ICP

VARIZON®

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

Quick facts

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

Quick guide

AIRFLOW-SOUNDLEVEL			
ICP	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 ICP + REG regulator unit are shown in a separate diagram.

Technical description

Design
The ICP is a complete, circular displacement unit with induction chamber for floor installation. The body consists of top and bottom plates and an air diffusion plate which is equipped with a number of adjustable nozzles. The top plate has a circular inlet. The diffusion plate has an inspection hatch for access to the duct system. There are two perforated panels on the exterior of the body, attached with screws. These are concealed behind removable aluminium profiles.

Materials and surface design
The displacement unit is manufactured in galvanized sheet steel with 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).

Customising
In addition to the standard sizes, these displacement units are available in special dimensions, with reinforced front panels 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.

Kanalverkleidung:
ICPT 1. For attractive concealment of the regulator unit and the connecting circular duct.

Plinth:
ICPT 2. For the aesthetic installation of the displacement unit to the floor.

Project planning
It is possible to modify the affected area by adjusting the nozzles behind the perforated front panel. 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 fastened in place to the floor through the inside. If the plinth is used, this is first fastened in place to the floor using screws and then fastened to the terminal using blind rivets. The regulator unit, which has rubber seals on the connection nipples, is pushed into the inlet on the terminal.

The telescopic duct cover is fixed in position using the connecting duct. If the terminal is connected from the underside there is no reason for using the duct cover. If for architectural reasons there is a requirement to use the duct cover, a dummy connection duct will need to be mounted to be able to secure the fixing of the duct cover. See Figure 1.

Commissioning
The measurement outlet is positioned on the side of the displacement unit behind the aluminium profile. The k-factor of the unit is marked on one side of the measurement outlet. The k-factor can also be downloaded at www.swegon.com in the relevant k-factor guide. It is recommended that the REG regulator is used to control the air volume. 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 paneland the inspection hatch. See Figure 2.

Environment
The Declaration of construction materials is available at www.swegon.com

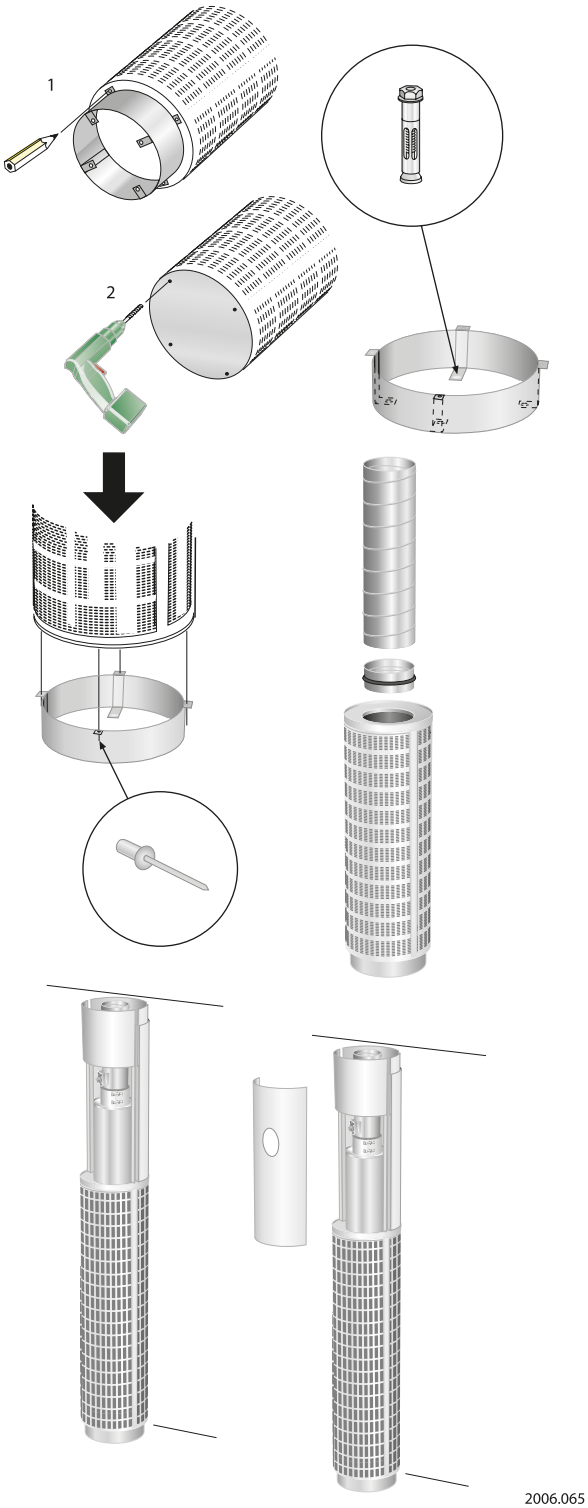


Figure 1. Installation.

