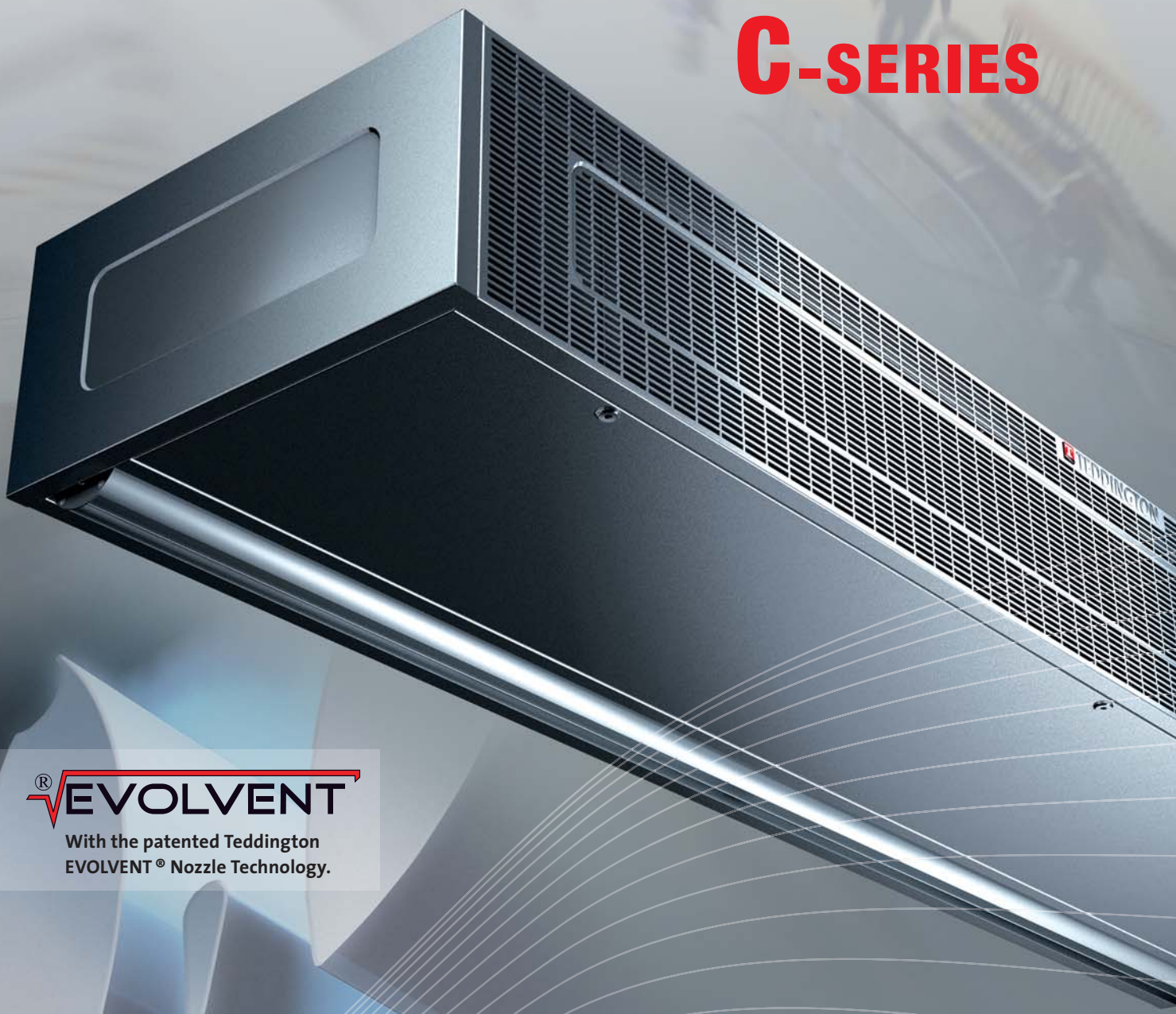
SHOP & BUSINESS

C-SERIES



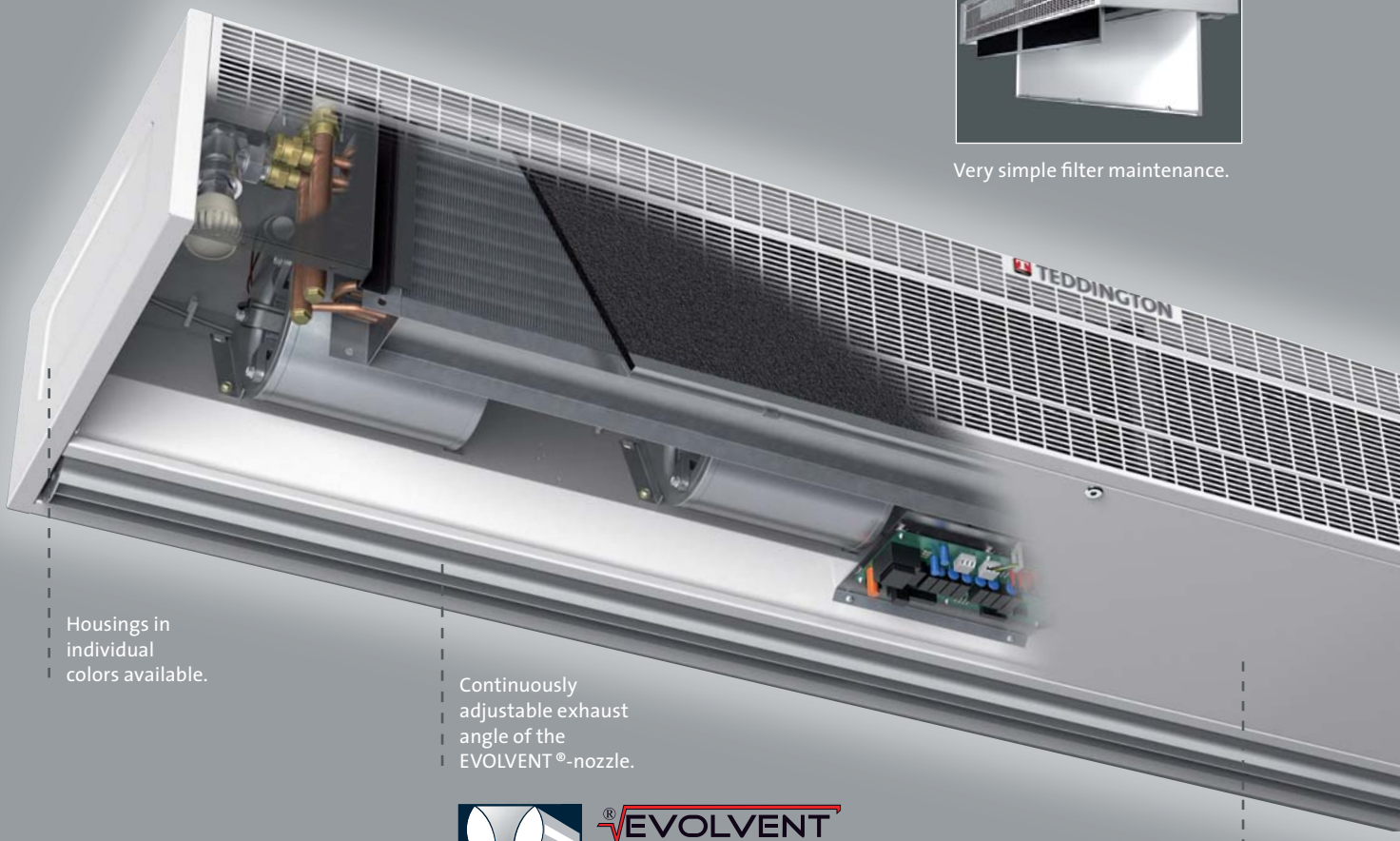
EVOLVENT®

With the patented Teddington EVOLVENT® Nozzle Technology.

TEDDINGTON

Small Nozzle with large Effect.

Very simple filter maintenance.



Housings in individual colors available.

Continuously adjustable exhaust angle of the EVOLVENT®-nozzle.

EVOLVENT®

Form stable draw out type filter cassettes – easily accessible due to large maintenance opening.

Save operational costs by intelligent technique and protect the environment.

The C-Series devices form the perfect beginning with using the patented EVOLVENT® nozzle technology from Teddington.

The small EVOLVENT® nozzle compresses and accelerates the air in the blow out section. A concentrated, exactly controllable air flow is created over the total width, with an enormous energy saving potential, compared with conventional devices.

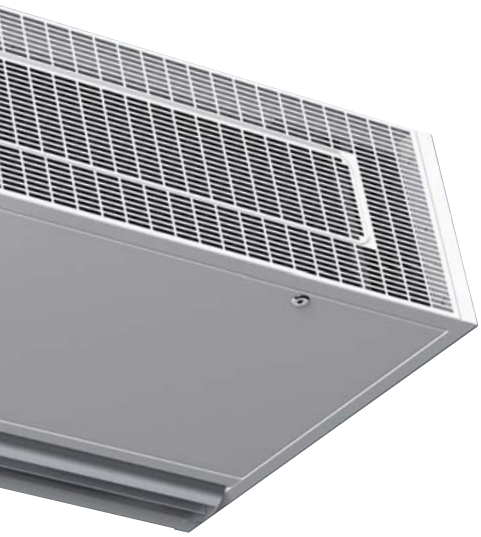
The C-Series is usable for all common Shop & Business areas with its two power classes and five different lengths.

Applications

Versatile usable, ready to mount device, available with two power classes and two types.

For free hanging mounting in visible areas with air take in at face or bottom, as type S or U, or for installation in the inserted ceiling as type U with optional variably usable installation frame.

For all standard applications in Shop & Business areas the ideal way to begin with using the patented Teddington EVOLVENT ® technology.



Design

CNC manufactured sheet steel housing with modern design, powder coated in the color RAL 9010 (white). Individual colors are possible on request.

Effective air guiding system over the EVOLVENT ® pressure chamber nozzle, which creates a concentrated, low inductance air flow over the total blow out width. In connection with the possibility to adjust the air blow out direction (+30° to -30°), an enormous energy saving is achieved.

Noise reducing lining in the blow out section. Attractive air take-in grid with rectangular perforation and centered circular decoration.

Manufactured according to DIN EN ISO 9001-2000.

Mounting

Easy installation with female thread M 10 at top of the device and optional available mounting kit.

Maintenance

Single side hinged revision flap, to be opened with quick-lock fixings at bottom of the device. Easily removable filter cassettes (class G2) with aluminum frame ensure a constant, high heat transfer and a long life time of the device.

Hot Water Type

Heat exchanger made of Cu/AL for pump hot water, collector made of Cu, connections with inner thread $^{3}/_{4}$“, tamper proof.

