TEDDINGTON
AIR CURTAIN SYSTEMS

E-Series ZS

High-performance Air Curtain for almost invisible suspended ceiling installation

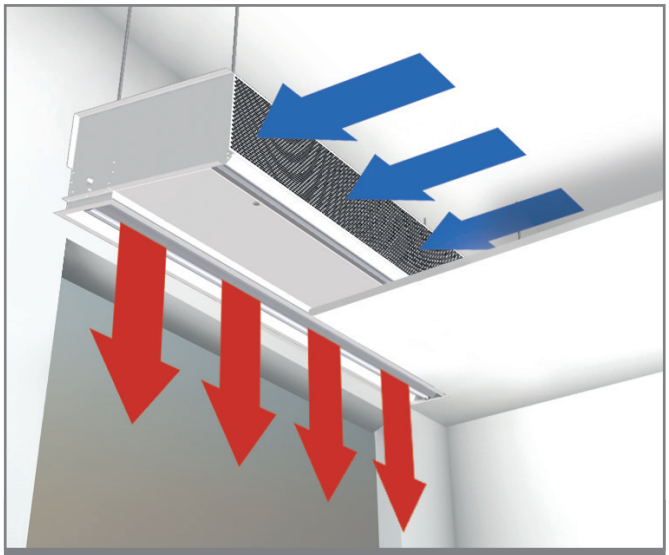
The E-Series combines Teddington's know-how from many years of development work. The wide range of options available for the E-Series enable tailor-made solutions and make the E-Series a powerful all-rounder.

Application

The Air Curtain in housing type ZS has the air intake area inside the suspended ceiling. Only the air discharge opening is visible below the suspended ceiling. In addition to the very quiet operation due to the integration in the suspended ceiling, this Air Curtain is hardly noticeable.

Teddington works

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



Housing type ZS

Suspended ceiling installation,
air intake area in suspended ceiling area,
only air discharge opening visible.

VARIOUS OPTIONS

Individual unit length

Our Air Curtain systems are manufactured in predefined lengths as standard, which are suitable for most door situations. The longest single unit air curtains have a length of 3 m. In order to realize lengths exceeding this, devices are mounted and controlled in a group. If the situation requires a different length, we can manufacture the unit length to the exact millimeter according to your requirements.

Also available in an elegant stainless-steel design on request

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

Heating modes

The Teddington E-Series is available as an ambient unit without heating and can be heated in the versions LTHW (water), electric, R410a / R32 (VRF), hybrid (e.g. water + electric).

3 power levels

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

Air Discharge range up to 4.4 m

Our powerful and fast-starting E-Series fans, in conjunction with our patented CONVERGO® pressure chamber nozzle system allow a maximum installation height of up to 4.4 metres.

AC or EC fans

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

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

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

Installation types

Depending on whether there is positive or negative pressure inside the building, there are two different types of installation of the Air Curtain system which are used: IDW (internally rotating air roll) or ADW (externally rotating air roll) installation.

