

# TOSHIBA

Leading Innovation >>>

## Toshiba Solutions

Business Park – gains flexibility, reliability and standardisation

### Equipment:

Toshiba R410A VRF SHRM  
Cassettes  
Ducted units  
Interactive Intelligence



*The systems allow for great letting flexibility*

### Application details

The West Strand business park scheme in the north west, has been undertaken by an imaginative, entrepreneurial developer, Derwent Holdings, and Toshiba's latest reliable and technologically advanced VRF systems are regarded as a pre-requisite for all of its buildings. This type of 'modular' business park is a scheme that serves as a model to be rolled out across the country.

Typically, the developer's schemes have a group of four, three-storey mirror-image blocks, as at West Strand. These can be let to single tenants, often institutional, such as local authority departments, or can be let floor by floor or in even smaller units. This set of four can be multiplied to eight or twelve, and the scale of the buildings can also be increased. The developer wants a generic scheme that can suit many different types of occupier and cope with individual building needs such as a south-facing atrium. Sound levels must be very low, as the plant has to be sited outdoors. The building locations are usually brownfield and constrained by many inner city characteristics.



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### Solution

All the space in the scheme is managed by a facilities management organization, KFM, that has many other similar schemes under its supervision. The Toshiba equipment meets its requirements relating to the length of its contract or the lifespan of the buildings. It also meets expectations of: reliability, ease of compliance with Building Regs such as refrigerant leak inspection, remote control and other control features and least potential reaction from tenants with regard to noise, breakdown or efficiency of cooling or heating. Most of all it wants the savings that come from maintaining the same equipment in all its locations.

Toshiba is also able to guarantee long-term reliability. Layout flexibility is allowed for by the controls system, which can cope with 200 indoor units in 64 zones. Long pipe-runs are likely on such schemes and are now easily coped with by this equipment. A variety of indoor unit types is available, in case tenants require changes on fit-out. Heat recovery is provided and energy efficiency is the best possible with such a system. The Toshiba equipment must be easy to service, and it is. At West Strand, the plant compounds are near to the buildings and to neighbours but the sound is well below background.

Many specifiers, installers and end-users do not yet understand that Toshiba uses different, more reliable and more energy-efficient technology than other manufacturers. One element of the design in particular makes the largest contribution: the hybrid inverter-controlled rotary compressor. The use of both PAM and PWM algorithms for the electronic control of the power input means that these compressor can operate at much lower speeds than others – leading to greater part-load efficiencies, lower noise and, since both compressors in the system are inverter-controlled, reduced wear through shared duty. Temperatures can also be kept to within a very small tolerance indeed – plus or minus 1.5 degrees or even 0.5 of a degree in many cases. Hugely reduced oil migration of less than 3% due to the compressor design means increased reliability over time.

For the installer there is a further attraction in the support that a national distribution network such as Toshiba's can give these days. The installer expects training facilities for their employees, telephone technical support – preferably 24 hours, and well-presented stock information as well as reliable products.

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*This is an infinitely replicable solution*



*The condenser farms do not disturb the neighbours*



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