Electro Type

Electro heater system with resistance heater elements, corrosion proof with spiral shaped lamellas and thermal overheat protection.

Fans

Vibration free bearings, double sided air intake by radial fans with AC motors 230 V/50Hz, directly driven, multi bladed with high output pressure, low noise motor with full motor protection by external thermal contacts. Controlling via 8 step transformer, regularly integrated in the device.

Control System

For your own comfort you may select from a palette of 7 different electronic control systems and a wide range of accessories for controlling the heater.

Your Advantages

- **Attractive self supporting housing made of steel sheets**
- **Available in lengths of 1000, 1500, 2000, 2500 and 3000 mm**
- **Filter cassettes easily accessible due to large maintenance opening**
- **Easy to clean filters**
- **Bundled homogeneous air stream with large air throw out range**
- **Continuously and exactly adjustable exhaust angle**
- **Minimized energy consumption**
- **High grade powder coating, individual colors on request**

The nozzle makes the difference.

®EVOLVENT

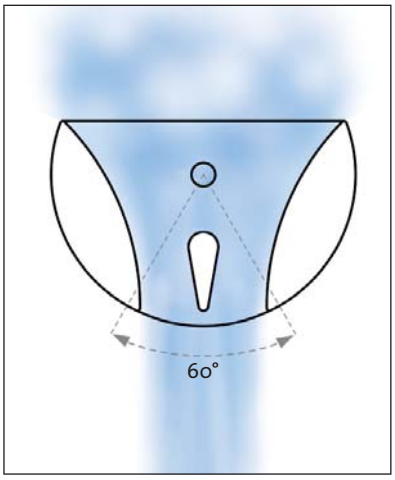
Pressure-chamber-nozzle-system

Patent-No. DE4415079C2

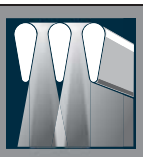
Conventional equipment with common air guiding system is guiding the air flow over lamellas. The thus created air curtain is relatively turbulent and only adjustable within certain limits. A large air volume and much heating energy is required, in order to – especially at large doors – develop the curtain.

At the Teddington equipment with the patented EVOLVENT ® pressure-chamber-nozzle-system the air flow is being compressed in the pressure chamber and distributed by the nozzle equally over the total blow out width. The air flow is accelerated by the concave nozzle shape in a way that a concentrated, low inductance curtain against the outside air is created. Compared with conventional systems, significantly less air and thus less energy is required, for an equal effect.

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

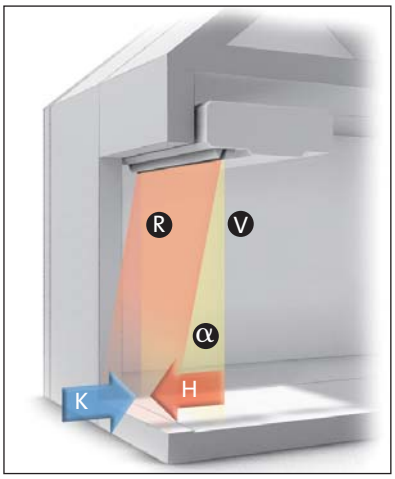


The system comparison (same shielding capacity)

	 Conventional system *	 Pressure-chamber-nozzle-system **
Inlet air temperature	20 °C / 68 °F	20 °C / 68 °F
Blowing out air temperature	37 °C / 98.6 °F	37 °C / 98.6 °F
Air volume	3600 m³/h	2500 m³/h
Need of heating capacity	21 kW	15 kW
Pay-back period	2.3 years	1.5 years

* Comparison model with conventional air guiding system via droplet lamellas (at a mounting level of 3.0 m above ground and 1.3 m/s shielding effect).

** Comparison model C2-150 (at a mounting level of 3.0 m above ground and 1.3 m/s shielding effect).



With EVOLVENT ® the blow out angle α, the volume flow R and the air speed V are precisely controlled. This creates the counter force H against the cold air inflow K.

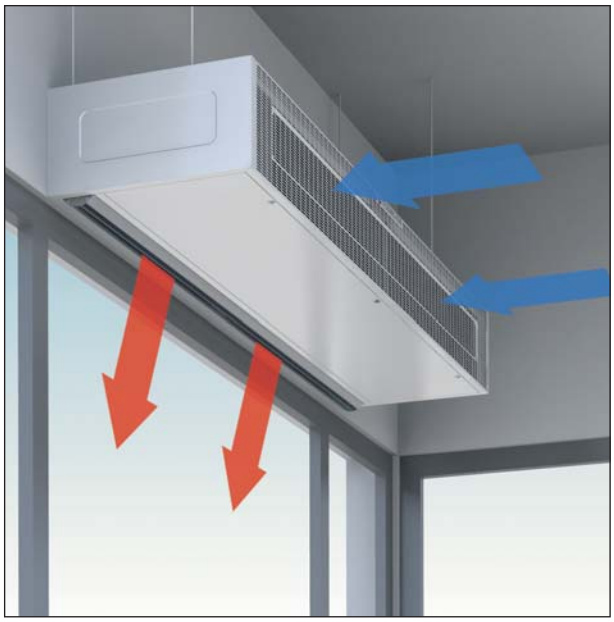
The energy savings by the EVOLVENT ® pressure-chamber-nozzle-system compared with conventional devices, ensures a very fast amortization.

The investment pays back very fast. The operating costs are reduced permanently.

