



Product manual

Displacement diffuser

SD-H

Air distribution

Version 1.0.1
Date: 27.05.2025.

PRODUCT OVERVIEW

Displacement diffuser enable to extract pollutants from production and work areas efficiently and without substantial mixing with indoor air. Depending on both the type of pollutants and the specific internal heat load, the displacement outlets are placed either above the occupied zone or on the floor.

The air discharge direction can be adjusted from a slight incline upwards to vertically downwards; this enables to get a constantly ideal indoor air flow despite varying internal heat gains.

Klimaoprema offers the option to adjust the damper either manually or using an electric servomotor.



PRODUCT
CALCULATION
SOFTWARE



PRODUCT OVERVIEW

Ød X H	1000
250	6,38
315	8,20
355	9,38
450	12,38
560	16,18
630	18,78

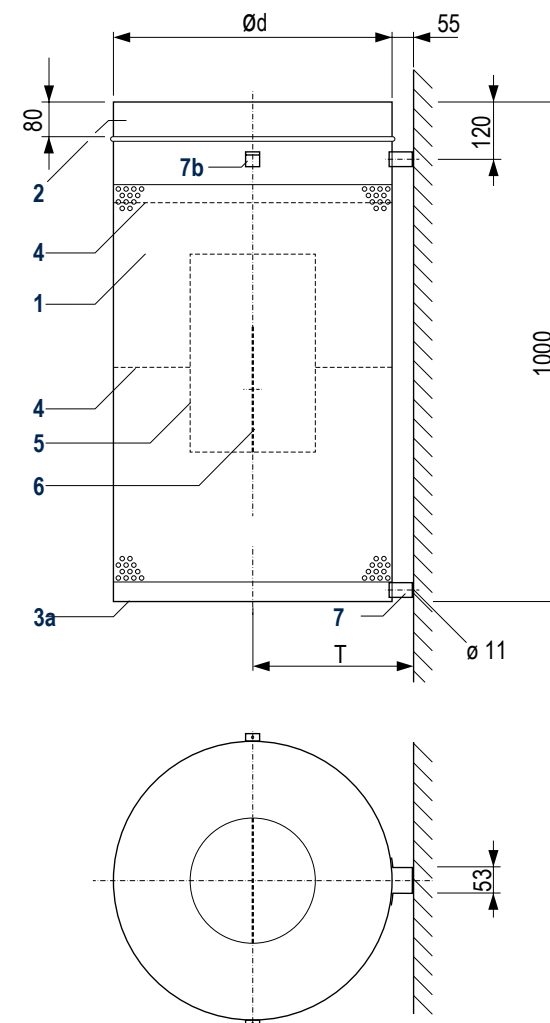
*weight in kg

DESIGN AND FUNCTION

Owing to its particular design the perforated cylinder generates a low-turbulence displacement flow around the air outlet.

The main components of the circular displacement diffuser:

1. Perforated cylinder
2. Connection spigot
3. Bottom
4. Orifice ring
5. Air deflection tube
6. Adjustable damper
- 7a. Fastener for wall mounting (option)
- 7b. Two opposite L-fasteners (option)



