

# IHCa

VARIZON®

Low-velocity air terminal with induction chamber and adjustable spread pattern



## FUNCTION

A semi-circular, low-velocity air terminal with built-in induction chamber. The induction feature permits the supply air temperature in the duct system to be lower than normal for a displacement ventilation system. This also makes it easier to combine mixing ventilation air terminals with displacement air terminals in a ventilation system with cooling. The cold primary supply air is mixed with the room air within the occupied zone. The warmer supply air is supplied at low speed into the room. The spread pattern is easily adjusted using the VARIZON® air distribution system. Accessories include a floor plinth, duct cover and commissioning regulator.

## QUICK FACTS

- Induction effect
- Suitable for ventilation systems with cooling
- Adjustable spread pattern
- Measuring point
- Can be cleaned
- Available in alternative colours
- Included in the MagiCAD database

## QUICK GUIDE

AIR FLOW - SOUND LEVEL			
IHCa	l/s		
Size	25 dB(A)	30 dB(A)	35 dB(A)
200	97	117	142
250	143	173	208
315	214	257	308

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

## DESIGN

A complete, semi-circular low-velocity air terminal equipped with an induction chamber. The induction function is housed in the top of the terminal behind the removable, perforated front plate. Also located behind the front plate is the VARI-ZON<sup>®</sup> air distribution system with its adjustable air deflector plates. On the left side of the terminal, viewed in the airflow direction, behind the removable decor strip, is the measuring point and k-factor label for commissioning.

## MATERIALS AND SURFACE TREATMENT

The air terminal is manufactured in galvanised sheet metal and aluminium profiles. The exterior is finished 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).

## SPECIAL VERSIONS

In addition to the standard sizes, terminals can be supplied in special dimensions, with reinforced front plates, alternative perforation patterns, etc. The duct covers, and plinths can also be supplied in different lengths. Please contact your nearest sales office for information.

## ACCESSORIES

### Regulator:

REG - Combined unit with damper and sound attenuator for commissioning.

### Duct cover:

IHCT 1d - For the aesthetic concealment of the regulator and connecting circular duct.

### Plinth:

IHCT 2a - For the aesthetic installation of the air terminal on the floor.

## PLANNING

By adjusting the air deflectors behind the front plate it is possible to alter the width of the affected area without affecting the airflow, pressure drop or sound level. This flexibility simplifies any future changes in the room layout.

## INSTALLATION (See Figure 1)

The terminal is secured to the wall using angle brackets. The base plinth is screwed to the bottom of the terminal. The telescopic duct cover is attached to the wall using wall tracks, and the screws are concealed by side strips. The regulator, which has a connection spigot with rubber seal, is pressed into the inlet socket of the terminal.

