

CGLa

Circular floor twist outlet



FUNCTION

Circular supply air diffuser with swirl function for mounting in raised floors. The slots in the diffuser are designed to give a swirl spread pattern with high induction to achieve low air velocities and low temperature gradients in the occupied areas. It is suitable for both constant and variable flow. Supply air may be at under- or over temperature.

QUICK FACTS

- Strong aluminium construction
- Handles large under temperatures
- Very high induction rate
- Cleanable
- Plenum box with damper function and dirt trap
- Can be used with ALS plenum box
- Standard finish in shot-blasted aluminium
- Available in alternative colours
- Included in MagiCAD database

QUICK GUIDE

AIR FLOW - SOUND LEVEL			
CGLa with CGLT1	l/s		
Size	20 dB(A)	25 dB(A)	30 dB(A)
160	8	10	13
220	14	17	21

Data valid at fully open damper.

DESIGN

Circular supply air diffuser with slots for swirl function. The diffuser has a flange which can be used to clamp it over different floor coverings.

MATERIALS AND SURFACE TREATMENT

The diffuser is manufactured in cast and shot-blasted aluminium.

SPECIAL VERSIONS

The diffuser can be supplied with a number of different surface treatments, achieved by using different blasting materials e.g. bronze and various blasting techniques. It can also be painted using Rilsan type coating material. Please contact your nearest sales representative for further information.

ACCESSORIES

Dirt trap with damper:

CGLT 1a. Manufactured in galvanised sheet steel. Contains a simple circular slide damper.

Mounting frame:

CGLT 2a. Manufactured in galvanised sheet steel. Used when CGLT 1 is unnecessary or as an accessory in conjunction with ALS.

Plenum box:

ALS. Manufactured in galvanised sheet steel. Contains a removable commissioning damper, fixed measuring outlet and acoustic insulation with reinforced surface layer. Independent of straight sections before the duct connection.

PLANNING

If the diffuser is to be connected to a duct system, we recommend that the mounting frame CGLT 2a is used. It has a rubber sealing ring on the connection spigot. This model however does not have any damper function. To obtain damper and measurement functions, the CGLT 2a can be used together with the plenum box ALS.

When the space under the raised floor is used as a pressure chamber the CGLT 1a is recommended instead, which has a dirt trap and damper. This combination provides damper function but no measurement function.

The total airflow in the pressure chamber is controlled with the aid of a measurement and regulation damper of the type CRM, which is installed in the connecting duct system. The pressure drop in the diffuser and plenum box ensure an even flow of air through all installed diffusers.

INSTALLATION (See Figure 1)

Cut a hole in the floor with the dimensions shown in "DIMENSIONS AND WEIGHTS".

The CGLT 1 and CGLT 2 are fastened to the underside of the raised floor using screws. The CGL unit is placed from above and screwed into place using the screw in the centre of the diffuser plate.

The CGLT 2 is fastened to the connecting duct or plenum box ALS using blind rivets.

