



INDUSTRIES

FRIGUVENT

EVOLVENT

With the patented Teddington
EVOLVENT® Nozzle Technology.



TEDDINGTON

The extreme air curtain system.



Particularly with air curtain systems, which are used in areas with extreme temperature differences (for example, refrigerating cells and their anterooms), it depends on working with preferably low moving air volumes. At the same time, big throwing ranges from the air jet must however be created to obtain the desired screening effect.

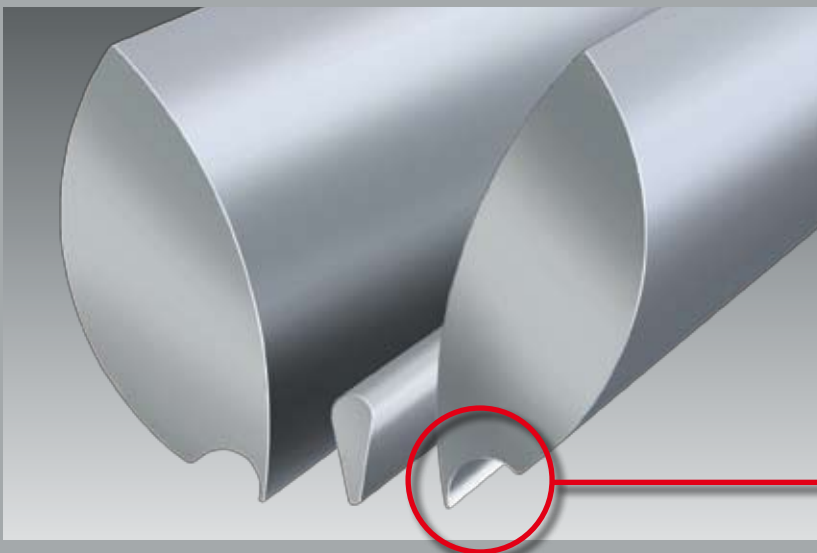
According to the principle of secondary air induction, airflows, brought out and accelerated by blow-out systems, "capture" neighbouring and settled air masses.

This effect is enhanced at the outlet of an air curtain, which is used for the screening of a refrigerating cell area from the higher tempered anteroom. Here it should however be avoided.

Through the high temperature differences between the air jet itself and the surrounding air, the dew point may be undercut and fog formation may be caused, as soon as both air masses come into contact with one another. In due course, unwanted ground frost develops as a result.

Specifically for use in refrigerating cells, the optimised Teddington nozzle unit reduces the secondary air induction by means of the inwrought tear-off edges and clearly improves the beam control.

The fog formation in the air flow is minimised and the moving air volumes are significantly reduced. The effectiveness of the air curtain system is therefore once again improved.



The tear-off edges at the outlet areas of both nozzle cheeks reduce the secondary air induction and optimise the beam control.



FRIGUVENT

FRIGUVENT cold air curtain systems are the up-to-date operational solution for cold and freezer rooms respectively. The equipment prevents any air exchange and subsequently contributes importantly to the energy saving at the frequently opened doors.

The EVOLVENT® nozzle system with a big blow-out direction displacement range, with almost no performance loss, requires only a low energy expenditure and achieves optimum screening results.

Areas of application

Cold and freezer rooms.

Functionality

Upon opening the door of the cold room, the air curtain system activates itself over an external release contact. Over one or several double-sided air intake radial fans and through the pressure chamber nozzle system, an acute air flow is applied with a high screening performance in front of the entire

doorway (air barrier).

The performance class and the width of the equipment are based on the door measurements, the height of the cold room and the temperature difference between the anteroom and cold room. An adjustment to the operating conditions can be made through manual adjustment of the blow-out angle or modification of the air volume (over speed controller, 5-stage). The width of the equipment should correspond to the inner width of the passageway.

Design

- Self-supporting housing from a compound made out of aluminium profiles and steel sheet in the tone RAL 9010. Device version in a desired colour or in high-grade steel is optional.
- Air intake on the underside over an in equipment colour coated perforated plate, which serves simultaneously as an inspection opening and is easily accessible for maintenance purposes.

