

HVAC News

AMBIRAD **AIRBLOC** **NORDAIRNICHE** **BENSON**

» Nordair Niche Showcase Product

IDF BDX - Gas Fired Combined Heating & Ventilation.

» Free Ventilation

Proper ventilation is essential to maintaining good air quality in any environment.

» Train Care Depot Heating

Application Guide - help to reduce operating costs & improve comfort and safety within designing, building, refurbishing or maintaining train care depots.

» Case Study: Bombardier Transportation

Ideal Nor-Ray-Vac solution for the Train Maintenance Facility in Derby.

» Christmas & New Year

Details on Opening Hours and Delivery Dates.

» Movember

Our contribution to raising money and awareness for the Charity that support men in leading healthier, happier and longer lives.

» Additional News

Staff news, Audits, Social media.....

» Nordair Niche Product

IDF BDX - Gas Fired Combined Heating & Ventilation

IDF BDX and BDX indirect gas fired units combine heating, ventilation and cooling with the aid of an external air source heat pump.

Designed to sit on existing roof footprints to make installation easier, the units offer a cost effective solution to replacing R22 refrigerant and the split system unit gives greater flexibility.

Model Range

- » Airflows from 0.56m³/s to 5m³/s
- » Close temperature control
- » Plug fans to meet latest ERP
- » VAV variable air volume
- » Optional modulating in direct gas fired burners
- » Optional electrical element
- » Optional LPHW coil



» Free Ventilation

Proper ventilation is essential to maintaining good air quality in any environment. There's no excuse for poor air circulation, especially since, when integrated with the heating system, ventilation is free.

In commercial buildings, good ventilation will keep bad odours, irritating pollutants and potentially harmful gases like carbon monoxide at bay. Plus, it prevents the formation of mould and/or mildew, which is vital for employee health and building hygiene – especially important when in a kitchen or food processing environment.

When production processes get underway, air quality can quickly deteriorate. Raised levels of indoor air pollution may reduce productivity, as well as having negative effects on the comfort of the building's occupants. Certain industries are prone to airborne particles that can make life very unpleasant. Automotive manufacturing processes, for example, produce oil haze that hangs in the air. In other industries, chemical processes may generate foul vapours.



The use of chemicals or other hazardous substances at work can put people's health at risk. Diseases including asthma, dermatitis or cancer can result from poor ventilation. The COSHH (Control of Substances Hazardous to Health) regulations require employers to control substances that can harm workers' health. As a minimum, 'a good standard of general ventilation and good working practice' is required. For very hazardous substances, extract ventilation is often required, but a good level of ventilation that will maintain air quality can be achieved easily and cheaply – and without the need for additional equipment – through the heating system.

Combined heating and ventilation solutions have been on the market for many years. The technology has been developed to the point that they now offer optimum energy efficiency while improving air quality.

**Energy Efficient
Solutions**

» Free Ventilation Continued

These systems rely on a degree of fresh air intake to operate. Nordair Niche direct and indirect gas-fired units, for example, provide both fresh and warm air in the building. Direct fired units work on a patented air recirculation system which supplies the amount of fresh air required to meet the changing requirements of the building, while maintaining a constant supply of fresh air into the burner.

When fresh air is required, ventilation is quickly achieved as the dampers automatically adjust to provide the required amount of tempered outside air. The effect is almost instant as the fresh air is distributed evenly around the building.

Since fresh air is delivered faster than it can escape by natural ventilation, these units slightly pressurise the air inside a building. Pressurisation causes the air to distribute evenly throughout, eliminating temperature stratification or 'cold spots' and ensuring every part of the building is usable at all times. Once optimum conditions have been reached, the system modulates the fresh air input and utilises up to 80% re-circulated air for maximum economy.

When temperatures within the building change, a combined heating and ventilation system can respond very quickly, soon returning the interior to comfort conditions. Heat recovery is fast becoming the norm for such ventilation systems, reducing both running costs and harmful CO₂ emissions into the atmosphere.

This method of heating and ventilating premises does not require duct work and is ideal for buildings requiring summer ventilation and regular air changes to maintain good air quality.

A modulating burner and damper system, controlled electronically, ensures full co-ordination of the heating and ventilation functions. Between 20% and 100% fresh air may be utilised together with up to 80% re-circulated air. The 80/20 operation ensures excellent performance and low emissions.

» Bespoke Solution

McDonald's Restaurant's Ltd were looking to create a comfortable environment for customers through a more energy efficient heating, ventilation and cooling system. The new Air Handling Unit from Nordair Niche is used for cooling, heating and ventilation and resulted in McDonalds Restaurants Ltd cutting their running costs by over £4500 for each site, whilst reducing their carbon emissions significantly. The fast food giant also saw a massive 35% reduction in energy consumption across 250 UK restaurants following the installation of the Air Handling Unit developed by manufacturers Nortek and Mitsubishi Electric.