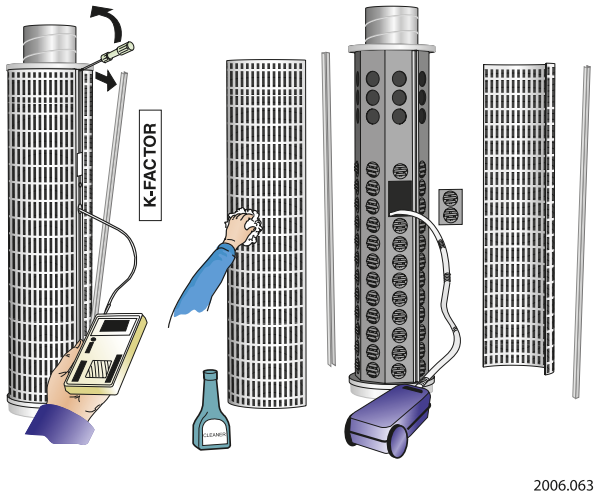


Figure 2. Commissioning. Maintenance.

Sizing

- The dB(A) values are for rooms with an acoustic absorption of 4 dB. (10 m2 equivalent absorption area).
- The maximum recommended temperature difference- between room temperature and supply air temperature is: 6 K for comfort installations
  9 K for industrial installations
- For calculating the width of the affected area, 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 at www.swegon.com.

Sound data

ICP

Sound power level L_W (dB)
Table K_{ok}

Size	Mid frequency (octave band) Hz							
ICP	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							
ICP + 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 ΔL (dB)
Table ΔL

Size	Mid frequency (octave band) Hz							
ICP	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							
ICP + 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

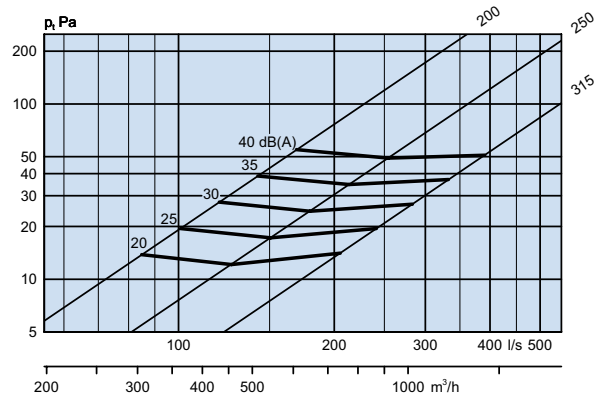
Sizing diagrams

ICP

Airflow – Pressure drop – Sound level

- 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 Δt 5 K. In this case Dt 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.

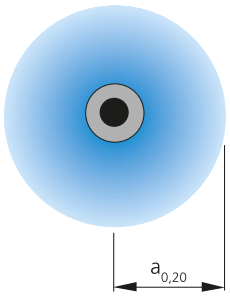
ICP



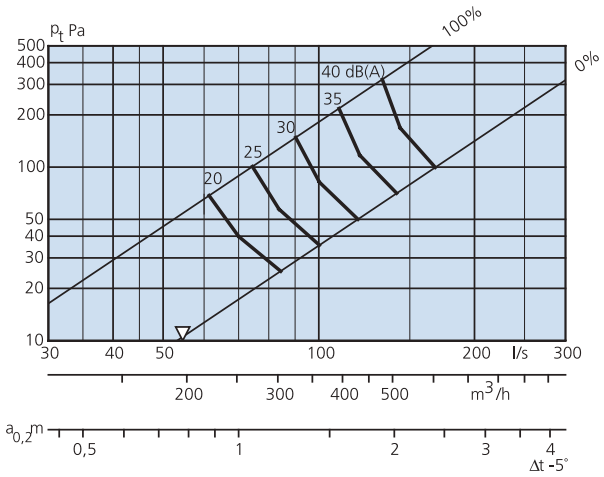
ICP + REG

Airflow – Pressure drop – Sound level – Affected area

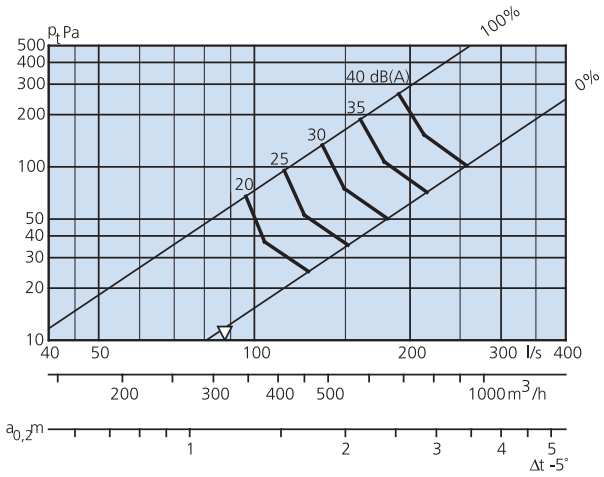
- The graphs are valid for primary flows.
- The affected area refers to the distance to the isovel limit of 0.2 m/s at Δt 5 K. In this case Dt signifies the difference between the room air temperature measured at 1.2 m above the floor and the primary supply air temperature (measured before the induction 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 dB(C) value is normally 6-9 higher than the dB(A) value.
- ∇ = minimum airflow to obtain sufficient commissioning pressure.