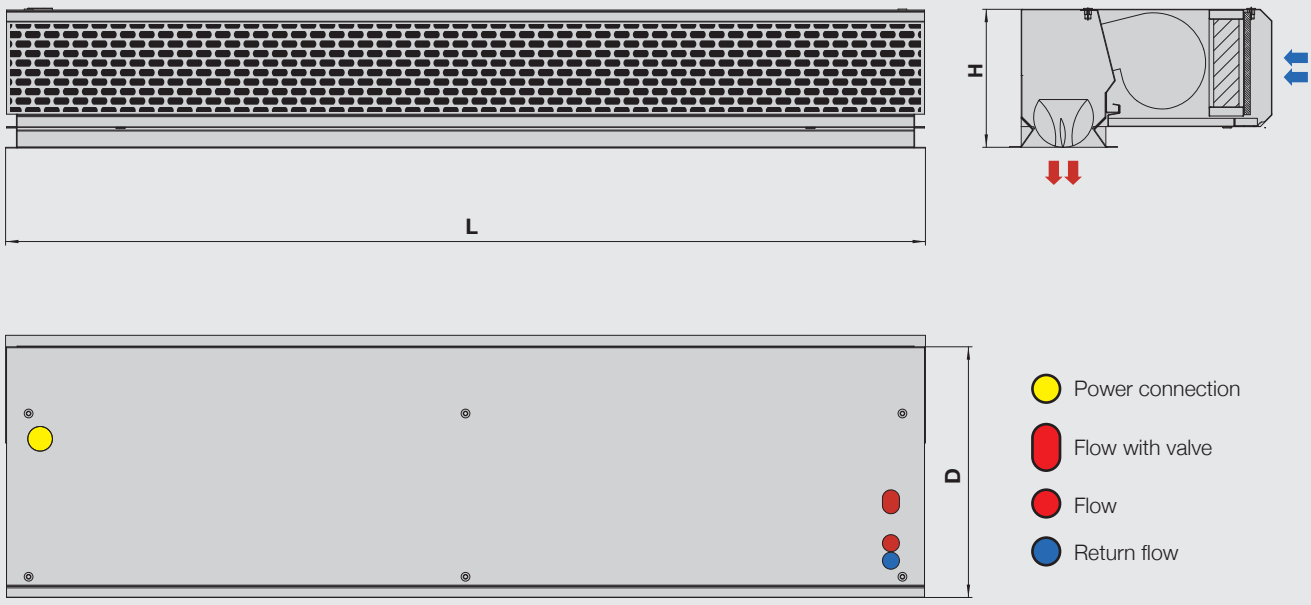
TCX - Our most innovative control system

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

TECHNICAL DATA

Power level		E-Series 1					E-Series 2					E-Series 3				
Length of the unit (cm)		100	150	200	250	300	100	150	200	250	300	100	150	200	250	300
Performance data																
Max. recommended installation height	[m]	2.90					3.40					4.40				
Max. nominal flow rate	[m³/h]	2100	3150	4200	5250	6300	2100	4200	5250	6300	7450	3800	5800	8500	11600	14500
Max. effective flow rate*	[m³/h]	1500	2400	3200	4000	4800	1600	3050	3800	4550	5300	2700	4300	6500	8600	11000
Average air discharge speed*	[m/s]	14.2					15.6					19.3				
Sound pressure level at a distance of 3 metres to the sound source (anechoic chamber)																
Max. operating level	[dB(A)]	57.0	59.0	61.0	63.0	64.0	58.4	60.4	62.4	64.4	66.4	60.0	62.0	63.0	64.0	65.0
Standard operating level	**[dB(A)]**	**46.6**	**48.6**	**50.6**	**52.6**	**53.6**	**49.1**	**51.1**	**53.1**	**55.1**	**57.1**	**56.4**	**58.4**	**59.4**	**60.4**	**61.4**
Minimum operating level	[dB(A)]	21.3	23.3	25.3	27.3	28.3	24.1	26.1	28.1	30.1	32.1	28.0	30.0	31.0	32.0	33.0

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



As standard, connections are as drawn; optionally they can also be mirrored. The drawing shows a LTHW unit (water) with filter and 6 fixing points.

Power level			E-Series 1					E-Series 2					E-Series 3				
Length of the unit (cm)			100	150	200	250	300	100	150	200	250	300	100	150	200	250	300
Measurements																	
Length	L	[mm]	1000	1500	2000	2500	3000	1000	1500	2000	2500	3000	1000	1500	2000	2500	3000
Height	H	[mm]	300	300	300	300	300	345	345	345	345	345	475	475	475	475	475
Depth	D	[mm]	545	545	545	545	545	620	620	620	620	620	850	850	850	850	850
Weight without heater battery		[kg]	39	60	69	82	94	42	64	85	101	122	90	120	149	175	199
Weight with heater battery		[kg]	45	68	80	95	110	50	75	100	120	145	100	135	170	200	230
Fixing Points		[pcs.]	4	4	4	6	6	4	4	4	6	6	4	4	4	6	6