Dave Holden Project Manager for McDonalds said "It is commercially critical for us to operate effectively all year round. Our customers expect McDonald's to have a comfortable internal temperature and the ability to offer that, reliably and consistently, is part of our relationship with customers." He added "When we started looking at replacing our air conditioning equipment we quickly realised we needed a bespoke system. We were coming at this with very specific requirements and off-the-shelf systems didn't satisfy the need."

The innovative solution combined Nordair Niche's IDF Air Handling Units with Mitsubishi Electric's Air Source Heat Pumps which were controlled by a building Energy Management System to achieve maximum operating efficiency. Following an initial trial in two restaurants, the results were impressive and saw an annual saving of £4,515 per year and on average 20 tonnes less CO₂ emitted. The solution was designed to accommodate a variety of standard sized Air Handling Units

previously installed so that the replacement solution could be rolled out across all restaurants.



» Train Care Depot Heating

This guide aims to help those responsible for designing, building, refurbishing or maintaining train care depots, to reduce operating costs and improve comfort and safety, by introducing cost-effective energy efficient heating into their premises.

Whether it is a train maintenance shed, bogie drop or wheel lathe shed, considerable energy resources can be expended on delivering an adequate solution to providing comfort in these traditionally hard to heat environments. This guide advises on the selection, design and operation of the most appropriate heating system.

AmbiRad has substantial experience having heated train depots across the whole of the UK.



AMBIRAD
HEATING AND VENTILATION SOLUTIONS
Application Guide
Train Care Depot

AMBIRAD AIRBLOC NORDAIRNICHE BENSON

» Requirements of the building

The ways in which train care depots are utilised, often intermittently and at irregular time intervals, make the efficient use of energy extremely difficult. Therefore, consideration must be given to selecting a heating system that offers flexibility of operation at optimum efficiency.

The following represent some of the prime considerations when assessing the impact of any heating solution in a train care environment:

- » Train maintenance sheds are invariably very long and narrow with large constantly opening doors at each end, thus notoriously difficult to heat and even more difficult to keep warm.
- » The doors often occupy the full width of the building and may be left open for many hours a day, thus creating a wind tunnel effect and cold air at high velocity is drawn through the shed. This means that air infiltration can severely disrupt comfort conditions within the interior. A heating system needs to be able to sustain a comfortable environment in these conditions and especially provide rapid recovery once the doors are closed. Air curtains over or to the side of the doors, either ambient or heated can mitigate the issue of air infiltration at the doors.
- » Maintenance is frequently carried out at night thus compounding the inhospitable climatic conditions and with partial occupation, it is therefore important for efficient use of energy, that the heating system can be easily and effectively zone controlled.
- » The mass of a train is considerable, thus when a cold and wet train enters the shed it creates a cold sink, the heating system needs to be able to provide rapid response to changed conditions.

**Energy Efficient
Solutions**

» Case Study Bombardier Transportation - Derby

"Its thermal enclosure means it will be energy-efficient, the roof-light panels will provide plenty of natural daylight and the building itself will be very low maintenance"

Says CPMG Project Director Paul Bodill

In early 2014 Transport for London (TfL) confirmed they had signed a contract with Bombardier Transportation for the delivery of rolling stock for Crossrail; covering supply, delivery and maintenance of 65 new trains.

The new trains will be manufactured & assembled at Bombardier Transportation's plant in Derby with the first due to be delivered in May 2017, thus supporting 760 UK manufacturing jobs and 80 apprenticeships with an estimated 74% of contract spend remaining in the UK economy.

Nottingham-based architect firm CPMG has produced the design of the £12.5m Bombardier Transportation facility; the design of the 10,400m² building features a 250m-long testing hangar for up to 4 complete trains and office space for up to 90 staff.

CPMG project director Paul Bodill said **"The building allows for newly built train carriages to be fully assessed in a safe environment before they commence commissioning and entry into service."**

Keeping energy efficiency in mind, with large, constantly open doors, train maintenance sheds, factories and other rail facilities are notoriously difficult to heat and even more difficult to keep warm. With the added heating of the platforms and a requirement for low maintenance energy efficiency the Nor-Ray-Vac continuous gas fired radiant tube heating system was ideal.

The installation of the Nor-Ray-Vac system will avoid the significant wasted energy associated with heating vast internal spaces suffering from fluctuating temperatures – perfect for contemporary rail sheds. The system design layout at this proposed building provides heat along each platform between the trains, which has an estimated fuel saving of 40% over equivalent warm air systems.

AmbiRad worked exclusively with Emeg Electrical contractors who were selected by the main contractor Balfour Beatty, on the radiant design. A total of 40 x 46LR burners suspended at 7.8m above the platforms, with 6 flued discharge points being chosen and arranged in 5 branches across the width of the train facility, providing 10 operational temperature zones.