- Double-sided sucking high performance radial fans, with voltage adjustable motors for alternating current, 230 V, 1 Ph, 50 Hz, with high feed pressure, operating with reduced noise. The fan motors are protected from spraying water.
- The equipment is engineered according to protection grade IP 54.

Control

The robustly processed, reliable FST controller (5-stage) is located in a plastic housing (protection grade IP 54), ready for installation, with transformer, main switch, on-load tap changer and motor protection over built-in thermal contacts.



Your advantages

- Patented EVOLVENT® nozzle system
- Low operating noise level
- Low energy consumption of the equipment
- High throwing range of the air curtain
- Preventing respectively damming of ice formation
- Extremely easy to install
- Compact design
- Considerable energy saving
- Low investment

Technical Data

Friguvent 1						
Width	[mm]	1.000	1.500	2.000	2.500	3.000
Weight	[kg]	25	35	45	55	70
Air volume						
Active volume flow	[m³/h]	1.450	2.400	3.200	4.000	4.800
Blow out speed	[m/s]	10,6	11,0	11,0	11,0	11,0
Fans						
	[V/Hz]	230/50	230/50	230/50	230/50	230/50
	[A]	2,24	3,36	4,48	5,60	6,72
	[kW]	0,51	0,77	1,02	1,28	1,53

Technical alterations reserved.

Ordering key

FRIGUVENT		
1 = Series (Performance level)		
2 = Series (Performance level)		
3 = Series (Performance level)		
100, 150, 200, 250, 300		= device width in cm
	RAL 9010 *	
2 - 200 - 9010	= Example	

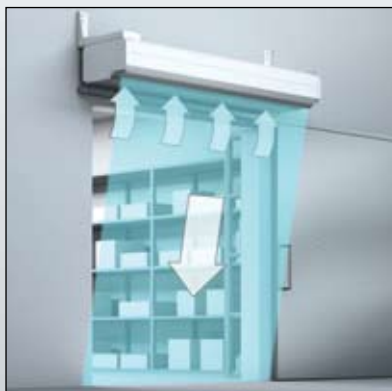
* RAL 9010 = Standard colour.
Surface area in high-grade steel optional.

Friguvent 2						
Width	[mm]	1.000	1.500	2.000	2.500	3.000
Weight	[kg]	30	40	50	60	75
Air volume						
Active volume flow	[m³/h]	1.850	3.300	4.400	5.500	6.600
Blow out speed	[m/s]	11,0	12,5	12,5	12,5	12,5
Fans						
	[V/Hz]	230/50	230/50	230/50	230/50	230/50
	[A]	2,24	4,48	5,60	6,72	7,84
	[kW]	0,51	1,02	1,28	1,53	1,79

Technical alterations reserved.

Friguvent 3						
Width	[mm]	1.000	1.500	2.000	2.500	3.000
Weight	[kg]	40	65	85	105	125
Air volume						
Active volume flow	[m³/h]	3.100	5.000	6.700	8.500	10.200
Blow out speed	[m/s]	15,0	15,5	15,5	16,0	16,0
Fans						
	[V/Hz]	230/50	230/50	230/50	230/50	230/50
	[A]	4,30	8,60	12,90	17,20	21,50
	[kW]	0,90	1,80	2,70	3,60	4,50

Technical alterations reserved.



Friguvent in ADW mounting

(Outwards revolving air roll)

Mounting in front of the freezer room for a high screening effect (temperature of cold room $< 0^{\circ}\text{C}$).

A mixing temperature arises through the suction of colder air parts from the freezer room, which prevents the risk of below the dew point.



Friguvent in IDW mounting

(Inwards revolving air roll)

Mounting inside the cold room for a high screening effect (temperature of cold room $> 0^{\circ}\text{C}$).

The blow-out direction is slightly aligned to the inner side of the cold room, against the cold air, condensate on the ceiling and loss of coldness are effectively prevented as a result.



Friguvent in IDW mounting

(Inwards revolving air roll)

Mounting in front of the cold room in case of customer traffic (temp. of cold room $> 0^{\circ}\text{C}$) or in front of the freezer room for the protection from icing of the freezer room ceiling (temperature of cold room significantly $< 0^{\circ}\text{C}$).

