DRI

VARIZON® Displacement unit with adjustable spread pattern

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

Quick guide

AIR FLOW – SOUND LEVEL			
DRI	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^2 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 DRI 200 up to DRI 400. DRI 200-600 and DRI 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.

DRI 200 and 250 have one front plate. DRI 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).

Customization

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.

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 DRI 200 and 250 only. See figure 1.

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 in the relevant k-factor guide at www.swegon.com.

It is recommended that a measuring and commissioning damper 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.

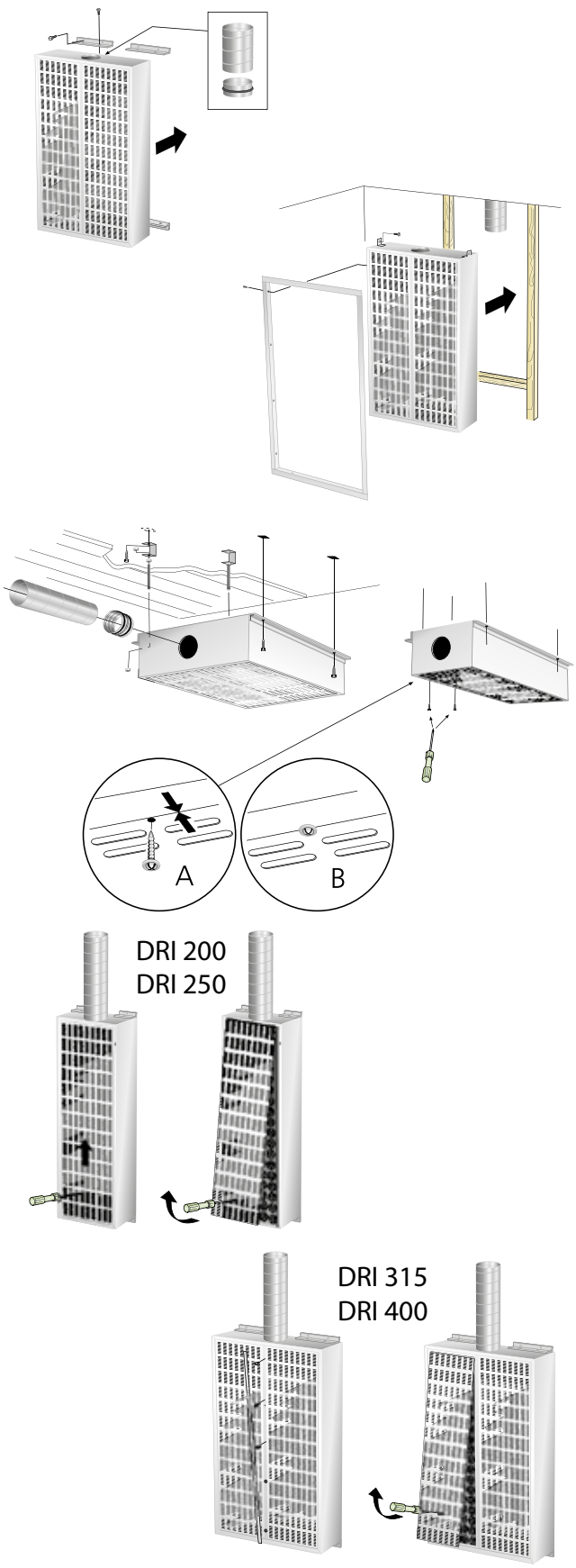


Figure 1. Installation.

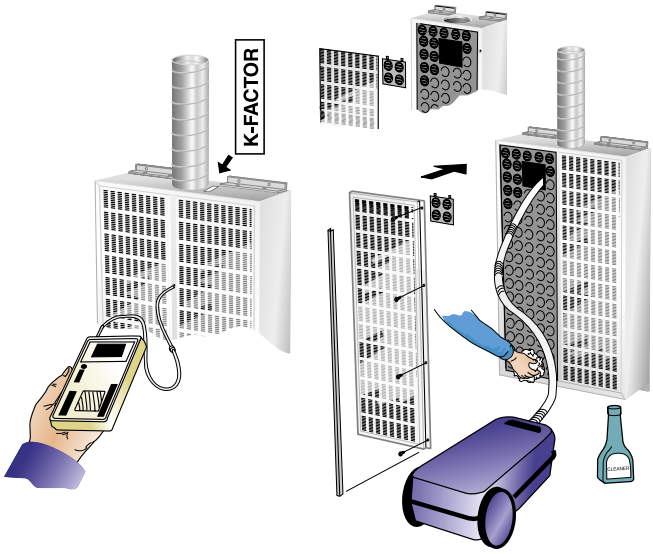


Figure 2. Commissioning. Maintenance.

