



E-SERIES 4

DOORS MADE OF AIR. SHOP & BUSINESS

CONVERGO® – Maximum efficiency.

The air flow is accelerated through the convex nozzle edges so that a concentrated, low induction air curtain develops that is directed against the outdoor air.

The "soft" tearing edge of the inner nozzle section produces the desired induction of the indoor air in the air curtain and helps maintain a pleasant indoor temperature.

The aerofoil shaped profile divides the jet of air into a sharp core jet and an inductive support jet before finally converging it together again.

The fillet on the outer nozzle section acts as "sharp" tearing edge and reduces the induction of the proportions of undesired outdoor air to a minimum.

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 difference.

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.



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.

Superior technology. Sophisticated design.

Quality powder coating, individual colours possible.

The extensive nozzle sides ensure dean 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.

TEDDINGTON

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

Technical Data







The E-Series sets new benchmarks when it comes to effectiveness, energy efficiency and functionality. The E-Series is characterised by future-oriented technology, high quality and good workmanship, maximum flexibility and pioneering design.



S model

Visible wall or ceiling installation. Air intake area at the front.



UDB model

For installation in a suspended ceiling, flush with the ceiling. Air intake area at the bottom Complete underside of the unit is visible.

Performance category		E-Serie 4			
Length of the unit		150	200	250	
Performance data					
Max. recommended installation height	[m]		4,90		
Max. nominal flow rate	[m ³ /h]	8000	12000	16000	
Max. effective flow rate	[m ³ /h]	6600	8900	11200	
Average air discharge speed	[m/s]		24,5		
Sound pressure level at a distance of 3 metres to the sound source (anechoic chamber)					
Max. operating level	[dB(A)]	69,00	69,30	72,00	
Weights					
S model	[kg]	200	220	275	
UDB model	[kg]	230	275	305	
Electrical data 230 V					
EC-technology					
Output	[kW]	2,07	2,72	3,40	
Power Consumption	[A]	9,3	12,40	15,50	
Technical data of heater battery					
LTHW 60/40 at an air intake temperature of 20°C and a average air discharge temperature of 35°C					
Heat output	[kW]	35,80	48,10	64,00	
Air discharge temperature	[°C]	36,10	36,10	37,00	
Flow rate	[m ³ /h]	1,60	2,10	2,80	
Water resistance	[kPa]	3,00	4,20	4,40	
Pipe connections	[Inches]	1,00	1,00	1 1/4"	
Unit measurements					
Width	[mm]	1500	2000	2500	
Depth of UDB model	[mm]	1400	1400	1400	
Depth of S model	[mm]	900	900	900	
Height of UDB model	[mm]	500	500	500	



Teddington Luftschleieranlagen GmbH Industriepark Nord 42 · D-53567 Buchholz (Mendt) Tel. +49 (2683) 9694-0 · Fax +49 (2683) 9694-50 info@teddington.de · www.teddington.de More Information: teddington.de/en



Teddington. The reference for air curtain technology.