At the entry areas of cooled sales rooms, this mounting design prevents the loss of the cooled down air and simultaneously represents a convenient solution for customer traffic.

At the freezer rooms, the penetration of warm air can be prevented with extremely low energy expenditure and so that freezing in the ceiling zone can be noticeably reduced.

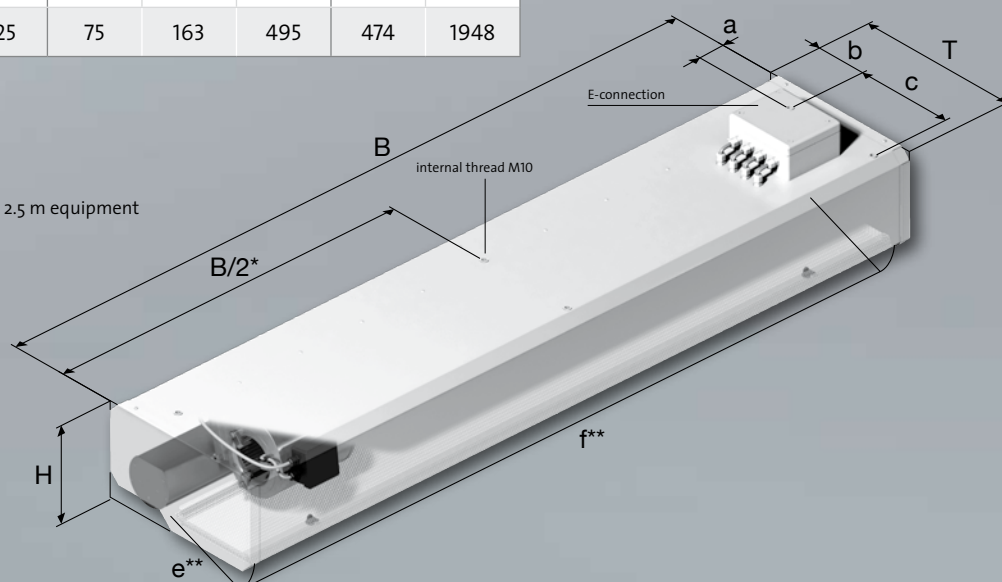
Measurements FRIGUVENT

	Dimensions			Attachment			Revsion flap	
	Width B [mm]	Height H [mm]	Depth T [mm]	a [mm]	b [mm]	c [mm]	e [mm]	f [mm]
1	1000 up to 3000	255	455	75	143	270	248	1948
2		435	725	75	163	495	474	1948
3								