Technical data

- Sound level NC applies to a room attenuation of 16 dB, measured 6.6 ft from the displacement unit, installed with a straight section of duct before the unit.
- Obstructions in the connecting duct will have a negative effect on the sound level, see figure 3.
- Recommended maximum under temperature is -10 °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 software, ProAir web, available for download at www.swegon.com.

Table – Duct connections

Effects on sound levels (dB) for different duct connections and different air velocities in straight duct sections.

Velocity (FPM)	Duct connections (dB)			
	A	B	C	D
785 - 985	+ 2	+ 6	+ 3	+ 3
1180 - 1580	+ 4	+ 10	+ 6	+ 6

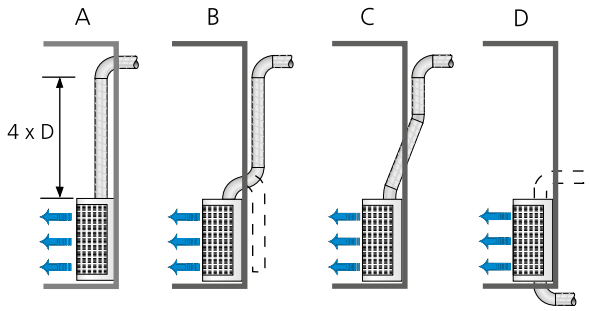


Figure 3. E.g. of how different duct connections affect the sound level of the terminal.

Engineering graphs

Air flow – Pressure drop – Sound level – Affected area

- Sound level NC applies to a room attenuation of 16 dB.
- Maximum recommended temperature difference is -10 °F.
- Graphs refer to a displacement unit installed on a wall, 4" above floor level.
- The affected area refers to the distance to the isovel limit of 40 FPM at Δt -5 °F. In this case, Δt signifies the difference between the room air temperature and the supply air temperature, measured at 4 ft above floor level. It does not refer to the difference between the extract air and the supply air temperatures.
- The graphs are not to be used for commissioning.
- ∇ = min air flow to obtain sufficient commissioning pressure.

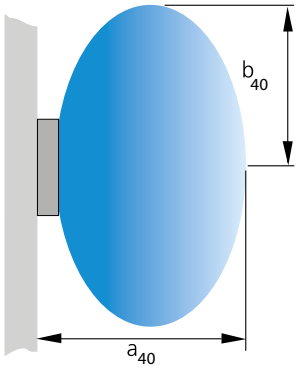
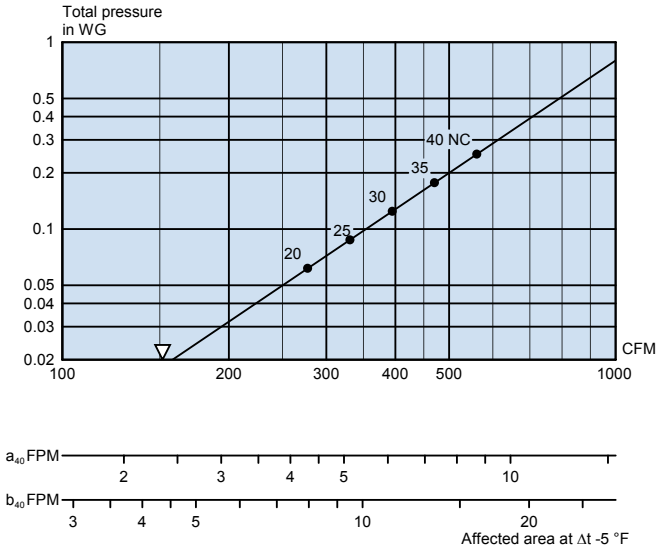
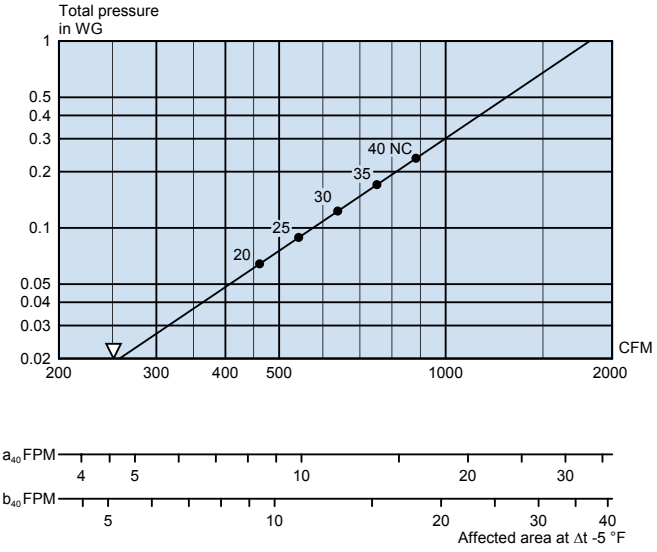


Figure 4. Affected area.

