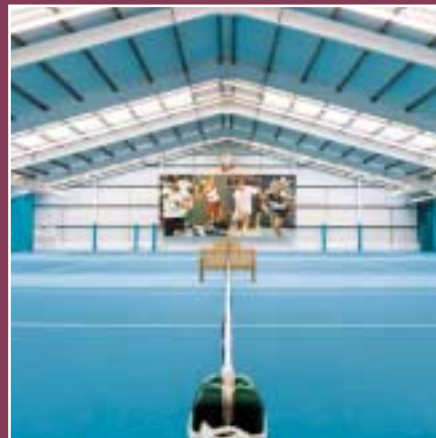
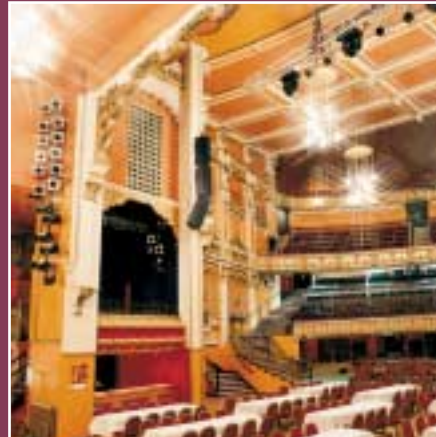


A PRACTICAL GUIDE



HEATING SPORTS & LEISURE FACILITIES

Reznor

SPORT AND LEISURE HEATING

WARM AIR HEATING- A BRIEF DEFINITION

Warm air heating is the transfer of energy by means of convection. Air is heated either directly or indirectly and mechanically circulated around the environment. It is a flexible solution that can be applied to meet the requirements of all types of commercial premises, whether the requirement is:

- Heating only
- Heating and ventilation
- Heating and cooling
- Summer ventilation
- Full fresh air or re-circulation or a combination of fresh and recirculated air



REZNOR - TOTAL CAPABILITY

With over 100 years experience Reznor has developed a reputation as a specialist in the design and application of warm air heating and ventilation systems. It offers:

- The widest range of heating, ventilation and comfort cooling products for all industrial and commercial premises.
- A customised approach to providing engineered solutions that precisely meets customer's requirements.

APPLICATION CONSIDERATIONS

Although each application presents its own unique challenges, by experience Reznor has found the key factors that typically affect sports and leisure buildings are:

- They are generally well insulated, low-energy environments that require even heat distribution.
- Prestigious buildings may require a heating system that offers favourable aesthetic integration.
- Environments should be free from draughts and excessive noise.
- Statutory ventilation requirements may determine the need for make-up air, summer ventilation or sometimes cooling.
- Maintenance disruptions should be minimised.
- Constant year round comfort conditions need to be maintained by effective control of the heating system.
- Specific environmental considerations may need taking into account such as, for example, the effects of condensation in swimming pools.

The company's mission to continue to develop leading edge solutions and to provide customers with greater economies reduced overall consumption and environmental comfort.

The sports and leisure industry in particular has benefited from Reznor solutions. This publication outlines the typical heating requirements of sports and leisure buildings in particular, Swimming Pools, Sports Halls, Gymnasiums and Theatres.





THE REZNOR DIFFERENCE FOR CONSULTANTS

- Satisfaction guaranteed. To assist in the delivery of a tailor made solution to precisely meet the end users needs, Reznor is happy to work in partnership with consultant design teams.

Advice and assistance is offered from initial concept through to project completion. Typically this could involve advice with project design by offering both a preferred and a base-working scheme, the provision of installation drawings showing mechanical and electrical requirements and assistance with heat loss calculations and heater layouts.

- Good aesthetics. Reznor solutions - in particular Air Mixing® and Novojet® air induction systems perfectly complement the fabric of most buildings thereby ensuring compliance with building aesthetics.
- Competitively priced high quality solutions. Recognising the increasing downward pressure on profit margins Reznor solutions deliver a quality result and enable realistic profit margins to be sustained.