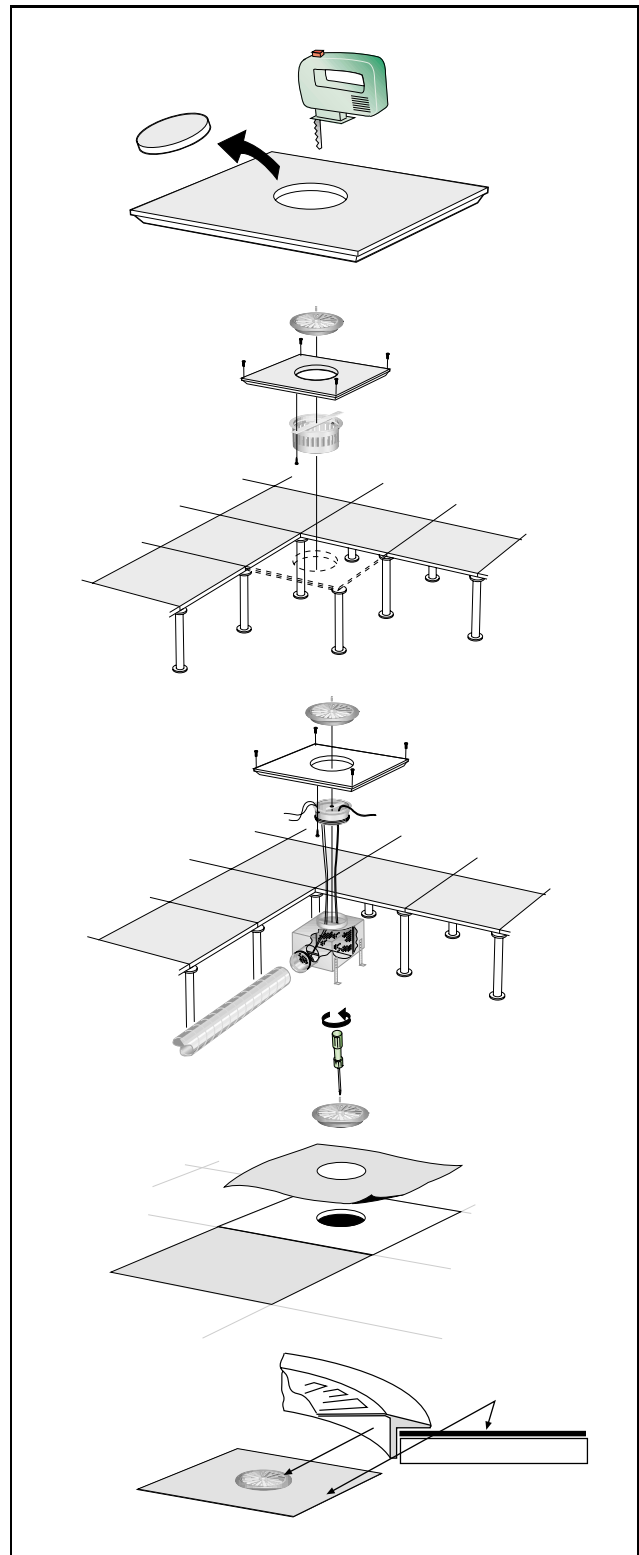


Figure 1. Installation.

COMMISSIONING (See Figure 2)

The CGL is not equipped with a damper or measurement unit. Regulation of the airflow takes place through the CGLT 1 which has a simple circular hit and miss damper. It is recommended that a measurement and regulating damper is installed in the duct system before the diffuser for the purpose of measuring the airflow.

When the ALS is used, both measurement and damper functions are obtained. To access the damper cords and measurement tubes, the CGL is first removed and then the distribution plate in the ALS is moved to one side.

Commissioning of the ALS is carried out with the diffuser section in place. The measurement tube and damper cords are pulled out through the slots in the diffuser.

MAINTENANCE (See Figure 2)

The displacement unit can be cleaned when necessary using luke warm water with added detergent. The duct system is accessed by removing the diffuser, the distribution plate and the damper unit. If the ALS plenum box is used, the distribution plate is moved to one side and the damper unit turned with a simple hand movement to remove it from its connection. If the CGLT 1 dirt trap is installed, the CGL is removed before the dirt trap is vacuum cleaned.

ENVIRONMENT

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

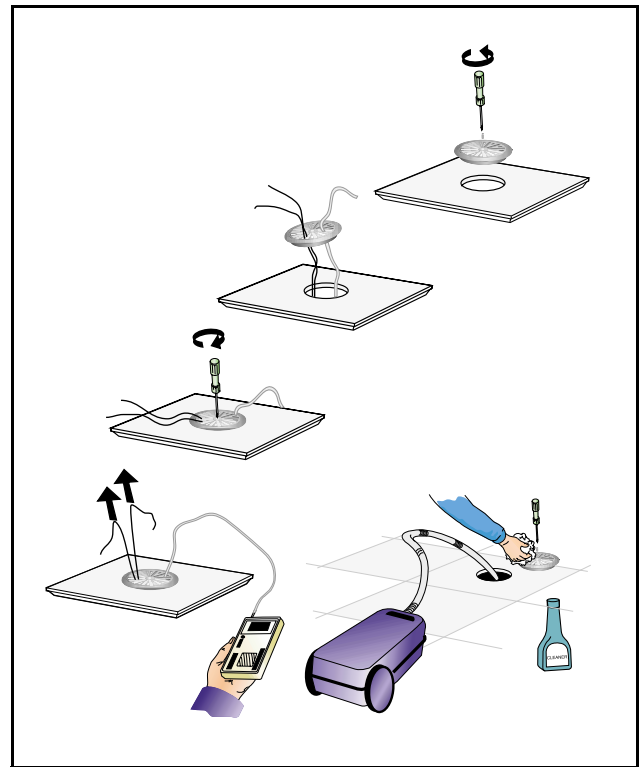


Figure 2. Commissioning. Maintenance.

