



Environment

Pump down the volume



Heat pumps bring outstanding energy savings – but aren't they noisy? Specialists Penguin silence the doubts...

Heat pumps are usually associated with pool heating in the Algarve, but nowadays there is growing demand to use them for domestic hot water, conventional radiators and underfloor heating.

The twin pressures of environmental awareness and a tight economy are stimulating use of low-carbon technology, particularly heat pumps, for heating domestic homes. At a recent exhibition at the NEC in England, Mitsubishi Electric reported a huge surge in interest for their

new Ecodan range - now offered in the Algarve by heating and cooling specialists, Penguin.


The Ecodan air source heat pump system consists of an external box fitted to your outside wall, much like an air-con unit. Indeed its principle of operation is much the same as air conditioning or refrigeration - but switched in reverse. In this way it extracts low-grade heat from the outdoor ambient air and concentrates or 'upgrades' it to supply a home with domestic hot water and heating. So effective is this process that its CoP rating (Coefficient of Performance) is between 3-4, in other words for every 1kW of electricity fed into the system, you will get at least 3kW of heating energy. A heat pump therefore operates at a significantly lower cost than a gas boiler. Remarkably, the system can work all year-round even if the outdoor temperature should drop to minus 15°C – anyway an impossibility in the Algarve's climate.

Heat pumps - or more correctly 'heat exchangers' - run on electricity and emit absolutely no exhausts that

pollute the air. For most homes they can help reduce running costs and offer reliable, sustainable heating and hot water all year-round.

But aren't they noisy? Some people express concern that such systems may present a nuisance noise, especially around the calm of a swimming pool. David Thirlwell, Chief Engineer at Penguin, puts it into perspective: "Of course any machine with a fan makes a sound, but no more than most exterior air-con units, which most people find perfectly acceptable. For pool areas, solar heating offers a totally silent solution, although a heat pump is more effective and much simpler to install. But whether for domestic water or pool heating, most homes will have an area where a heat pump can be located without being in any way obtrusive."

To dispel any final doubts, Penguin supplied the following table, showing the noise levels of Mitsubishi's Ecodan heat pump, as well as interior and exterior air-con units, in relation to other everyday sounds -



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SOUND	DECIBELS
Mitsubishi air-con unit (internal) the quietest on the market	19
A human whisper	30
Refrigerator	45
Mitsubishi air-con unit (external)	46
Mitsubishi 'Ecodan' heat pump	45-53
(distance 1 metre from unit)	
Normal conversation	60
Clothes dryer	60
Washing machine	65
Vacuum cleaner	70
Electric shaver	85
Passing motorcycle	90
Electric drill	100
Chain saw	110
Car horn or siren	120