APPLICATION EXPERTISE

The potential for Reznor products within sports and leisure environments is extensive. Listed below are a few examples of recent installations:

- Isle of Wight Bowls Club
- Plymouth Health and Racquet Club
- Sunderland Leisure Club
- Diss Bowls Club
- Ludgrove School - Gymnasium
- Mumbles Pier Swansea
- Punches Town Racecourse
- Salisbury Hospital - Staff Club leisure complex

Reznor have also developed considerable expertise in other sectors of industry and commerce, notably, retail and warehousing, civic buildings, large commercial premises such as aircraft hangars, production process and manufacturing facilities.



SOLUTIONS IN APPLICATION

SWIMMING POOLS AND LEISURE CENTRES

Background

A new leisure development that demanded fast even distribution of ducted air whether heated or conditioned.

Additional consideration was required for:

- The specific operational parameters peculiar to swimming pools. Not least of all condensation that makes tiled surfaces slippery and the absorption of chlorine vapours that turn into a weak acid capable of degrading metal, glazing and paint work.
- 24 hour user comfort.
- Compliance with building aesthetics.



PRODUCT PROFILE

Air Mixing®

An innovative duct system available in a selection of colours to complement building aesthetics. Samples of yellow and white are shown in the application pictures on this page.

Manufactured from a fire resistant coated fabric and specially treated against dust, U.V. rays and acid vapours for guaranteed stability.

Incorporating a large number of computer designed nozzle outlets along its length that are matched to the exact requirements of the building. The nozzle pattern provides a very evenly diffused distribution of warm air.

Compared to conventional metal duct systems air mixing is extremely light and permits the use of smaller duct diameters. Thereby reducing the weight on the building structure.

Solution

- Air mixing induction system with a perforated duct installed along the length of the pool area. Air passes through the ductwork at high speed to produce an immediate mix with room air without turbulent motion or stratification.
- Euro T 2000B room sealed gas fired unit heater equipped with a high quality centrifugal fan providing good air distribution at low noise levels.

Benefits

- Uniform temperature maintained throughout the facility.
- Enhanced safety - condensation on cold surfaces has been eliminated.
- Maintenance free ductwork that is also fire proof, dust repellent and resists deterioration from UV rays and acid vapours.
- Cost savings. Installation costs were three times less than a standard metal ductwork system.



In terms of installation Air Mixing® provides contractors with:

- An easier installation. The system was supplied as a complete unit thereby eliminating any requirement for fixing constituent components. Furthermore it is extremely light weight.
- Faster assembly. It can be installed in a matter of hours.
- Easier delivery. No long pieces of trunking to contend with, ducts can be simply folded into a neat and tidy package.

SPORTS HALLS AND GYMNASIUMS

Background

New multi-purpose sports complex comprising a main sports hall, ancillary hall, fitness suite and a changing / shower area. Used by students, recreational groups and the general public the requirement was for a heating system that:

- Effectively maintains comfort temperatures in all areas of the building.
- Needed minimal sheet metal and avoided the use of grilles and diffusers.
- Operated efficiently to ensure optimum running costs were achieved.
- Blended un-obtrusively with building aesthetics.



PRODUCT PROFILE

Room Sealed Unit Heaters

Reznor has pioneered the development of room sealed separated combustion technology, eliminating "open flame" combustion problems. This has been achieved by completely separating the combustion process from the heated space. This concept offers significant benefits, notably

Solution

- Air mixing ducted air distribution system consisting of a special perforated ductwork through which air is forced at high speed to produce an immediate mix with room air.
- T 2000E fully automatic room sealed gas fired unit heater. Providing both high thermal efficiencies (Up to 91% net CV) and high seasonal efficiencies.
- Energymizer control panel allowing local temperature adjustment, monitoring and system override by sports hall staff.

Benefits

- Uniform comfort temperature maintained throughout the facility without turbulent motion or stratification.
- The cost efficiencies of indirect gas-fired heating coupled with programmable options enable optimum running costs to be maintained.
- An aesthetically pleasing solution providing high level heat distribution.



