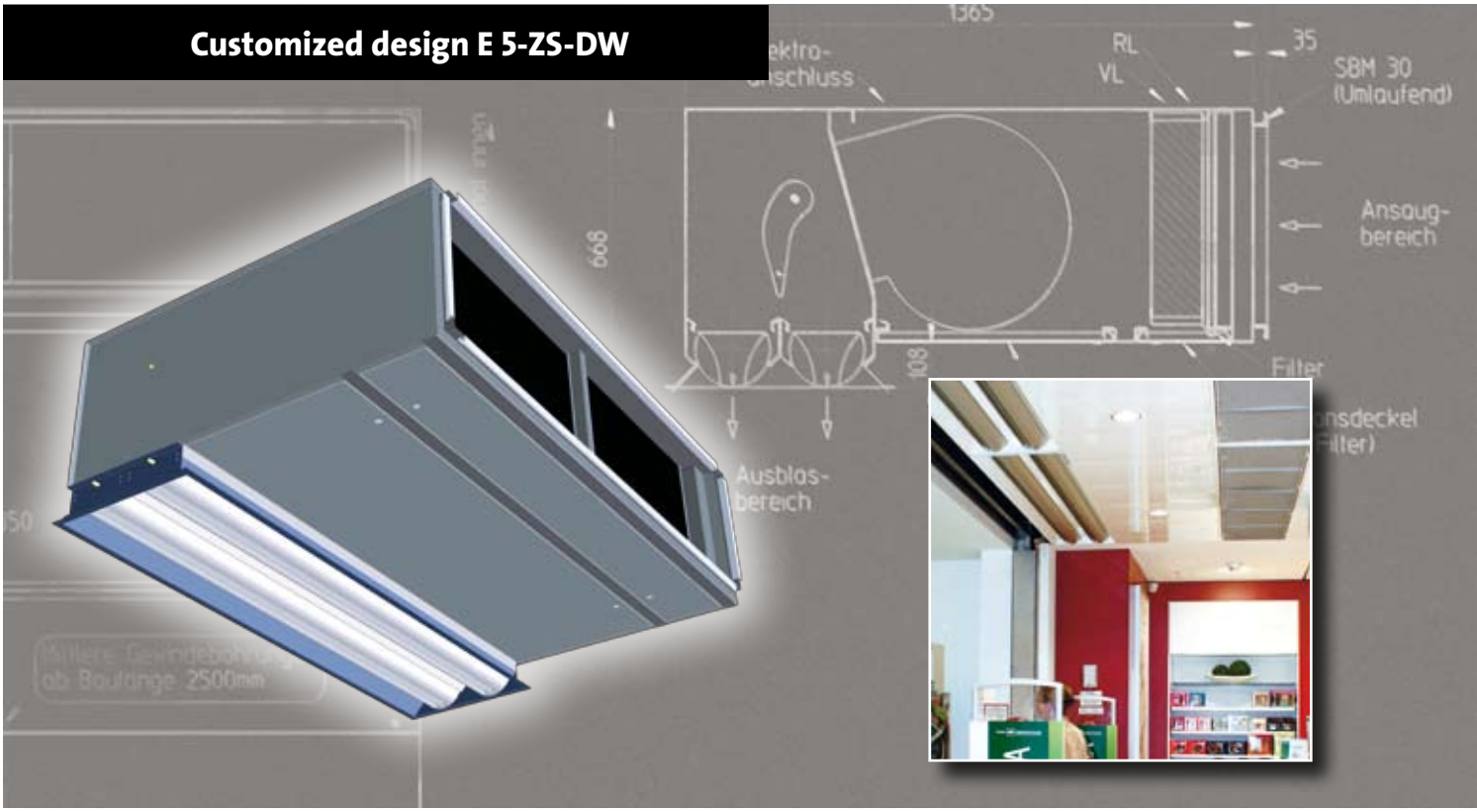
Solution: Development of a particularly efficient and pressure-resistant unit for connection to a floor extractor. The triple nozzle system thereby allows for an optimal balance of shielding and customer comfort.

Whatever your requirements are, we will plan your system with you and, if necessary, construct a unit tailor-made for your specific situation.