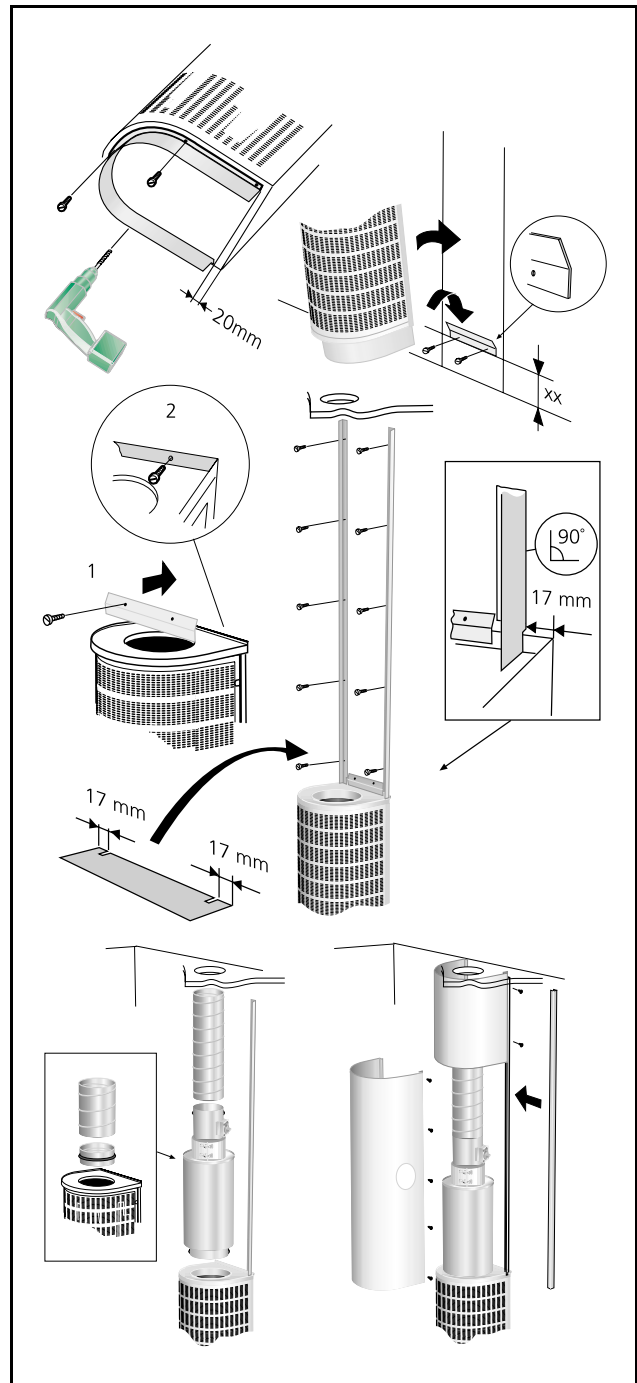


Figure 1. Installation.

**COMMISSIONING (See Figure 2)**

The measuring point is located on the left side of the terminal behind the aluminium profile. The k-factor of the product is marked at the side of the measuring point. The k-factors are also given in the commissioning guide, which is available on our website. It is recommended that the REG regulator is used to adjust the airflow.

**MAINTENANCE (See Figure 2)**

Clean the air terminal as necessary with lukewarm water and detergent. Access can be gained to the duct system by removing the front plate and the distribution plate inspection hatch.

**ENVIRONMENT**

The declaration of construction materials is available on our website or may be ordered from one of our sales offices.

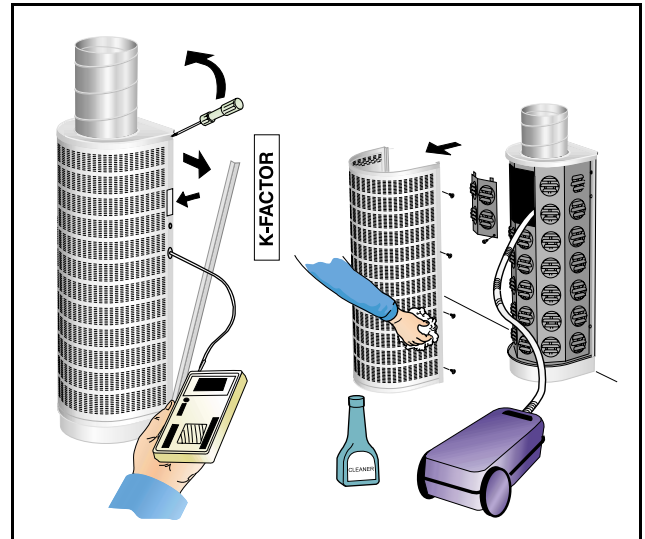


Figure 2. Commissioning. Maintenance.

**TECHNICAL DATA**

- The sound level dB(A) applies to rooms of 10 m<sup>2</sup> equivalent sound absorption area.
- The maximum recommended temperature difference between room temperature and supply air temperature is:
  - 6°C for comfort installations
  - 9°C for industrial installations.

- To calculate the width of the air stream, air velocities in the zone of occupation or sound levels in rooms with other dimensions, please refer to our ProAir web and ProAc programs, which are available on our website.

**Sound data - IHC**

Sound power level L<sub>w</sub>(dB)  
Table K<sub>OK</sub>

Size	Mid-frequency (octave band) Hz							
	63	125	250	500	1000	2000	4000	8000
IHCa								
200	2	4	4	1	-1	-5	-10	-8
250	-1	5	5	2	-1	-6	-12	-11
315	1	6	6	3	-2	-8	-13	-8
Size	Mid-frequency (octave band) Hz							
	63	125	250	500	1000	2000	4000	8000
IHCa + REGb								
200	4	4	3	1	0	-7	-12	-10
250	2	4	4	2	-1	-7	-11	-9
315	-1	5	4	1	-1	-6	-10	-9
Tol. ±	2	2	2	2	2	2	2	2

