

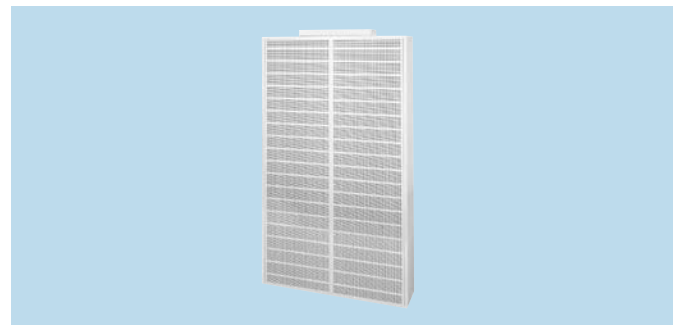


### General

DRif is a complete, rectangular displacement unit for positioning against a wall or ceiling, either flush or surface mounted. It can supply a large air flow at low velocity to the occupied zone. The spread pattern is easily adjustable due to the variable air deflectors.

### Quick facts

- Adjustable spread pattern and affected area
- Suitable for all types of rooms
- Cleanable
- Air volume measuring point
- Very simple to install in suspended ceilings or in walls
- Concealed fastening
- Available in alternative colors
- Included in the MagiCAD and CadVent databases



### Quick guide

AIR FLOW - SOUND LEVEL			
DRif Size	Cubic feet per minute		
	25 NC	30 NC	35 NC
200	340	400	475
250	550	640	750
315	770	900	1050
400	1300	1950	1750
200-600	950	1200	1400
250-800	1400	1550	1800

Sound level is valid at 1620 ft<sup>2</sup> equivalent sound absorption area at distance of 6 ft from terminal. All values are valid without-disturbance on straight duct section.

## Technical description

### Design

The DRI is a complete, rectangular displacement unit for placing on a floor, in a wall or ceiling. The body consists of a rear section with side, top, and bottom plates and an air distribution plate equipped with a number of adjustable discs. The top plate has a circular inlet socket for size 200 up to 400. Sizes 200-600 and 250-800 have a rectangular inlet spigot. The diffusion plate has an access hatch for access to the duct system. There are one or more perforated front plates attached to the front of the body.

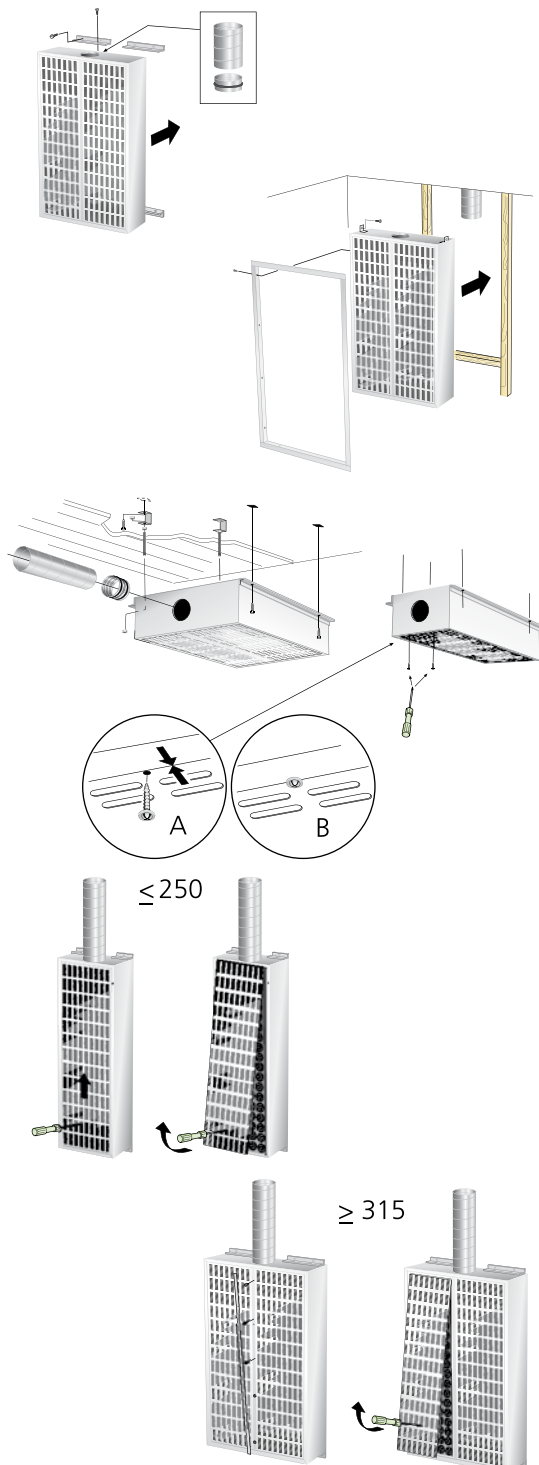


Figure 1. Installation.