TECHNICAL DATA

- Sound level dB(A) applies to rooms of 10 m² equivalent absorption area.
- The affected zone is measured at Δt -3°C.

Sound data - CGL - Supply air

Sound power level L_w (dB)

Table K_{OK}

Size	Mid-frequency (octave band) Hz							
	63	125	250	500	1000	2000	4000	8000
CGLa + CGLT1								
160	-1	-3	0	0	0	-5	-22	-27
220	0	-2	2	3	-1	-9	-22	-25
Size	Mid-frequency (octave band) Hz							
	63	125	250	500	1000	2000	4000	8000
CGLa + ALSc								
160	3	-4	1	-3	1	-4	-23	-30
220	2	-1	1	-1	1	-5	-21	-27
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
CGLa + CGLT1								
160	16	14	10	5	1	0	0	0
220	14	12	8	3	0	0	0	0
Size	Mid-frequency (octave band) Hz							
	63	125	250	500	1000	2000	4000	8000
CGLa + ALSc								
160	19	14	11	17	24	15	13	15
220	18	14	10	16	23	15	14	15
Tol. ±	2	2	2	2	2	2	2	2

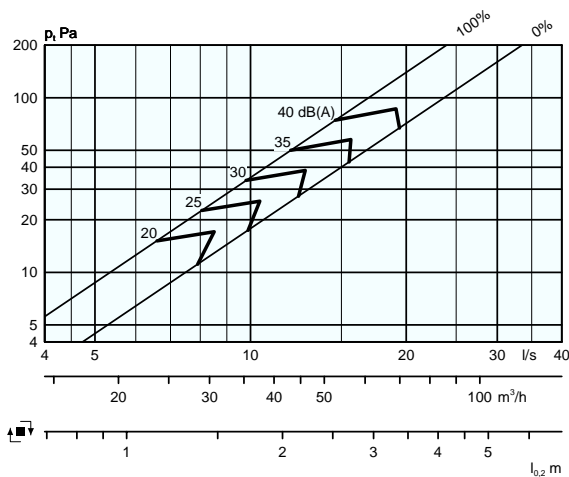
Engineering graphs - CGL - Supply air

Air flow - Pressure drop - Sound level - Throw

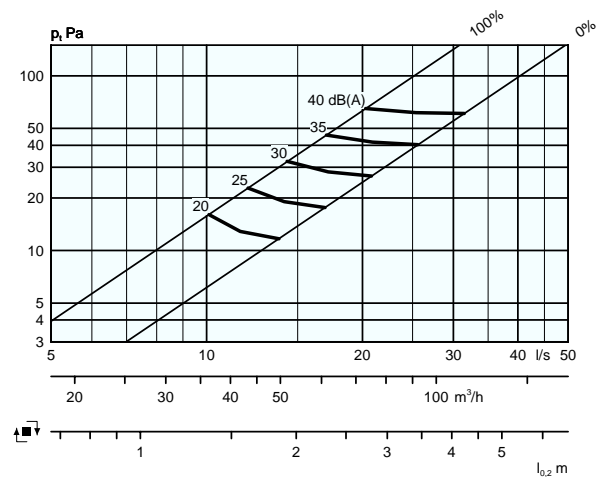
- The graphs illustrate data for a CGL flush mounted in a raised floor.
- The graphs are not to be used for commissioning.

- 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 this catalogue.

