innovative air solutions

VENMAR®

Cost-effective ventilation for people

Body Odor

Venmar...scores on the courts

Already equipped with racquet courts and fitness rooms, the Court Sports and Fitness Club of Winnipeg, Manitoba adopted a three-phase expansion project beginning with the addition of indoor soccer courts. Unfortunately, the original plans and budget for the 90 ft. x 150 ft. x 18 ft. facility failed to include ventilation to deal with body odors, skin flaking, dander, pollen, dust and other airborne irritants generated by sports activities. This oversight did not go unnoticed by municipal inspectors who requested a ventilation study when construction was almost complete. If the building was to meet the municipality's new ventilation requirements, a system would have to be adapted to its gas-fired unit heaters suspended from the ceiling.

Enter Venmar.

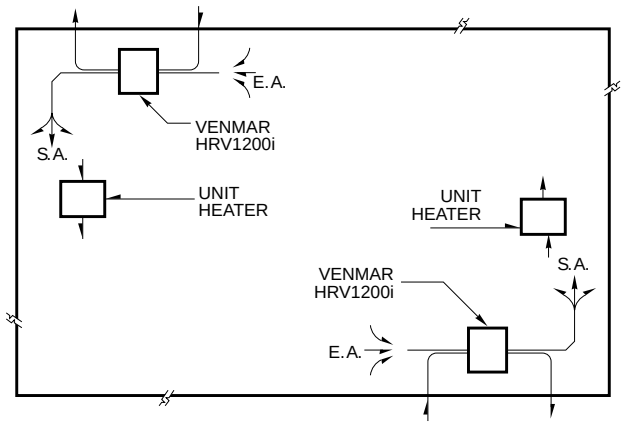
Situation

A system would have to be designed to provide an acceptable level of indoor air quality for two soccer teams and two coaches, or a maximum of 60 people, based on the ASHRAE 62-89 standard for "playing floors or gymnasiums". In developing a solution, it was necessary to take into account the fact that we were dealing with:

- a large building with low occupancy
- a gas-fired heating system suspended from the ceiling
- extended cold periods in winter

Standards and Requirements

Reference Standard	ASHRAE 62-89
CFM Per Person	30
Building Type	Sports facility: indoor soccer
Occupancy	60
Ventilation Required	1800 cfm



E.A. - EXHAUST AIR GRILLE
S.A. - SUPPLY AIR GRILLE

Restrictions and Limitations

The gas-fired heating units were suspended from the ceiling in opposite corners of the building and original plans did not include a ventilation system. The solution had to take into account:

- the large area to be ventilated
- the failure to include ventilation in original plans
- the fact that ventilation had not been allotted for in the budget

Design Solution

The Venmar consultant was contacted by the building's mechanical contractors for help in designing a ventilation system that would provide the facility's cfm requirements.

- two Venmar HRV1200i units producing a total of 2400 cfm on high speed and 1800 cfm on low speed were proposed
- these units were installed in opposite corners of the building near gas heating units to provide even distribution
- 10 kW duct heaters were installed with each unit to raise temperature to a comfortable level when outside temperature drops to -20°C

The chosen ventilation system could be adapted to the existing heating units.

The Results

Submitted to the City of Winnipeg inspection department, the solution was approved and the system was in operation throughout the winter of 1993-94.

- The system provided the required ventilation while generating savings of 43% on operating costs (annual savings of $700 based on normal operating costs of $1,752 a year for a system without heat recovery).
- The problem of body odor and other airborne contaminants was now under control.

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