

A large indoor swimming pool with blue mosaic walls and a glass skylight ceiling. The pool is surrounded by a white tiled deck. The ceiling is made of large glass panels supported by a white metal frame. The walls are covered in small, light blue mosaic tiles. There are several windows along the wall, some with white frames. The pool water is clear and blue. The overall atmosphere is bright and clean.

Utilising a “Duoheat” heat pump as the heat source provides efficient heating for the pool water and also efficiently provides hot water for the Vent-Air supply air handling system.

Mt Eden Masterpiece Re-Creating Recreation Spaces

Early in September 2012 Stephen Jones from Stephen Jones Architects Ltd visited Hot Water Heat Pumps West Auckland factory to discuss a renovation project he had undertaken in a very nice cul-de-sac in Mt Eden. Kerry Richmond from Auckland Inground Pools Ltd, had worked with Hot Water Heat Pumps Ltd on another indoor pool heating and ventilation project and introduced them to Stephen, who was seeking a specialized team to design and build the necessary equipment to control the water temperature and condensation for the indoor pool.

The house had an existing outdoor pool the owners wished to transform into a health and recreation area; adding an indoor pool, spa, gym, sauna, steam room and a games room. It took about 3 years from conception to the realisation of this project but the result is an immaculate masterpiece the owners can truly enjoy.

Duoheat & Vent-Air Solution

The challenge Hot Water Heat Pumps Ltd faced was ease of access to each zone, providing not only thermal comfort for each area, but also making sure that the evaporation from the pool and spa would not cause any damage to the structure and the rest of the home. It was suggested that the pool and spa would be separated from the other rooms by glass to enhance the view, natural light and a sense of space.

The next challenge was to convince the client of the benefits of a proper swimming pool cover. Using a cover would reduce the running cost, as it reduces the evaporation losses from the surface of the pool; therefore minimising the run hours of Duoheat and Vent Air System.

The third challenge was to find a location for the mechanical and pool plant room. From an energy saving point of view, it is best to have all the mechanical equipment in a dedicated room. A significant amount of latent energy leaving the enclosure could be recovered, which would otherwise go to waste. Utilising a “Duoheat” heat pump as the heat source provides efficient heating for the pool water and also efficiently provides hot water for the Vent-Air supply air handling system. Where necessary an extra heat recovery coil would add to the benefits of the “Vent-Air” system, which would further reduce the overall heating cost.

The Duoheat Heat Pump was the logical choice with further advantages of a smaller overall footprint eliminating the need to invest in multiple heat pumps. The “Duoheat” units had been designed, manufactured and perfected locally in Auckland since 1982. Duoheat is the main component offering the owners the lowest life cycle costing compared to other heat sources.

The specialised Indoor Pool team at HWHP collaborated with Stephen Jones and designed the Indoor Pool Heating and Ventilation System around HWHPs’ 7GP25A18-3 Duoheat heat pump and “Vent-Air” 210 supply and return air handling system. The air distribution system is via a concealed underground system where warmed air is introduced to the pool enclosure to keep the enclosure comfortable, healthy and condensate free at all times.

Co-operation is Key

Over the past 14 years, HWHP has designed over 70 indoor pool ventilation and condensation control systems based on “Duoheat” heat pumps and “Vent-Air” systems. From past experience, it is now obvious that a good understanding and collaboration amongst all parties involved, from the clients to the architects, to the builders and all other trades, paves the way for a smooth and successful renovation.



Photography by Kallan MacLeod



SHOWCASE AT A GLANCE

- Architect** [Stephen Jones Architects](#)
Builder [Devo Construction Ltd](#)
Pool Builder [Auckland Inground Pools Limited](#)
Pool Cover [SSL Distributors Ltd](#)
Pool Heating and Condensation Control Systems
[Hot Water Heat Pumps Ltd](#)
Equipment
Vent-Air system comprising of a supply and return air handlers with heat recovery option
Duoheat heat pump model: 7GP25A18-3
Air Distribution system infloor air delivery