The design of the burner/system along each walkway is



arranged to allow optimum zoning capabilities, both for client operational flexibility to minimise running costs and to ensure the capability of being able to rapidly respond to changed conditions. Nor-Ray-Vac radiant

tubes are designed to focus all their heat exactly where it is needed - at the lowest two metres of the building. Personnel feel comfortably warm at all times, while the intense chill is taken off the trains preventing the build-up of potentially hazardous condensation.



Paul Bodill
CPMG
Project Director

» Installation Summary

- » Bombardier Transportation in Derby invested in a Nor-Ray-Vac continuous Radiant Tube heating system for their train maintenance facility.
- » Flexible heating.
- » Heating along each platform has an estimated fuel saving of 40% over equivalent warm air systems.
- » Zoning capabilities produces considerable fuel economies and cost reductions.

» Technical Summary

- | | |
|---------------|---|
| » Product | Nor-Ray-Vac system installed suspended at 7.8m above the platforms. |
| » Heaters | 40 x 46LR Nor-Ray-Vac burners in 10 operational temperature zones. |
| » Controllers | AmbiRad SmartCom ³ |
| » Dimensions | 10,400m ² building featuring a 250m-long testing hangar. |

**Energy Efficient
Solutions**

» Christmas & New Year at Nortek Global HVAC UK

Customer Services Opening Hours

Friday 18th December:

08:30 - 12 noon

Mon 21st - Weds 23rd December:

08:30 - 5PM

Closed:

Thur 24th December until Monday 4th January



Orders & Deliveries

Friday 18th December:

Please note the Spares cut off will be 10:30 due to the office closing for the Christmas party; apologies for any inconvenience caused during this time.

Heaters:

Last collection date Wednesday 23rd December for delivery Thursday 24th December (Local areas only / before 12 noon)

Spares:

Last collection date Wednesday 23rd December for delivery Thursday 24th December (Before 1PM)

Heaters & Spares:

Last collection date Wednesday 23rd December for delivery Monday 4th January 2016.

Merry Christmas

We would like to Thank You for your continued business throughout 2015 and wish you a very Merry Christmas and a Prosperous New Year.

**From All of Us at
Nortek Global HVAC UK**



**Energy Efficient
Solutions**

AMBIRAD AIRBLOC NORDAIRNICHE BENSON



Merry Christmas
&
A Happy New Year

S. Lab
D. Fox
J. Guest
D. Garvey
T. Griggs
N. Winton
G. Fox
C. Jones
I. Halley

» Movember

We would like to thank all our members of staff who took part in Movember; we managed to raise a huge **£636.41** in the UK and a massive **\$1860.00** in the US!

The Movember Foundation is a global charity committed to men living happier, healthier, longer lives. Since 2003, millions have joined the men's health movement, raising £402 million and funding over 1,000 projects focusing on prostate cancer, testicular cancer, poor mental health and physical inactivity.

The money raised helps to fund over 1,000 related projects in over 21 countries so every penny raised is going to such a worthy cause.

Below are a few photo's of those who took part:



We are fighting Prostate Cancer:

- » Deepen the worldwide knowledge of prostate cancer through research.
- » Trial and implement ways to improve the lives of men from diagnosis through to treatment, decision-making, active recovery and wellbeing.

We are fighting Testicular Cancer:

- » Deepen the worldwide scientific understanding of testicular cancer and its treatments and outcomes.
- » Provide proactive support to men and boys affected by testicular cancer and their families.

We are helping men be mentally healthy:

- » Develop successful, scalable models to improve the mental health and wellbeing of men.
- » Challenge the negative aspects of masculinity and the impact this can have on mental health.

We are helping move physical inactivity:

- » Getting people moving. This year we're launching MOVE, a 30-day campaign to encourage physical activity.
- » Investing in projects that increase our understanding of what works to change men's behaviour and help them move more.

We aim to encourage and educate all men on all the above issues thus raising awareness of the dangers to mens health.

» Additional News

Staff update:

- » Kevin Hartshorne has been appointed to the role of European Sales Manager with effect from 1st of January 2016. Kevin joined Nortek Global HVAC to support the Reznor Sales Team 12 months ago and has worked in a number of areas across the European HVAC business.
- » Benjamin Baker is a new addition to the Sales Admin Team.
- » Maria Essl is now Service Team Leader.



Service Vans:

Keep a look out for our new Service Team Vans.



ISO9001 Audit

Recently, Nortek Global HVAC (UK) Ltd successfully passed through its three-year renewal audits with LRQA, with regards to its certification to ISO9001 and the Gas Appliance Directive. As usual, few issues were raised showing that our Quality systems are strong and healthy.

Training is paramount within the business and recent successes have involved the acquisition of NEBOSH General in Safety for one of our Safety Team and additional welder training for our team of fabricators.



» Social Media



For more Company updates on new products, ongoing projects and case studies, new appointments and any future developments please follow us on Twitter, LinkedIn or G+



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