TECHNICAL DATA

Power level		E-Series 1					E-Series 2					E-Series 3				
Length of the unit (cm)		100	150	200	250	300	100	150	200	250	300	100	150	200	250	300
Technical data of fans (230 V)																
AC technology																
Output	[kW]	0.37	0.56	0.74	0.93	1.11	0.37	0.74	0.93	1.11	1.30	0.50	1.00	1.50	2.00	2.50
Power consumption	[A]	1.70	2.55	3.40	4.25	5.10	1.70	3.40	4.25	5.10	5.95	2.40	4.80	7.20	9.60	12.00
EC technology																
Output	[kW]	0.33	0.50	0.66	0.83	0.99	0.33	0.66	0.83	0.99	1.16	0.50	1.00	1.50	2.00	2.50
Power consumption	[A]	2.70	4.05	5.40	6.75	8.10	2.70	5.40	6.75	8.10	9.45	2.20	4.40	6.60	8.80	11.00

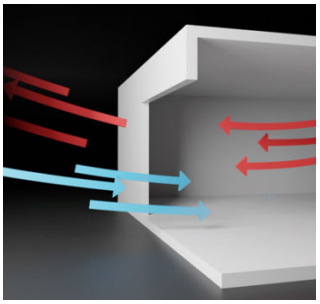
Power level		E-Series 1					E-Series 2					E-Series 3				
Length of the unit (cm)		100	150	200	250	300	100	150	200	250	300	100	150	200	250	300
Technical data of LTHW heater battery																
Pipe connections																
Flow / Return flow	[inch]	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
LTHW 70/50 at an air intake temperature of 20°C and air discharge temperature of 32°C																
Heat output	[kW]	7.6	11.5	15.2	19.0	23.7	6.3	12.9	15.4	19.1	22.9	11.2	18.8	25.8	36.6	46.4
Flow rate	[m³/h]	0.30	0.50	0.70	0.90	1.00	0.30	0.60	0.70	0.80	1.00	0.50	0.80	1.10	1.60	2.00
Water resistance	[kPa]	0.76	0.78	0.77	0.92	0.83	1.13	1.96	1.16	1.23	1.27	1.06	1.51	1.39	1.60	1.91
LTHW 70/50 at an air intake temperature of 10°C and air discharge temperature of 32°C																
Heat output	[kW]	12.0	18.2	24.4	31.1	36.6	12.4	23.2	28.1	33.7	40.1	20.2	31.6	50.6	65.8	83.4
Flow rate	[m³/h]	0.50	0.80	1.10	1.40	1.60	0.50	1.00	1.20	1.50	1.80	0.90	1.40	2.20	2.90	3.60
Water resistance	[kPa]	1.69	1.75	1.76	1.83	1.77	3.72	5.53	3.36	3.34	3.44	3.02	3.75	4.53	4.50	5.36
LTHW 50/35 at an air intake temperature of 20°C and max. air discharge temperature																
Heat output	[kW]	0.7	6.7	9.5	12.3	15.0	7.8	14.6	18.7	23.4	27.7	11.3	19.3	28.7	42.8	48.2
Air discharge temperature	[°C]	27.2	28.2	28.7	29.0	29.2	34.0	34.0	34.4	35.0	35.3	32.2	33.0	33.0	35.0	32.8
Flow rate	[m³/h]	0.20	0.40	0.60	0.70	0.90	0.40	0.80	1.10	1.30	1.60	0.70	1.10	1.70	2.50	2.80
Water resistance	[kPa]	0.28	0.54	0.60	0.63	0.66	2.90	4.35	2.91	3.07	3.77	1.90	2.78	2.95	4.86	3.61

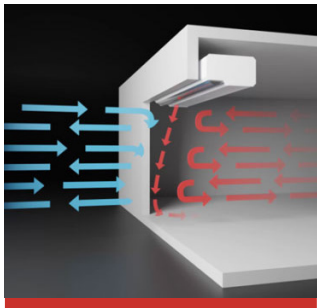
Ask our experts for data on your individual media temperatures.