CGLa 160 + CGLT1 160



CGLa 220 + CGLT1 220



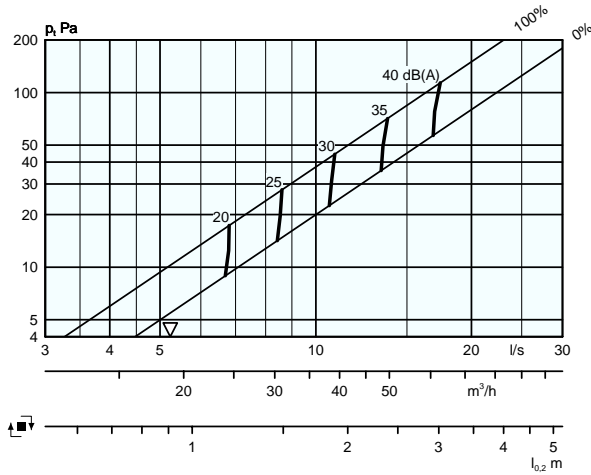
Engineering graphs - CGL - Supply air

Air flow - Pressure drop - Sound level - Throw

- The graphs illustrate data for a CGL flush mounted in a raised floor.
- The graphs are not to be used for commissioning.
- $V = \text{min. flow to obtain sufficient commissioning pressure.}$

- 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 this catalogue.

CGLa-160 + ALSc 100-160 + CGLT2 160



CGLa-220 + ALSc 125-200 + CGLT2 220

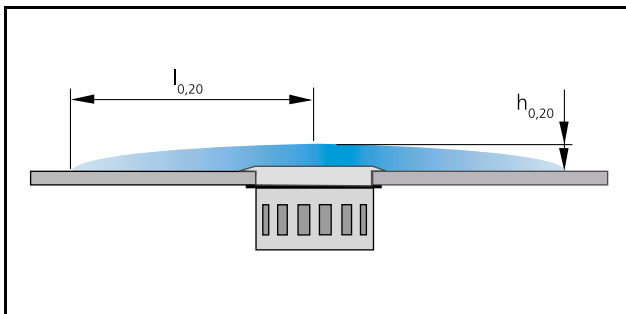
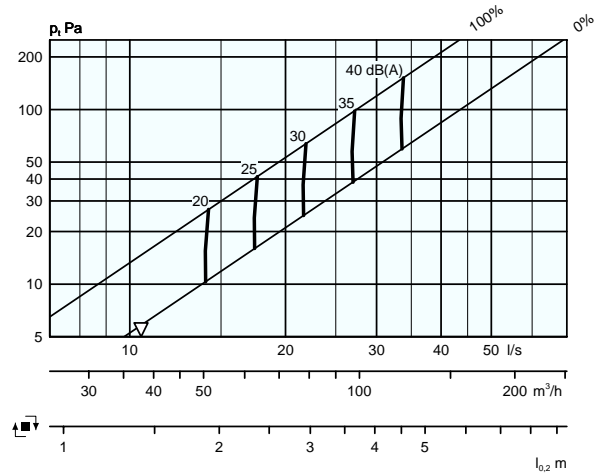


Figure 3. Affected zone.

$h_{0,20}$ max 0,1 m at $\Delta t -3^\circ C$ and $q = \leq 15 l/s$ (size 160) for air-flows $\leq 25 l/s$ (size 220).



DIMENSIONS AND WEIGHTS

CGLa, CGLT1 and CGLT2

Size	ØA	ØB	ØC	ØD	Weight kg
CGLa 160	185	165	165-170	-	2.9
CGLa 220	240	220	220-225	-	4.1
CGLT1-160	-	-	-	162	
CGLT1-220	-	-	-	228	
CGLT2-160	-	-	-	159	
CGLT2-220	-	-	-	199	

ØC= Hole dimension.

ALSc

Size	B	C	ØD	Ød	F	G	H	K	Weight kg
100-160	342	252	99	160	180	100	320	80	2.7
125-200	404	288	124	200	204	112	382	100	3.5

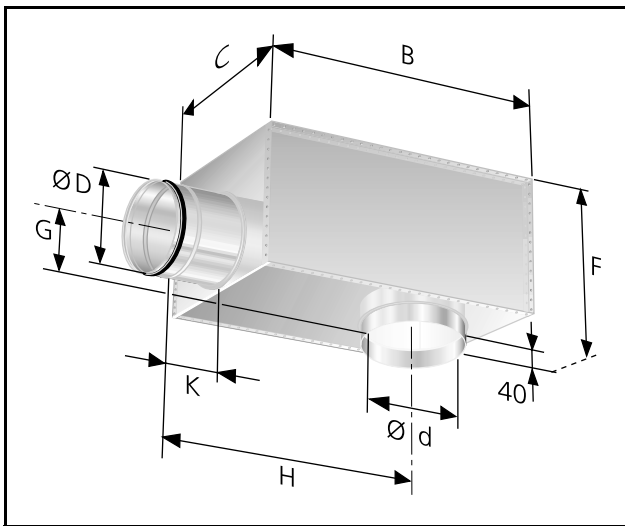


Figure 4. ALSc.

