



Displacement Ventilation Systems

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Engineered Solutions

Introduction

One of the UK's leading manufacturers and distributors of heating and ventilation systems, Price TWA works with architects, M&E consultants, building and heating contractors and facilities managers, to design, develop, supply and install high quality solutions to meet the specific needs of individual projects.

With over a decade's experience, our products and systems are proven in projects across a wide range of applications and sectors in both the public and private sector. From health to retail and education to commercial offices, our systems feature in both new-build and refurbishment projects throughout the UK.

We manufacture a wide range of systems under the Price TWA brand, supplemented by products drawn from some of Europe's leading manufacturers – including Vent Axia and KE Fibertec – allowing us to provide high quality yet cost-effective solutions for a host of applications.

For more details about any of these products please contact your local distributor or visit www.pricetwa.co.uk.

As well as a wide range of Displacement Systems, our range also includes:

- / Radiant panels
- / Natural ventilation products
- / Fabric ducts
- / Kitchen ventilation
- / Fans
- / CAV and VAV systems
- / Grilles and diffusers



Displacement Systems

Displacement Systems are particularly suitable for the ventilation and cooling of large internal spaces, such as high-ceilinged offices, halls and exhibition venues.

Displacement systems operate on the basic principles of convection. The systems deliver cool air directly into a building, introduced through floor terminals or other diffusers at low velocity, to cause minimal induction and mixing. This cool air flows smoothly and evenly across the floor. Heat sources within the room (computers, people, lighting etc) then force the warmer air to rise to a higher level, where it is exhausted through outlets (such as grilles) taking with it any contaminants that have been collected and so keeping the air supply within the room clean.

As the displacement units are provided at low level, a considerable vertical temperature gradient occurs naturally between the floor and the ceiling.

Designing with Displacement Systems

Price TWA offers a free design service for large projects, with our team of engineers able to offer advice on the most appropriate systems to meet specific performance, location and budget requirements.

In essence, a Displacement System operates on simple convection principles with cool air being introduced to a building, rising through the internal space and being vented at a higher level. As with any system, the design objective is to create an environment which delivers the optimum level of comfort to a building's occupants, cost-effectively.

Because of the system's operation, the temperature gradient rises upward, although the difference between floor and ceiling level may not be dramatically different.

Our design engineers are able to advise on each of these key factors and suggest the most appropriate inlet and outlet locations as well as the individual components necessary to achieve the desired levels of comfort.

Displacement System Applications

Displacement Systems are appropriate for a wide range of applications. Their ability to exhaust contaminated air quickly and efficiently, as well as to optimise the available cooling capacity by only treating the living zone, makes these systems particularly attractive for relatively large spaces.

Consequently, Displacement Systems are in widespread use in the industrial, health, education, leisure, retail and exhibition sectors. The systems are also being increasingly used in offices, where it offers high levels of comfort for occupants, cost-effectively.

Benefits of Displacement Systems

- / Highly efficient system for the ventilation and cooling of large areas
- / Focused directly on occupied areas, rather than trying to control whole building spaces
- / Reduced energy consumption
- / Reduced carbon footprint
- / Improved internal air quality
- / Improved thermal comfort

The key determinants when looking at a displacement system are:

- / the cooling load of the room
- / the determination of the required volume of air supply
- / the vertical temperature gradient

Displacement Systems

With a comprehensive range of systems, we offer a broad selection of displacement diffusers for both commercial and industrial applications. Our systems provide high levels of comfort and ventilation efficiency whilst at the same time, delivering quiet and economical performance.

Our products and systems are available in a wide range of sizes and options – suitable for a wide range of project and performance needs. To discuss specific project requirements, or for more information on our full range of displacement diffusers, please contact our technical support team.

Industrial Displacement Diffusers

These systems are available in a wide range of size and format options and are suitable for both constant and variable volume installations. Manufactured in galvanised steel, the units are finished in white, half matt powder coating.

Square Cabinet Displacement Diffusers

These cabinet diffusers are available in a range of size options and have been developed for applications where a large flow capacity is required (up to 3.5m³ per second). The exhaust pattern of the system is designed for both free standing (four-way) or wall or column mounting (three-way) and features a round top connection.

Flat Cabinet Displacement Diffusers

Flat cabinet-style diffusers, these models offer high capacity performance – up to 1.25 m³ per second. The units may be free standing or wall mounted to give a four- or three-way exhaust pattern.

Flush Fitting Displacement Diffusers

These flush fitting units are available in a range of height, width and depth options to suit wall, ceiling and flush fitting applications – a mounting frame is supplied for flush fitting. The units have a capacity of 1.25m³ per second.

Comfort Displacement Diffusers

This range is available in a number of size and format options to suit different locations and for both constant and variable volume installations. Except where indicated, these units are manufactured in galvanised steel, the units are finished in white, half matt powder coating.

Displacement Diffusers

Our range of displacement diffusers includes products for a wide number of locations and formats, including:

- / Wall mounting
- / Ceiling mounting
- / Flush fitting
- / Free standing
- / Cabinet
- / Rectangular
- / Half-round
- / Quarter round (for corner mounting)

We are also able to develop bespoke units to suit particular requirements; please contact our technical support team.