- Higher thermal efficiencies up to 91% net CV.
- Higher seasonal efficiencies
- Improved reliability
- Lower installation costs

SOLUTIONS IN APPLICATION

THEATRES

Background

Former prestigious building required substantial restoration and upgrading to reflect its original Edwardian splendour. A new heating system was needed that would replace the existing inadequate hot water fed radiator system, ensuring comfortable conditions for theatre visitors whilst at the same time achieving compliance with building aesthetics.

Solution

- Two roof mounted Europak RPV gas-fired warm air heating units with full fresh air ventilation capability.
- Novojet air distribution nozzle system to maintain precise air movement and control.



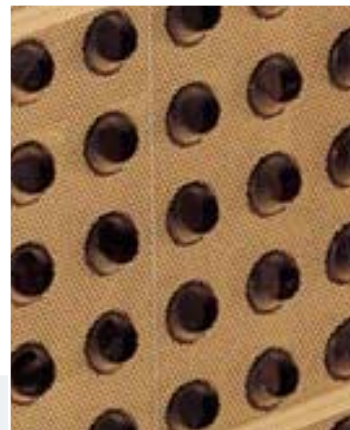
PRODUCT PROFILE

Roof Top and Packaged Units

High efficiency heating, ventilation and comfort cooling. Units are delivered ready to install to ductwork and to be connected to gas and electrical supplies thereby helping to minimise installation time. Microprocessor energy controls are an available option to further optimise fuel economy.

Benefits

- Uniform comfort temperature maintained throughout the facility without stratification or cold spots within the theatre.
- An aesthetically pleasing solution. All ductwork was brought into the building behind the Royal boxes, minimising internal visibility.
- Cost savings - Both operational and installation. Europak units have thermal efficiencies of up to 91% (net CV) thereby helping to optimise operating costs. The ease of installing the Novojet distribution system helped to minimise installation costs.



Novojet®

Novojet® induction nozzles may be applied either as large groups on plenums, or may be spaced out along a conventional duct work system. The nozzles induce large volumes of secondary air thereby achieving very good air mixing and long air throws.

Details of the full range of Reznor heating solutions, are available on request, including:

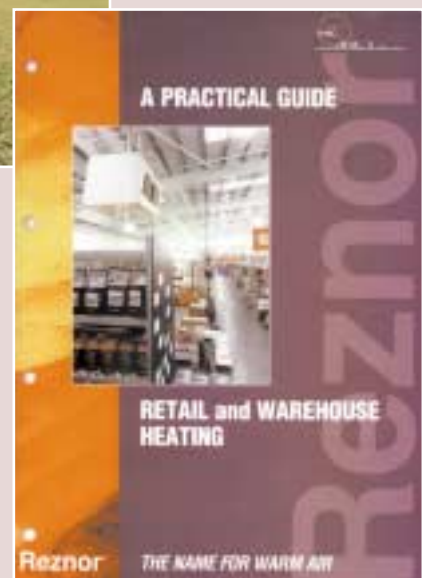
Gas Fired Unit Heaters

Simple low cost, reliable heating solutions that can be tailored to suit individual installation requirements. Energy management controls enable fuel economy to be optimised.

High Efficiency Condensing Unit Heaters

Where energy efficiency, environmental control and fast pay back are paramount ECCO 5000 is the answer. It offers exceptionally high efficiencies (100% gross CV), precise comfort control and ultra low emissions (below 20ppm on low fire).

Both are suitable for use in all sports and leisure environments. For details please call Customer Services on 01303 259141 or visit the Reznor web site www.reznor.co.uk



Also available:

The Reznor Practical Guide to Retail and Warehouse Heating

®

Reznor

Company Standards and Services

All Reznor products are tested and approved to CE standards. Reznor UK Ltd. is assessed to BS EN ISO 9002: 1994 Quality Assurance.

Reznor offers a design service to its customers; including budget schemes, on site technical support and a comprehensive after-sales service package.



Reznor®

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