

# IVC

VARIZON® Displacement unit with induction chamber and adjustable spread pattern



IVC

## Quick facts

- Induction chamber
- Adjustable spread pattern and affected zone
- Suitable for ventilation systems with cooling
- Measurement outlet
- Cleanable
- Concealed fixing
- Available in alternative colours
- Included in the MagiCAD and CadVent databases

## Quick guide

AIR FLOW - SOUND LEVEL			
IVC	l/s		
Size	25 dB(A)	30 dB(A)	35 dB(A)
200	100	120	142
250	150	180	210
315	240	280	330

Data for IVC + REG regulator unit are shown in a separate diagram.

## Technical description

### Design

The IVC is a complete, quadrant shaped displacement unit with induction chamber for corner installation. The body consists of a rear section with top and bottom plates and an air distribution plate equipped with a number of adjustable discs. The top plate has a circular inlet socket. The distribution plate has an access hatch for access to the duct system. The perforated front plate is fixed to the terminal with concealed screws, behind the removable aluminium side strips. The measuring point is placed behind one of the side strips.

### Materials and surface treatment

The displacement unit is manufactured in galvanized sheet steel and aluminium profiles. It is coated with our pure white standard paint, RAL 9010. The unit is also available in other standard colours: Dusty grey 7037, white aluminium RAL 9006, jet black RAL 9005, grey aluminium RAL 9007 and signal white RAL 9003 (NCS 0500).

### Customising

In addition to the standard sizes, these displacement units are available in special dimensions, with reinforced front plates etc. The duct covers, regulator units and plinths can also be supplied in different dimensions. Please contact your nearest sales representative for further information.

### Accessories

#### Regulator:

REG. Combination unit with damper and sound attenuator.

#### Duct cover:

IVCT 1. For the aesthetic installation of the regulator unit and the connecting circular duct.

#### Plinth:

IVCT 2. for the aesthetic installation of the displacement unit on the floor.

#### Decorative top:

IVCT 3. Removable top board, either in varnished beech blockboard or white painted MDF. Can be used when duct cover is not utilized.

### Planning

It is possible to modify the affected area by adjusting the discs behind the perforated front plate. This does not affect the air flow, pressure drop or sound level. This flexibility simplifies any future changes in the furnishing of the room etc.



### Installation

The terminal is attached to the wall using angle brackets and screws. The base plinth is screwed into place on the underside of the unit. The telescopic duct cover is attached to the wall using the wall brackets, the screws being concealed by the side strips. The regulator, which has a circular connection spigot with a rubber seal, is pressed into the inlet socket of the terminal. See Figure 1.

### Commissioning

The measuring point is positioned on the side of the displacement unit behind the aluminium profile. The k-factor of the unit is stated next to the measurement outlet. The k-factor can also be found on our website in the relevant k-factor guide. It is recommended that the REG regulator is used to regulate the air flow. See Figure 2.

### Maintenance

The displacement unit can be cleaned when necessary using luke warm water with added detergent. The duct system is accessed by removing the perforated front plate and the access hatch. See Figure 2.

### Environment

The Declaration of construction materials is available at [www.swegon.com](http://www.swegon.com).