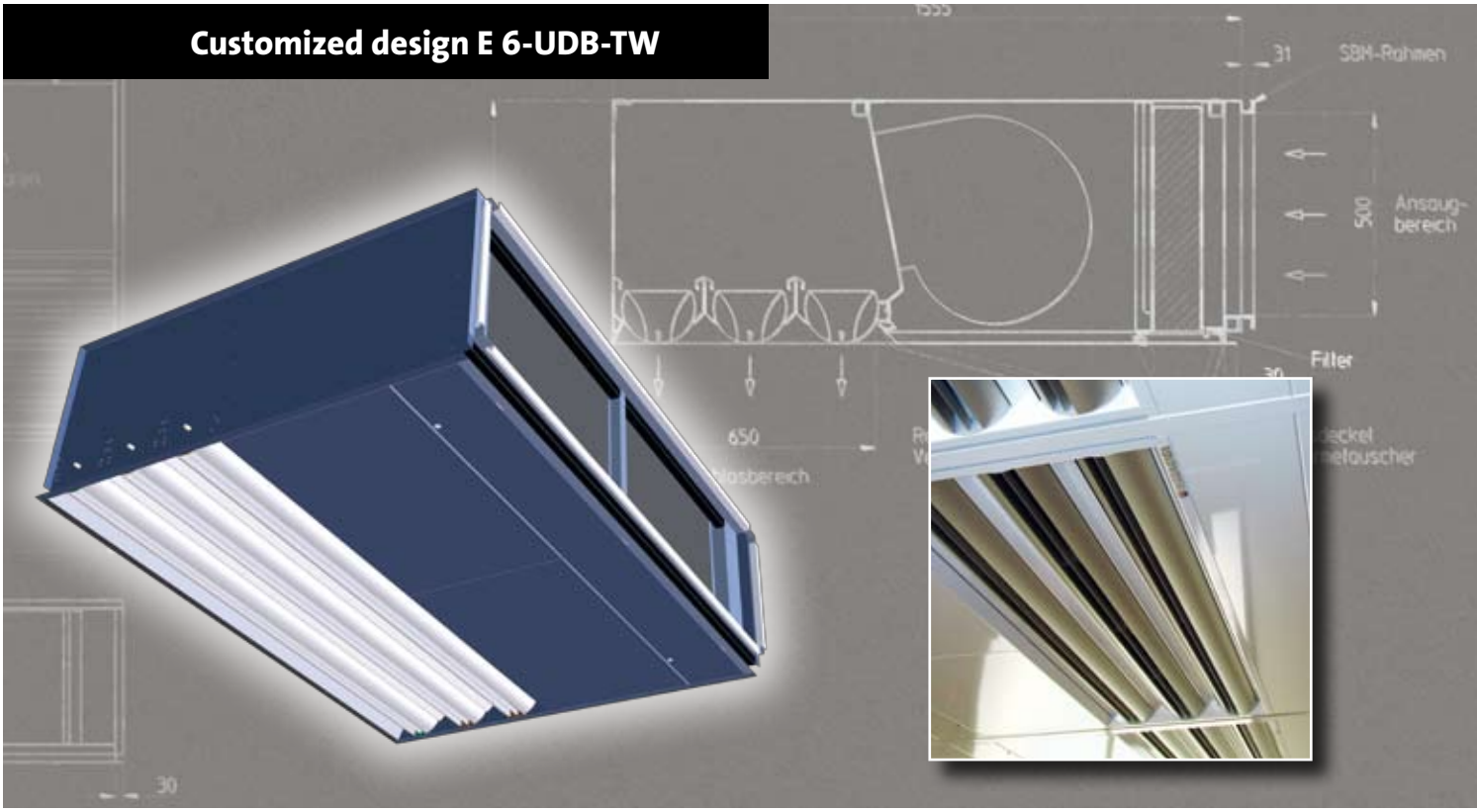
Customized design E 3-KA



Customized design E 5-ZS-DW



Customized design E 6-UDB-TW

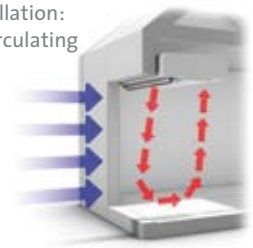


It all depends on the situation.

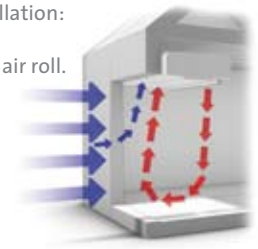
Determination of your individual design situation

- Determine which building situation applies (A, B or C).
- Check at which exhaust height the unit has to be installed.
- In the diagram on page 25, review the estimated shielding capacities of Series E1, E2 and E3, with both IDW installation (inward-circulating air roll) and ADW installation (outward-circulating air roll).
- The shielding required depends on meteorological and building-specific factors. These include aspects such as a direct or heavy wind exposure, presence of shielding by nearby housing or an entrance located in a crosswind for example.