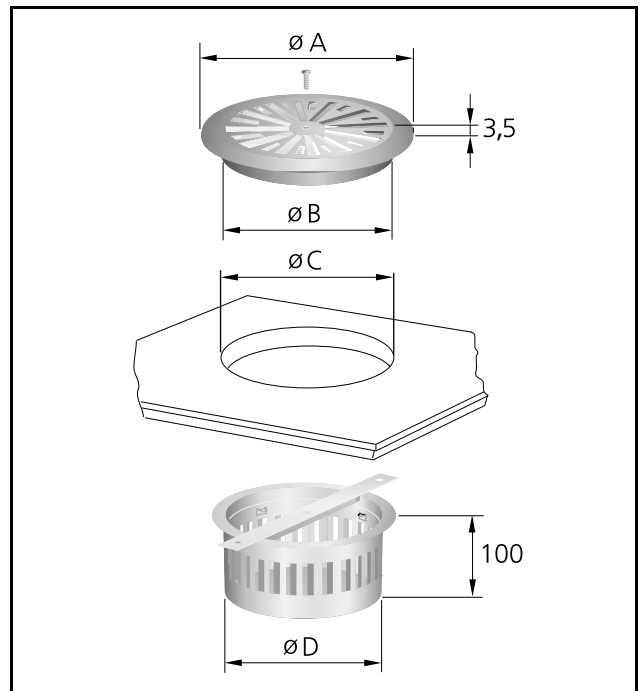


Figure 5. CGL + CGLT 1.

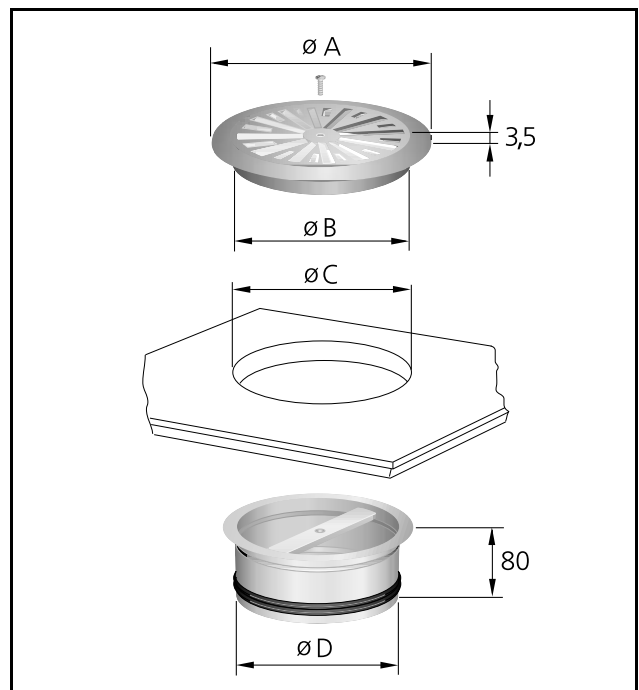


Figure 6. CGL + CLGT 2.

ORDER KEY

Product designation

Circular floor twist outlet CGLa -aaa
Size: 160, 220

Accessories

Dirt trap with damper CGLT1 -aaa
Duct connection dimension 200 mm
Size: 160, 220

Mounting frame CGLT2 -aaa
Size: 160, 220

Plenum box ALSc -aaa - bbb
For CGLa 160: ALSc 100-160
For CGLa 220: ALSc 125-200

SPECIFICATION EXAMPLE

SD XX

Swegons circular floor twist outlet for mounting in installed floors of type CGLa, having the following functions:

- Manufactured in cast aluminium
- Non-fouling design
- Aerodynamic slots that give high induction and very low spread pattern.
- Cleanable
- Standard finish is nickel blasted aluminium

Accessories:

Dirt trap with damper: CGLT 1 - aaa xx items

Size: CGLa - aaa xx items