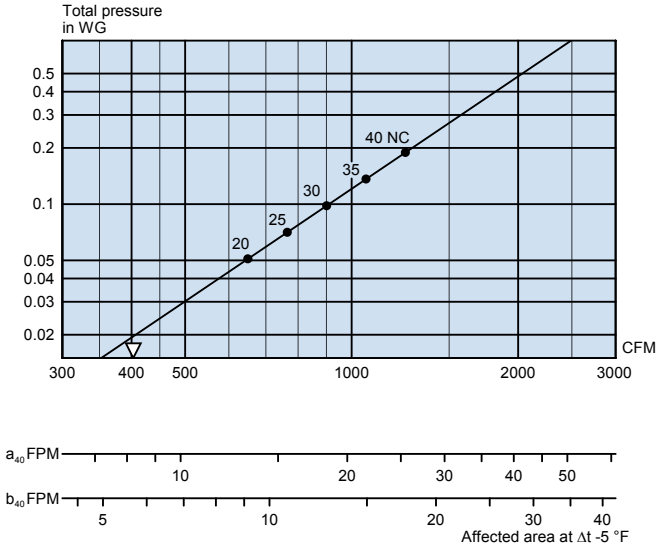
DRI 200



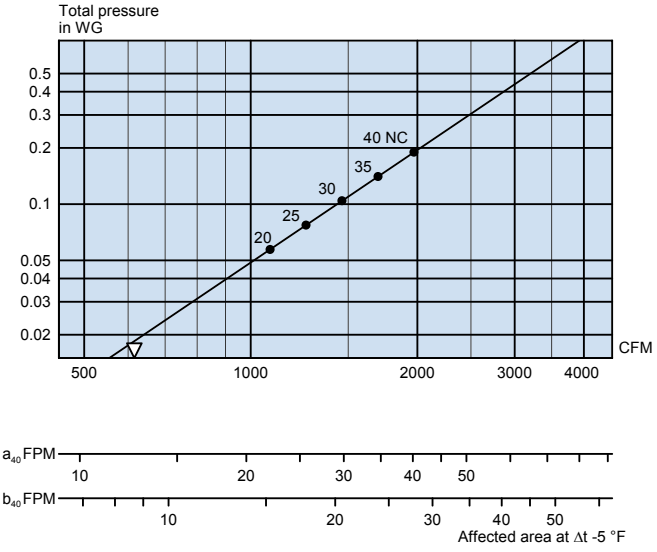
DRI 250



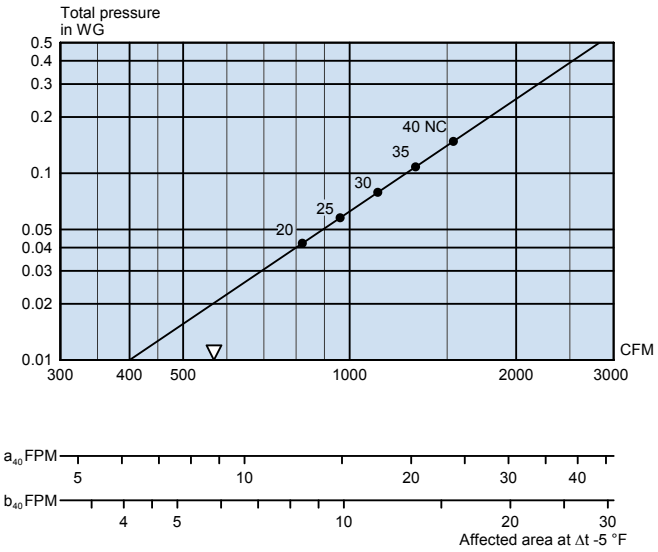
DRI 315



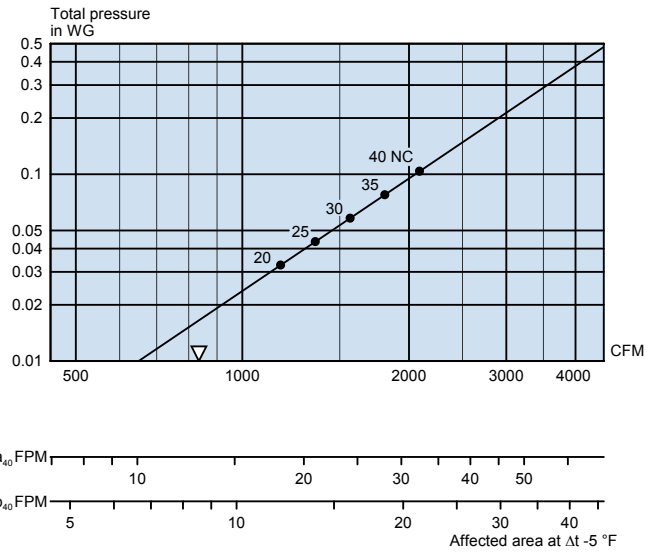
DRI 400



DRI 200-600



DRI 250-800



Dimensions and weights

DRI Size**)	Dimensions (in) A	B	C	ØD*)	E	F x G	H	Weight (lbs)
200	23.28	46.85	11.81	7.87	4.53	–	–	50.6
250	23.28	78.34	13.78	9.84	5.51	–	–	90.2
315	46.85	78.34	16.39	12.40	6.81	–	–	171.6
400	46.85	78.34	19.68	15.75	8.46	–	–	178.2
200-600	46.85	78.34	11.81	–	–	7.87 x 23.62	2.17	160.6
250-800	46.85	78.34	13.78	–	–	9.84 x 31.50	2.95	165.0

*) The DRI models with circular duct connections have an internal socket connection.