IDW installation: inward-circulating air roll.



ADW installation: outward-circulating air roll.



Orientation values

- Air flow caused only by temperature differences in the heating season, internal/external: 0.3 to 1 m/s
- Generally low inflow, e.g.: due to buildings located opposite on the pressure side of the inflow building: 1 to 3 m/s
- Generally high inflow, e.g.: due to location on a corner or market square, with provision of little shelter from buildings located opposite: 1 to 6 m/s
- Completely unprotected locations that are entirely open: significantly higher

Please note: Air flow should be measured at different wind pressure conditions.

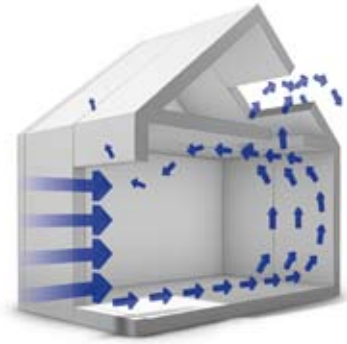
Air thrust and thermal convection in different building situations

Building situation A

Door areas located at one side of the building.

No significant possibility of air streaming by thermal convection or chimney effect.

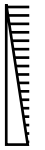
Δ p = large, depending on temperature difference between inside and outside



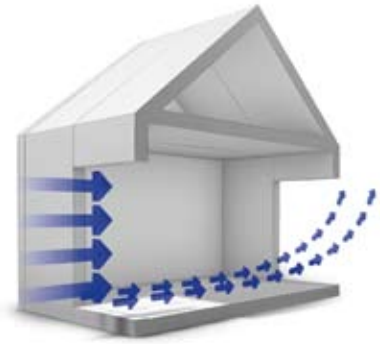
Building situation B

Door areas located at one side of the building.

Air streaming possibilities exist through thermal convection in the upper floors or by the chimney effect, or alternatively outwards over areas, which do not exceed half of the door areas in size (height above sealevel not considered).



Δ p = smaller, since decreased in part by streaming



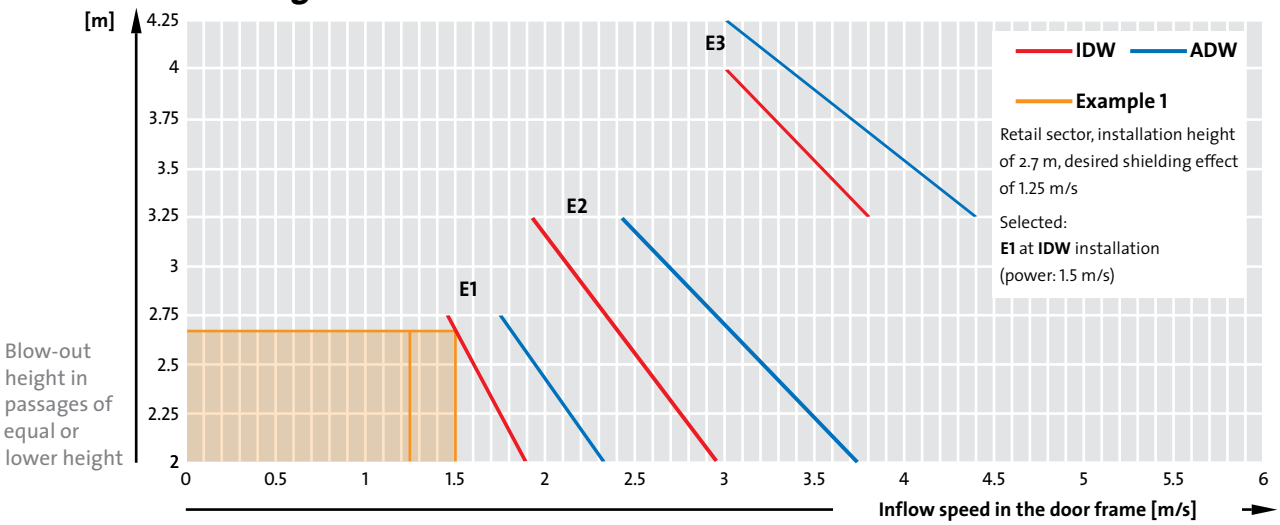
Building situation C

Unprotected door areas also located at the opposite side of the building, e. g. to the side or at the back.