▼ DIFFUSER

▼ ORDERING KEY

PRODUCT
CALCULATION
SOFTWARE

PRODUCT OVERVIEW

INSTALLATION

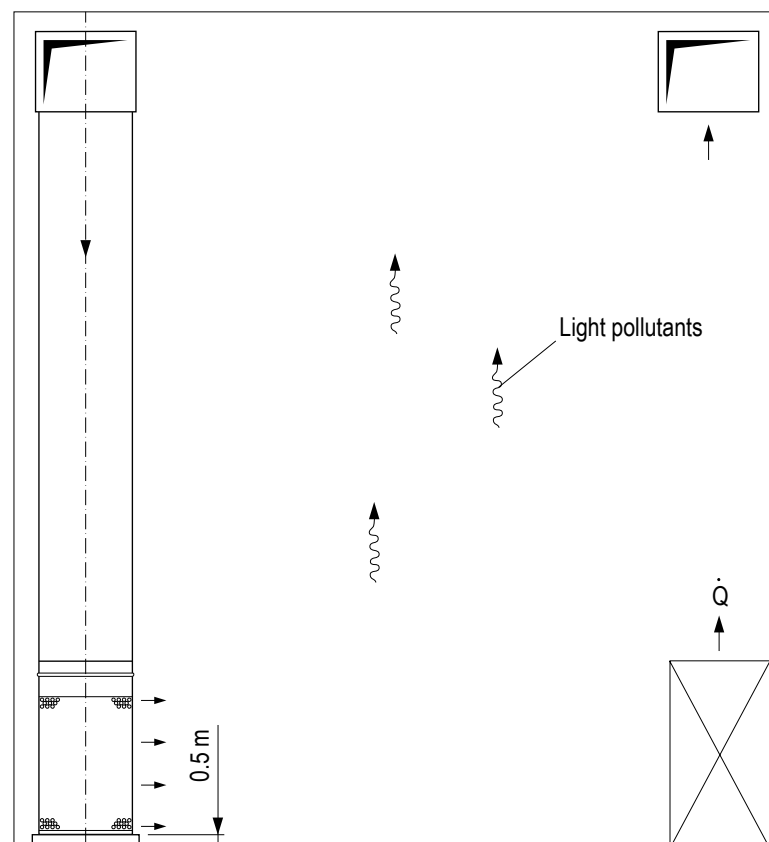
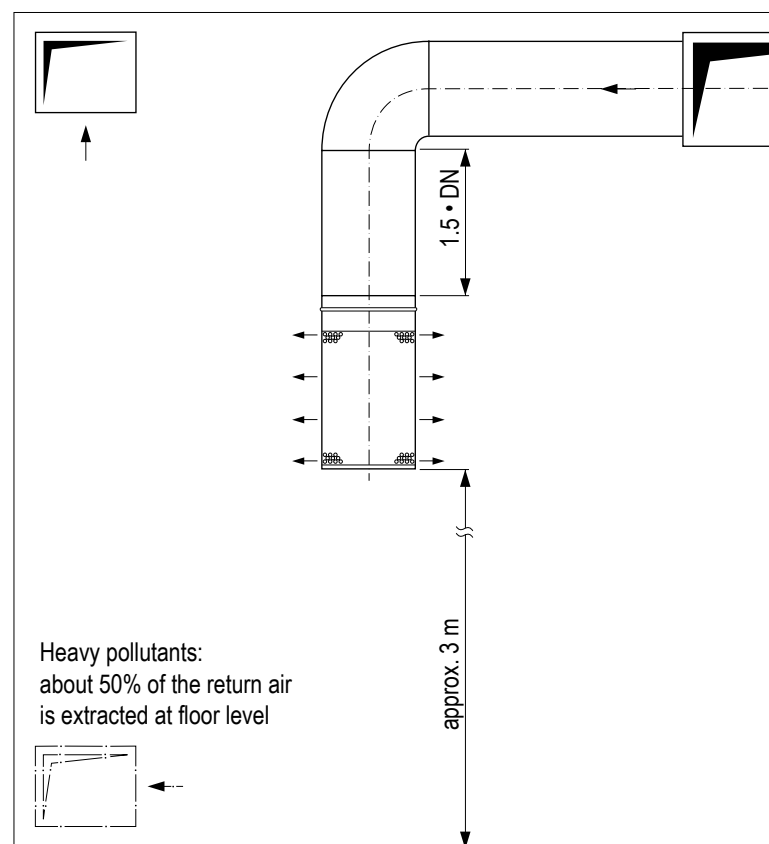
The diffuser can be placed either above the occupied zone or on the floor, anywhere in the room or in front of a wall or pillar.

1 Placement above the occupied zone

In spaces with low specific heat loads or where heavy pollutants are released, the diffuser are best placed above the occupied zone. The air is supplied from above. The recommended discharge height is 3 m (underside of air outlet). The removal of heavy pollutants is facilitated by the extraction of about 50% of the return air at floor level. The purpose of the built-in damper is to adapt the air discharge direction to the cooling or heating mode. In work areas where heat loads vary heavily, the best way of adjusting the damper is using an electric servomotor. In other cases manual adjustment will be adequate, using a Bowden cable or a chain pull which will be operated from the occupied zone.

2 Placement on the floor

This arrangement is best suited either for removing high specific heat loads ($q_v > 120 \text{ W/m}^2$) or where light pollutants are released. The direction of the supply air jets supports the buoyancy forces and helps convey the light pollutants away to the return air ducts. Diffuser can be placed either directly on the floor or on a customer supplied base having a maximum height of 0.5 m. For this arrangement maximum air flow rate is 30% less than for placement at 3 m height. The air discharge direction is usually adjusted manually, using a control lever positioned on the diffuser.



