



## Radiant heaters keep future gymnasts in trim

- Refurbishment project
- Comfortable warmth during physical activity
- Low energy solution
- Cost savings

---

### Background

Under a £1 million project jointly funded by Portsmouth City Council, Hampshire County Council Sports department, the Arts Foundation and the Sports Council, a disused Edwardian building was rescued from demolition and refurbished as a training centre for Britain's future top international gymnasts.

The old Royal Navy gymnastics school in Pitt Street, Portsmouth, had stood empty for nearly 10 years. Under the refurbishment scheme, the main hall was converted into a large training area, while the swimming pool became a jumping pit.

One of the criteria for the heating system of the refurbished premises was that it should be capable of keeping the young gymnasts warm and comfortable during their training sessions, to enable them to achieve maximum performance. An essential requirement was that this should be achieved using a heat source that provided even all-round warmth without condensation build-up or high air temperatures and velocities.

An overriding requirement was that the system should offer significant energy-efficiencies. Energy costs are among the biggest overheads of any sports facility, and can make up 25-30 per cent of overall operating costs.

---

## Application

State-of-the-art gas fired radiant heating was the specified solution. A Nor-Ray-Vac continuous radiant tube from Ambi-Rad was installed to heat the two main areas. In the large hall, a six-burner system was fitted to provide the correct level of constant training comfort. In the smaller jumping pit, a three-burner system was sufficient to meet its heating needs.

Radiant heating systems offer a cost-effective, energy-efficient solution to large-space heating requirements. By heating only people and surfaces, radiant heat can achieve comfortable environmental temperatures for people using the gym, yet at a lower ambient temperature. For example, to create a feeling of 18°C, radiant heat needs to heat the air in the gym to only approximately 14°C. This will therefore feel comfortably warm and fresh for the gymnasts, while less energy will be used to achieve it.

In addition, the infrared heaters effectively overcome any condensation problems since they warm the surfaces of walls, floor and equipment. Condensation therefore cannot form on the surfaces as the surrounding air humidity increases.



## Benefits

The Nor-Ray-Vac system provides constant ambient temperatures, and is calibrated to within +/- 1/2°C to provide fine heating control. The system is quiet, so there is little background noise to distract the athletes' concentration, and the heaters are suspended discreetly in the roof above the lights.

The system's low energy usage has given Portsmouth Gymnasium considerable cost advantages, as well as greater flexibility in the use of its new facility.

It is for reasons of energy economy and flexibility that the Sports Council of Great Britain recommend continuous radiant tube heating as the most simple to use, cost-effective option for heating a sports hall environment.

Portsmouth Gym also gains considerable benefits in terms of the cost-effectiveness of the system and its low energy usage.

## Technical Specification

Area	1200m <sup>2</sup>
Height	9 metres
Volume	10,800m <sup>3</sup>
Heating system and configuration	Nor-Ray-Vac continuous radiant tube system comprising 6 no. burners  Nor-Ray-Vac continuous radiant tube system comprising 3 no. burners
Contractor	Ibex Environmental Services Ltd
Specifying consultant	Portsmouth City Council

**AMBI-RAD**<sup>®</sup>  
Energy Efficient Heating Systems



AMBI-RAD LTD • FENS POOL AVENUE • WALLOWS INDUSTRIAL ESTATE • BRIERLEY HILL • WEST MIDLANDS DY5 1QA

TEL: 01384 489700 • FAX: 01384 489707

e-mail: sales@ambirad.co.uk • <http://www.ambirad.co.uk>