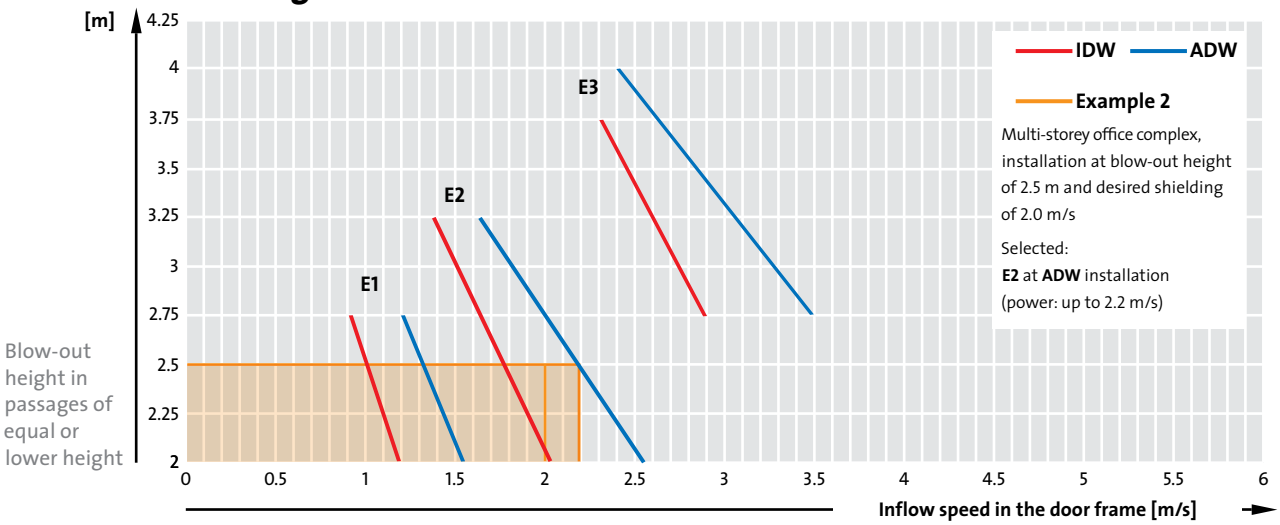
The value for air streaming possibilities is equal to or greater than the value of the door area to be shielded.

Δ p = very low, due to outwards air thrust

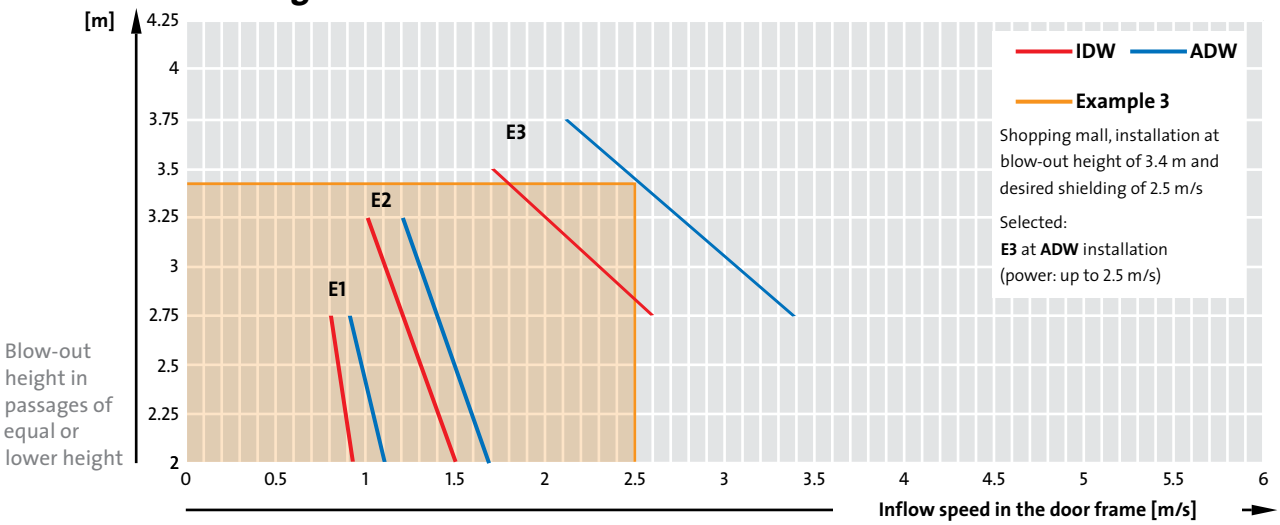
Building situation A: Cold air incursion in the door frame



Building situation B: Cold air incursion in the door frame



Building situation C: Cold air incursion in the door frame



Thermostats

Frost protection thermostat FTE

For protection of the hot water heater system, with capillary pipe sensor, capillary pipe length 3 m, self-protecting as single-pole, potential-free toggle switch, protection grade IP 30, built into the unit.