Sizes 200 and 250 have one front plate. Sizes 315, 400, 200-600, and 250-800 have two front plates which are screwed to the body of the displacement unit. The screws are concealed by an aluminum strip.

White painted angle profiles are supplied with the unit and are used when surface mounted or flush mounted.

### Materials and surface treatment

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

### Special versions

In addition to the standard sizes, these displacement units are available in special dimensions, with reinforced front plates etc. Please, contact your nearest sales representative for further information.

### Planning

It is possible to modify the affected area by adjusting the discs behind the front plates. 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.

For more information, refer to the chapter that deals with "Displacement Ventilation" in the Technical Data Section. Note: The sound level in the engineering diagrams is valid at 1620 sq ft equivalent sound absorption area. This fact makes it important to check the air velocities in the connecting ducts to the terminals. Extra consideration has to be taken on how the ducts can be connected to the terminals. See figure 3.

### Installation

The unit is mounted on the wall using angle mounting profiles. In the case of ceiling mounting, either drop rod or perforated band is used to attach the unit to the framework of the building. When flush mounted, the angle profiles are used as a frame around the unit to cover the edges of the hole cut for it. For ceiling mounting, the front plates should be secured with screws. This applies to sizes 200 and 250 only. See figure 1.

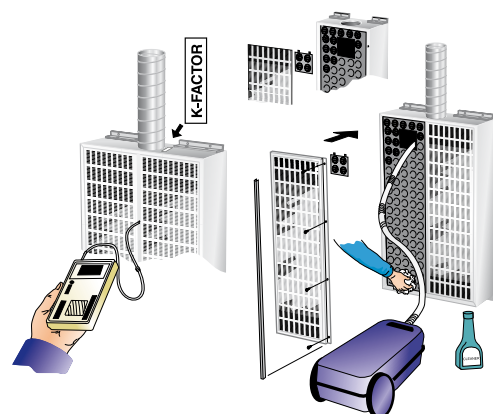


Figure 2. Commissioning. Maintenance.

### Commissioning

The measuring point is located on the upper edge of the displacement unit, above the front panel. The k-factor of the unit is stated on the product label, and can also be found on our website in the relevant k-factor guide. It is recommended that the measuring and commissioning damper RSM or CRM, etc. is used to regulate the air flow. It should be placed at least 3-4 duct diameters away from the displacement unit inlet. See figure 2.

### Maintenance

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

### Environment

The declaration of construction materials is available on our website.

### Sizing

- Sound level NC applies to rooms of 1620 sq ft equivalent absorption area, which gives 16dB room attenuation, and measured 6.6 ft from the displacement unit and with a straight section without disturbance on straight duct section.
- Recommended maximum under temperature is 42.8 F.
- 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 programs ProAir web and ProAc, which are both available for download on our website.

### Sound data - DRI

#### Sound power level $L_w$ (dB) (1620 sq ft)

Table  $K_{OK}$

Size DRIf	Mid-frequency (Octave band) Hz							
	63	125	250	500	1000	2000	4000	8000
200	14	18	17	14	11	5	-2	-10
250	15	19	18	14	10	4	-2	-6
315	18	18	16	14	12	6	0	-8
400	17	19	18	15	10	4	-3	-7
200-600	17	18	18	15	10	4	-6	-11
250-800	17	19	19	15	9	1	-11	-11
Tol. $\pm$	2	2	2	2	2	2	2	2

#### Sound attenuation $\Delta L$ (dB) (1620 sq ft)

Table  $\Delta L$

Size DRIf	Mid-frequency (Octave band) Hz							
	63	125	250	500	1000	2000	4000	8000
200	17	12	6	2	2	3	5	4
250	15	10	5	2	2	3	4	5
315	14	9	4	1	0	1	2	2
400	13	6	4	1	1	1	1	1
200-600	10	4	1	0	0	0	0	0
250-800	9	3	1	0	0	0	0	0
Tol. $\pm$	2	2	2	2	2	2	2	2