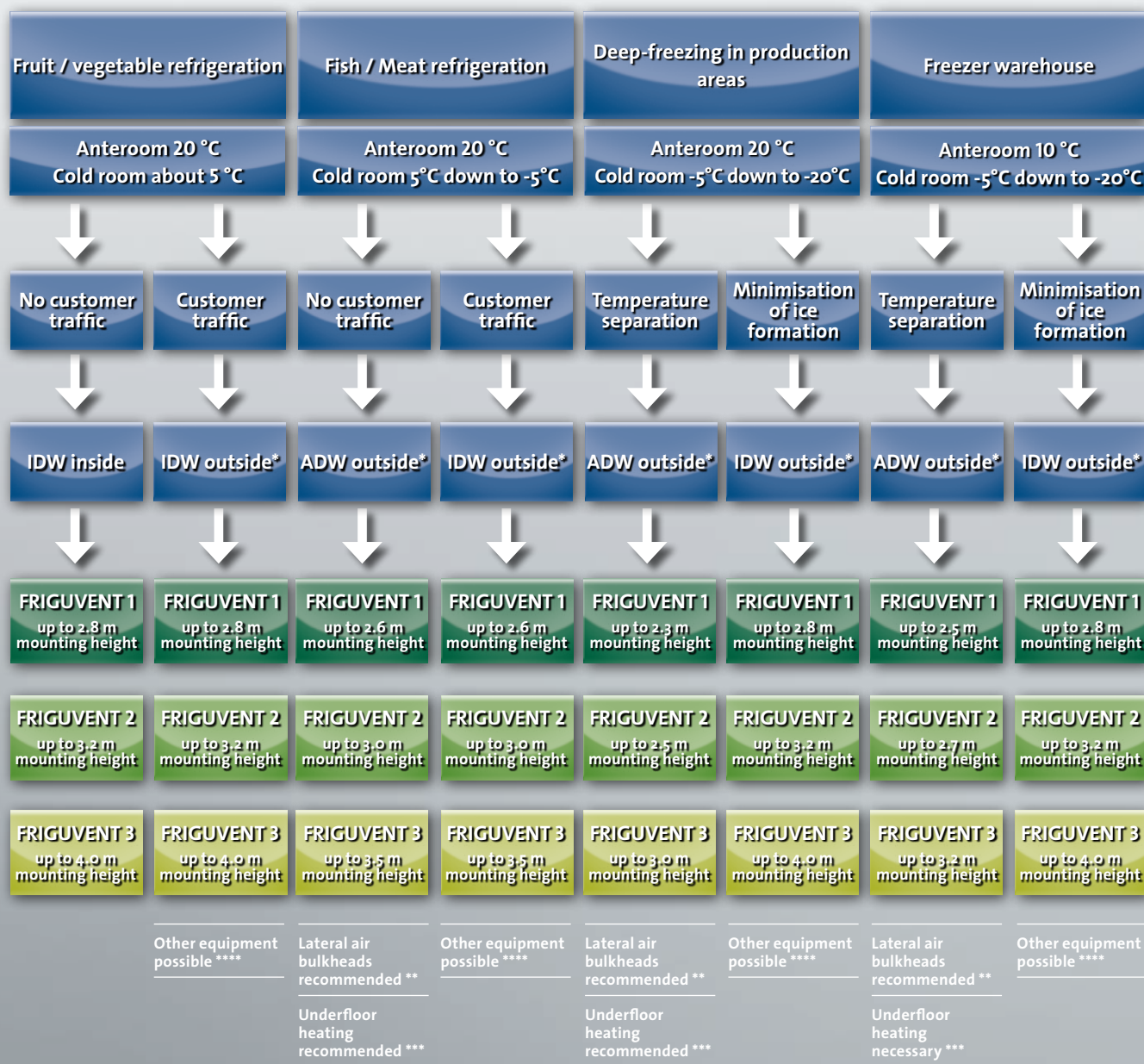
Technical alterations reserved.

* Middle attachment starting from 2.5 m equipment width

** Dimensions of the revision flap



It totally depends on the situation.



The represented selection guidelines for the FRIGUVENT equipment are based on a door width of up to 3 m.

* The mounting of the FRIGUVENT system in front of the cold room (external) requires an anteroom or a roofed-over construction.

** Lateral air bulkheads prevent the addition of warm room air into the air flow and minimise leakages in the lateral area.

*** With the big temperature and humidity differences, it may be at the condensate and frost growth underfoot. The underfloor heating prevents any danger of skidding.

**** In these conditions, in drier surroundings, other Teddington air curtain systems are also applicable.



Accessories



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.



WHK wall support bracket

for the attachment of FRIGUVENT equipment to the wall. Powder coated steel sheet. With equipment lengths of 1.00 m, 1.50 m and 2.00 m existing from 2 brackets. With equipment lengths of 2.50 m and 3.00 m existing from 3 brackets.

Controller



Durable intelligence for industrial applications.

The FST controller offers all possibilities, which you need for your industrial air curtain system. The durable processing provides a high level of reliability for the daily operation.

- ▶ VDE 06660 part 500 DIN EN 60439-1
- ▶ Insulation class E
- ▶ IP 54
- ▶ Operation and fault message
- ▶ Integrated repair switch
- ▶ Branch circuit protection device
- ▶ 5-stage
- ▶ Manual / automatic change-over switch, activation through external contact
- ▶ Potential free operating and fault message (optional)
- ▶ Base load function with variable or fixed base load level (available as an option)

 **Innovative Technology**

 **Highest Economy**

 **Trendsetting Design**

 **Top Quality**

 **Perfect Service**

...that's Teddington.



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