Electronic frost protection thermostat FTM

Only in conjunction with controller units TCU, TC5 and TC3.
With capillary pipe sensor, capillary pipe length 0.9 m, protection grade IP 30, built into the unit, only suitable for low-voltage applications (open contacts).

Electro-mechanic room air thermostat ERT

5 - 30 °C with bimetal, pure white (similar to colour RAL 9010), switching capacity 230 V AC, 50...60 HZ, 10 A (4 A inductive) switching difference 0.5 K, protection grade IP 30. Humidity 0...95 %, non condensing, operating temperature 0...40 °C, thermal feedbacks. Dimensions: 75 x 75 x 25 mm.

Repair switches

Repair switch REP-S

For switching off the equipment by software. Only in combination with controller units TCU, TC5 and TC3. Switch located behind the revision flap.

Repair switch REP-L

3 pole repair switch in wall mounting version, delivered as loose part for installation at site in the connection cable.

Door contacts

Door contact type TK

Protection grade IP 65, jumper switch with H switches and full contact up to time of switching, shock-proof terminals according to VDE 0106, part 100 (VGB 4), cable gland 2 x PG 13.5 on underside and at side, switching voltage 230 V AC, 24 V DC, switching current 6 A AC, 4 A DC.

Door contact type TKB

Contact-less door contact with protection grade IP 00, consisting of reed contact and permanent magnet for open circuit (contact open at applied magnet), switching voltage 100 V DC, switching current 250 mA DC.

Controller/ shut-off and magnetic valves

Thermostatic control valve type KR 2-E DN 20, built-in

Special valve for controlling especially large water quantities; kvs value 7.0. Capillary pipe length sensor 2 m, connection DN 20.

Thermostatic control valve type KR 2-L DN 20

Thermostatic control valve (straight-through-valve) KR-2 with thermostat head for controlling of constant blow-out temperature, delivered as a loose part. Special valve for controlling especially large water quantities; kvs value 5.0. Capillary pipe length sensor 2 m, connection DN 20.

Thermostatic control valve type KR 3-L DN 20/25/32

Thermostatic control valve (three way valve) KR 3-L with thermostat head for controlling of constant blow-out temperature, delivered as a loose part. Special valve for controlling especially large water quantities. Capillary pipe length sensor 2 m, DN 20 kvs 4.5; DN 25 kvs 6.5; DN 32 kvs 9.5.

Thermo electric shut-off valve Type TAV

230 V, closed at no current, delivered as a loose part for water shut-off via summer/winter switch or for controlling the water through flow quantities with controlling at site. Special valve for controlling especially large water quantities; kvs value 5.0. Connection DN 20.

Magnetic valve MV

230 V, closed at no current, immediately closing, for water shut-off purposes via summer/winter switch, delivered as a loose part.
DN 20 kvs 11; DN 25 kvs 13; DN 32 kvs 30.

Installation brackets

Ceiling installation bracket DH

Suspension bracket, vibration damper, threaded rods 1 m, securing and counter nut, anchor bolt, minimum space required 0.1 m, suspension length 1 m (number of items dependent on device length and type).

Comfort ceiling installation bracket DHD

Suspension bracket, vibration damper 17 dB, turnbuckle, right-left threaded bolt, threaded rods 1 m, securing and counter nut, drive in dowel, minimum space required 0.2 m, suspension length 1.1 m (number of items dependent on device length and type).

TCU - Teddington Control Unit

TCU ·friendly and intelligent.

With the TCU controller system you can adapt your Teddington air curtain system exactly to the most varied local conditions.

On the LCD display you will see all functions and parameters clearly at a glance. Therefor programming the various functions and options is very simple and intuitively possible.

Via an integrated BUS system, up to 9 air curtain units can be controlled by one single operating device. This facilitates the management of complex equipment significantly.

Ingenious technology and user-friendly intelligence...

Electronic remote control, freely programmable, for 5-step or continuous control of Teddington air curtain systems with a large multi-functional LCD display and covered programming key board.

Integrated clock with free selection of switching intervals.

Integrated filter monitoring with trouble-free adaptation to operating conditions on site.