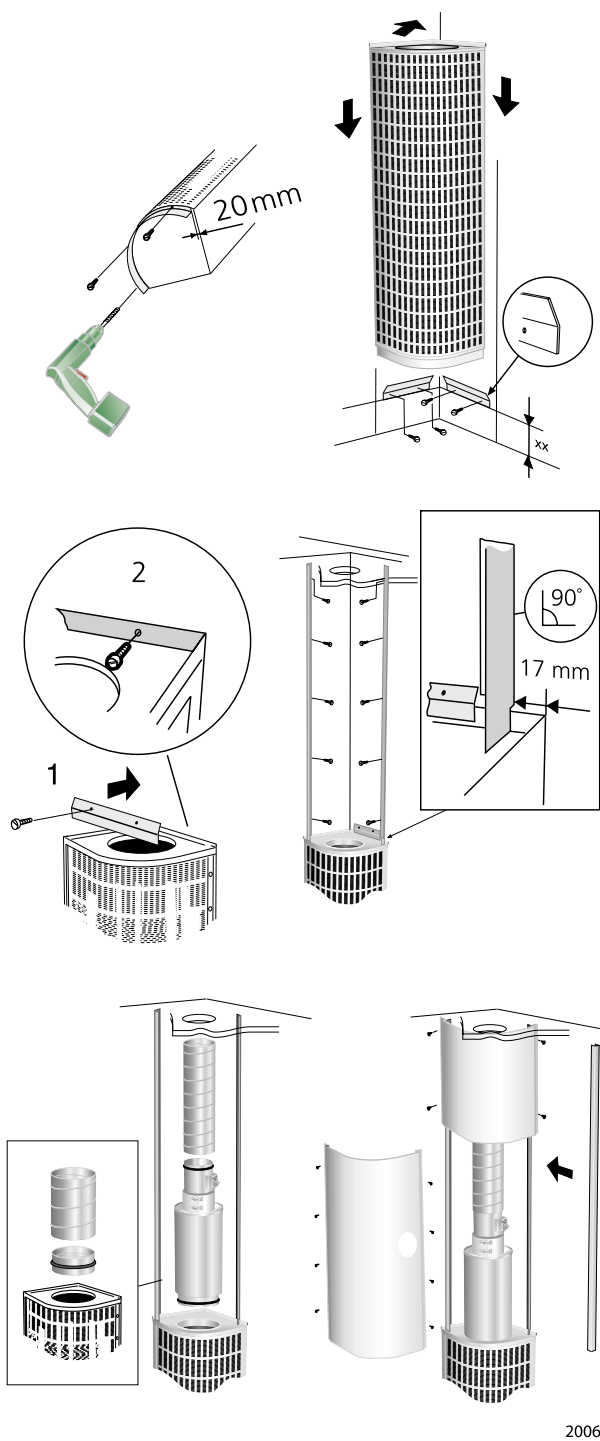


Figure 1. Installation.

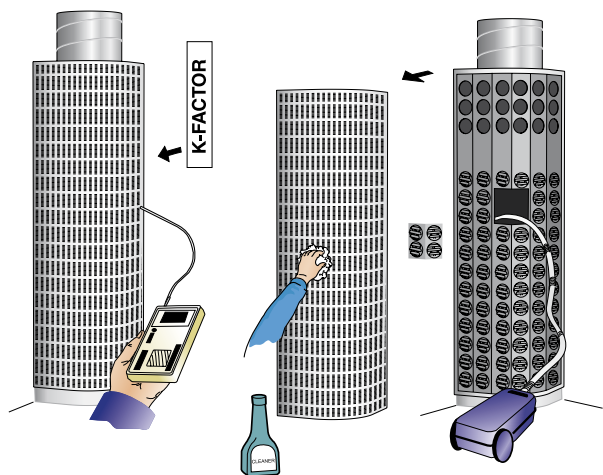


Figure 2. Commissioning. Maintenance.

## Sizing

- Sound level dB(A) applies to rooms of 10 m<sup>2</sup> equivalent absorption area, which gives 4 dB room attenuation.
- The maximum recommended temperature difference between room temperature and supply air temperature is:  
6 K for comfort installations  
9 K for industrial installations
- To calculate the width of the spread pattern, air velocities in the zone of occupation or sound levels in rooms with other dimensions, please refer to our calculation programme ProAir web, which is available for download at [www.swegon.com](http://www.swegon.com).

