

AIRPORT AIR



*Madrid Barajas
Example of combined displacement flow and mixed
flow systems (jet nozzles)*

ALL-AIR SYSTEM: DISPLACEMENT FLOW

Displacement flow systems may be combined with mixed flow systems; they can also be used for situations where small or medium air volumes are required and where only smaller heat loads (e.g. from people or equipment) must be dissipated. If necessary, additional passive cooling systems may be used. Displacement flow systems are ideal in places where maximum comfort is required, e.g. for the airport staff. Low airflow velocities help to keep workplaces free from turbulence while ensuring high room air quality.

Variant: Displacement flow combined with large area heating and cooling systems, e.g. chilled ceilings

Airflow velocity

- Occupied zone, sitting areas and workstations < 0.2 m/s
 - Near zone of displacement flow diffusers (within 5 m) < 0.5 m/s
- Supply air temperature with displacement flow ventilation 20 to 22 °C
Proportional cooling capacity by supply air 20 to 40 W/m²

TROX displacement flow diffusers are available for many different installation situations and in a multitude of forms and appealing designs; they can be aesthetically integrated into existing architectural designs. In fact, special designs have been produced for several airports.

Displacement flow ventilation requires that the supply air temperature is lower than the room temperature. Displacement flow diffusers, which should be installed as close to the floor as possible, supply air to the room such that a supply air pool is created. The convection from people and other heat sources causes the air in this supply air pool to rise. The extract air is then removed above the occupied zone, ideally near the roof.

QL-WR DISPLACEMENT FLOW DIFFUSER, CIRCULAR, WITHOUT DUCT COVERING



The QL displacement flow diffusers with their special air distribution nozzles are characterised by an excellent, uniform velocity profile and a smaller near zone.

10 – 430 l/s
36 – 1,545 m³/h
Ø 200 – 630 mm
H: 600 – 2,000 mm

QL-WV DISPLACEMENT FLOW DIFFUSER FOR WALL INSTALLATION, 90° CONSTRUCTION FOR

CORNERS, WITHOUT DUCT COVERING



10 – 411 l/s
36 – 1,481 m³/h
B: 190 – 450 mm
H: 600 – 1,500 mm

TROX GmbH



Heinrich-Trox-Platz
D-47504 Neukirchen-Vluyn
Tel.: +49 (0)2845 202-0
Fax: +49 (0)2845 202-265

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