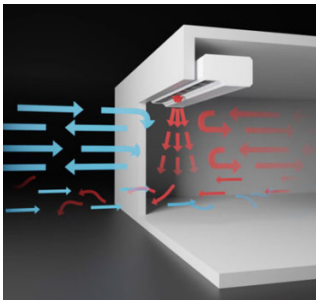
Power level		E-Series 1					E-Series 2					E-Series 3				
Length of the unit (cm)		100	150	200	250	300	100	150	200	250	300	100	150	200	250	300
Technical data electrical heater battery																
Electrical heater battery (three-stage, 400V, 3 Ph, 50 Hz)																
Level 1	[kW]	3.0	4.5	6.0	6.0	9.0	3.0	6.0	6.0	12.0	12.0	6.0	9.0	12.0	12.0	12.0
Level 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
Level 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
Max dt.	[K]	17	15	16	17	16	21	17	18	18	19	19	18	16	12	10

R410a R32 Power level		E-Series 1					E-Series 2				
Length of the unit (cm)		100	150	200	250	300	100	150	200	250	300
Technical data of heater R410a for a condensation temperature of 50 °C											
Max. heat output	[kW]	7.3	12.1	15.8	20.6	25.3	7.6	14.2	17.8	22.5	28.0
Max. air discharge at Ta 20°C	[°C]	34.2	34.7	34.5	35.0	35.4	33.9	33.7	33.7	34.5	35.0
Heat output 20/32°C	[kW]	6.5	10.3	13.8	17.2	20.6	6.9	13.1	16.3	19.6	22.8
Volume	[l]	0.9	1.6	2.3	3.0	3.6	0.9	1.6	2.3	3.0	3,6
Max. pressure drop	[kPa]	5.5	6.6	2.1	4.1	7.1	6.0	8.8	2.5	4.8	8.1

Example: Comparison of energy consumption







	Door without Air Curtain system	Door with Teddington Air Curtain system	Door with conventional Air Curtain system
Energy consumption winter*:	~ 41.100 kWh	~ 16.800 kWh	~ 23.400 kWh
Energy consumption summer**:	~ 18.300 kWh	~ 4.800 kWh	~ 6.900 kWh

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

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

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

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

* heated inside
** cooled down inside

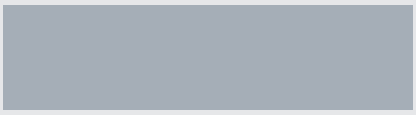
Assumptions on which the calculation is based:
- Door dimensions 2.5 x 2.5 m, installation height 2.5 m, door opening time 3 h per day.
- The system is in operation for 4 months in summer at a temperature difference (inside/outside) of 10 K.
- The system is in operation for 6 months in winter at a temperature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

Individual colours

Teddington Air Curtain systems are powder-coated to a high quality. Our units are manufactured in RAL 9016 Traffic White as standard. On request, you can choose from six timeless colours for a small surcharge. – Would you like a very special colour? Talk to us about your desired colour.

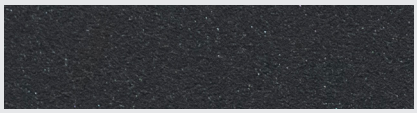
RAL 7011
Iron Grey

RAL 9005
Deep Black

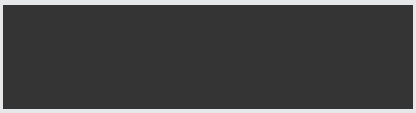


RAL 9006
White Aluminium

RAL 9010
Pure White



Black grey metallic
Metallic fine structure / matt



DB 703
Dark Grey

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