## Sound data - IVC

### Sound power level $L_w$ (dB)

Table K<sub>OK</sub>

Size	Mid-frequency (octave band) Hz							
IVC	63	125	250	500	1000	2000	4000	8000
200	2	6	3	2	0	-5	-14	-17
250	-2	5	4	2	-1	-6	-15	-19
315	1	3	3	1	0	-5	-11	-11
Size	Mid-frequency (octave band) Hz							
IVC + REG	63	125	250	500	1000	2000	4000	8000
200	4	4	2	1	-1	-5	-11	-11
250	4	5	3	1	-1	-6	-9	-9
315	1	4	2	0	-1	-6	-8	-10
Tol. ±	2	2	2	2	2	2	2	2

### Sound attenuation $\Delta L$ (dB)

Table  $\Delta L$

Size	Mid-frequency (octave band) Hz							
IVC	63	125	250	500	1000	2000	4000	8000
200	14	10	5	2	2	3	4	5
250	13	9	4	1	0	1	2	3
315	12	6	4	1	1	1	1	1
Size	Mid-frequency (octave band) Hz							
IVC + REG	63	125	250	500	1000	2000	4000	8000
200	18	13	9	14	29	28	23	21
250	16	11	7	11	26	23	18	18
315	12	6	4	1	1	1	1	1
Tol. ±	2	2	2	2	2	2	2	2

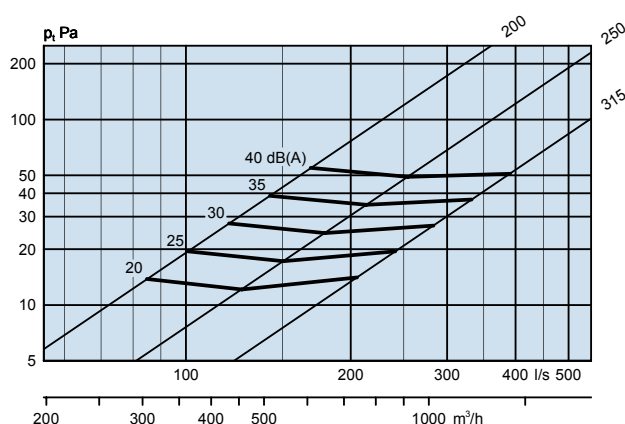
## Engineering graphs

### IVC

#### Air flow - Pressure drop - Sound level

- The graphs are valid for primary air flows.
- The graphs must not be used for commissioning.
- The dB(C) value is normally 6–9 dB higher than the dB(A) value.
- For information on the affected area and minimum airflows, refer to the IVC + REG combination graphs.