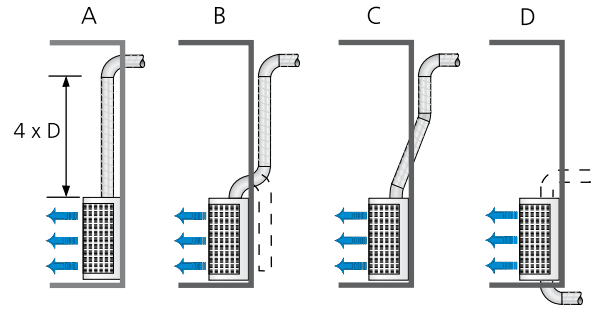


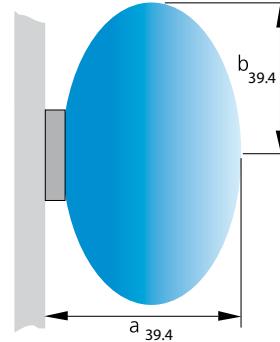
Figure 3. E.g. of how different duct connections affect the sound level of the terminal. See also Technical chapter under Acoustics – Planning Tips.

## Engineering graphs

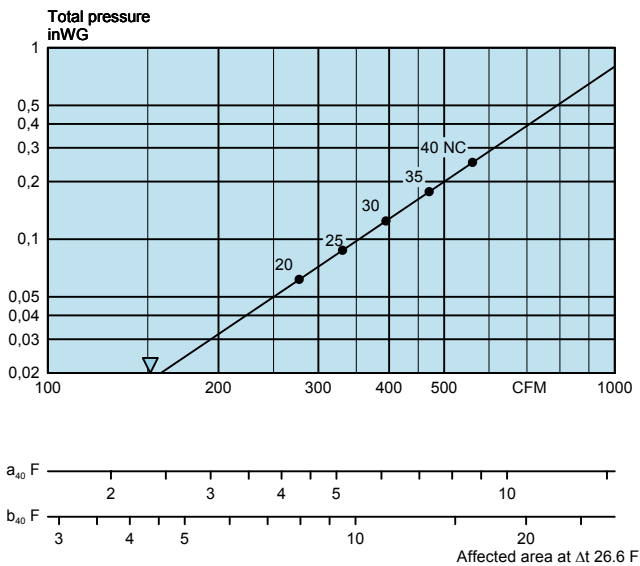
### Air flow - Pressure drop - Sound level - Affected area

The graphs show data for sound levels in a room with an absorption area equivalent of 1620 sq ft and measured 6.6 ft from the displacement unit and at a straight section without disturbance on straight duct section. See figure 3 how different duct connections will affect the sound level.

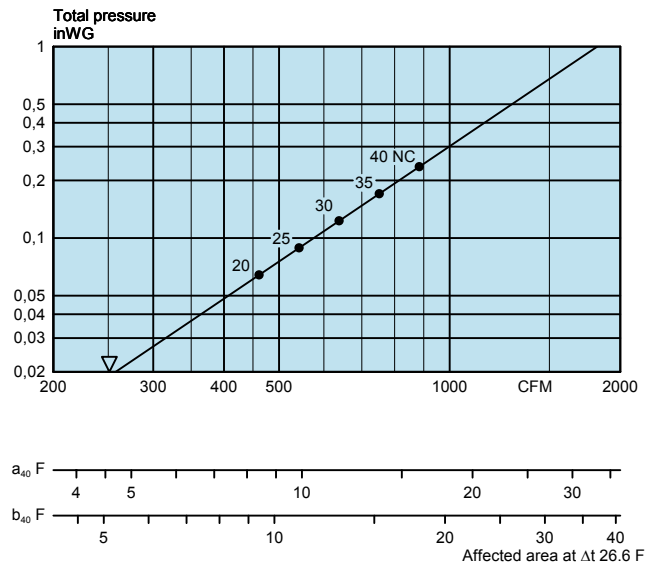
- The affected area refers to a displacement unit installed on a wall, 3.9 in from the floor. The affected area distance is related to the isovel limit of 39.4 ft/min at  $\Delta t$  37.4 F.
- The graphs are not to be used for commissioning.
- $\nabla$  = min air flow to obtain sufficient commissioning pressure.
- For  $\Delta t = 42.8$  F the measurements  $a_{39.4}$  and  $b_{39.4}$  are increased by approx. 20%.