Rectangular, Wall Mounted Displacement Diffusers

These rectangular units are designed for ceiling or wall mounting and are suitable for top connection. Supplied with a flush fitting volume measurement valve, the units have a capacity of 1.25m³ per second.

Arch Shape, Wall Mounted Displacement Diffusers

These units feature an arch-shaped design, making them suitable for either wall or ceiling mounting, have a side connection outlet and a flush fitting volume measurement valve.

Round, Free Standing Displacement Diffusers

As they are free standing, the exhaust pattern and working area of these round units may be adjusted to suit the particular environment in which they are located.

Half Round Wall Mounting Displacement Diffusers

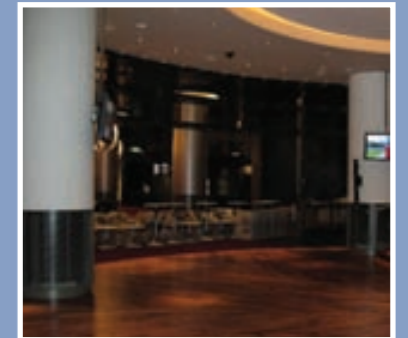
The half-round units have a capacity up to 1.5m³ per second, are designed to be fitted to a wall or column and have a top connection outlet as well as a flush fitted volume measurement valve.

Half Round Wall Mounting (Slim) Displacement Diffusers

These stylish, half round units are available in a number of size options and are suitable for wall or column mounting, with a side connection to the front or back. With a slim design and capacity of 0.2m³ per second, the units are particularly suitable for public spaces, for example office reception areas.

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Quarter Round Corner Mounting Displacement Diffusers

These units are designed for mounting in corners and feature a top connection, a flush fitting volume measurement valve and a capacity up to 0.6m³ per second.

Flush Fitting Wall Mounting (prefab buildings) Displacement Diffusers

These units are available in a range of size options and are particularly designed for flush fitting into the walls of prefabricated buildings. Featuring a top connection outlet, the units have a capacity up to 0.175m³ per second.

Round, Floor Mounting Displacement Diffusers

With a bottom connection, these diffusers are designed for mounting directly onto floors and feature a replaceable, flush fitting filter. As well as typical industrial applications, this unit is ideal for use in discrete areas, for example under chairs in theatres or cinemas.

The units are manufactured in galvanised steel with a black, half matt powder coat finish.

Swirl, Floor Mounting Diffusers

These diffusers are designed for use in raised access floor air distribution systems, where the floor cavity is used as a pressurised supply air plenum. The unit's design produces a low velocity, helical air discharge pattern as well as high induction rates of room air to optimise air circulation.

The units are manufactured in grey or black polycarbonate.

Round Floor Mounted Diffusers

These round diffusers are designed specifically for installation within raised modular floor systems which are commonly found in modern commercial buildings. With a perforated plate, the units feature a polished stainless steel case and mild steel basket and have a flow capacity up to 0.055m³ per second.

Computer Floor Diffusers

These diffusers are also designed for installation within modular raised floor systems – particularly computer floors – and are suitable for most jack support systems.

Capable of bearing a medium load, the units feature extruded, brushed aluminium bars and a mild steel damper.

Displacement Systems

Square Cabinet Displacement Diffusers
Ref DTKC

Flat Cabinet Displacement Diffusers
Ref DTRC

Flush Fitting Displacement Diffusers
Ref DTRI

Rectangular, Wall Mounted Displacement Diffusers
Ref DTBC

Arch Shape, Wall Mounted Displacement Diffusers
Ref DTBR

Round, Free Standing Displacement Diffusers
Ref DTCP

Half Round Wall Mounting Displacement Diffusers
Ref DTHC

Quarter Round Corner Mounting Displacement Diffusers
Ref DTVC

Flush Fitting Wall Mounting (prefab buildings) Displacement Diffusers
Ref DTIR

Round, Floor Mounting Displacement Diffusers
Ref DTCC

Swirl, Floor Mounting Diffusers
Ref RFB

Round Floor Mounted Diffusers
Ref FPC

Computer Floor Diffusers
Ref WPC

Services

Our dedicated technical and product support teams offer a comprehensive range of services – from application analysis, product advice and design, through to scheduling supply. If required we also offer a complete installation and maintenance service through our national network of specialist engineers, enabling us to take responsibility for the whole life of our products.

With an extensive product range we are able to offer standard solutions for the vast majority of applications. However, we are also able to draw on our design and development capability to develop bespoke solutions, including control systems to meet particular application requirements.

For more information on our Displacement Systems, or to discuss specific project requirements, **please contact your local distributor.**

Testing

All Price TWA panels are independently tested.

For more information, or copies of relevant test certificates, **please contact our technical support team or visit our website www.pricetwa.co.uk.**



Local Distributor

For more information our range of products and systems or our technical design and support services, please contact us.

Price TWA

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Displacement Systems
are particularly suitable for
the ventilation and cooling
of large internal spaces,
such as high-ceilinged
offices, halls and
exhibition venues