### IVC

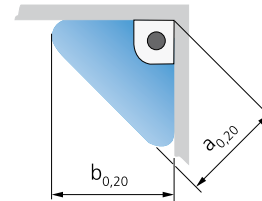


## Engineering graphs

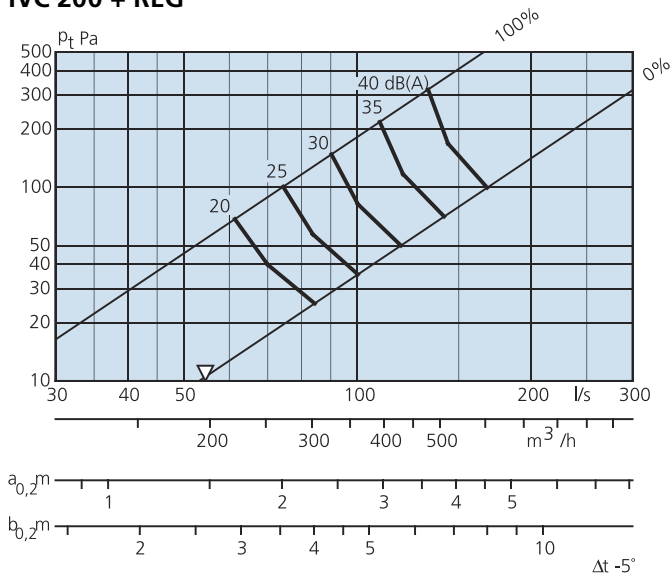
### IVC

#### Air flow - Pressure drop - Sound level - Affected area

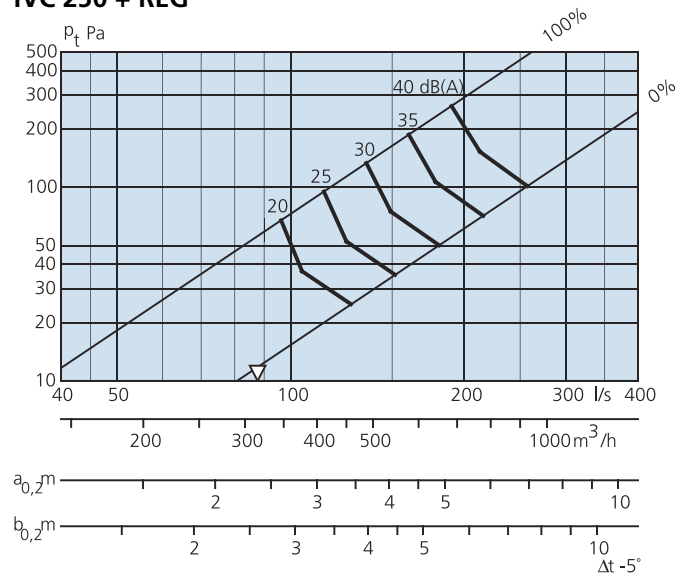
- The graphs are valid for primary air flows.
- The affected area refers to the distance to the isovel limit of 0.2 m/s at  $\Delta t$  5 K. In this case  $\Delta t$  signifies the difference between the room air temperature measured at 1.2 m above the floor and the primary supply air temperature (measured before the induction chamber), i.e. not the difference between the exhaust air and the supply air temperatures.
- The graphs give data for air terminals equipped with regulators.
- The graphs must not be used for commissioning.
- The dB(C) value is normally 6–9 dB higher than the dB(A) value.
- $\nabla$  = Min. airflow to obtain sufficient commissioning pressure.



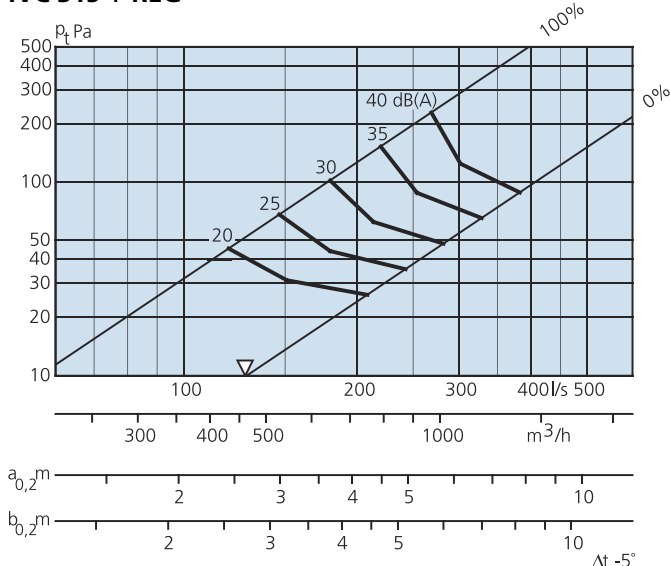
#### IVC 200 + REG



#### IVC 250 + REG



#### IVC 315 + REG



## Dimensions and weights

### IVC

Size	A	B	ØD	G	Weight, kg
200	370	2003	200	185	31.0
250	435	2003	250	218	37.0
315	520	2003	315	260	45.0