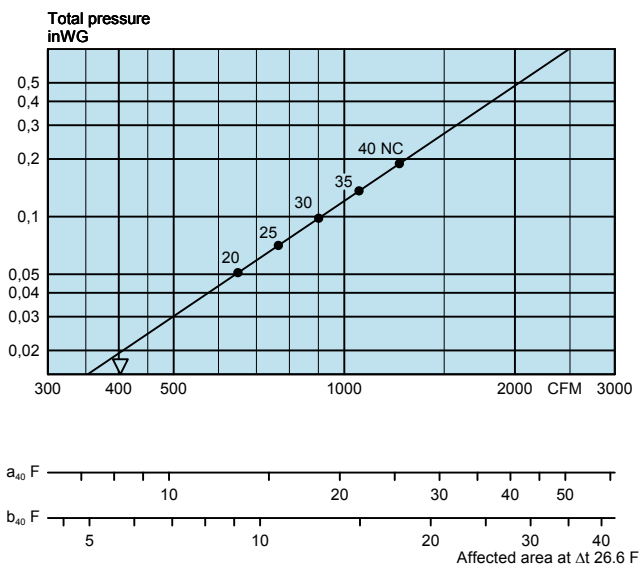
#### DRif 200 (1620 sq ft)



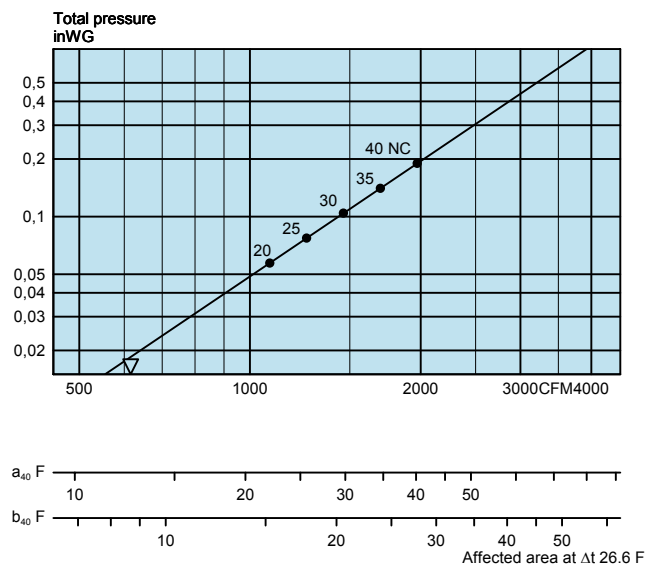
#### DRif 250 (1620 sq ft)



#### DRif 315 (1620 sq ft)



#### DRif 400 (1620 sq ft)

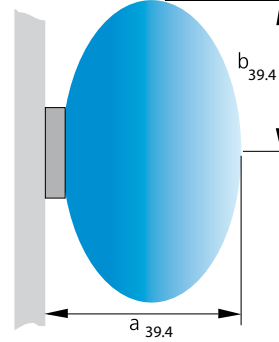


## Engineering graphs

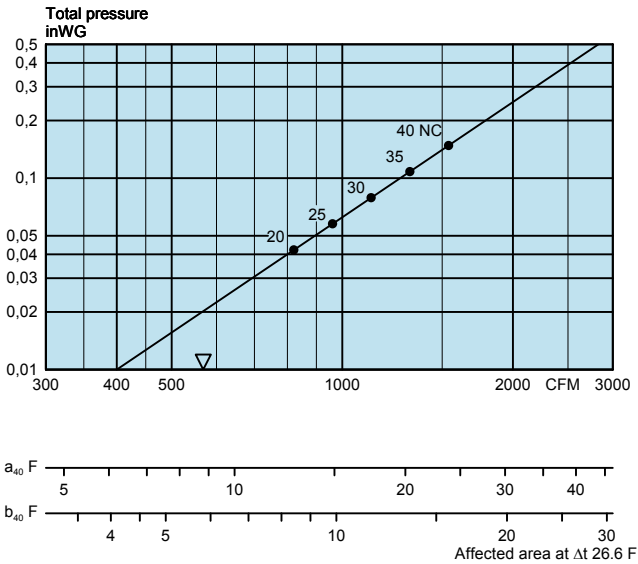
### Air flow - Pressure drop - Sound level - Affected area

The graphs show data for sound levels in a room with an equivalent absorption area of 1620 sq ft and measured 79 in from the displacement unit and at a straight section without disturbance on straight duct section. See figure 3 how different duct connections will affect the sound level.