**) The unit of the size column is in millimeters and should be primaraly considered as a denomination when referring to products or placing orders. Corresponding measurements in inches can be seen in the "ØD" (DIR, circular connection) and "F x G" (DIR, rectangular connection) columns.

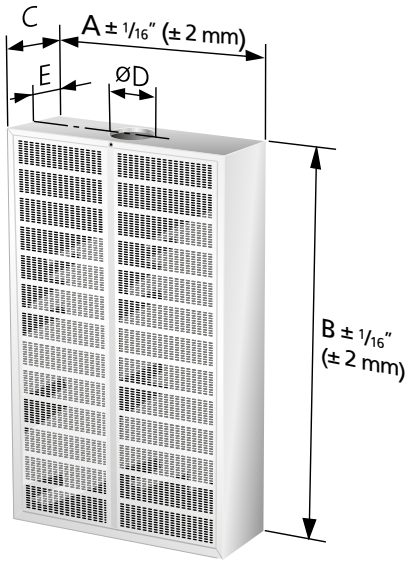


Figure 5. DRI 200 to 400.

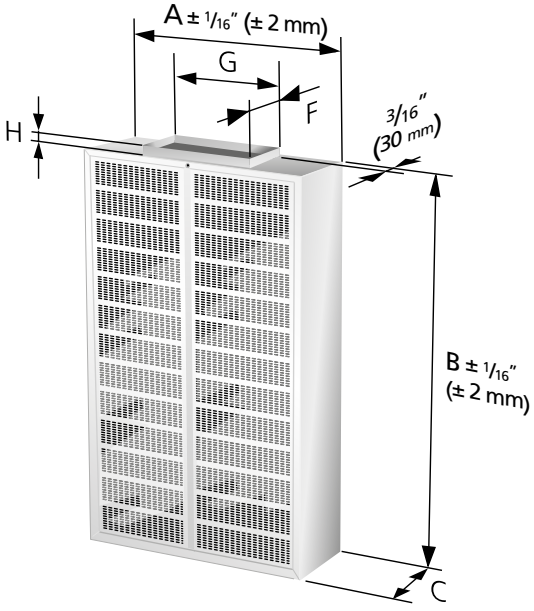


Figure 6. DRI 200-600, 250-800.

Ordering key

Product designation

Rectangular displacement unit with circular connection	DRI	f	-aaa
Version:			
Size (mm): 200, 250, 315, 400			

Rectangular displacement unit with rectangular connection	DRI	f	-aaa - bbb
Version:			
Size (mm): 200-600, 250-800			

Specification example

SD XX

Swegon VARIZON® rectangular displacement unit DRI, 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