Sound attenuation ΔL (dB)  
Table ΔL

Size	Mid-frequency (octave band) Hz							
	63	125	250	500	1000	2000	4000	8000
IHCa								
200	15	12	6	2	2	3	5	4
250	14	10	5	2	2	3	4	5
315	13	9	4	1	0	1	2	2
Size	Mid-frequency (octave band) Hz							
	63	125	250	500	1000	2000	4000	8000
IHCa + REGb								
200	20	13	9	14	29	28	23	21
250	17	11	7	11	26	23	18	18
315	15	10	6	14	24	21	19	21
Tol. ±	2	2	2	2	2	2	2	2



# IHCa

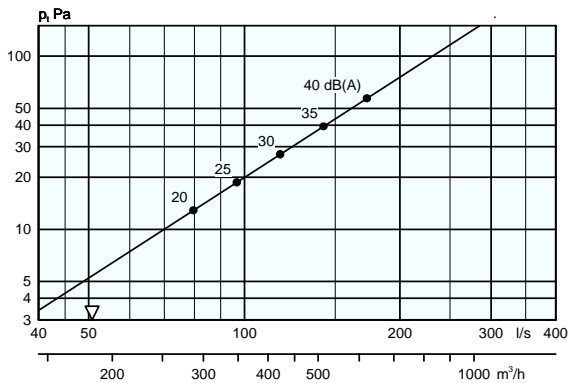
## Engineering graphs - IHC

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

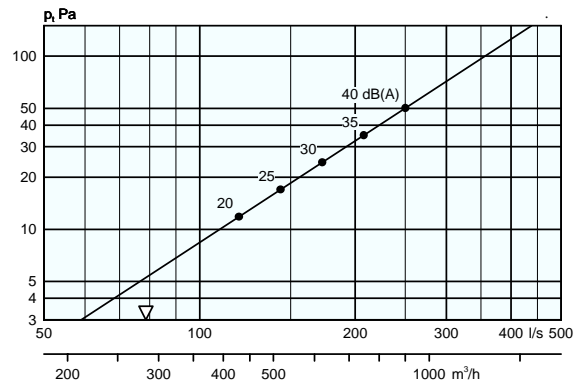
- The graphs are valid for primary air flows.
- The affected area refers to the distance to the isovel limit of 0.2 m/s at  $\Delta t$  5°C. In this case  $\Delta t$  signifies the difference between the room air temperature measured at 1.2 m above the floor and the primary supply air temperature (measured before the induction chamber), i.e. not the difference between the exhaust air and the supply air temperatures.
- The graphs must not be used for commissioning

- The dB(C) value is normally 6–9 dB higher than the dB(A) value. For more accurate calculations, see the calculation template in the chapter on Acoustics in the Technical Information section of the catalogue.
- $\nabla$  = Min. airflow to obtain sufficient commissioning pressure
- For information on the affected area and minimum airflows, refer to the IHC + REG combination graphs.

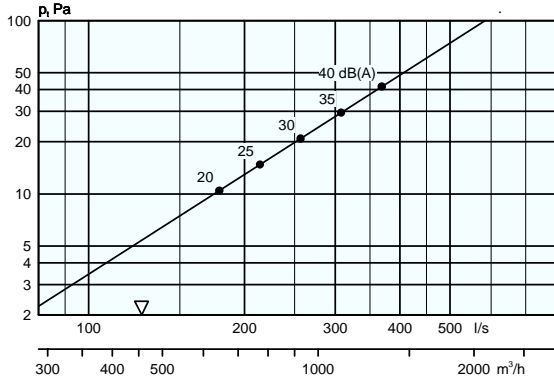
### IHCa 200



### IHCa 250



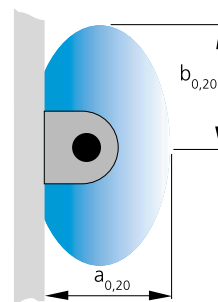
### IHCa 315



## Engineering graphs - DHC

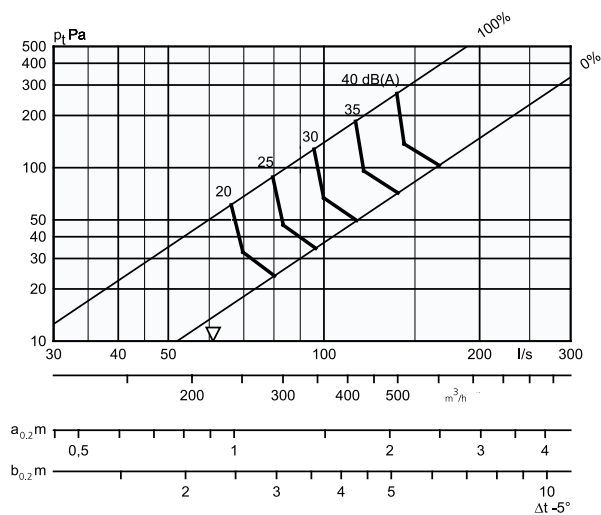
### Air flow - Pressure drop - Sound level - Affected area

- 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°C. 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. For more accurate calculations, see the calculation template in the chapter on Acoustics in the Technical Information section of the catalogue.