Key locking feature.

Retrieval of failure messages via battery-supported error memory for remote diagnosis.

Summer/winter toggle switch, control of magnetic valve and/or pump.

Frost protection circuit.

Electric blow-out temperature control via an integrated control valve with an electrical actuator and digital temperature display.

Automatic function via outdoor thermostat, infrared transmitter or any signal device for free programmable, signal-dependent control of revolution speed or preset of the rpm level at door contact operation.

Integral and proportional control parameters for adaptation of the device to local conditions, programmable on the multifunctional LCD display. Potential free operating and failure messages.

DDC/GLT release and input for controlling the power level via GLT (0-20 mA, 4-2 mA, 0-10V).

Dimensions: 103 x 103 x 29 mm.

Teddington controller unit TC5

5-stage electronic air volume controller with LCD Display for setting and indication of the operating status. Manual / automatic mode via potential-free contact with adjustable after-run time. Summer/winter function. Filter maintenance function with signalling at the control panel, indication and analysis of the fan failure error signal, transformer failure via the thermal contacts and danger of frost via the optional frost protection thermostat. The integrated frost protection circuit deactivates the ventilators whenever there is the danger of frost and releases the valve or pump. A repair switch for switching off the unit via software is available. For GLT coupling, an external release and an operating and fault message are all made available. The connections of the control panel and up to 9 slave units take place via a simple 2-core bus cable. The terminals are reverse connection and short circuit protected. The controller has got an integrated key lock function as well as an operating hours counter. Dimensions: 103 x 103 x 29 mm.

Teddington controller unit TC3E

3-stage electronic air volume controller for electrically-heated air curtain devices, with LCD Display for setting and indication of the operating status. Air volume and heat output are always 3-stage adjustable. The heat output is interlocked with the air volume stage. Manual / automatic mode via potential-free contact. Safety functions: after-run function controlled by a 50 °C thermostat, overheating protection by a 60 °C thermostat and an additional overheating protection by a 175 °C thermostat. The connections of the control panel and up to 9 slave units take place via a simple 2-core bus cable. The terminals are reverse connection and short circuit protected. The controller has got an integrated key lock function as well as an operating hours counter. Dimensions: 103 x 103 x 29 mm.

Teddington controller unit TC3

3-stage electronic air volume controller with LCD Display for setting and indication of the operating status. Manual/ automatic mode via potential-free contact and summer/ winter function. The integrated frost protection circuit deactivates the ventilators whenever there is the danger of frost and releases the valve or pump. The connections of the control panel and up to 9 slave units take place via a simple 2-core bus cable. The terminals are reverse connection and short circuit protected. The controller has got an integrated key lock function as well as an operating hours counter. Dimensions: 103 x 103 x 29 mm.

DDC 5 (hot water units)

5-stage controller PC board with auxiliary functions, which allows the connection to the building management technology / DDC. All logical combinations as well as operating and failure messages are generated here and be made available via potential free inputs/outputs.

Summer/winter toggle switch; connection of e.g. DDC, door contact, timer, room thermostat; full motor protection; option: Frost protection and repair switch. Dimensions: 240 x 110 x 55 mm.

ST 3G / ST 5G (Hot water devices)

3-stage or 5-stage, respectively control device with exchangeable blind for either summer/winter or manual/ automatic operation. Dimensions: 100 x 79 x 112 mm.

Quality is our highest demand.

Regardless of which unit you opt for, with Teddington you can be sure to have chosen a high performance product having a name in the market featuring the latest state-of-the-art technology.

With our many years of experience, we guarantee that every unit has been produced to a high standard with quality components. And we are continuously developing new techniques, which minimise your operating costs and optimize the unit efficiency.

Teddington is a long-term partner of the specialized craft business, of trade and industry.

Almost around the clock, a team of experienced specialists is on hand to ensure that world demands for precise and high-quality air curtain systems are continuously satisfied.

Teddington affords a network of competent specialist firms, which are always available for you.

We will assist you in planning and selection of the unit, which best suits your needs. We will also support you once the unit has been put into operation with a comprehensive customer service.

... typically Teddington.

Device technology, intelligent controller systems and service – the perfect match.

The better the consultation, the better the result will be.

Modern production facilities with CNC technology ensure extremely high quality standards.

Innovation is our key commitment. For example, the patented nozzle technology.

No unit will leave our production that has not been thoroughly tested in all its functions.

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Innovative Technology

Highest Economy

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Top Quality

Perfect Service

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