▼ DIFFUSER

▼ ORDERING KEY

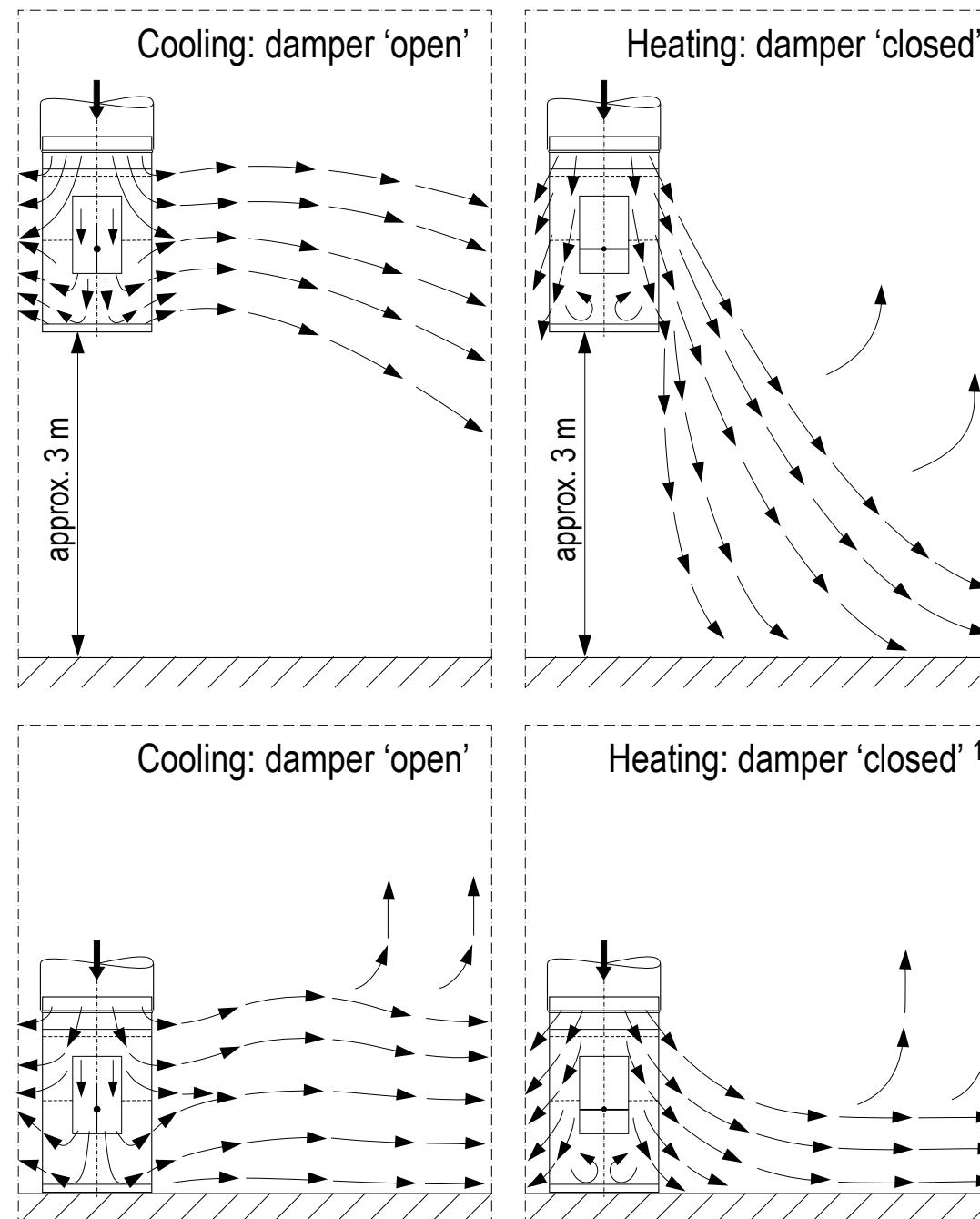


INSTALLATION

AIR JET DISPERSION

Cooling mode: With the adjustable damper open, a partial volume of air gets through the deflection tube to the diffuser bottom where it is deflected before being discharged slightly upwards. This lifts the complete air stream and increases the height of the supply air layer. Whether the diffuser is placed above the occupied zone or on the floor, an even low-turbulence displacement flow builds up around the diffuser, with a large penetration depth into the occupied zone.

Heating mode: In low-turbulence displacement ventilation, if the supply air temperature is above the room temperature (when heating), the discharge flow is affected by more or less strong buoyancy forces; as the supply air starts moving upwards too early it cannot achieve the required penetration depth. The case is different with the Klimaoprema circular displacement diffuser! It's built-in air deflection device enables to offset the buoyancy forces: with the damper closed, the diffuser generates a radial downflow which counters the buoyancy forces of the warm supply air that can thus penetrate deep into the room.





▼ DIFFUSER

▼ ORDERING KEY



Ordering key SD-H

(1)Diffuser (2) Size (3) Actuator (4) Installation (5) RAL

SD-H	-	250x750	-	M24	-	H	-	RAL
------	---	---------	---	-----	---	---	---	-----

(1) Diffuser: **SD-H**

(2) Size: **Ød x H**

(3) Actuator:
M24 - electric actuator AC/DC 24 V
M230 - electric actuator AC230 V

(4) **O** - installation on the floor
H - installation on the wall

(5) **RAL**



ORDERING KEYS



AIR DISTRIBUTION

Images are for informational purposes only and may differ from the actual product.
Follow the latest versions of the catalog on the website.

📍 Gradna 78A, 10430 Samobor, Croatia
☎ +385 (0)1 33 62 513
✉ info@klimaoprema.com
🌐 www.klimaoprema.com