EVOLVENT ® – advantages at a glance

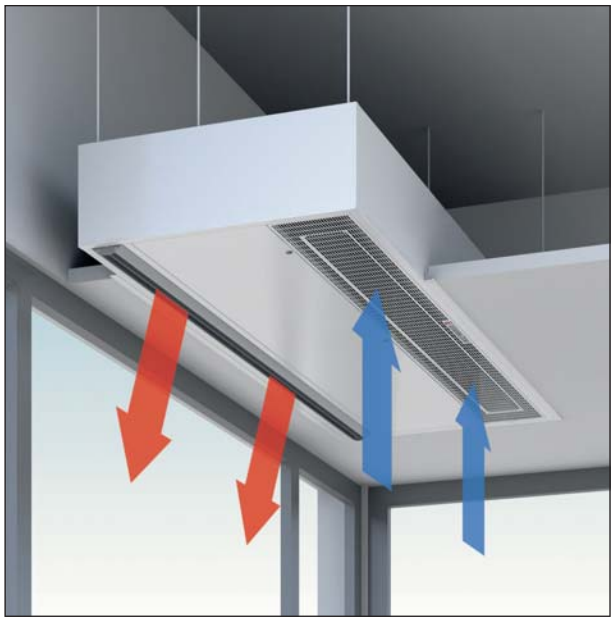
- Bundled, homogenous air stream
- High shielding capacity
- Continously and precisely adjustable outblowing angle
- low noise operation level
- Minimized energy requirement

It is your choice.



Type S

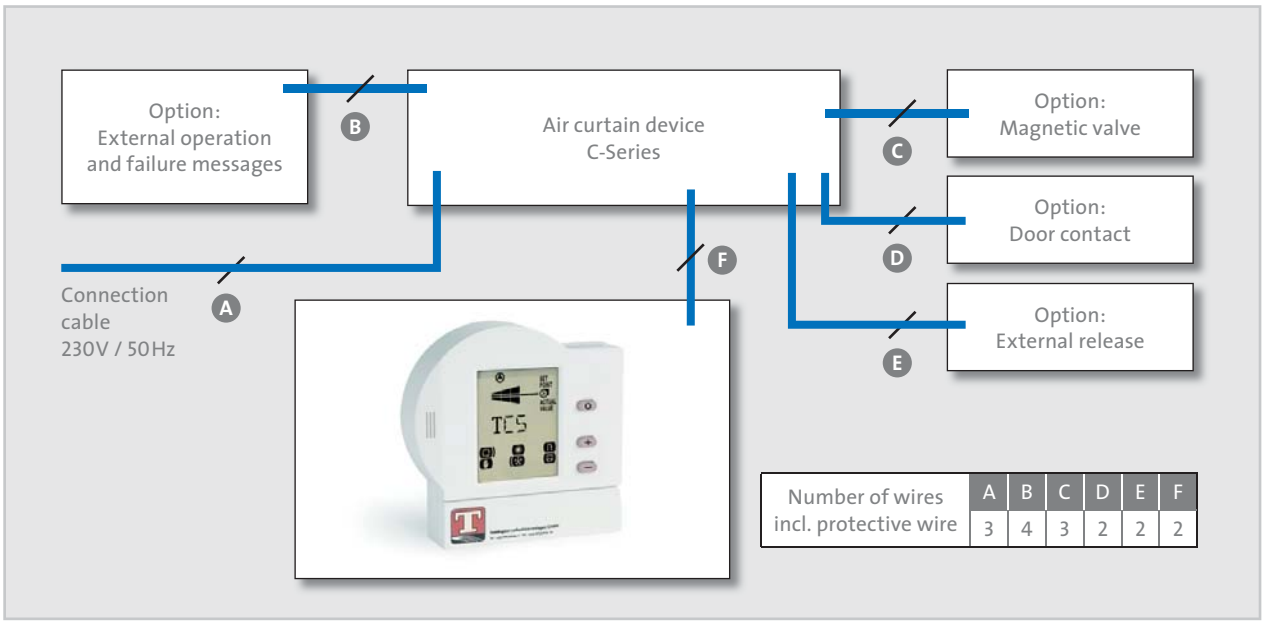
Wall or ceiling mounting in visible areas.
Air take-in from the forehead side.



Type U

For visible or inserted ceiling mounting with visible device bottom. Air take-in at bottom. Optionally with ceiling mounting frame available.

Example of a controller system with operating panel TC5



Number of wires incl. protective wire	A	B	C	D	E	F
	3	4	3	2	2	2

Detailed wiring diagrams and further technical information are available at: www.teddington.de