### REG

Size	ØC	Ød	G	H
200	350	199	250	600
250	415	249	260	900
315	500	314	300	900

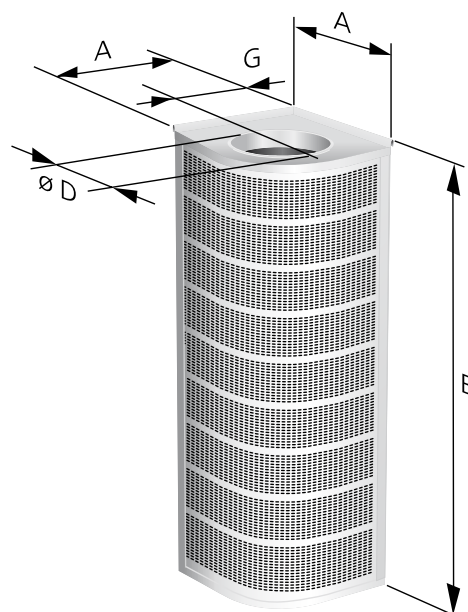


Figure 4. IVC.

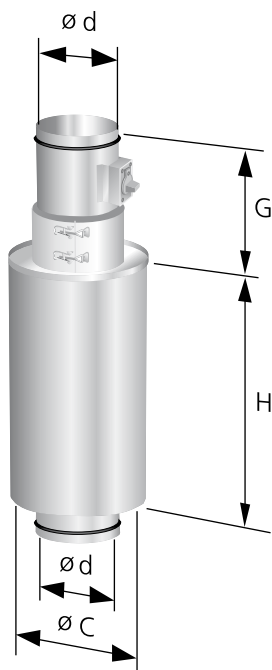


Figure 3. Regulator unit REG.

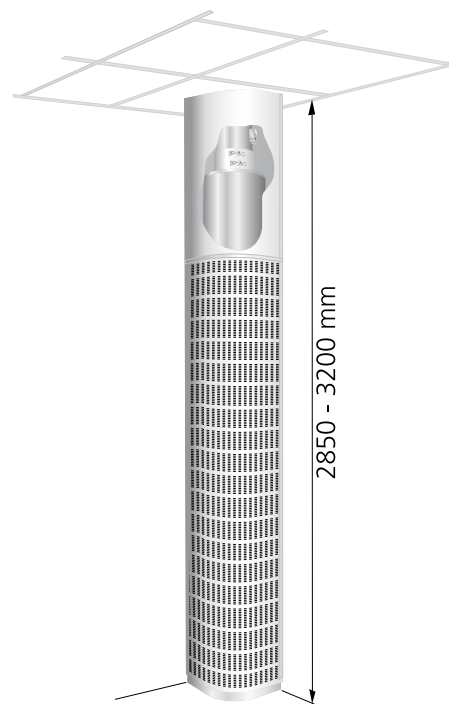


Figure 5. IVC with duct cover and plinth.

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Order key

Product

Quadrant shaped displacement unit	IVC	a	-aaa
Version			
Size: 200, 250, 315			

Accessories

Cover	IVCT 1	d	-aaa
Version			
Size: 200, 250, 315			

Specify special lengths, state the total room height.

Plinth	IVCT 2	a	-aaa	70
Version				
Size: 200, 250, 315				
Specify special heights in bold text				

Decorative top	IVCT 3	a	-bbb	-c	-d
Version					
Size: 200, 250, 315					
Material:					
1 = MDF painted in RAL 9010, white					
2 = Beech blackboard, clear varnish					
Version:					
1 = with hole for duct					
2 = without hole for duct					

Regulator unit	REG	b	-aaa
Version			
Size: 200, 250, 315			

Specification example

SD XX

Swegons VARIZON® quadrant shaped displacement unit of type IVC with regulator unit REG, with the following functions:

- Induction of room air
- Adjustable spread pattern and affected area
- Non-fouling
- Concealed fixing
- Cleanable
- Powder coated in white paint, RAL 9010

Size:	IVCa aaa	xx items
Accessories:		
Cover plate:	IVCT 1 aaa	xx items
Plinth:	IVCT 2 aaa - 70	xx items
Regulator unit:	REGb aaa	xx items