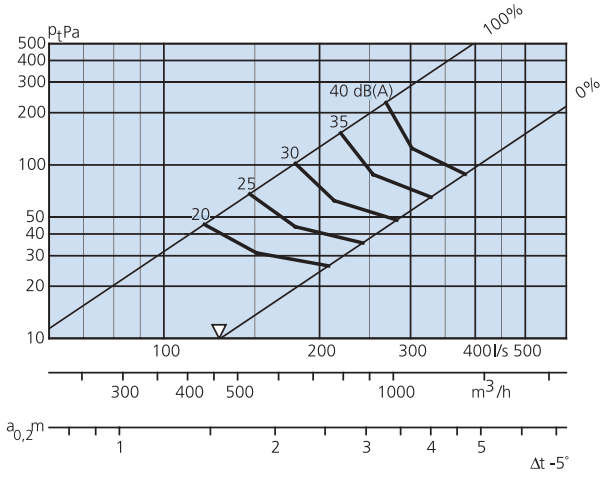
ICP 200 + REG



ICP 250 + REG



ICP 315 + REG



Dimensions and weights

ICP

Size	ØA	B	Ød	Weight, kg
200	395	1988	200	33,0
250	460	1988	250	39,0
315	545	1988	315	48,0

REG

Size	ØC	Ød	G	H
200	350	299	250	500
250	415	314	260	800
315	500	399	300	800

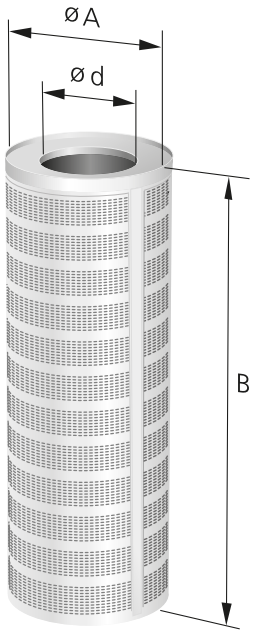


Figure 3. ICP.

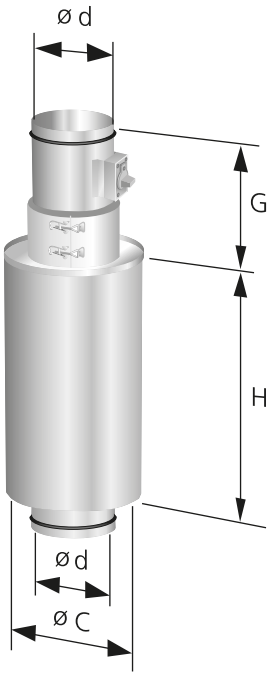


Figure 4. Regulator unit REG.

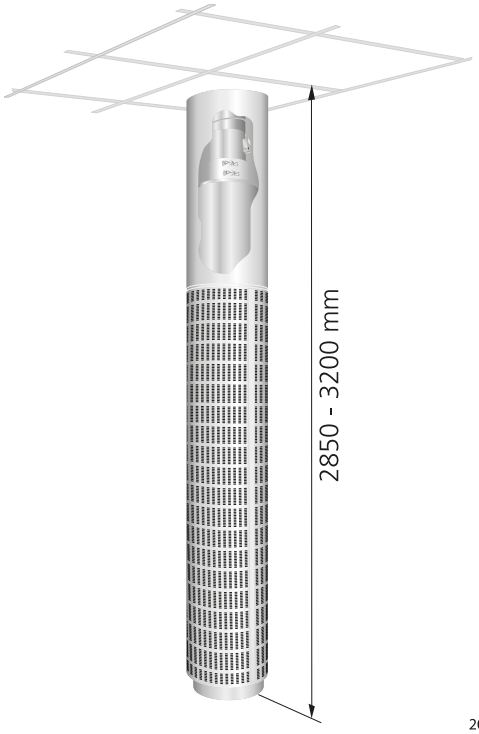


Figure 5. ICP with duct cover and plinth.

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

Ordering key

Product

Circular displacement unit	ICP	a	-aaa
Version:			
Size: 200, 250, 315			

Accessories

Duct cover	ICPT 1	a	-aaa - (bbb)
Version:			
Size: 200, 250, 315			
Specify special lengths, state the total room height.			

Plinth	ICPT 2	b	-aaa	70
Version:				
Size: 200, 250, 315				
Height in mm. specify special heights in bold print				

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

Specification example

SD XX

Swegons VARIZON® Circular displacement unit of type ICP, having 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:	ICPa -aaa	xx units
Accessories:		
Duct cover:	ICPT 1 aaa	xx units
Plinth:	ICPT 2 aaa - 70	xx units