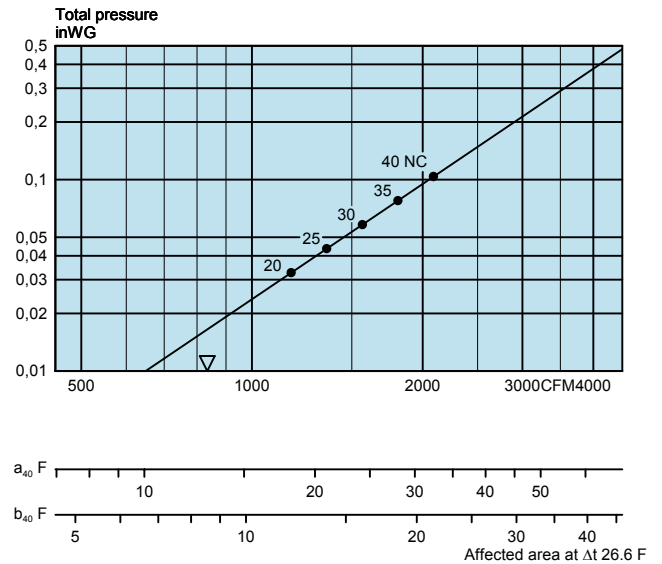
- The affected area refers to a displacement unit installed on a wall, 3.9 in from the floor. The affected area distance is related to the isovel limit of 39.4 ft/min at  $\Delta t$  37.4 F.
- The graphs are not to be used for commissioning.
- $\nabla$  = min air flow to obtain sufficient commissioning pressure.
- For  $\Delta t = 37.4$  F the measurements  $a_{39.4}$  and  $b_{39.4}$  are increased by approx. 20%.



DRif 200-600 (1620 sq ft)



DRif 250-800 (1620 sq ft)



# Dimensions and weights

## DRI

Size	A	B	C	ØD	E	F x G	H	Weight,kg	Weight, lbs
200	23.23	46.85	11.81	7.87	4.53	-	0	50.1	110.5
250	23.23	78.35	13.78	9.84	5.51	-	0	90.4	199.3
315	46.85	78.35	16.34	12.4	6.81	-	0	172	379.2
400	46.85	78.35	19.69	15.75	8.46	-	0	178.6	393.7
200-600	46.85	78.35	11.81	-	-	7.87 x 31.5	2.17	161	355
250-800	1190	1990	350	-	-	9.84 x 23.62	2.17	75	165.3

The DRI models with circular duct connections have an internal socket connection.

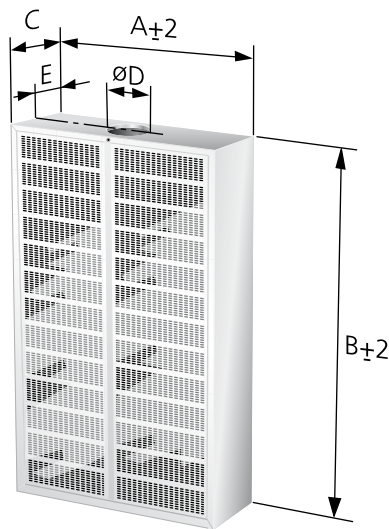


Figure 4. DRI 200 to 400.

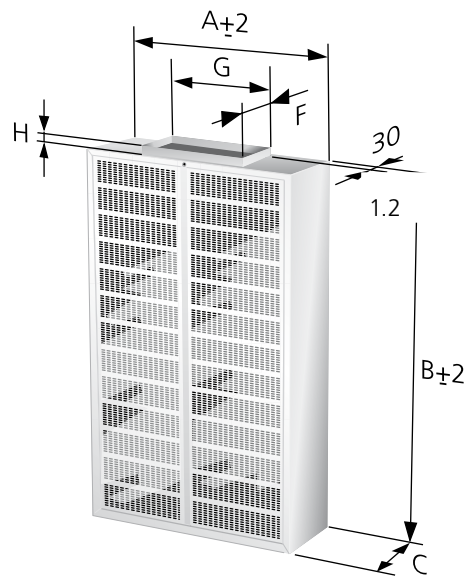


Figure 5. DRI 200-600, 250-800.

## Order key

### Product designation

Rectangular displacement unit with circular connection      DRIf      -aaa  
 Size: 200, 250, 315, 400

### Accessories

Rectangular displacement unit with rectangular connection      DRIf      -aaa - bbb  
 Size: 200-600, 250-800

## Specification example

SD XX

Swegon VARIZON® rectangular displacement unit DRIf, with the following functions:

- Adjustable spread pattern and affected area
- Interchangeable front sections
- Non-fouling
- Air volume measuring point
- Cleanable
- Cover strips for flush mounting
- Powder painted in white, RAL 9010

Size:              DRIf aaa - bbb              xx items