Technical Data

Series	C1					C2				
Total width [cm]	100	150	200	250	300	100	150	200	250	300
Max. installation height [m]	2.75	2.75	2.75	2.75	2.75	3.25	3.25	3.25	3.25	3.25
Max. blow out speed [m/s]	9.8	10.0	10.0	10.0	10.1	10.1	10.8	11.0	11.0	11.0
Air quantity										
Nominal volume flow [m³/h]	1900	2800	3800	4800	5700	1900	3800	4800	5700	6600
Active volume flow [m³/h]	1400	2150	2900	3600	4400	1800	2900	3900	4800	5700
Noise level in 3 m lateral distance [dB(A)]	55	56	58	60	61	55	56	59	61	62
Device weight type S [kg]	44	53	74	93	108	45	68	84	105	124
Device weight type U [kg]	54	66	89	120	128	55	81	99	122	144
Power consumption of fans										
Voltage, 1Ph, 50 Hz [V]	230	230	230	230	230	230	230	230	230	230
Power consumption [kW] max.	0.48	0.72	0.96	1.20	1.44	0.48	0.96	1.20	1.44	1.68
Current [A] max.	2.10	3.15	4.20	5.20	6.30	2.10	4.20	5.20	6.30	7.35
Technical data heater										
Pipe connection upstream + downstream [inch]	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾
PWW 70/50°C at take-in and blow-out temperature, 20/37°C, (installation type IDW)										
Heater power [kW]	8.78	13.49	18.20	22.59	27.61	11.29	18.20	24.47	30.12	35.76
Through flow quantity [m³/h]	0.39	0.59	0.80	0.99	1.21	0.50	0.80	1.08	1.33	1.57
Water resistance [kPa]	2.1	4.9	2.5	3.4	4.0	3.4	7.2	4.0	4.3	8.8
PWW 70/50°C at take-in and blow-out temperature, 5/34°C, (Installation type ADW)										
Heater power [kW]	14.98	23.01	31.04	38.53	47.10	19.27	31.04	41.74	51.38	61.01
Through flow quantity [m³/h]	0.66	1.01	1.37	1.70	2.07	0.85	1.37	1.84	2.26	2.68
Water resistance [kPa]	3.6	7.9	8.2	8.8	9.8	7.2	14.9	9.1	10.2	15.3
PWW 60/40°C at take-in and blow-out temperature, 20/36°C, (Installation type IDW)										
Heater power [kW]	8.27	12.70	17.13	21.26	25.98	10.63	17.13	23.03	28.35	33.66
Through flow quantity [m³/h]	0.36	0.56	0.75	0.94	1.14	0.47	0.75	1.01	1.25	1.48
Water resistance [kPa]	2.4	6.4	3.4	4.0	6.9	3.7	11.2	7.6	8.8	9.8
Technical data electro heater system (three steps, 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	9.0	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
Step 3 [kW]	9.0	13.5	18.0	24.0	27.0	12.0	18.0	24.0	27.0	36.0

Technical alterations reserved.

Order key

C = item

1 = Series (performance level)

2 = Series (performance level)

S = Visible device

U = Ceiling installation device

100, 150, 200, 250, 300 = Total width in cm

W = Pump hot water 90/70°C - 80/60°C

N = Pump hot water 70/50°C

NT = Pump hot water 60/40°C

E = Electrical heater system

9010 = in RAL 9010. Other colors on request

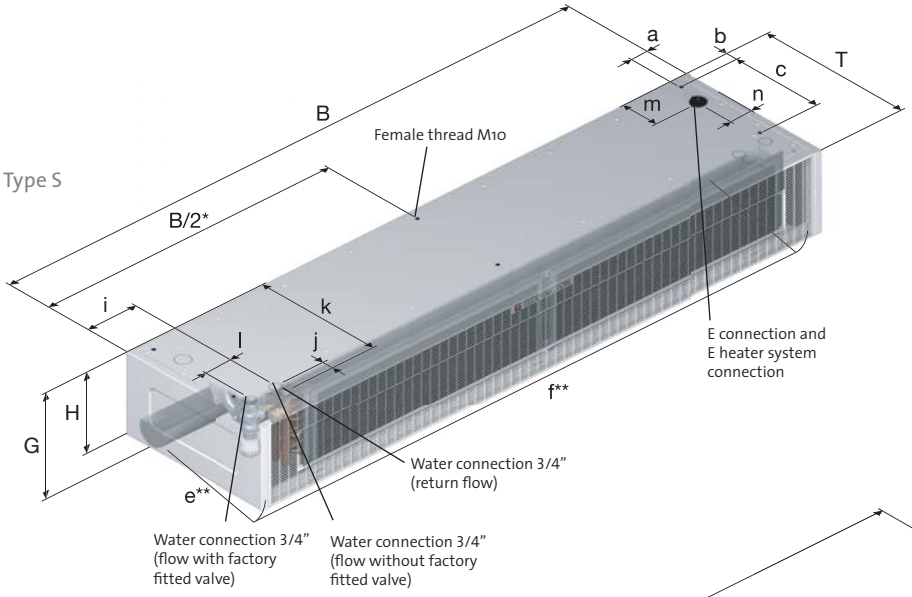
C 1-S-100 N 9010 = Example

Dimensions Type S

	Dimensions				Mounting			Revision flap		Pipe connection				Electro	
	Width B [mm]	Height H [mm]	Total G [mm]	Depth T [mm]	a [mm]	b [mm]	c [mm]	e [mm]	f [mm]	i [mm]	j [mm]	k [mm]	l [mm]	m [mm]	n [mm]
1-S 2-S	1050 up to 3050	260	280	530	60	40	315	367	(B-52)	175	38	435	95	130	80

