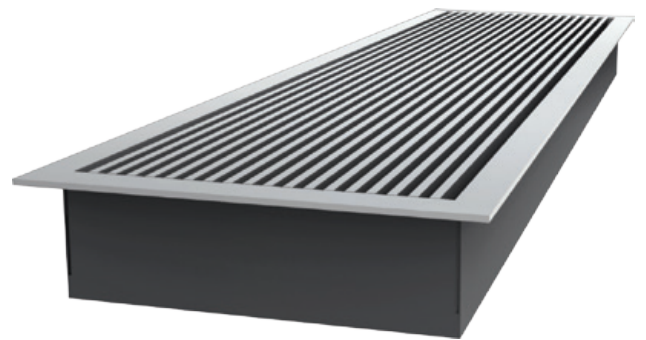


PRODUCT BROCHURE

SMARTEMP[®]
IN COMFORT



Bar Displacement Diffuser

BDF-FD

DESCRIPTION

The SMARTEMP® Bar Displacement Diffuser, type BDF-FD (figure 1), is designed to supply air into rooms with raised floors. Air is spread evenly across a double-layer displacement cassette and oozes out of a heavy duty bar grille with minimal mixing, to produce a low velocity, low level lake of high quality supply air that floods the floor with displacement airflow.

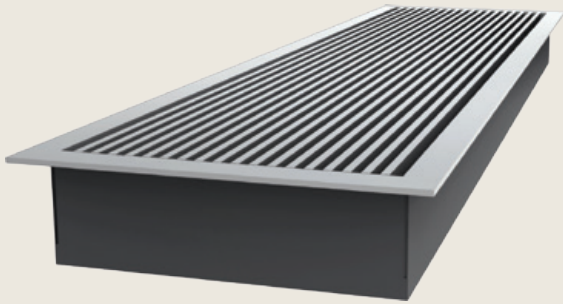


Figure 1

Velocities at floor level are low, to prevent draughts. A low level occupancy microclimate of enhanced indoor air quality is created, in which convective currents from occupants and other heat sources rise upwards, drawing in high quality replenishment air from the occupancy microclimate, to envelope these heat sources in cooler, high quality air.

Heat and contaminants stratify at a high level in concentrated form, where they are removed from the space. Due to stratification of heat, relatively large supply-to-return temperature differentials are achievable – dependent on ceiling height – despite the relatively high supply air temperature (typically 19-20°C).

Return air temperatures of up to 35°C may be achieved. Energy savings also accrue from the extended free cooling range typically achieved by the elevated supply air temperature, as well as from the potential to reduce outdoor airflow rates due to enhanced indoor air quality resulting from the improved ventilation effectiveness of the low level displacement supply.

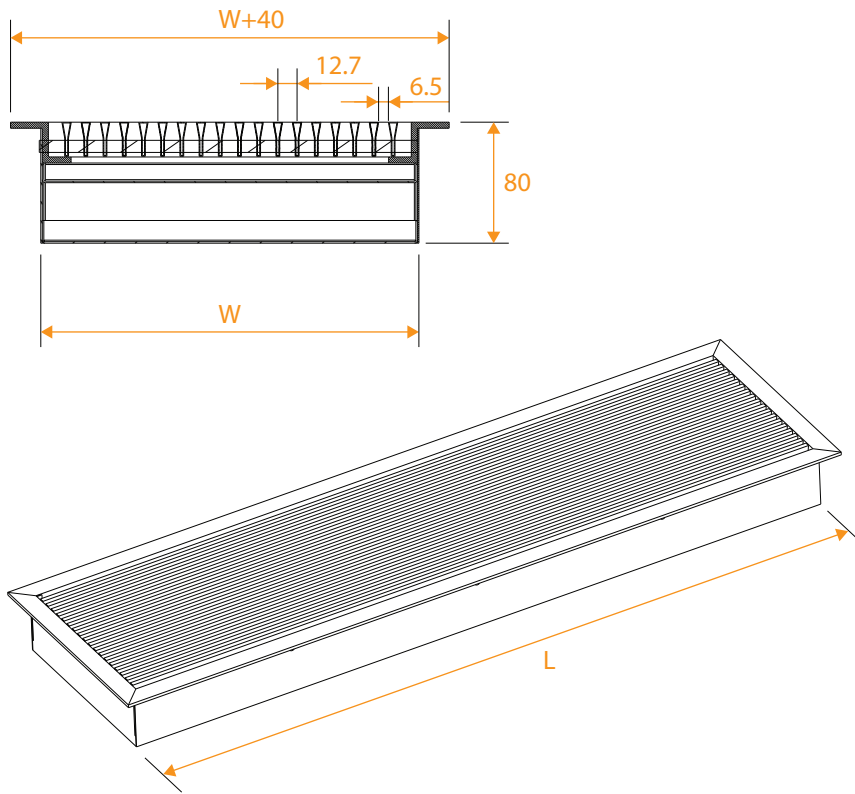


Figure 2

Temperature difference $T_{room} - T_{supply}$	- 1 to -6 K (cooling only)
Coverage	Up to 7 m

TECHNICAL DATA

DIMENSIONS



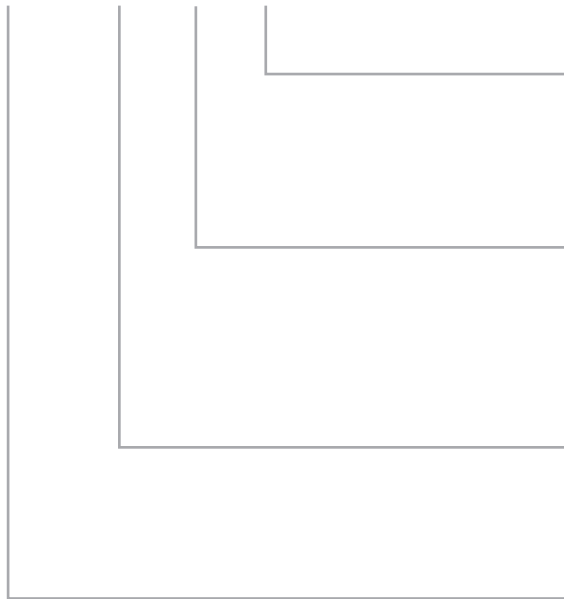
SOUND & PRESSURE

Outlet Width mm	Min Recommended Volume flow L/s/m	Max Recommended Volume flow L/s/m	Total Pressure Loss* Pa	Sound Power Level dB(A)
100	10	30	≈15	<20
200	20	60	≈15	<20
300	30	90	≈15	<20

* The perforation of the displacement cassette will be selected by SMARTEMP to provide a sound power level of <20 dB(A) and a pressure drop of approximately 15 Pa, within a face velocity range of 0.1 – 0.3 m/s.

ORDER DETAILS

BDF-FD-____-____-____



COLOUR OF BAR GRILLE:

- 0 - anodised
- RAL_____

NOMINAL WIDTH:

- 100 mm
- 200 mm
- 300 mm
- Special width

NOMINAL LENGTH:

- 1000 mm
- 2000 mm
- Special length

MODEL:

- Bar Displacement Floor - Fixed Direction

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