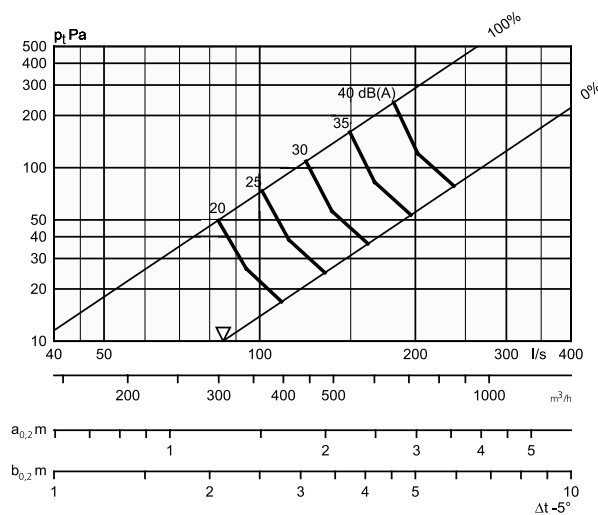


- $\nabla$  = Min. airflow to obtain sufficient commissioning pressure.

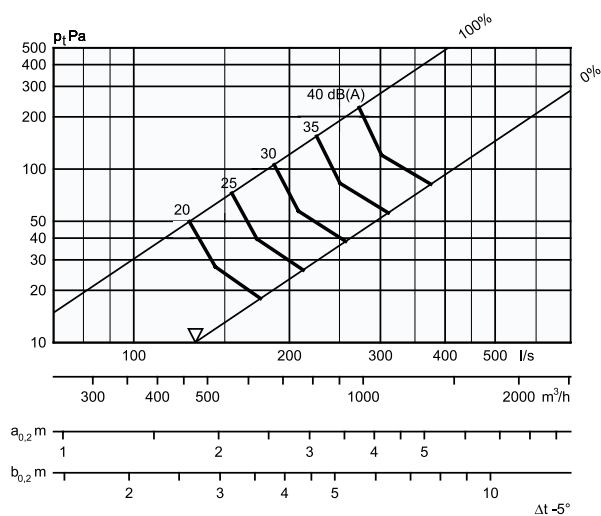
### IHCa 200 + REGb



### IHCa 250 + REGb



### IHCa 315 + REGb



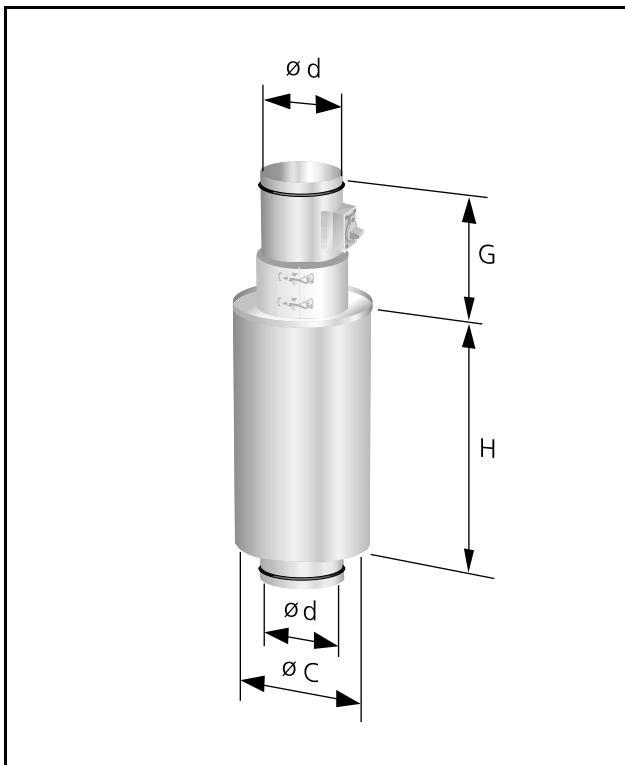
**DIMENSIONS AND WEIGHTS**

**IHCa**

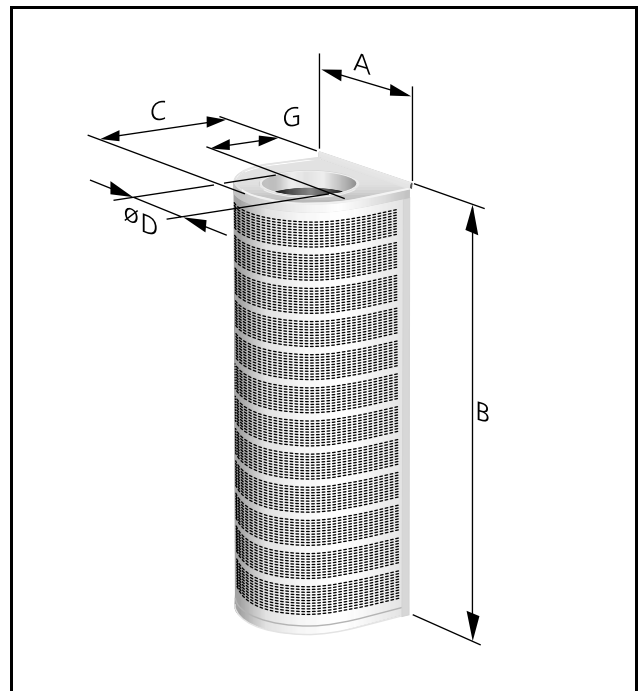
Size	A	B	C	ØD	G	Weight,kg
200	370	2003	370	200	180	34,0
250	435	2003	435	250	210	40,0
315	525	2003	525	315	250	48,0

**REGb**

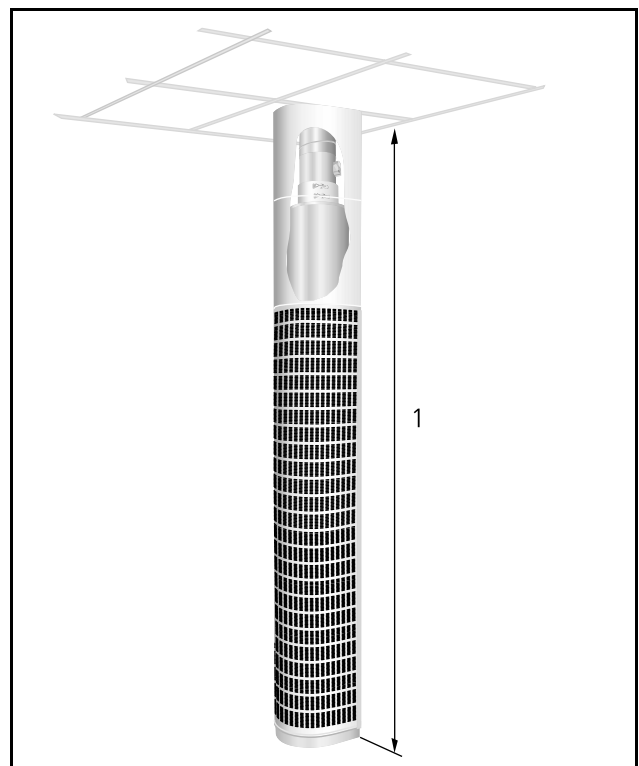
Size	ØC	Ød	G	H
200	300	199	230	600
250	350	249	250	600
315	415	314	260	900



**Figure 3.** Regulator unit REG.



**Figure 4.** IHC.



**Figure 5.** IHC with duct cover and plinth.

1. Size 200, 250, and 315: 2850-3200.

If other lengths are required always state the total room height.

## ORDER KEY

### Product designation

Semi-circular, low-velocity air terminal IHCa -aaa  
Size: 200, 250, 315

### Accessories

Cover IHCT 1d -aaa  
Size: 200, 250, 315

Please specify special lengths in plain text.  
State the total room height.

Plinth IHCT 2a -aaa 70  
Size: 200, 250, 315  
Height mm.  
Please specify special heights in plain text.

Regulator unit REGb -aaa  
Size: 200, 250, 315

## SPECIFICATION EXAMPLE

SD XX

Swegon's semi-circular, low-velocity VARIZON® IHCa air terminal, having the following functions:

- Induction
- Adjustable spread pattern
- Permanent measuring point
- Can be cleaned
- Cleanable
- Powder coated in white RAL 9010

Accessories.

Duct cover: IHCT 1 aaa xx items

Plinth: IHCT 2 aaa - 70 xx items

Size: IHCa aaa xx items

IHCa