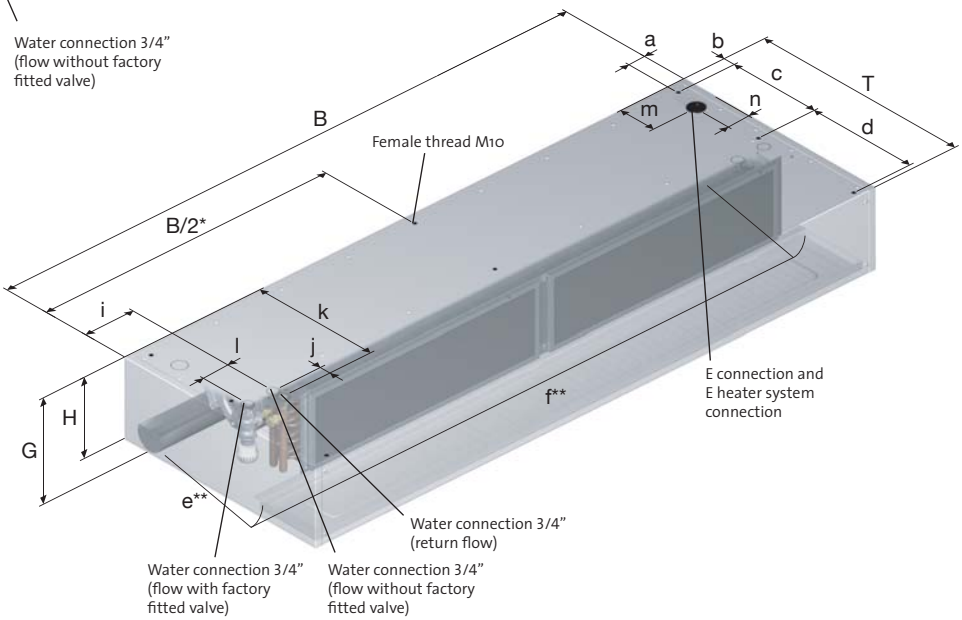
Technical alterations reserved.

Type S



Note:
At total width B=3050 mm the air take-in section consists of 2 equally sized take-in grids.

Type U



Dimensions Type U

	Dimensions				Mounting				Revision flap		Pipe connection				Electro	
	Width B [mm]	Height H [mm]	Total G [mm]	Depth T [mm]	a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	i [mm]	j [mm]	k [mm]	l [mm]	m [mm]	n [mm]
1-U 2-U	1050 up to 3050	260	280	750	60	40	315	375	367	(B-52)	175	38	435	95	130	80

Technical alterations reserved.

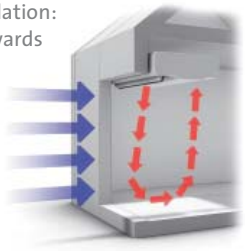
* Center mounting from 2.5 m device width
** Dimensions of the revision flap

It all depends on the situation.

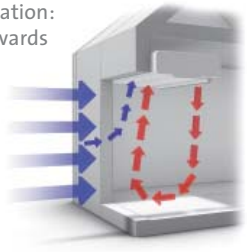
Determination of your individual design situation

- You determine, which building situation is existing (A, B or C).
- You check at which exhaust height the device should be mounted.
- In the diagram on page 5 you will read the expected shielding performance of the series C 1 or C 2, each at IDW installation (inwards rotating roll) and ADW installation (outwards rotating roll).
- The necessary isolation depends on meteorological and building specific situations. These are for example direct or heavy wind loads, a passage isolated by streets lined with houses, or street buildings located crosswise to the general direction of wind, etc.

IDW installation: air roll, inwards rotating.



ADW installation: air roll, outwards rotating.

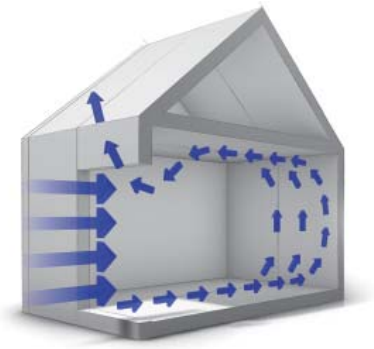


Orientation values

- Occurring air flow caused only by temperature differences during the heating season internal/ external: 0.3 up to 1 m/s
- At generally low air streaming, e.g. due to nearby located buildings at the pressure side of the streaming object: 1 up to 3 m/s
- At generally strong air streaming, e.g. location at block ends or market places with poor protection by nearby located buildings: 1 up to 6 m/s
- At completely unprotected locations, at open air locations significantly more

Note: Measure the air flow at different wind pressure situations.

Push and thermal convection, shown at different building situations

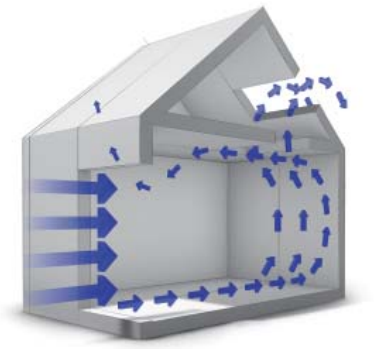


Building situation A

The door areas are located at one side of the building.

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

Δ p = large,
depending on temperature difference between indoor and outdoor

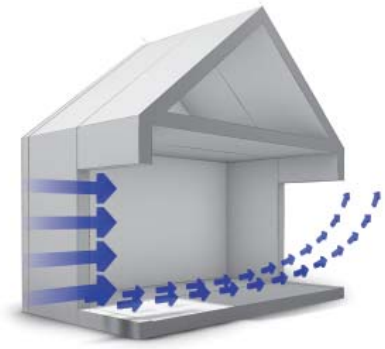


Building situation B

The door areas are located at one side of the building.

Air streaming possibilities are there by thermal convection in the upper floors or by the chimney effect, respectively, outwards over areas, which do not exceed half of the door areas in size (height situations not considered).

Δ p = smaller,
since partly decreased by streaming



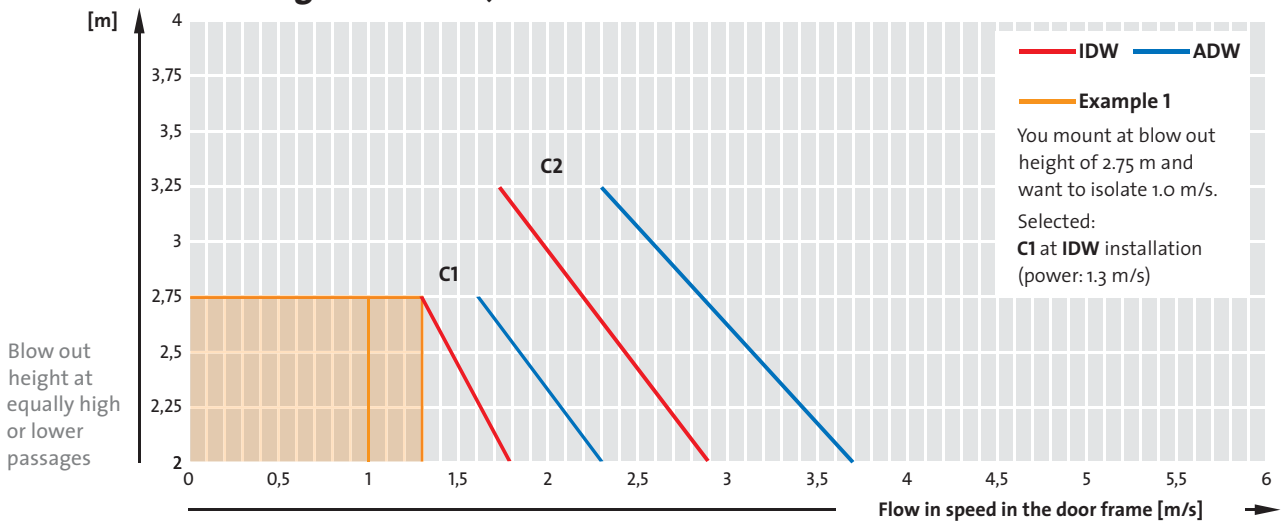
Building situation C

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

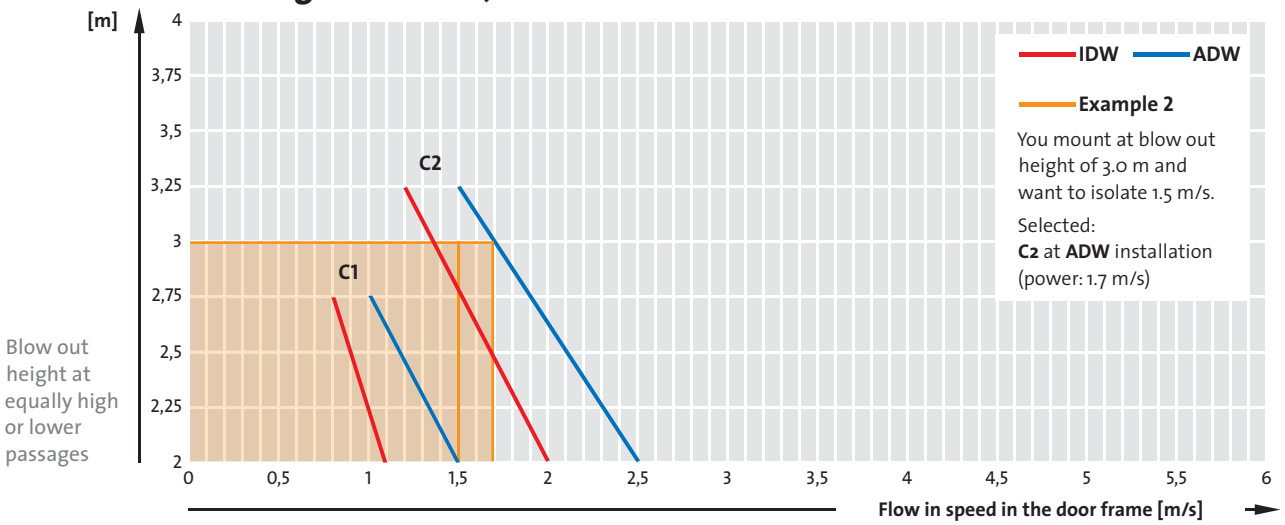
The value for air streaming possibilities is identical with the value of the door area to be isolated or larger.

Δ p = very low,
due to outwards push

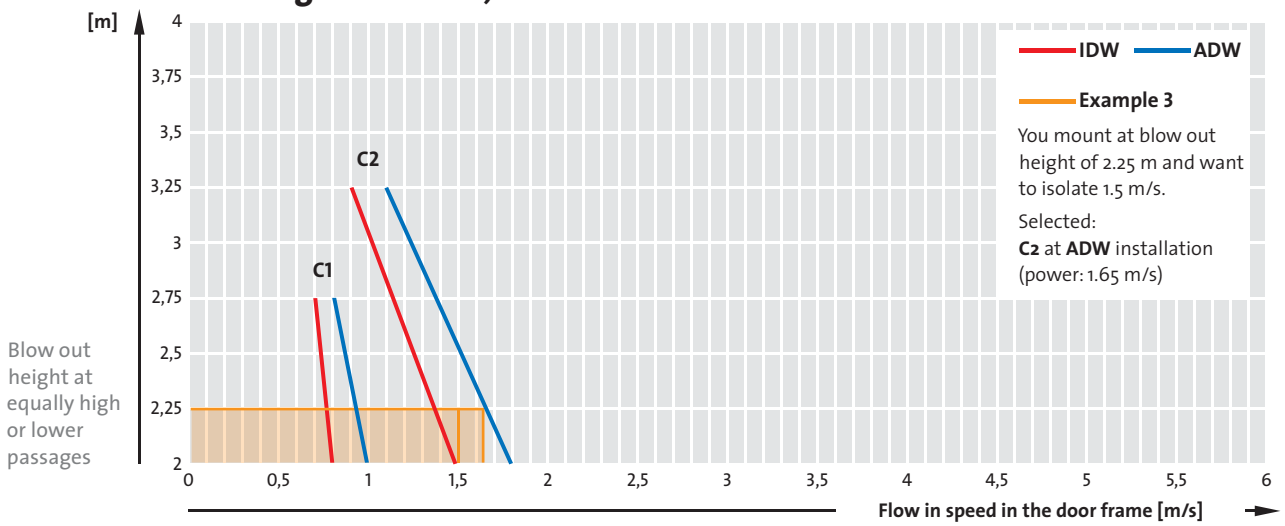
Building situation A, cold air incursion in the door frame



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 protecting 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, ready installed in the device.

Electronic frost protection thermostat FTM

Only in combination with controller systems TCU, TC5 and TC3.
With capillary sensor, capillary pipe length 0.9 m, protection grade IP 30, ready installed in the device, only suitable for low voltage applications (open contacts).

Electro mechanic room air thermostat ERT

5 - 30 °C with bimetallic contact, white (similar to color 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 systems TCU, TC5 and TC3. Switch is located behind the revision flap.

Repair switch REP-L

3 pole repair switch as wall mounting type, as unpacked by-pack 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 at bottom 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 installed** Thermostatic control valve (angle valve) KR-2 with thermostat head for controlling on constant blow out temperature, completely installed. Special valve for controlling especially large water quantities; kvs value 7.0. Capillary pipe length sensor 2m, 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 on constant blow out temperature, unpacked in the by-pack. Special valve for controlling especially large water quantities; kvs value 5.0. Capillary pipe length sensor 2m, connection DN 20.
	**Thermostatic control valve Type KR 2-L-F DN 20** Thermostatic control valve (straight-through-valve) KR-2 with remote control for controlling on constant blow out temperature, unpacked in the by-pack. Special valve for controlling especially large water quantities. kvs-value 5.0. Capillary pipe length sensor 3m, remote adjustment 5 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 on constant blow out temperature, unpacked in the by-pack. Special valve for controlling especially large water quantities. Capillary pipe length sensor 2m, 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, unpacked in the by-pack 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, closing for water shut-off purposes via summer/winter switch, unpacked in the by-pack. DN 20 kvs 11; DN 25 kvs 13; DN 32 kvs 30.

Suspensions

	**Ceiling mounting bracket DH** Suspension bracket, vibration damper, threaded rods 1 m, securing and counter nut, anchor bolt, minimum space required 0.1 m, hanging down length 1 m (number of items depending on device length and type).
	**Comfort ceiling mounting 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, hanging down length 1.1 m (number of items depending on device length and type).

TCU • Teddington Control Unit

TCU · friendly and intelligent.

With the controller system TCU you can adapt your Teddington air curtain equipment exactly to the various conditions at site.

On the LCD display you will see all functions and parameters clearly at one glance. The programming of the various functions and options is thus very simple and intuitively possible.

Via an integrated BUS system up to 9 air curtain devices can be controlled by only one operating panel. This facilitates the management of complex equipment significantly.

That is well thought-out technology and user friendly intelligence ...

Electronic remote control, free programmable for 5 steps or continuous control of Teddington air curtain equipment with large multi function LCD display and covered programming key board.

Integrated room thermostat for controlling the heater function and display of the current room temperature.

Integrated clock with free selectable switching intervals.

Integrated filter monitoring with trouble free adaptation to the operating conditions at site.

Key locking feature.

Requesting failure messages from battery backed-up failure memory for remote diagnostic purposes.

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

Frost protection circuit.

Electronic blow out temperature controller by means of an integrated control valve with electrical actuator and digital temperature display.

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

Integral and proportional control parameters for adapting the device to local conditions, settable on the multi functions 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 by software is available. For GLT coupling, an external release and an operating and fault message are all made available. The connection of the control panel and up to 9 slave units takes 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 connection of the control panel and up to 9 slave units takes 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. 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. The connection of the control panel and up to 9 slave units takes 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 devices)

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.

Independently of what device you may decide for – at Teddington's you can be sure to have chosen a high performance product having a name in the market and featuring the latest state of the art technology.

With our experience over many years we can guarantee, that each device is composed of high grade, well proven components. And we are continuously developing new techniques, which are minimizing your operating costs and optimize the efficiency of the devices.

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

A staff of experienced specialists care almost around the clock for making sure to continuously satisfying the world wide demands for precise and high quality air curtain products.

Teddington runs a network of competent special firms, which are always available for you.

We will assist you in planning and supporting your choice for that device, which suits your needs most and will also support you after the time of putting the equipment into operation by a comprehensive service.

... typically Teddington.

Device technology, intelligent controller systems and service – all matching perfectly.

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

Modern production facilities with CNC technology ensure a very high quality standard.

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

No device will leave the production, which has not been tested entirely on all functions.

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